

**POWER PURCHASE AGREEMENT**

**BETWEEN**

**CITY OF LOS ANGELES ACTING BY AND THROUGH THE  
DEPARTMENT OF WATER AND POWER**

**AND**

**HECATE ENERGY BEACON #1, LLC**

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## POWER PURCHASE AGREEMENT

### PARTIES

THIS POWER PURCHASE AGREEMENT (“*Agreement*”), which is dated for convenience as of this 3rd day of June, 2014 by and between the City of Los Angeles acting by and through the Department of Water and Power (“*Buyer*” or “*LADWP*”), a municipal corporation of the State of California, and Hecate Energy Beacon #1, LLC (“*Seller*”), a limited liability company organized and existing under the laws of the State of Delaware. Each of Buyer and Seller is referred to individually in this Agreement as a “*Party*” and together they are referred to as the “*Parties*”.

### RECITALS

WHEREAS, LADWP has adopted a “Renewable Portfolio Standard” designed to increase the amount of energy it provides to its retail customers from renewable power sources; and

WHEREAS, on July 1, 2013, LADWP issued a request for proposals to acquire renewable resources; and

WHEREAS, a parent of Seller responded to the request for proposals and following negotiation has agreed to sell to LADWP and LADWP has agreed to purchase certain renewable energy and associated environmental attributes; and

WHEREAS, the Parties desire to set forth the terms and conditions pursuant to which such sales and purchases shall be made.

### AGREEMENT

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein set forth, the Parties hereto agree as follows:

#### ARTICLE I DEFINITIONS AND INTERPRETATION

**Section 1.1 Definitions.** The following capitalized terms in this Agreement and the appendices hereto shall have the following meanings:

“**Affiliate**” means, as to any Person, any other Person that, directly or indirectly, is in control of, is controlled by or is under common control with such Person or is a director or officer of such Person or of an Affiliate of such Person. As used in this Agreement, “control” shall mean the possession, directly or indirectly, of the power to direct or cause the direction of management, policies or activities of a Person, whether through ownership of voting securities, by contract or otherwise.

“**Agreement**” has the meaning set forth in the preamble of this Agreement.

“**Agreement Term**” has the meaning set forth in Section 2.2.

“**Ancillary Documents**” means the Option Agreement, the Lease, the Interconnection Agreement, all agreements and other documents included in the Performance Security and all other instruments, agreements, certificates and documents executed or delivered by or on behalf of the Buyer or any Seller Party pursuant to or in connection with any thereof or this Agreement but shall not include the Competitive Offer Power Purchase Agreement or any agreements related thereto.

“**ASME**” means American Society of Mechanical Engineers and any successor thereto.

“**ASCE**” means American Society of Civil Engineers and any successor thereto.

“**Assumed Daily Deliveries**” has the meaning set forth in Section 13.3(c).

“**ASTM**” means American Society for Testing and Materials and any successor thereto.

“**Authorized Auditors**” means representatives of Buyer or Buyer’s Agents who are authorized to conduct audits on behalf of Buyer.

“**Authorized Representative**” means, with respect to each Party, the Person designated as such Party’s authorized representative pursuant to Section 14.1.

“**AWS**” means American Welding Society and any successor thereto.

“**Bankruptcy**” means any case, action or proceeding under any bankruptcy, reorganization, debt arrangement, insolvency or receivership law or any dissolution or liquidation proceeding commenced by or against a Person and, if such case, action or proceeding is not commenced by such Person, such case or proceeding shall be consented to or acquiesced in by such Person or shall result in an order for relief or shall remain undismissed for sixty (60) days.

“**Brown Act**” has the meaning set forth in Section 14.21.

“**Business Day**” means any calendar day that is not a Saturday, a Sunday, or a day on which commercial banks are authorized or required to be closed in Los Angeles, California or New York, New York.

“**Buyer**” has the meaning set forth in the preamble of this Agreement.

“**Buyer’s Agent**” means any Person authorized or designated by Buyer to make any determination or perform, carry out or provide any function on behalf of Buyer under this Agreement.

“**Buyer’s Board of Commissioners**” means Board of Water and Power Commissioners of the City of Los Angeles created pursuant to Sections 600 and 670 of the Charter of the City of Los Angeles, as amended.



**“Buyer’s Other Solar Developers”** means one or more solar developers (and their subcontractors), not including Seller, developing solar generating facilities near the Facility pursuant to one or more agreements with Buyer.

**“Cal-OSHA”** means California Occupational Safety & Health Administration and any successor thereto.

**“CAMD”** means the Clean Air Markets Division of the United States Environmental Protection Agency, any successor agency and any other state, regional or federal or intergovernmental entity or Person that is given authorization or jurisdiction or both over a program involving the registration, validation, certification or transferability or any of the foregoing of Environmental Attributes.

**“Capacity Rights”** means the rights, whether in existence as of the Effective Date or arising hereafter during the Agreement Term, to capacity, resource adequacy, associated attributes and/or reserves or any of the foregoing associated with the electric generating capability of the Facility, including the right to resell such rights.

**“CEC”** means California’s State Energy Resources Conservation and Development Commission, also known as the California Energy Commission, and any successor agency thereto.

**“CEC-AC”** means the solar photovoltaic system alternating current rating based upon the product of the Photovoltaics for Utility Scale Applications (PVUSA) Test Conditions rating of the module, module quantity, and the inverter efficiency.

**“CEC Certified”** means that the CEC has certified that the Facility is an eligible renewable energy resource in accordance with Public Utilities Code Section 399.12(e) and the guidelines adopted by the CEC, as amended from time to time, and any successor statute.

**“CEC Performance Standard”** means, at any time, the applicable greenhouse gas emissions performance standard in effect at such time for baseload electric generation facilities that are owned or operated (or both) by local publicly owned electric utilities, or for which a local publicly owned electric utility has entered into a contractual agreement for the purchase of power from such facilities, as established by the CEC or other Governmental Authority having jurisdiction over the Buyer.

**“CEQA”** means the California Environmental Quality Act, California Public Resources Code Section 21000 *et seq.*, as amended from time to time, and any successor statute.

**“CEQA EIR”** has the meaning set forth in Section 3.1(d).

**“Change in Control”** means the occurrence, whether in a single transaction or in a series of related transactions, of any one or more of the following: (i) a merger or consolidation of Seller or Parent Entit(ies) with or into any other Person or any other reorganization in which the members of Seller or Parent Entit(ies) immediately prior to such consolidation, merger, or reorganization, own less than fifty percent (50%) of the equity ownership of the surviving entity

or cease to have the power to control the management and policies of the surviving entity immediately after such consolidation, merger, or reorganization, (ii) any transaction or series of related transactions in which in excess of fifty percent (50%) of the equity ownership of Seller or Parent Entit(ies), or the power to control the management and policies of Seller or Parent Entit(ies) is transferred to another Person, (iii) a sale, lease, or other disposition of all or substantially all of the assets of Seller or Parent Entit(ies), (iv) the dissolution or liquidation of Seller or Parent Entit(ies), or (v) any transaction or series of related transactions that has the substantial effect of any one or more of the foregoing; *provided, however*, that a Change in Control shall not include any transaction or series of transactions in which the membership interests in Seller or Parent Entit(ies) are issued or transferred to another Person solely for the purpose of a Tax Equity Financing and shall not include a Sale-Leaseback. Seller shall provide written notice to Buyer prior to the occurrence of any of the foregoing transactions or series of transactions with respect to any parent entity holding directly or indirectly at least fifty percent (50%) of the equity ownership or the power to control the management and policies of Seller.

“**Change in Law**” means a change in any or a new federal, state, local or other law (including any Environmental Laws), resolution, standard, code, rule, ordinance, directive, regulation, order, judgment, decree, ruling, determination, permit, certificate, authorization, or approval of a Governmental Authority (other than Buyer).

“**Closing**” has the meaning set forth in the Option Agreement.

“**Closing Date**” has the meaning set forth in the Option Agreement.

“**Commercial Operation**” means Seller has demonstrated to the reasonable satisfaction of Buyer that all of the following have occurred:

(a) Construction of the Facility has been completed in accordance with the terms and conditions of this Agreement and the Facility possesses all the characteristics, and satisfies all of the requirements, set forth for this Facility in this Agreement;

(b) The Facility has successfully completed all testing required by Prudent Utility Practices or any Requirement of Law to be completed prior to full commercial operations;

(c) Seller has obtained all Permits required for the construction, operation and maintenance of the Facility in accordance with this Agreement (including those identified in Appendix B), and all such Permits are final and non-appealable, provided, however, that the Facility is not required to be CEC Certified as a condition precedent to Commercial Operation;

(d) The Facility is both authorized and able to operate and deliver Energy at full capacity (the net capacity set forth in Section 4 of Appendix B or such lesser capacity as may be permitted pursuant to the method set forth in Section 3.2) in accordance with Prudent Utility Practices, the requirements of this Agreement and all Requirements of Law; and

(e) Seller has obtained Insurance coverage for the Facility as required by Appendix F.

**“Commercial Operation Date”** means the date on which Commercial Operation occurs, as determined pursuant to Section 3.2.

**“Contract Year”** means (i) the twelve-month period beginning on the Commercial Operation Date and ending on the first anniversary of the Commercial Operation Date, and (ii) each succeeding period of twelve consecutive months following the period described in the preceding clause (i).

**“Costs”** has the meaning set forth in Section 13.3(f).

**“CPRA”** has the meaning set forth in Section 14.21.

**“Curtailment Period”** means a period of time during which the generation of Energy from the Facility is curtailed as a result of an order, direction, alert, request, notice or other action by LADWP due to system improvements, modifications and/or scheduled and unscheduled repairs or maintenance at or downstream from the Point of Delivery.

**“Default”** has the meaning set forth in Section 13.1.

**“Defaulting Party”** has the meaning set forth in Section 13.1.

**“Delivered Energy”** means the MWh of Facility Energy delivered by Seller and received by Buyer at the Point of Delivery.

**“Delivery Term”** has the meaning set forth in Section 2.2.

**“Downgrade Event”** shall mean any event that results in a Person failing to meet the credit requirements of a Qualified Issuer or the commencement of involuntary or voluntary bankruptcy, insolvency, reorganization, arrangement, composition, readjustment, liquidation, dissolution, or similar proceeding (whether under any present or future statute, law, or regulation) with respect to such Person.

**“Early Termination Date”** has the meaning set forth in Section 13.3(a).

**“EEI”** means Edison Electric Institute and any successor thereto.

**“Effective Date”** has the meaning set forth in Section 2.1.

**“Electric Metering Device(s)”** means all meters, metering equipment, and data processing equipment used to measure, record, or transmit data relating to the Facility Energy. Electric Metering Devices include the metering current transformers and the metering voltage transformers.

**“Energy”** means electrical energy.

**“Environmental Attribute”** means RECs, and any and all other current or future credits, benefits, emissions reductions, offsets or allowances, howsoever entitled, named, registered, created, measured, allocated or validated (A) that are at any time recognized or deemed of value

(or both) by Buyer, applicable law, or any voluntary or mandatory program of any Governmental Authority or other Person and (B) that are attributable to (i) generation by the Facility during the Delivery Term or Replacement Energy required to be delivered by Seller to Buyer during the Delivery Term, and (ii) the emissions or other environmental characteristics of such generation or such Replacement Energy or its displacement of conventional or other types of Energy generation. Environmental Attributes include without limitation any of the aforementioned arising out of legislation or regulation concerned with oxides of nitrogen, sulfur, carbon, or any other greenhouse gas or chemical compound, particulate matter, soot, or mercury, or implementing the United Nations Framework Convention on Climate Change (the “UNFCCC”), the Kyoto Protocol to the UNFCCC, California’s greenhouse gas legislation (including but not limited to California Assembly Bill 32 (Global Warming Solutions Act of 2006 and any regulations implemented pursuant to that act, including without limitation any compliance instruments accepted under the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms regulations of the California Air Resources Board or any successor regulations thereto)) or any similar international, federal, state or local program or crediting “early action” with a view thereto, or laws or regulations involving or administered by the CAMD, and all Environmental Attribute Reporting Rights, including all evidences (if any) thereof such as renewable energy certificates of any kind. Environmental Attributes for purposes of this definition are separate from the Facility Energy. Environmental Attributes exclude (a) investment tax credits, any local, state or federal production tax credits, depreciation deductions or other tax credits providing a tax benefit to Seller or any other Person based on ownership or a security interest in the Facility or Energy production from any portion of the Facility, including any investment or production tax credit expected to be available to Seller with respect to the Facility, (b) depreciation deductions and benefits, and other tax benefit arising from ownership or operation of the Facility unrelated to its status as a generator of renewable or environmentally clean energy, and (c) cash grants or other financial incentives from any local, state or federal government available to Seller with respect to the Facility.

“**Environmental Attribute Reporting Rights**” means all rights to report ownership of the Environmental Attributes to any Person, including under Section 1605(b) of the Energy Policy Act of 1992, as amended from time to time or any successor statute, or any other current or future international, federal, state or local law, regulation or bill, or otherwise.

“**Environmental Documents**” has the meaning set forth in Section 3.1(a).

“**EPA**” means the Environmental Protection Agency and any successor agency.

“**EPS Compliant,**” when used with respect to the Facility or any other facility at any time, means that the facility satisfies both the PUC Performance Standard and the CEC Performance Standard in effect at the time; *provided*, if it is impossible for the facility to satisfy both the PUC Performance Standard and the CEC Performance Standard in effect at any time, the facility shall be deemed EPS Compliant if it satisfies the CEC Performance Standard in effect at the time and those portions of the PUC Performance Standard in effect at the time that it is possible for the facility to satisfy while at the same time satisfying the CEC Performance Standard in effect at the time.

“**EPS Law**” means Sections 8340 and 8341 of the California Public Utilities Code as implemented and amended from time to time, or any successor laws or regulations in the State of California.

“**Excess Energy**” means, subject to Section 9.2, the portion of the Delivered Energy for any Contract Year which is (i) Facility Energy and (ii) in excess of the Guaranteed Generation.

“**Excess Energy Rate**” means the \$/MWh payment made to Seller by Buyer for Excess Energy according to the provisions in Appendix A.

“**Expected Interconnection Readiness Date**” means that date by which Buyer will have completed construction of the physical point of interconnection and such physical point of interconnection is able to receive power from the Facility, as such date is specified in Appendix B.

“**Facility**” means the solar powered electric generating facility, including but not limited to all property interests and related transmission and other facilities described in Appendix B.

“**Facility Cost**” means the aggregate amount in connection with (a) all costs and expenses for the development, design, engineering, equipping, procuring, constructing, installing, starting up and testing the Facility, including the cost of all labor, services, materials, suppliers, equipment, tools, transportation, supervision, storage, training, demolition, site preparation, civil works, and remediation in connection therewith, b) the cost of acquiring the leasehold interest in the Site, (c) the costs of acquiring the Permits for the Facility, and (d) the cost of establishing a spare parts inventory for the Facility, if any.

“**Facility Debt**” means the payment obligations of Seller secured by a Lien of a Facility Lender in compliance with the provisions of Section 14.7, including principal of, premium and interest on indebtedness, fees, expenses or penalties, amounts due on acceleration, prepayment or restructuring, or benefit monetization, swap or interest rate hedging breakage costs and any claims or interest due with respect to any of the foregoing.

“**Facility Debt Limitation**” has the meaning set forth in Section 12.2(p).

“**Facility Energy**” means Energy generated by the Facility, less station load and transmission losses to the Point of Delivery.

“**Facility Lender**” means any lender providing senior or subordinated construction, interim or long-term debt or Tax Equity Financing or refinancing for or in connection with the development, construction, purchase, installation or operation of the Facility, including any Tax Equity Investor that is also a lender, and any trustee or agent acting on their behalf, and any Person providing interest rate protection agreements to hedge any of the foregoing debt obligations.

“**Federal Incidental Take Permit**” means an Incidental Take Permit with respect to the Beacon project site from the U.S. Fish and Wildlife Service under Section 10 of the Endangered Species Act, including its supporting habitat conservation plan and an Environmental

Assessment under the National Environmental Policy Act, a copy of which will be provided to Seller when and if such final permit is obtained.

“**FERC**” means the Federal Energy Regulatory Commission or any successor agency thereto.

“**Firm Transmission**” means transmission that cannot be curtailed within an operating hour for economic reasons or for higher priority transmission within the operating hour.

“**Force Majeure**” has the meaning set forth in Section 14.6.

“**Force Majeure Notice**” has the meaning set forth in Section 14.6.

“**Forced Outage**” means the removal of service availability of the Facility, or any portion of the Facility, for emergency reasons or conditions in which the Facility, or any portion thereof, is unavailable due to unanticipated failure, including as a result of Force Majeure.

“**GAAP**” means generally accepted accounting principles set forth in opinions and pronouncements of the Accounting Principles Board of the American Institute of Certified Public Accountants and statements and pronouncements of the Financial Accounting Standards Board or in such other statements by such other entity as may be approved by a significant segment of the accounting profession, in each case as the same are applicable to the circumstances as of the date of determination.

“**Gains**” has the meaning set forth in Section 13.3(f).

“**Governmental Authority**” means any federal, state, regional, city or local government, any intergovernmental association or political subdivision thereof, or other governmental, regulatory or administrative agency, court, commission, administration, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority, or any Person acting as a delegate or agent of any Governmental Authority. The term “Governmental Authority” shall not include Buyer or the City of Los Angeles.

“**Guaranteed Generation**” means the MWh to be delivered from the Facility for each Contract Year as measured at the Point of Delivery. The Guaranteed Generation for each Contract Year is set forth in Appendix U.

“**IEEE**” means Institute of Electrical and Electronics Engineers and any successor thereto.

“**Independent Manager**” means a manager who is not at the time of initial appointment, or at any time while serving as Independent Manager, and has not been at any time during the preceding five (5) years: (a) a member, stockholder, equityholder, director, manager (except as such Independent Manager of the Seller), officer, employee, partner, attorney or counsel of Seller, any member of Seller, or any Affiliate of the Seller; (b) a customer, supplier or other Person who derives any of its purchases or revenues from its activities with any member of the Seller, the Seller or any Affiliate of the Seller (other than for serving as Independent Manager of the Seller); (c) a Person controlling or under common control with any such stockholder,

equityholder, partner, manager, customer, supplier or other like Person, or (d) a member of the immediate family of any such member, stockholder, equityholder, director, officer, employee, manager, partner, customer, supplier or other like Person.

“**Insurance**” means the policies of insurance as set forth in Appendix F.

“**Interconnection Agreement**” means the interconnection agreement between Seller and Buyer, attached hereto as Appendix Y, as it may be amended, modified or supplemented from time to time as provided therein.

“**Interest Rate**” has the meaning set forth in Section 11.3.

“**ISA**” means Instrument Society of America and any successor thereto.

“**Lease**” means the land lease between the Seller and the Buyer, attached hereto as Appendix L, as it may be amended, modified or supplemented from time to time as provided therein.

“**Lessor**” means the Buyer.

“**Lien**” means any mortgage, deed of trust, lien, security interest, retention of title or lease for security purposes, pledge, charge, encumbrance, attachment, claim, easement, right of way, covenant, condition or restriction, leasehold interest, purchase right or other right of any kind, including an option, of any other Person in or with respect to any real or personal property.

“**Los Angeles City Attorney**” means Buyer’s Counsel as provided under Section 270 or any successor provision of the Charter of the City of Los Angeles.

“**Losses**” has the meaning set forth in Section 13.3(f).

“**Major Maintenance Blockout**” has the meaning set forth in Section 4.5(e).

“**Makeup Deadline**” has the meaning set forth in Section 9.3.

“**Milestone**” has the meaning set forth in Section 3.4.

“**Milestone Date**” has the meaning set forth in Section 3.4.

“**MW**” means megawatt.

“**MWh**” means megawatt-hours.

“**NERC**” means the North American Electric Reliability Corporation and any successor thereto.

“**Non-Consolidation Opinion**” means a reasoned opinion of Seller’s legal counsel addressed to the Buyer, in form and substance acceptable to Buyer, as to the non-consolidation

of the Seller in a bankruptcy proceeding of a Parent Entity, and to be attached hereto as Appendix K.

“**Non-Defaulting Party**” has the meaning set forth in Section 13.3(a).

“**Option Agreement**” means that certain Option Agreement of even date herewith, attached as Appendix J, as amended, supplemented or otherwise modified from time to time.

“**OSHA**” means Occupational Safety & Health Administration and any successor thereto.

“**Pacific Prevailing Time**” means the local time in Los Angeles, California.

“**Parent Entity** or “**Parent Entities**” means the corporate entities above Seller in the diagram in Appendix DD.

“**Party**” or “**Parties**” has the meaning set forth in the preamble of this Agreement.

“**Performance Security**” means the performance security described in Section 5.4 that is required to be provided by Seller to Buyer to secure Seller’s performance under this Agreement.

“**Permit**” means all applications, permits, licenses, franchises, certificates, concessions, consents, authorizations, approvals, registrations, orders, filings, entitlements and similar requirements of whatever kind and however described which are required to be obtained or maintained by any Person with respect to the development, siting, design, acquisition, construction, equipping, financing, ownership, possession, shakedown, start-up, testing, operation or maintenance of the Facility, the production and delivery of Facility Energy or Replacement Energy, as applicable, Capacity Rights and Environmental Attributes, or any other transactions or matter contemplated by this Agreement (including those pertaining to electrical, building, zoning, environmental and occupational safety and health requirements), including those described in Appendix B.

“**Permitted Encumbrances**” means (i) any Lien approved by Buyer in a writing separate from this Agreement which expressly identifies the Lien as a Permitted Encumbrance, (ii) Liens for Taxes not yet due or for taxes being contested in good faith by appropriate proceedings, so long as such proceedings do not involve a risk of the sale, forfeiture, loss or restriction on the use of the Facility or any part thereof, *provided* that such proceedings end by the expiration of the Agreement Term, (iii) suppliers’, vendors’, mechanics’, workman’s, repairman’s, employees’ or other like Liens arising in the ordinary course of business for work or service performed or materials furnished in connection with the Facility for amounts the payment of which is either not yet delinquent or is being contested in good faith by appropriate proceedings so long as such proceedings do not involve a risk of the sale, forfeiture, loss or restriction on use of the Facility or any part thereof, *provided* that such proceedings end by expiration of the Agreement Term, and *provided further* that in the case of Liens being contested under subsections (ii) or (iii), the Seller has provided additional security of a letter of credit substantially in the form attached hereto as Appendix E to the Buyer and the Facility Lender jointly in an amount equal to or greater than the amount of such Lien multiplied by 1.25.



**“Person”** means any individual, corporation, partnership, joint venture, limited liability company, association, joint stock company, trust, unincorporated organization, entity, government or other political subdivision.

**“Point of Delivery”** means, when used with respect to any Energy sold and purchased under this Agreement, the point where that Energy is required to be delivered by Seller to Buyer under this Agreement as specified in Appendix M and as further described in Section 6.2.

**“Point of Interconnection on Buyer’s System”** means any of the interconnection points shown in Appendix M.

**“Power Revenue Fund”** means the fund in the City of Los Angeles’ treasury known as the “Power Revenue Fund” to which all revenue from every source collected by LADWP in connection with its possession, management and control of the power assets is required to be deposited and credited.

**“Present Value Rate”** means, at any date, the sum of 0.50% plus the yield reported on page “USD” of the Bloomberg Financial Markets Services Screen (or, if not available, any other nationally recognized trading screen reporting on-line intraday trading in United States government securities) at 11:00 a.m. (New York City, New York time) for the United States government securities having a maturity that most nearly matches the Remaining Term at that date.

**“Project Purchase Option”** means the right, but not the obligation, of Buyer, in its sole discretion, to purchase the Purchased Assets and certain related assets from Seller in accordance with the provisions of the Option Agreement.

**“Prudent Utility Practices”** means those practices, methods, and acts, that are commonly used by a significant portion of the solar powered electric generation industry in prudent engineering and operations to design and operate electric equipment (including solar powered facilities) lawfully and with safety, dependability, reliability, efficiency, and economy, including any applicable practices, methods, acts, guidelines, standards and criteria of FERC, NERC, WECC, as each may be amended from time to time, and all applicable Requirements of Law.

**“Public Utilities Code”** means the Public Utilities Code of the State of California, as may be amended from time to time.

**“PUC”** means the California Public Utilities Commission and any successor thereto.

**“PUC Performance Standard”** means, at any time, the greenhouse gas emission performance standard in effect at such time for baseload electric generation facilities owned or operated (or both) by load-serving entities, and not local publicly-owned electric utilities, as established by the PUC or other Governmental Authority under the EPS Law.

**“Purchased Assets”** has the meaning set forth in Exhibit 1.1 to the Option Agreement.

**“Qualified Issuer”** means a Person that has a current long-term credit rating (corporate or long-term senior unsecured debt) of (1) “A2” or higher by Moody’s Investors Service, Inc.; or (2) “A” or higher by Standard & Poor’s.

**“Qualified Operator”** means (a) a Person reasonably acceptable to Buyer that has at least five (5) years of operating experience with a utility-scale solar project of 20 MW ac or larger, (b) any operator identified in Appendix BB as a pre-approved Qualified Operator or (c) any other Person reasonably acceptable to Buyer.

**“Qualified Transferee”** means a Person that (a) has financial qualifications equivalent to the financial qualifications of the parent company of Seller that responded to the request for proposals as of the Effective Date and agrees to operate the Facility by a Qualified Operator or (b) is reasonably acceptable to Buyer.

**“Quality Assurance Program”** has the meaning set forth in Appendix H.

**“RECs” or “Renewable Energy Certificates”** means a certificate of proof associated with the generation of electricity from an eligible renewable energy resource, which certificate is issued through the accounting system established by the CEC pursuant to the RPS Law, evidencing that one (1) MWh of energy was generated and delivered from such eligible renewable energy resource. Such certificate is a tradable environmental commodity (also known as a “green tag”) for which the owner of the REC can prove that it has purchased renewable energy.

**“Remaining Term”** means, at any date, the remaining portion of the Agreement Term at that date without regard to any early termination of this Agreement.

**“Replacement Energy”** has the meaning set forth in Section 9.3.

**“Replacement Price”** has the meaning set forth in Section 9.2.

**“Requirement of Law”** means federal, state and local laws, statutes, regulations, rules, codes or ordinances enacted, adopted, issued or promulgated by any federal, state, local or other Governmental Authority (including those pertaining to electrical, building, zoning, environmental and occupational safety and health requirements).

**“Retail Seller”** means an “electrical corporation” (as defined in Section 218 of the Public Utilities Code) that is a “retail seller” as defined in Section 399.12(b) of the California Public Utilities Code as amended from time to time and any successor law.

**“RPS Compliant,”** when used with respect to the Facility or any other facility at any time, means (i) that all Energy generated by that facility at that time shall, together with all of the associated Environmental Attributes, qualify as a “portfolio content category 1” eligible renewable resource under the RPS Law and meet the requirements of PUC Section 399.16(b)(1), as amended from time to time and any successor statute.

**“RPS Law”** means the California Renewable Energy Resources Act, including without limitation the California Renewables Portfolio Standards Program (Article 16 of Chapter 2.3,

Division 1 of the Public Utilities Code), Sections 399.11 to 399.31 of the Public Utilities Code, California Public Resources Code Section 25740 through 25751, any related regulations or guidebooks promulgated by the CEC or PUC, and as all of the foregoing may be promulgated, implemented or amended from time to time, and any successor or replacement laws or regulations.

**“Sale-Leaseback”** means, with respect to Seller any transaction or series of transactions pursuant to which: (i) Seller sells, transfers or otherwise disposes of any property, real or personal, whether now owned or hereafter acquired constituting all or part of the Facility to any Person, and as part of that transaction; (ii) such Person advances funds to Seller and leases such property or other property to Seller for use for substantially the same purpose or purposes as the property being sold, transferred or disposed and for a term that equals or exceeds the Agreement Term; and (iii) Seller continues to perform, or contracts for the performance of, the operation and maintenance of the Facility required by Article IV.

**“Sales Price”** has the meaning set forth in Section 6.4.

**“Schedule or Scheduling”** means the actions of Seller and Buyer or their Authorized Representatives, including each Party’s Transmission Providers, if applicable, of notifying, requesting and confirming to each other the quantity of energy to be delivered hourly at the Point of Delivery on any given date during the Delivery Term.

**“Scheduled Outage”** means any outage with respect to the Facility other than a Forced Outage.

**“Scheduled Outage Projection”** has the meaning set forth in Section 4.5(e).

**“Scheduler”** means the Persons doing Scheduling for each Party. The contact information for Buyer’s Scheduler and Seller’s Scheduler at the Effective Date is set forth in item 4, Appendix C which will be revised by the Parties as needed.

**“Seller”** has the meaning set forth in the preamble of this Agreement.

**“Seller Party(ies)”** means Seller and all other Persons, excluding Buyer, executing any Ancillary Document, including without limitation any obligors providing Performance Security, now or hereafter in effect.

**“Shortfall Energy”** has the meaning set forth in Section 9.1.

**“Site”** means the real property (including all fixtures and appurtenances thereto) and related physical and intangible property generally identified in Appendix B as owned or leased by Seller where the Facility is located or will be located, and including any easements, rights-of-way or contractual rights held or to be held by Seller for transmission lines and/or roadways servicing such Site or the Facility located (or to be located) thereon.

**“Special Purpose Entity”** means a limited liability company which at all times prior to, on and after the date hereof:

(a) shall not (i) engage in any dissolution, liquidation or consolidation or merger with or into any other business entity, (ii) acquire by purchase or otherwise all or substantially all of the business or assets of or beneficial interest in any other entity, (iii) transfer, lease or sell, in one transaction or any combination of transactions, all or substantially all of its properties or assets except to the extent permitted herein, (iv) modify, amend or waive any provisions of its organizational documents related to its status as a Special Purpose Entity, or (v) terminate its organizational documents or its qualifications and good standing in any jurisdiction.

(b) was, is and will be organized solely for the purpose of acquiring, developing, owning, holding, selling, leasing, transferring, exchanging, managing and operating the Facility, entering into this Agreement with Buyer and transacting lawful business that is incident, necessary and appropriate to accomplish the foregoing;

(c) has not been, is not, and will not be engaged in any business unrelated to the acquisition, development, ownership, management or operation of the Facility.

(d) has not had, does not have and will not have, any assets other than those related to the Facility;

(e) has held itself out and will hold itself out to the public as a legal entity separate and distinct from any other entity and has not failed and will not fail to correct any known misunderstanding regarding the separate identity of such entity;

(f) has maintained and will maintain its financial statements, bank accounts, accounts, books, resolutions, agreements and records separate from any other Person and has filed and will file its own tax returns (except to the extent treated as a “disregarded entity” for tax purposes and is not required to file tax returns under applicable law);

(g) has held itself out and identified itself and will hold itself out and identify itself as a separate and distinct entity under its own name or in a name franchised or licensed to it by an entity other than an Affiliate of Seller and not as a division, department or part of any other Person;

(h) has maintained and will maintain its assets in such a manner that it will not be costly or difficult to segregate, ascertain or identify its individual assets from those of any other Person;

(i) has not made and will not make loans or advances to any Person or hold evidence of indebtedness issued by any other Person (other than cash and investment-grade securities issued by an entity that is not an Affiliate of or subject to common ownership with such entity) or made any gifts or fraudulent conveyances to any Person;

(j) has not identified and will not identify its members, or any Affiliate of any member, as a division or department or part of it, and has not identified itself and shall not identify itself as a division or department of any other Person;

(k) has not entered into or been a party to, and will not enter into or be a party to, any transaction with its members or Affiliates, except in the ordinary course of its business and on terms which are intrinsically fair, commercially reasonable and are no less favorable to it than would be obtained in a comparable arm's-length transaction with an unrelated third party;

(l) has not had and will not have any obligation to indemnify, and has not indemnified and will not indemnify its officers, managers or members, as the case may be, other than the Independent Manager;

(m) it has considered and shall consider the interests of its creditors in connection with all limited liability company actions;

(n) does not and will not have any of its obligations guaranteed by any Affiliate and will not hold itself out as being responsible for the debts or obligations of any other Person;

(o) has complied and will comply with all of the terms and provisions contained in its organizational documents including the provision requiring that there be an Independent Manager at all times and has done or caused to be done and will do all things necessary to preserve its existence;

(p) has not commingled, and will not commingle, its funds or assets with those of any Person and has not participated and will not participate in any cash management system with any other Person;

(q) has held and will hold its assets in its own name and conducted and will conduct all business in its own name;

(r) has maintained and will maintain its financial statements, accounting records and other entity documents separate from any other Person and has not permitted and will not permit its assets to be listed as assets on the financial statement of any other entity except as required by GAAP; *provided, however*, that any such consolidated financial statement shall contain a note indicating that its separate assets and liabilities are neither available to pay the debts of the consolidated entity nor constitute obligations of the consolidated entity;

(s) has paid and will pay its own liabilities and expenses, including the salaries of its own employees, out of its own funds and assets, and has maintained and will maintain a sufficient number of employees in light of its contemplated business operations;

(t) has observed and will observe all limited liability company formalities;

(u) has not assumed or guaranteed or become obligated for, and will not assume or guarantee or become obligated for the debts of any other Person and has not held out and will not hold out its credit as being available to satisfy the obligations of any other Person except as permitted pursuant to this Agreement;

(v) has not acquired and will not acquire obligations or securities of its members or any Affiliate;

(w) has allocated and will allocate fairly and reasonably any overhead expenses that are shared with any Affiliate, including, but not limited to, paying for shared space and services performed by any employee of an Affiliate;

(x) has maintained and used, now maintains and uses, and will maintain and use separate stationery, invoice and checks bearing its name; such stationery, invoices and checks utilized by it or utilized to collect its funds or pay its expenses have borne and shall bear its own name and have not borne and shall not bear the name of any other entity unless such entity is clearly designated as being its agent;

(y) has not pledged and will not pledge its assets for the benefit of any other Person;

(z) has had, now has, and will have articles of organization, a certificate of formation and/or an operating agreement, as applicable, that provides that it will not: (A) dissolve, merge, liquidate or consolidate; (B) sell, transfer, lease or otherwise convey all or substantially all of its assets; (C) engage in any other business activity, or amend its organizational documents with respect to the matters set forth in this definition without the affirmative vote of its Independent Manager; or (D) without the affirmative vote of its Independent Manager, file a bankruptcy or insolvency petition or otherwise institute insolvency proceedings with respect to itself or to any other entity in which it has a direct or indirect legal or beneficial ownership interest;

(aa) has been, is and intends to remain solvent and has paid and intends to continue to pay its debts and liabilities (including, as applicable, shared personnel and overhead expenses) from its assets as the same shall have or become due, and has maintained, is maintaining and intends to maintain adequate capital for the normal obligations reasonably foreseeable in a business of its size and character and in light of its contemplated business operations; and

(bb) has and will have no indebtedness other than (i) the loan made by the Facility Lender providing construction or long-term financing for the Facility and any loan in replacement or substitution thereof, (ii) Taxes and Insurance premiums, (iii) liabilities incurred in the ordinary course of business relating to its ownership, leasing and operation of the Facility and its routine administration, which liabilities are not more than sixty (60) days past due, are not evidenced by a note and are paid when due, and which amounts are normal and reasonable under the circumstances, and (iv) such other liabilities that are permitted pursuant to this Agreement.

**“Specified Transmission Path”** means the transmission path for Replacement Energy as specified by the procedure in Section 9.3.

**“System Emergency”** means an emergency condition or abnormal interconnection situation which in Buyer’s sole judgment affects the ability of Buyer or Buyer’s Transmission Provider to receive Energy at the Point of Delivery.

**“Tax”** or **“Taxes”** means each federal, state, county, local and other (a) net income, gross income, gross receipts, sales, use, ad valorem, business or occupation, transfer, franchise, profits, withholding, payroll, employment, excise, property or leasehold tax and (b) customs, duty or other fee, assessment or charge of any kind whatsoever, together with any interest and any penalties, additions to tax or additional amount with respect thereto.

**“Tax Equity Financing”** means, with respect to Seller or any Parent Entit(ies), any transaction or series of transactions resulting in (i) more than fifty percent (50%) and less than one hundred percent (100%) of the membership interests of Seller or any Parent Entit(ies), as applicable, being issued or otherwise provided to another Person (a **“Tax Equity Investor”**) in exchange for capital contributions to Seller or any Parent Entit(ies), as applicable, (ii) the Tax Equity Investor being allocated a necessary share of profits and losses of Seller or any Parent Entit(ies), as applicable, to achieve the associated allocations of tax attributes to the Tax Equity Investor, and (iii) the Tax Equity Investor being granted only such management responsibilities in Seller or any Parent Entit(ies), as applicable, as are reasonably satisfactory to Buyer.

**“Tax Equity Investor”** has the meaning set forth in the definition of Tax Equity Financing.

**“Termination Notice”** has the meaning set forth in Section 13.3(a).

**“Termination Payment”** has the meaning set forth in Section 13.3(d).

**“Test Energy”** means Facility Energy delivered before the Commercial Operation Date.

**“Transmission Providers”** means the Person(s) operating the Transmission System(s) providing Transmission Services to or from the Point of Delivery.

**“Transmission Services”** means the transmission and other services required to transmit Energy from the Point of Delivery, or in the case of Replacement Energy, the transmission and other services required to transmit Replacement Energy to or from the specified point or points on Buyer’s system for delivery of Replacement Energy by Seller.

**“Transmission System”** means the facilities utilized to provide Transmission Services.

**“UCC”** means the Uniform Commercial Code as enacted and in effect in the state where the Facility is located (and as it may from time to time be amended).

**“Unexcused Cause”** has the meaning set forth in Section 14.6(b).

**“WECC”** means the Western Electricity Coordinating Council and any successor entity thereto.

“**WREGIS**” means Western Renewable Energy Generation Information System, and any successor thereto.

“**WREGIS Certificates**” has the meaning set forth in Section 8.4.

“**WREGIS Operating Rules**” means the rules describing the operations of the Western Renewable Energy Generation Information System, as published by WREGIS and as may be amended from time to time.

Other terms defined herein have the meanings so given them in this Agreement.

**Section 1.2 Interpretation.** In this Agreement, unless a clear contrary intention appears:

- (a) the singular number includes the plural number and vice versa;
- (b) reference to any Person includes such Person’s successors and assigns but, in case of a Party hereto, only if such successors and assigns are permitted by this Agreement, and reference to a Person in a particular capacity excludes such Person in any other capacity or individually;
- (c) reference to any gender includes the other;
- (d) reference to any agreement (including this Agreement), document, instrument or tariff means such agreement, document, instrument or tariff as amended or modified and in effect from time to time in accordance with the terms thereof and, if applicable, the terms hereof;
- (e) reference to any Article, Section, or Appendix means such Article of this Agreement, Section of this Agreement, or such Appendix to this Agreement, as the case may be, and references in any Article or Section or definition to any clause means such clause of such Article or Section or definition;
- (f) “hereunder”, “hereof”, “hereto” and words of similar import shall be deemed references to this Agreement as a whole and not to any particular Article or Section or other provision hereof or thereof;
- (g) “including” (and with correlative meaning “include”) means including without limiting the generality of any description preceding such term;
- (h) relative to the determination of any period of time, “from” means “from and including”, “to” means “to but excluding” and “through” means “through and including”;
- (i) reference to time shall always refer to Pacific Prevailing Time; and reference to any “day” shall mean a calendar day unless otherwise indicated; and
- (j) the term “or” is not exclusive.



**ARTICLE II**  
**EFFECTIVE DATE, TERM, AND EARLY TERMINATION**

**Section 2.1 Effective Date.** This Agreement is effective as of the later of (a) the date that both Parties have executed this Agreement and (b) the date that all of the following have occurred:

- (a) Buyer received the Non-Consolidation Opinion;
- (b) Buyer and Seller executed and delivered the Option Agreement;
- (c) A memorandum of option in the form required by Section 2.4 of the Option Agreement was recorded in the Official Records of Kern County, California;
- (d) Reserved;
- (e) Buyer and Seller have executed the Lease and a memorandum of Lease has been recorded in the Official Records of Kern County, California;
- (f) Reserved;
- (g) Buyer received copies of all requisite resolutions and incumbency certificates of each Seller Party and any other documents evidencing all actions taken by each Seller Party to authorize the execution and delivery of this Agreement and all Ancillary Documents requiring execution by such Seller Party, such resolutions to be certified as of the Effective Date by an authorized representative of the Seller Party;
- (h) Buyer received an executed original of a written legal opinion of legal counsel for Seller concerning the enforceability and due authorization of this Agreement, the Ancillary Documents and related matters in form and substance satisfactory to Buyer and its counsel dated as of the Effective Date and addressed to Buyer;
- (i) Reserved;
- (j) Buyer received all certificates and other documents required to establish that the insurance policies required by Appendix F are in full force and effect upon the Effective Date;
- (k) Buyer received satisfactory evidence that Seller has obtained all Permits described in Appendix B, except for any such Permits not yet required to be obtained but which can reasonably be expected to be obtained when needed, and each such Permit is final and non-appealable; and
- (l) Reserved.

**Section 2.2 Agreement Term and Delivery Term.** This Agreement shall have a delivery term (the “*Delivery Term*”) of twenty-five (25) Contract Years commencing on the Commercial Operation Date and ending on the 25th anniversary thereof, unless sooner

terminated in accordance with the terms of this Agreement. The term of this Agreement (the “**Agreement Term**”) shall commence on the Effective Date and shall end upon the expiration of the Delivery Term or earlier termination of this Agreement in accordance with the terms hereof.

**Survivability.** The provisions of this Article II, Article XII, Article XIII, Section 14.19 and Section 14.21 shall survive for a period of one year following the termination of this Agreement. The provisions of Article XI shall survive for a period of four (4) years following final payment made by the Buyer hereunder or the expiration or termination date of this Agreement, whichever is later. The provisions of Article V, Article VI, and Article VIII shall continue in effect after termination to the extent necessary to provide for final billing, adjustments, and deliveries related to the period prior to termination of this Agreement.

### **Section 2.3 Early Termination.**

(a) **Early Termination by Mutual Agreement.** This Agreement may be terminated by mutual written agreement of the Parties.

(b) **Early Termination for Default.** Upon the occurrence of a Default, the Non-Defaulting Party may terminate this Agreement as set forth in Section 13.3.

(c) **Early Termination for Business Policies.** This Agreement shall terminate when and as provided in Section 14.23, subject to the cure period described in Section 13.1(b).

(d) **Early Termination for Failure to Deliver Performance Security.** Either Party may terminate this Agreement (i) at any time following Seller’s notice to the Buyer that Seller will not provide the Performance Security by October 31, 2014, as required under Section 5.4, or (ii) Seller has not provided the Performance Security by October 31, 2014, as required under Section 5.4. Seller’s failure to provide the Performance Security by October 31, 2014 shall not be a Default and termination of this Agreement pursuant to the immediately preceding sentence shall be without further liability or obligation to either Party.

(e) Reserved.

(f) **Early Termination for Failure to Achieve Commercial Operation Date.** Buyer, in its sole discretion, may terminate this Agreement effective upon notice to Seller if Seller fails to achieve Commercial Operation on or before December 31, 2016, without exception, suspension or extension for reasons of Force Majeure or otherwise.

(g) **Early Termination for Failure to Obtain CEC Certification.** Buyer may terminate this Agreement effective upon notice to Seller if the Facility is not CEC Certified by one (1) year after the Commercial Operation Date has been achieved.

(h) **Early Termination for Force Majeure.** This Agreement may be terminated pursuant to Section 14.6(d).

(i) **Early Termination for CEQA.** This Agreement may be terminated pursuant to Section 3.1(e).

(j) **Exercise of Project Purchase Option.** In the event Buyer elects to exercise the Project Purchase Option, this Agreement shall terminate effective upon the Closing under the Option Agreement unless sooner terminated as otherwise herein provided.

(k) **Effect of Termination.** Any termination of this Agreement under this Section 2.4 shall be without prejudice to the rights and remedies of either Party for Defaults occurring prior to such termination.

### **ARTICLE III DEVELOPMENT OF THE FACILITY**

#### **Section 3.1 In General.**

(a) **Permitting.** Seller, at its expense, shall timely take all steps necessary to obtain all Permits required to construct, maintain or operate the Facility in accordance with the requirements of this Agreement and all applicable Requirements of Law, except as specifically set forth otherwise with respect to particular Permits in this Section 3.1.

(b) **Project Design.** Seller shall determine the proposed location, design, configuration and capacities of the Facility as it deems appropriate, subject only to the requirements of this Agreement, the Ancillary Documents and all applicable Requirements of Law, including but not limited to the characteristics and other requirements for the Facility set forth in Appendix B, and also subject to any conditions which were imposed by the lead agency under CEQA or any responsible agency (including but not limited to Buyer) as part of the CEQA review of the Facility, as expressed in the final CEQA environmental impact report (“CEQA EIR”), attached as Appendix N, and/or the conditional use permit (“CUP”), attached as Appendix O, it being understood that this Agreement may be terminated by Buyer in the absence of Seller’s compliance with every such condition in each that is the responsibility of Seller, such absence of compliance constituting a default of Seller under this Agreement. Likewise, this Agreement may be terminated in the absence of Seller’s compliance with every such condition in the incidental take permit for Desert Tortoise and Mohave Ground Squirrel (“Incidental Take Permit”), attached as Appendix P, and the streambed alteration agreement (“Streambed Alteration Agreement”), attached as Appendix Q that is the responsibility of Seller, such absence of compliance constituting a default of Seller under this Agreement. In addition to the above in this Section 3.1(b), the Seller shall: a) not exceed either the total nominal gross nameplate capacity or the total nominal net capacity set forth in Appendix B without the written approval of Buyer at Buyer’s sole discretion; and (b) comply, at Seller’s sole expense, with the requirements set forth in Appendix V (34.5 kV Collection System Design); Appendix W (Fugitive Dust Mitigation Plan); Appendix X (Solar Design Criteria); Appendix AA (Inverter Performance Criteria); and Appendix CC (Perimeter Fence Requirement). Buyer shall proceed diligently with its obligations to build the 34.5 kV collection system (“*Collection System*”) described in Appendix V, and will inform Seller of the estimated completion time during the construction process. Buyer has or will provide Site topography data set to Seller in electronic format on or before execution of this Agreement.

(c) **Compliance with CEQA EIR, CUP and other Permits.**

(1) Seller shall, at its expense, comply with and fulfill the obligations listed in Appendix R (the “CEQA/CUP Permit Obligations”) as the responsibility of the Seller with respect to the CEQA EIR and the CUP. Seller agrees, to the extent that any CEQA/CUP Permit Obligation is listed as Buyer’s obligation, to cooperate fully with Buyer (at Buyer’s expense) in complying with said CEQA/CUP Permit Obligations. Furthermore, Seller shall also, at its expense, (A) comply with the Incidental Take Permit, to the extent Seller’s obligations under the Incidental Take Permit are listed in Appendix S, and agrees, to the extent that any Incidental Take Permit obligation is listed as Buyer’s obligation, to cooperate fully with Buyer (at Buyer’s expense) in complying with said Incidental Take Permit obligations; (B) comply with the Streambed Alteration Agreement, to the extent Seller’s obligations under the Streambed Alteration Agreement are listed in Appendix T, and agrees, to the extent that any Streambed Alteration Agreement obligation is listed as Buyer’s obligation, to cooperate fully with Buyer (at Buyer’s expense) in complying with said Streambed Alteration Agreement obligations; and (C) comply with the Federal Incidental Take Permit, as applicable. The Buyer shall be responsible for obtaining the Incidental Take Permit, the Federal Incidental Take Permit, and the Streambed Alteration Agreement. Further, Buyer shall retain ownership of the EIR, CUP, the Incidental Take Permit, the Federal Incidental Take Permit, and the Streambed Alteration Agreement. To the extent that Appendices R, S and T do not specifically indicate that a particular obligation is the responsibility of Buyer for a particular permit, such obligations will be the responsibility of Seller, at Seller’s sole cost and expense. Seller also agrees to provide Buyer with all necessary cooperation, including but not limited to site access at reasonable times, to allow Buyer to fulfill its obligations under Appendices N, O, P, Q, R, S and T.

(2) Seller shall construct, or cause to be constructed, a fence around a portion of the perimeter of the Beacon project site and additional solar site as set forth in and compliant with Appendix CC of this Agreement. Seller may agree with Buyer’s Other Solar Developers to jointly cause the construction of such fence, but Seller will remain the responsible Party under this Agreement for construction notwithstanding any such joint arrangement. Seller shall promptly provide Buyer with a copy of any such joint agreement. Buyer shall provide Seller with sufficient site access to perform these duties.

(d) **Meetings With Governmental Authorities.** Seller shall represent the Facility as necessary in all meetings with and proceedings before all Governmental Authorities, except that with respect to any of the EIR, CUP, the Incidental Take Permit, the Federal Incidental Take Permit, and the Streambed Alteration Agreement, Buyer shall represent the Facility in such meetings and proceedings unless Buyer elects otherwise, provided that Seller shall have the right but not the obligation to attend such meetings and proceedings. Buyer shall use reasonable efforts to notify Seller of such meetings and proceedings, but the failure to provide such notification shall not be an event of Default.

(e) **Effect of CEQA Challenge.** Should any administrative or judicial challenge by a third party, and not an Affiliate of Buyer or Seller, under CEQA occur after this Agreement is executed by both Parties, including but not limited to challenges under California Public Resources Code Section 21167, to the extent such litigation causes delays or interruption in either the Seller's or the Buyer's performance under this Agreement before the Commercial Operation Date is achieved, the relevant timelines for performance for the Seller or Buyer, respectively, will be granted a day-for-day extension until the litigation is resolved or until either the Seller or Buyer can resume performance of the relevant obligations despite the lack of resolution of the litigation. Notwithstanding the foregoing, if any such litigation delays the Commercial Operation Date by more than 180 days, either Party can terminate this Agreement early under Section 2.4(h). In the case of such termination, neither Party shall be liable to each other.

(f) **Effect of Endangered Species Act Challenge.** Should any administrative or judicial challenge by a third party, and not an Affiliate of Buyer or Seller, involving the Endangered Species Act occur after this Agreement is executed by both Parties, to the extent such litigation causes delays or interruption in either Party's performance under this Agreement before the Commercial Operation Date is achieved, the relevant timelines for performance for the Seller or Buyer, respectively, will be granted a day-for-day extension until the litigation is resolved or until either the Seller or Buyer can resume performance of the relevant obligations despite the lack of resolution of the litigation. Notwithstanding the foregoing, if any such litigation delays the Commercial Operation Date by more than 180 days, either Party can terminate this Agreement early under Section 2.4(h). In the case of such termination, neither Party shall be liable to each other.

(g) **Ownership and Operation of the Facility.** Seller shall use commercially reasonable and diligent efforts to site, develop, finance and construct the Facility. Except as otherwise permitted by this Agreement, the Facility shall be owned by Seller during the Agreement Term. Seller shall develop, operate and maintain the Facility, at its sole risk and expense, and in compliance with the requirements of this Agreement, all applicable Requirements of Law, Prudent Utility Practices, and applicable manufacturer's and operator's specifications and recommended procedures *provided*, meeting these requirements shall not relieve Seller of its other obligations under this Agreement. Seller shall not sell or otherwise dispose of or create, incur, assume or permit to exist any Lien (other than Permitted Encumbrances) on any portion of the Facility or any other property or assets which are related to the operation, maintenance and use of the Facility without the prior written approval of Buyer. The Facility shall be operated during the Delivery Term by the party listed as the operator on Appendix B or such other Person as Buyer shall approve in the exercise of its reasonable discretion.

(h) **Site Confirmation.** Seller agrees and acknowledges that the Seller's agents and representatives have visited, inspected and are familiar with the Site in particular, its surface physical condition relevant to the obligations of the Seller pursuant to this Agreement, including surface conditions, normal and usual soil conditions, roads, utilities, and topographical, solar radiation, air and water quality conditions; that the Seller is familiar with all local and other conditions which may be material to the Seller's performance of its

obligations under this Agreement (including, transportation, seasons and climate, access, weather, handling and storage of materials and equipment; and availability and quality of labor and utilities); and that based on the foregoing, the Site constitutes an acceptable and suitable site for the construction and operation of the Facility in accordance herewith, barring events of Force Majeure. Any failure by Seller to take the actions described in this Section will not relieve Seller from any responsibility for estimating properly the difficulty and cost of successfully constructing, maintaining or operating the Facility in accordance with this Agreement or from proceeding to construct, maintain and operate the Facility successfully without any additional expense to Buyer.

**Section 3.2 Certification of Commercial Operation Date.** Seller shall provide Buyer with a notice when Seller believes that all conditions precedent to achieving Commercial Operation of the Facility as specified in the definition of “Commercial Operation” in Section 1.1 have been satisfied. Buyer shall in writing either accept or reject the notice in its reasonable discretion within fifteen (15) business days, identifying any bases for rejection, and if Buyer rejects the notice, Seller shall promptly correct any defects or deficiencies and resubmit the notice. Commercial Operation shall be deemed to have occurred on the date that Buyer accepts a notice of Commercial Operation from Seller. Notwithstanding the foregoing, in the event that Seller wishes to declare Commercial Operation for any reason under which the Facility will have a capacity less than the planned net capacity set forth in Section 4 of Appendix B, Seller can in its sole discretion request in a signed writing that such lesser capacity as is set forth in a “**Proposed Capacity Reduction Letter**” sent to Buyer be accepted by Buyer, and Buyer in its sole discretion may sign the Proposed Capacity Reduction Letter within 30 days of receipt to indicate Buyer’s acceptance of such reduced capacity. In the event that Buyer accepts such reduced capacity, all production guarantees of Seller and any corresponding obligations of Buyer shall be reduced by a proportionate amount. The issuance of a Proposed Capacity Reduction Letter and its acceptance, shall not affect, diminish or reduce either Seller’s or Buyer’s potential rights or remedies under this Agreement, if any, other than as set forth in this Section 3.2 through the proportionate reduction of Seller’s production guarantees and any corresponding obligations of Buyer. Neither Seller nor Buyer has any obligation whatsoever to propose or accept a Proposed Capacity Reduction Letter.

**Section 3.3 Other Information.** Seller shall provide to Buyer such other information regarding the permitting, engineering, construction or operations, of Seller, its subcontractors or the Facility, financial or otherwise, and other data concerning the Seller, its subcontractors or the Facility as Buyer may, from time to time, reasonably request. Until the Commercial Operation Date, Seller shall provide to Buyer quarterly written reports describing permitting and development activities in the previous quarter and anticipated progress and activities for the upcoming quarter. Buyer shall be permitted to inspect the Facility from time to time upon reasonable notice to Seller and during reasonable business hours.

**Section 3.4 Milestone Schedule.** Seller has provided a milestone schedule with deadlines for the development of the Facility through the Commercial Operation Date in Appendix I. Seller shall provide Buyer a quarterly report setting forth the status of each milestone, including a description of any event that could reasonably cause a deadline to be missed. Seller shall achieve each milestone set forth on Appendix I (each, a “**Milestone**”) by the

date specified therefor, subject to day-for-day extensions for delays due to Force Majeure (each such date as so extended (if at all), a “**Milestone Date**”). In the event Seller anticipates that it will not achieve a Milestone by the applicable Milestone Date, Seller shall promptly prepare and deliver to Buyer a remedial action plan (“**Remedial Action Plan**”) which shall set forth (a) the anticipated period of delay, (b) the basis for such delay, (c) an outline of the steps that Seller is taking to address the delay, (d) a proposed revised date for achievement of the applicable Milestone and (e) such other information and in such detail as may be reasonably requested by Buyer. Seller shall not have any obligation or liability for failure to timely achieve a Milestone (except as set forth in Section 3.5 and 13.1(h)) other than the obligation to submit a Remedial Action Plan in accordance with this Section 3.4 that demonstrates, with customary and reasonable detail, Seller’s good faith attempt to address and minimize the delay.

**Section 3.5 Performance Damages.** If Seller fails to achieve the Commercial Operation Date by June 30, 2016 (subject to day-for-day extensions for delays due to either (i) Force Majeure; (ii) Buyer’s failure to achieve the Expected Interconnection Readiness Date, or (iii) acts or omissions of Buyer’s Other Solar Developers that are not caused by Seller and that prevent Seller from achieving the Commercial Operation Date), Seller shall pay liquidated damages to Buyer in an amount equal to \$260 per day per MW, up to a maximum of \$180,000 per MW of the Facility in the aggregate, for each day intervening between the June 30, 2016, and the earlier of (x) the date the Commercial Operation Date is achieved, and (y) the date, if any, on which this Agreement is terminated by Buyer pursuant to Section 2.4. Notwithstanding the foregoing, if by December 31, 2016 (without regard to any extensions of the Commercial Operation Date that may have occurred), the Commercial Operation Date has not been achieved, Buyer shall have the option to terminate this Agreement pursuant to Section 2.4, and, in addition to any liquidated damages previously payable to by Buyer before such termination, Seller shall pay additional liquidated damages to Buyer upon such termination equal to the difference, if any, between Seller’s Performance Security and the liquidated damages already payable to Buyer; *provided however*, that if during the entire period between June 30, 2016, and December 31, 2016, Seller is prevented from achieving the Commercial Operation date solely due to acts or omissions by Buyer or Buyer’s Other Solar Developers and due to no fault of Seller, Seller will not pay or owe any liquidated damages on December 31, 2016, as described in this Section 3.5 to Buyer for failure to achieve the Commercial Operation Date.

**Section 3.6 Decommissioning and Other Costs.** Unless a Closing occurs pursuant to the exercise by Buyer of the Project Purchase Option, Buyer shall not be responsible for any cost of decommissioning or demolition of the Facility or any environmental or other liability associated with the decommissioning or demolition without regard to the timing or cause of the decommissioning or demolition.

**Section 3.7 Proposed Capacity Increase.** At any time as Buyer may find it convenient or desirable due to action or inaction by one or more of Buyer’s Other Solar Developers, and in furtherance of Buyer’s goals for the Beacon project site, Buyer may propose in its sole discretion that additional solar generation capacity be added to this Agreement by issuing a written and signed “**Proposed Capacity Increase Letter**” to Seller, stating the location and amount of such proposed increased capacity, on generally the same terms and conditions as set forth in this Agreement. Seller can in its sole discretion accept or reject such proposed

capacity increase. If Seller wishes to accept such proposed capacity increase, Seller will sign and return the Proposed Capacity Increase Letter within 30 days of receipt to Buyer. In the event that Seller accepts such increased capacity, all production guarantees of Seller and any corresponding obligations of Buyer shall be increased by a proportionate amount. Neither Seller nor Buyer has any obligation whatsoever to propose or accept a Proposed Capacity Increase Letter.

#### **ARTICLE IV OPERATION AND MAINTENANCE OF THE FACILITY**

**Section 4.1 Compliance with Electrical Service Requirements.** Seller shall, at its sole expense, operate and maintain the Facility (i) in accordance with Prudent Utility Practices, the requirements of this Agreement and all applicable Requirements of Law, and (ii) in a manner that is reasonably likely to produce at least the Guaranteed Generation of Energy from the Facility and result in a useful life for the Facility of not less than twenty-five (25) years.

#### **Section 4.2 General Operational Requirements.**

In addition to the requirements set forth in Section 4.1 and elsewhere in this Agreement, Seller shall, at all times:

(a) Employ or contract for qualified and trained personnel for managing, operating and maintaining the Facility and for coordinating with Buyer and Buyer's Agent. Seller shall ensure that necessary personnel are available on-site or on-call twenty-four (24) hours per day during the Delivery Term.

(b) Operate and maintain the Facility, or cause the Facility to be operated and maintained, with due regard for the safety, security and reliability of the interconnected facilities and Transmission System.

(c) Comply with operating and maintenance standards recommended by, and required by, the Facility's equipment suppliers.

**Section 4.3 Operation and Maintenance Plan.** Seller shall devise and implement a plan of inspection, maintenance, and repair for the Facility and the components thereof in order to maintain such equipment in accordance with Prudent Utility Practices, and shall keep records with respect to inspections, maintenance, and repairs thereto. The aforementioned plan and all records of such activities shall be available for inspection by Buyer during Seller's regular business hours upon reasonable notice.

**Section 4.4 Environmental Credits.** Seller shall, if applicable, obtain in its own name and at its own expense any and all pollution or environmental credits or offsets necessary to operate the Facility in compliance with the Requirements of Law.

#### **Section 4.5 Scheduling of Energy and Scheduled Outages.**

(a) Seller or Seller's designee shall be responsible for scheduling the forecast of Facility Energy to the Point of Delivery during the Agreement Term in accordance



with the dispatch and scheduling procedures that may be updated from time to time by Buyer or Buyer's Agent. Seller shall submit schedules, and any updates to such schedules, to Buyer or Buyer's Agent designated by Buyer based on the most current forecast of Energy. All generation scheduling and Transmission Services shall be performed in accordance with the applicable NERC and WECC operating policies, criteria, and any other applicable guidelines. Seller shall also fulfill the contractual, metering and interconnection requirements so as to be able to deliver Energy to the Point of Delivery.

(b) No later than forty-five (45) days before the beginning of each calendar year, Seller or Seller's designee shall provide, or cause to be provided, a non-binding forecast of each month's average-day deliveries of Energy for the following eighteen (18) months.

(c) Ten (10) Business Days before the beginning of each month, Seller or Seller's designee shall provide, or cause to be provided, a non-binding forecast of each day's average deliveries of Energy, by hour, for the following month.

(d) By 5:30 AM Pacific Prevailing Time on the Business Day immediately preceding the date of delivery of Energy or the WECC-approved prescheduling day, if not the same day as the Business Day immediately preceding the date of delivery of Energy, Seller or Seller's designee shall cause the Facility's Scheduling coordinator to provide Buyer or Buyer's Agent with a copy of a non-binding hourly forecast of deliveries of Energy for each hour of the corresponding operating day or days as appropriate. Seller shall provide Buyer or Buyer's Agent with a copy of any and all updates to such forecast indicating a change in forecasted Energy from the then current forecast.

(e) Buyer and Seller shall cooperate to minimize Scheduled Outages during certain consecutive or nonconsecutive weeks of each Contract Year (not to exceed twelve (12) weeks per Contract Year) specified by Buyer (the "**Major Maintenance Blockout**"), but in accordance with Prudent Utility Practices. No later than one hundred twenty (120) days prior to the Commercial Operation Date and the commencement of each Contract Year thereafter, Buyer shall provide Seller with its specified Major Maintenance Blockout. Seller shall attempt to minimize its Scheduled Outages during the Major Maintenance Blockout consistent with Prudent Utility Practices. No later than sixty (60) days prior to the Commercial Operation Date, and the commencement of each Contract Year thereafter, Seller shall provide Buyer or Buyer's Agent with its non-binding written projection of all Scheduled Outages for the succeeding three (3) years (the "**Scheduled Outage Projection**") reflecting a minimized schedule of scheduled maintenance during the Major Maintenance Blockout. In addition, Seller shall cooperate in good faith with Buyer's maintenance scheduling requests consistent with Prudent Utility Practices. The Scheduled Outage Projection shall include information concerning all projected Scheduled Outages during such period, including (i) the anticipated start and end dates of each Scheduled Outage; (ii) a description of the maintenance and/or repair work to be performed during the Scheduled Outage; and (iii) the anticipated MW capacity, if any, during the Scheduled Outage. Seller shall notify Buyer or Buyer's Agent of any change in the Scheduled Outage Projection as soon as practicable, but in no event later than thirty (30) days prior to the originally scheduled date of the Scheduled Outage. Seller will use commercially reasonable efforts to accommodate reasonable requests of Buyer with respect to the timing of Scheduled Outages, and Seller will, to the extent feasible and

consistent with Prudent Utility Practices, arrange for Scheduled Outages to occur between October 1 and May 1 of each year and coincident with planned transmission outages, but not to overlap with the Major Maintenance Blockout. In the event of a System Emergency, Seller shall make all reasonable efforts to reschedule any Scheduled Outage previously scheduled to occur during the System Emergency.

(f) In the event of a Forced Outage affecting at least 10% of the capacity of the Facility, to the extent practicable, Seller shall notify Buyer or Buyer's Agent within two (2) hours of the Forced Outage and provide detailed information concerning the Forced Outage, including (i) the start and anticipated end dates of the Forced Outage; (ii) a description of the cause of the Forced Outage; (iii) a description of the maintenance and/or repair work to be performed during the Forced Outage; and (iv) the anticipated MW capacity, if any, during the Forced Outage. Seller shall take all reasonable measures and exercise commercially reasonable efforts to avoid Forced Outages and to limit the duration and extent of any such outages.

**Section 4.6 Curtailment.** Seller shall reduce deliveries of Facility Energy during any Curtailment Period. Seller shall provide the capability to implement curtailments and adjust ramp rates, MW output, and (if applicable) megavar output in real-time by means of setpoints received from the supervisory control and data acquisition ("SCADA") system of Buyer or Buyer's Authorized Representative. During the Agreement Term, to the extent Seller reduces deliveries of Facility Energy due to a Curtailment Period, such curtailed Energy shall be deemed Delivered Energy ("Deemed Delivered Energy"), and will count towards Seller's Guaranteed Generation obligation. If the aggregate amount of such Deemed Delivered Energy exceeds two thousand (2,000) MWh during any Contract Year, then such Deemed Delivered Energy in excess of two thousand (2,000) MWh during such Contract Year shall be paid for by Buyer at the Facility Energy Price set forth in Exhibit A. Buyer shall not pay seller for any Deemed Delivered Energy up to two thousand (2,000) MWh during any Contract Year. Seller shall install sufficient Electric Metering Devices at the Facility capable of measuring and recording representative solar data twenty-four (24) hours per day and collecting other data necessary, including availability of solar panels during the "Curtailment Period" and pyrometer data, to reasonably determine the amount of Deemed Delivered Energy under this Section 4.6.

## ARTICLE V

### COMPLIANCE DURING CONSTRUCTION AND OPERATION PERIOD

#### Section 5.1 In General.

(a) **The Facility.** Seller warrants and guarantees that it will perform, or cause to be performed, all engineering, design, development, construction operation and maintenance of the Facility in a good and workmanlike manner and in accordance applicable standards, Prudent Utility Practice, all applicable Requirements of Law, Seller's Quality Assurance Program, the Milestones and all other requirements of this Agreement. Seller warrants and guarantees that throughout the Delivery Term and at the time (if any) that Buyer exercises the Project Purchase Option: (i) the Facility, its engineering, design and construction, its components and related work, shall be free from material defects caused by errors or omissions in design, engineering and construction, (ii) the Facility will be free and

clear of all Liens other than Permitted Encumbrances, and (iii) the Facility will comply in all respects with the requirements of this Agreement and all applicable Requirements of Law. Seller also warrants and guarantees that throughout the Agreement Term it will monitor the operation and maintenance of the Facility and that said operation and maintenance is, and will be, in full compliance with all applicable standards, Prudent Utility Practices, Requirements of Law. Seller's Quality Assurance Program, and other provisions of this Agreement. Without limiting the foregoing, Seller shall promptly repair and/or replace, consistent with Prudent Utility Practice, any component of the Facility that may be damaged or destroyed or otherwise not operating properly and efficiently. Seller shall at all times exercise commercially reasonable efforts to undertake all recommended or required updates or modifications to the Facility, its equipment and materials, including procedures, programming and software in a timely manner. Seller shall, at its expense, maintain throughout the Agreement Term an inventory of spare parts for the Facility in a quantity that is consistent with manufacturer's recommendations and Prudent Utility Practice. Without limiting Buyer's rights and remedies elsewhere in the Agreement or the Ancillary Documents, Seller's warranty and guarantee under this Section 5.1(a) is not breached, and Seller shall not be found to be in default of said warranty and guarantee, solely because Seller fails despite reasonable efforts to deliver the Guaranteed Generation in a particular Contract Year.

(b) **Buyer's Right to Monitor in General.** Buyer shall have the right and Seller shall permit Buyer and its representatives, advisors, engineers and consultants to observe, inspect and monitor all operations and activities at the Facility site, including the performance of the contractor(s) under the construction contract(s) pertaining to the Facility, the design, engineering, procurement and installation of the equipment, start up and testing, and Commercial Operation. Buyer's rights under this Section 5.1(b) to access the Facility shall be subject to reasonable prior notice to Seller, at Buyer's sole risk and expense, and subject to Seller's reasonable safety protocols.

(c) **Startup and Testing.** Prior to the Commercial Operation Date and as a condition precedent to the achievement of the Commercial Operation Date, Buyer shall have the right to:

(1) review and monitor the contractors' performance and achievement of all initial performance tests and all other tests required under the Facility construction contracts that must be performed in order to achieve completion, with respect to which the construction contracts shall provide that at least ten (10) Business Days before such tests begin the contractors shall deliver to Buyer a schedule for the performance of such tests;

(2) be present to witness such initial performance tests and review the results thereof; and

(3) perform such detailed examinations, inspections, quality surveillance and tests as, in the judgment of Buyer, are appropriate and advisable to determine that the solar panels and all ancillary components of the Facility have been installed in accordance with this Agreement and the Facility construction contracts, all

applicable standards, Prudent Utility Practice, Requirements of Law, Seller's Quality Assurance Program and the Milestones.

(d) **Contract Provisions.** The Seller shall cause to be included in the Facility construction contract(s) provisions, in form and substance satisfactory to Buyer, whereby the contractor(s) and the Seller:

(1) grant to the Buyer such rights of access to the Facility at all reasonable times (but subject to reasonable safety precautions) and to inspect, make notes about and copy (and make such copies and notes available to the Buyer) all documents, drawings, plans, specifications, permits, test results and information as the Buyer may reasonably request;

(2) make the personnel of, and consultants to, the contractor(s) and the Seller available to the Buyer and its agents, representatives and consultants at reasonable times and with prior notice for purpose of discussing any aspect of the Facility or the development, engineering, construction, installation, testing or performance thereof; and

(3) otherwise cooperate in all reasonable respects with the Buyer and its Authorized Representatives, advisors, engineers and consultants in order to allow the Buyer to exercise its rights under this Section 5.1.

**Section 5.2 Compliance with Standards.** Seller shall cause the Facility and all parts thereof to be designed, constructed, tested, operated and maintained to meet all of the requirements of this Agreement, all applicable requirements of the latest revision of the ASTM, ASME, ASCE, AWS, EPA, EEI, IEEE, ISA, National Electrical Code, National Electric Safety Code, OSHA, Cal-OSHA, as applicable, Uniform Building Code, Uniform Plumbing Code, and the applicable local County Fire Department Standards of the applicable county, and any successors thereto, and other codes and standards and operations and maintenance requirements applicable to the services, equipment, and work as generally shown in this Agreement, as well as all applicable Requirements of Law not specifically mentioned in this Section. To the extent the NERC/FERC Reliability Standards apply to the Facility, Seller shall comply with all such applicable NERC/FERC Reliability Standards.

**Section 5.3 Quality Assurance Program.** Seller agrees to maintain and comply with a written quality assurance policy ("**Quality Assurance Program**") attached hereto as Appendix H, and Seller shall cause all work performed on or in connection with the Facility to comply with said Quality Assurance Program.

**Section 5.4 Performance Security.** No later than October 31, 2014, the Seller shall furnish and maintain a letter of credit in the amount of \$180,000 \* MWs of planned net capacity set forth in Section 4 of Appendix B issued by a Qualified Issuer, in the form attached hereto as Appendix E, which will guarantee Seller's obligations under this Agreement. Seller shall notify Buyer of the occurrence of a Downgrade Event with respect to an issuer of Performance Security, which notice shall be given by Seller within five (5) Business Days of obtaining knowledge of the occurrence of such event. If at any time there shall occur a Downgrade Event with respect to an issuer of Performance Security, then Buyer may require that the Seller replace

the Performance Security from the issuer that has suffered the Downgrade Event with Performance Security from a Qualified Issuer within ten (10) Business Days of notice from Buyer to Seller requesting such replacement Performance Security. Seller shall, from time to time as requested by Buyer, execute, acknowledge, record, register, deliver and file all such notices, statements, instruments and other documents as may be necessary or advisable to render fully valid, perfected and enforceable under all applicable law the credit support contemplated by this Agreement and the Ancillary Documents and the rights, Liens and priorities of Buyer with respect to such credit support. Notwithstanding the other provisions of this Agreement, the credit support contemplated by this Agreement: (a) constitutes security for, but is not a limitation of, Seller's obligations under this Agreement, and (b) shall not be Buyer's exclusive remedy against Seller for the Seller's failure to perform in accordance with this Agreement.

**Section 5.5 Effect of Review by Buyer.** Any review by Buyer of the design, construction, engineering, operation or maintenance of the Facility is solely for the information of Buyer. Buyer shall have no obligation to share the results of any such review with Seller, nor shall any such review or the results thereof (whether or not the results are shared with Seller) nor any failure to conduct any such review relieve Seller from any of its obligations under this Agreement. By making any such review, Buyer makes no representation as to the economic and technical feasibility, operational capability or reliability of the Facility. Seller shall in no way represent to any third party that any such review by Buyer of the Facility, including, but not limited to, any review of the design, construction, operation or maintenance of the Facility by Buyer, is a representation by Buyer as to the economic and technical feasibility, operational capability or reliability of the Facility. Seller is solely responsible for the economic and technical feasibility, operational capability and reliability thereof.

## **ARTICLE VI PURCHASE AND SALE OF POWER**

### **Section 6.1 Purchases by Buyer.**

(a) Prior to the Commercial Operation Date, but not before Buyer provides written notice to Seller that Buyer is ready to receive test energy, Seller shall sell and deliver, and Buyer shall receive and purchase all Facility Energy for the price set forth in paragraph 1 of Appendix A ("Test Energy").

(b) On and after the Commercial Operation Date and continuing for the Delivery Term, Seller shall sell and deliver, and Buyer shall purchase and receive, all Facility Energy for the price set forth in paragraph 2 of Appendix A.

(c) Notwithstanding Section 6.1(b), during the period of time between the Commercial Operation Date and the day that is one (1) day following the date upon which Buyer receives evidence that the Facility is CEC Certified (the "***Pre-Certification Period***"), Buyer may retain a portion of any payment to be made to Seller hereunder in an amount equal to the difference between (1) the price of the Delivered Energy pursuant to Section 6.1(a) and (b), and (2) the average Energy price during the Pre-Certification Period for Energy that is not from an eligible renewable energy resource under the RPS Law, where such average Energy price is listed in the Dow Jones SP-15 Electricity Price Index. Buyer shall release the portion

of such retained amount that would have been paid for Energy generated on or after the effective date of such CEC certification, which shall be calculated without interest of any kind, within forty-five (45) days following the receipt of evidence satisfactory to Buyer from Seller that the Facility is CEC Certified.

**Section 6.2 Point of Delivery.** Seller shall deliver all Facility Energy to Buyer, and Buyer, or its designee, shall receive all Facility Energy from Seller, under this Agreement at the Point of Delivery, which location is specified in Appendix M. For Replacement Energy, the Point of Delivery is the point or points of interconnection on the Buyer's transmission system as specified by Buyer for the delivery of Replacement Energy.

**Section 6.3 Seller's Failure.** Unless excused by Buyer's failure to perform, or caused by Buyer's Other Solar Developers, if Seller fails to deliver at the Point of Delivery all or any part of any Energy or associated Environmental Attributes required to be delivered by Seller under this Article VI or Article VIII, Seller shall pay cover damages or provide make up energy in accordance with Article IX.

**Section 6.4 Buyer's Failure.** Unless excused by Force Majeure or caused by Seller's failure to perform, if Buyer fails to receive at the Point of Delivery all or any part of any Energy required to be received by Buyer under this Article VI, Article VIII or Article IX, Buyer shall pay Seller, on the date payment would otherwise be due to Seller, an amount for each MWh of such deficiency equal to the positive difference, if any, obtained by subtracting the Sales Price from price per MWh which would have been payable by Buyer for the Energy not received by Seller. "**Sales Price**" means the price at which Seller, acting in a commercially reasonable manner, resells the Energy or, absent a resale, the market price for the quantity of Energy not received by the Buyer (adjusted for transmission difference, if any). Seller will provide Buyer prompt written notice of the Sales Price together with back-up documentation. In addition, if Buyer fails to receive at the Point of Delivery all or any part of any Energy required to be received by Buyer under this Article VI, Article VIII or Article IX, Buyer shall pay Seller, upon receipt of an invoice with adequate back-up documentation, any amounts necessary to make Seller whole to the extent Seller (a) was unable to obtain an alternative purchaser for the Energy, or (b) incurred any transaction costs or charges in arranging for such alternative sales; *provided however*, that in no event shall Buyer pay an amount per MWh greater than the price for Energy under this Agreement as set forth in Appendix A.

**Section 6.5 Nature of Remedies.** The remedy set forth in Section 6.3 is in addition to, and not in lieu of, any other right or remedy of Buyer, under this Agreement or otherwise, for failure of Seller to sell and deliver Energy and Environmental Attributes as and when required by this Agreement. The remedy set forth in Section 6.4 is the sole and exclusive remedy of Seller for any failure by Buyer to receive Energy as and when required by this Agreement, and all other remedies and damages for any such failure are hereby waived by Seller.

**Section 6.6 Energy to Come Exclusively from Facility.** Except as provided in Article IX, in no event shall Seller have the right to procure energy from sources other than the Facility for sale and delivery pursuant to this Agreement.

**Section 6.7 Sales to Third Parties.** Seller may sell to Persons other than Buyer outside of Buyer's service area any Facility Energy or Replacement Energy that Seller is required to deliver to Buyer, but which Buyer is excused from receiving, or otherwise unable to receive, at the Point of Delivery. Except as provided in the preceding sentence, Seller shall not sell or otherwise transfer any Facility Energy, Replacement Energy, Capacity Rights or Environmental Attributes to any Person other than Buyer during the Agreement Term. Any purported sale or transfer in violation of this provision shall be null and void at inception and of no force or effect.

## **ARTICLE VII TRANSMISSION AND SCHEDULING; TITLE AND RISK OF LOSS**

**Section 7.1 In General.** Seller shall arrange and be responsible for delivering Facility Energy to the Point of Delivery, and shall Schedule or arrange for Scheduling services to so deliver the Facility Energy to the Point of Delivery. For Replacement Energy, Seller shall arrange and be responsible for any Transmission Services required to deliver Replacement Energy to the Point of Delivery, and shall Schedule or arrange for Scheduling services with its Transmission Providers to so deliver the Replacement Energy. Buyer shall arrange and be responsible for Transmission Services at and from the Point of Delivery, and shall Schedule or arrange for Scheduling services with its Transmission Providers to receive Facility Energy or Replacement Energy at the Point of Delivery. Each Party shall designate an authorized Scheduler to effect the Scheduling of all Facility Energy or Replacement Energy.

**Section 7.2 Costs.** Seller shall be responsible for any costs or charges imposed on or associated with the delivery of Facility Energy up to the Point of Delivery, including but not limited to charges related to control area services, inadvertent energy flows, transmission losses and the transmission of Facility Energy. Buyer shall be responsible for any costs or charges imposed on or associated with the delivery of Facility Energy at and from the Point of Delivery, including but not limited to charges related to control area services, inadvertent energy flows, transmission losses and the transmission of Facility Energy; *provided*, if the Buyer is not the Transmission Provider receiving Facility Energy at the Point of Delivery, then Seller shall pay all such costs and charges for which Buyer would otherwise be responsible to the extent of those which would reasonably be incurred by Buyer to transmit the Facility Energy to a Point of Interconnection on Buyer's System regardless of whether the Facility Energy is in fact transmitted there.

**Section 7.3 Title; Risk of Loss.** As between the Parties, Seller shall be deemed to be in exclusive control (and responsible for any damages or injury caused thereby) of all Facility Energy prior to the Point of Delivery, and Buyer shall be deemed to be in exclusive control (and responsible for any damages or injury caused thereby) of all Facility Energy at and from the Point of Delivery. Seller warrants that it will deliver all Facility Energy, Capacity Rights, and Environmental Attributes to Buyer free and clear of all Liens created by any Person other than Buyer. Title to and risk of loss as to all Energy and Environmental Attributes shall pass from Seller to Buyer at the Point of Delivery.

**ARTICLE VIII**  
**ENVIRONMENTAL ATTRIBUTES; EPS AND RPS COMPLIANCE**

**Section 8.1 Transfer of Environmental Attributes.** For and in consideration of Buyer entering into this Agreement, and in addition to the agreement by Buyer and Seller to purchase and sell Facility Energy on the terms and conditions set forth herein, Seller shall transfer to Buyer, and Buyer shall receive from Seller, all right, title, and interest in and to all Environmental Attributes, whether now existing or acquired by Seller or that hereafter come into existence or are acquired by Seller during the Agreement Term, for all Delivered Energy and Replacement Energy. Seller agrees to transfer and make such Environmental Attributes available to Buyer immediately to the fullest extent allowed by applicable law upon Seller's production or acquisition of the Environmental Attributes. Seller represents and covenants that it has not assigned, transferred, conveyed, encumbered, sold or otherwise disposed of and will not in the future assign, transfer, convey, encumber, sell or otherwise dispose of all or any portion of such Environmental Attributes to any Person other than Buyer or attempt to do any of the foregoing with respect to any of the Environmental Attributes. Buyer and Seller acknowledge and agree that the consideration for the transfer of Environmental Attributes is contained within the relevant prices for Delivered Energy under Articles VI and IX and Appendix A.

**Section 8.2 Reporting of Ownership of Environmental Attributes.** During the Agreement Term, Seller shall not report to any Person that the Environmental Attributes granted hereunder to Buyer belong to any Person other than Buyer, and Buyer may report under any program that such Environmental Attributes purchased hereunder belong to it.

**Section 8.3 Environmental Attributes.** Upon Buyer's request, Seller shall take all commercially reasonable actions and execute all documents or instruments necessary under applicable law, bilateral arrangements or other voluntary Environmental Attribute programs of any kind, as applicable, to maximize the attribution, accrual, realization, generation, production, recognition and validation of Environmental Attributes throughout the Agreement Term.

**Section 8.4 Use of Accounting System to Transfer Environmental Attributes.** In furtherance and not in limitation of Section 8.3, Seller shall use WREGIS or any such other successor or replacement system as may be required by the CEC or directed by Buyer to evidence the transfer of any Environmental Attributes considered RECs under applicable laws or any voluntary program ("**WREGIS Certificates**"), associated with Facility Energy or Replacement Energy in accordance with WREGIS reporting protocols, and as such shall register the Facility with WREGIS. After the Facility is registered with WREGIS, at Buyer's option, Seller shall (i) transfer WREGIS Certificates using the Forward Certificate Transfer method, as described in WREGIS Operating Rules, from Seller's WREGIS account to up to three WREGIS accounts, as designated by Buyer, or (ii) retire said WREGIS Certificates into Seller's WREGIS Retirement sub-account on behalf of Seller's requirements (if any); *provided, however*, that Buyer shall initially select to use either option (i) or (ii) thirty (30) days prior to Seller's delivery of any Facility Energy to the Point of Delivery, and, *provided further*, if option (i) is selected, Buyer may change to option (ii) at the beginning of any calendar year during the Agreement Term upon thirty (30) days advance written notice. If option (ii) is selected, then Buyer shall provide Seller the number and vintage of MWh of WREGIS Certificates to be retired by providing written notice to Seller not later than thirty (30) days prior to the desired retirement



date. Seller shall be responsible for the WREGIS expenses associated with registering the Facility, maintaining its account, WREGIS Certificate issuance fees, and transferring WREGIS Certificates to Buyer or Buyer's Agent, or any other designees, and Buyer shall be responsible for the WREGIS expenses associated with maintaining its account, or the accounts of its designees, if any, and subsequent transferring or retiring of WREGIS Certificates, or Seller's fees for the retirement of WREGIS Certificates on behalf of Buyer. Forward Certificate Transfers will occur monthly based on the certificate creation time-line established by the WREGIS Operating Rules. Seller shall be responsible for, at its expense, validating and disputing data with WREGIS prior to WREGIS Certificate creation each month. In the event that WREGIS is not in operation, or WREGIS does not track Seller's transfer of WREGIS Certificates to Buyer, Buyer's Agent, or its designees for purposes of any RECs attributed, accrued, realized, generated, produced, recognized or validated relative to the Facility Energy or Replacement Energy, or Buyer chooses not to use WREGIS for any reason, Seller shall document the production and transfer of RECs under this Agreement by delivering to Buyer an attestation for the RECs produced by the Facility, or Replacement Energy, measured in whole MWh, or by such other method as Buyer shall designate.

**Section 8.5 Further Assurances.** Regardless of whether Seller and Buyer use WREGIS or any successor system, Seller will document the production of Environmental Attributes by delivering with each invoice to Buyer an attestation for Environmental Attributes (i) produced by the Facility or (ii) included with Replacement Energy for the preceding calendar month. The form of attestation is set forth as Appendix D. At Buyer's request, the Parties shall execute all such documents and instruments and take such other commercially reasonable action in order to effect the transfer of the Environmental Attributes specified in this Agreement to Buyer's Agents, and to maximize the attribution, accrual, realization, generation, production, recognition and validation of the Environmental Attributes, as Buyer may reasonably request. In the event of the promulgation of a scheme involving Environmental Attributes administered by CAMD, upon notification by CAMD that any transfers contemplated by this Agreement will not be recorded, the Parties shall promptly cooperate in taking all reasonable actions necessary so that such transfer can be recorded. Each Party shall promptly give the other Party copies of all documents it submits to CAMD to effectuate any transfers.

**Section 8.6 RPS and EPS Compliance.** The Seller warrants and guarantees that upon the achievement of the Commercial Operation Date, and at all times thereafter to and including the Closing Date (if it occurs), the Facility will be both RPS Compliant and EPS Compliant. From time to time and at any time requested by the Buyer, the Seller will furnish to the Buyer or Governmental Authorities or other Persons designated by the Buyer, all certificates and other documentation reasonably requested by the Buyer in order to establish compliance with the preceding sentence.

## **ARTICLE IX GUARANTEED GENERATION; SHORTFALL**

**Section 9.1 Guaranteed Generation; Failure to Deliver.** During each Contract Year, all Facility Energy will be applied first to the determination of whether Seller has delivered the Guaranteed Generation. If Seller fails during any Contract Year to deliver Facility Energy in an amount equal to the Guaranteed Generation, then Seller shall, at Buyer's election, (i) pay

Buyer cover damages as provided in Section 9.2; or (ii) make up that shortfall of Facility Energy (“**Shortfall Energy**”) as provided in Section 9.3, but not both. Buyer shall notify Seller of such election within ninety (90) days of the end of the Contract Year in which Seller has failed to deliver the Guaranteed Generation. For purposes of achieving the Guaranteed Generation under this Section 9.1 or make up of Shortfall Energy under Section 9.3, Seller shall be credited for the amount of reduced deliveries as a result of (a) curtailments, as provided under Section 4.6, and (b) Buyer’s failure to receive Energy under Section 6.4.

**Section 9.2 Cover Damages Following a Shortfall Period.** If Buyer, at the end of a Contract Year, elects to receive cover damages under this Section 9.2, then Seller, within six (6) months of the end of the Contract Year, shall pay Buyer an amount for each MWh of shortfall equal to the positive difference, if any, obtained by subtracting the price per MWh which would have been payable by Buyer for the Facility Energy and associated Environmental Attributes not delivered from the Replacement Price. “**Replacement Price**” means the price at which Buyer, acting in a commercially reasonable manner, purchased or will purchase, substitute Energy and associated Environmental Attributes equivalent to those not delivered by Seller or, absent a purchase, the market price for the quantify of Energy and associated Environmental Attributes not delivered at the Point of Delivery (adjusted for transmission differences, if any).

**Section 9.3 Shortfall Energy; Replacement Energy.** If Buyer elects not to receive cover damages following a shortfall in Guaranteed Generation during a Contract Year as provided under Section 9.2, then Seller shall make up the Shortfall Energy as provided in this Section 9.3.

(a) During any Contract Year in which there is Shortfall Energy owed to Buyer from a prior Contract Year, and Buyer elects not to receive cover damages as provided in Section 9.2, all Facility Energy that would otherwise be designated as Excess Energy shall be applied to make up the Shortfall Energy until all Shortfall Energy is provided to Buyer. All such Facility Energy delivered by Seller and received by Buyer shall be paid for at the price specified in Paragraph 2 of Appendix A, and there will be no payment of the Excess Energy Rate for this Energy until the Shortfall Energy has been fully made up.

(b) If Seller fails to make up the full amount of any Shortfall Energy by the end of either (1) the first Contract Year following the Contract Year in which the shortfall occurs, or (2) in the case of a shortfall caused solely by one or more Force Majeure events, the first two Contract Years following the Contract Year in which the shortfall occurs (the “**Makeup Deadline**”), Seller shall within ninety (90) days after the Makeup Deadline provide Buyer with (i) that quantity of Replacement Energy that is sufficient to make up the shortfall in full, and (ii) associated Environmental Attributes comparable to those which would be acquired by Buyer if the Replacement Energy had been produced by the Facility. The Replacement Energy shall be delivered to Buyer on a fixed twenty-four (24) hour per day delivery schedule specified by Buyer and at one or more points of interconnection on Buyer’s transmission system as specified by Buyer through a Specified Transmission Path as specified by Buyer. As employed in this Agreement, “**Replacement Energy**” means Energy produced by a facility other than the Facility that, at the time delivered to Buyer, is (A) both RPS Compliant and EPS Compliant, and (B) includes Environmental Attributes that have the same or comparable value, including with respect to the timeframe for retirement of such

Environmental Attributes, if any, as the Environmental Attributes that would have been generated by the Facility during the period for which the Replacement Energy is being provided.

(c) In the event of shortfalls in multiple Contract Years for which Buyer has not elected to receive cover damages under Section 9.2, any Shortfall Energy or Replacement Energy delivered by Seller shall be applied in priority to the earliest outstanding shortfalls hereunder until all shortfalls are satisfied.

## **ARTICLE X CAPACITY RIGHTS**

**Section 10.1 Purchase and Sale of Capacity Rights.** For and in consideration of Buyer entering into this Agreement, and in addition to the agreement by Buyer and Seller to purchase and sell Facility Energy and Environmental Attributes on the terms and conditions set forth herein, Seller hereby transfers to Buyer, and Buyer hereby accepts from Seller, all of the Capacity Rights. Buyer and Seller acknowledge and agree that the consideration for the transfer of Capacity Rights is contained within the relevant prices for Facility Energy. In no event shall Buyer have any obligation or liability whatsoever for any debt pertaining to the Facility by virtue of Buyer's ownership of the Capacity Rights or otherwise. Although Seller will construct and operate the Facility according to Prudent Utility Practices, Seller makes no representations or warranties with respect to the current or future existence of Capacity Rights attributable to the Facility.

**Section 10.2 Representation Regarding Ownership of Capacity Rights.** Seller represents and covenants that it has not assigned, transferred, conveyed, encumbered, sold or otherwise disposed of and will not in the future assign, transfer, convey, encumber, sell or otherwise dispose of any of the Capacity Rights to any Person other than Buyer or attempt to do any of the foregoing with respect to any of the Capacity Rights. Seller shall not report to any Person that any of the Capacity Rights belong to any Person other than Buyer. Buyer may, at its own risk and expense, report to any Person that the Capacity Rights belong to it.

**Section 10.3 Further Assurances.** Seller shall execute and deliver such documents and instruments and take such other action as Buyer may request to effect recognition and transfer of the Capacity Rights to Buyer. Seller shall bear the costs associated therewith.

## **ARTICLE XI BILLING; PAYMENT; AUDITS; METERING; ATTESTATIONS; POLICIES**

**Section 11.1 Billing and Payment.** Billing and payment for all Delivered Energy (including but not limited to Test Energy) shall be as set forth in this Article XI.

### **Section 11.2 Calculation of Energy Delivered; Invoices and Payment.**

(a) **Delivered Quantity.** For each calendar month during the Agreement Term, commencing with the first calendar month in which Energy is delivered by Seller to and received by Buyer under this Agreement, Seller shall calculate the amount of Energy so

delivered and received during such calendar month as determined (i) in the case of Facility Energy, from recordings produced by the Electric Metering Devices maintained pursuant to Section 11.6, at or near midnight on the last day of the calendar month in question, and (ii) in the case of Replacement Energy actually supplied pursuant to Section 9.3, by Seller, as measured by metering equipment approved by Buyer in its sole discretion.

(b) **Invoice.** Not later than the tenth day of each calendar month, commencing with the calendar month next following the calendar month in which Energy is first delivered by Seller and received by Buyer under this Agreement, Seller shall deliver to Buyer a proper invoice showing the amount of Energy delivered by Seller and received by Buyer during the preceding calendar month (with a separate allocation for any Replacement Energy) and Seller's computation of the amount due Seller in respect thereof. Monthly invoices shall be sent to the address set forth in Appendix C or such other address as Buyer may provide to Seller.

(1) Monthly invoices shall contain a statement that the representations and warranties set forth in this Agreement remain true and correct as of the date of the invoice and that there exists no Default by Seller or any event that, after notice or with the passage of time or both, would constitute a Default. If any such Default or potential Default then exists, Seller shall list, in detail, the nature of the condition or event, the period during which it has existed and the action which Seller has taken, is taking, or proposes to take with respect to each such condition or event,

(2) Seller shall deliver to Buyer attestations of Environmental Attribute transfers substantially in the form set forth in Appendix D to Buyer concurrently with monthly invoices sent pursuant to Section 11.2.

(3) Buyer shall not be required to make invoice payments if the invoice is received more than six (6) months after the billing period. Each invoice shall show the Agreement number, the vendor code number, the City of Los Angeles Business Tax Registration Certificate Number, and the identification of material, equipment and/or services covered by the invoices.

(c) **Payment.** Not later than the sixtieth (60<sup>th</sup>) day after receipt by Buyer of Seller's monthly invoice (or the next succeeding Business Day, if such sixtieth (60<sup>th</sup>) day is not a Business Day) Buyer shall pay to Seller, by wire transfer of immediately available funds to an account specified by Seller or by any other means agreed to by the Parties from time to time, the amount set forth as due in such monthly invoice, subject to Section 11.3.

**Section 11.3 Disputed Invoices.** In the event any portion of any invoice is in dispute, the undisputed amount shall be paid when due. The Party disputing a payment shall promptly notify the other Party of the basis for the dispute. Disputes shall be discussed by the Authorized Representatives, who shall use reasonable efforts to amicably and promptly resolve the disputes, and any failure to agree shall be subject to resolution in accordance with Section 14.3. Upon resolution of any dispute, if all or part of the disputed amount is later determined to have been due, then the Party owing such payment or refund shall pay within ten (10) days after receipt of notice of such determination the amount determined to be due plus interest thereon at the Interest

Rate from the due date until the date of payment. For purposes of this Section 11.3, “**Interest Rate**” shall mean the lesser of (i) 2%, or (ii) the maximum rate permitted by applicable Requirements of Law. Buyer may dispute an invoice at any time, *provided* that Buyer provides Seller with a notification of such dispute, setting forth the details of such dispute in reasonable specificity.

**Section 11.4 Buyer’s Right of Setoff.** In addition to any right now or hereafter granted under applicable law and not by way of limitation of any such rights, Buyer shall have the right at any time or from time to time without notice to Seller or to any other Person, any such notice being hereby expressly waived, to set off against any amount due Seller from Buyer under this Agreement or otherwise any amount due Buyer from Seller or any Seller Party under this Agreement or otherwise, including but not limited to any amounts due because of breach of this Agreement or any other obligation and any costs payable by Seller under Section 7.2 if and to the extent paid in the first instance by Buyer.

**Section 11.5 Records and Audits.** Seller shall maintain, and shall cause Seller’s subcontractors and suppliers as applicable to maintain all records pertaining to the management of this Agreement, related subcontracts, and performance of services pursuant to this Agreement (including all billings, costs, metering, and Environmental Attributes), in their original form, including but not limited to, reports, documents, deliverables, employee time sheets, accounting procedures and practices, records of financial transactions, and other evidence, regardless of form (e.g., machine readable media such as disk, tape, etc.) or type (e.g., databases, applications software, database management software, utilities, etc.), sufficient to properly reflect all costs claimed to have been incurred and services performed pursuant to this Agreement. If the Seller, the Seller’s subcontractors and/or suppliers are required to submit cost or pricing data in connection with this Agreement, the Seller must maintain all records and documents necessary to permit adequate evaluation of the cost or pricing data submitted, along with the computations and projections used. Buyer and the Authorized Auditors shall have the right to discuss such records with Seller’s officers and independent public accountants (and by this provision Seller authorizes said accountants to discuss such billings and costs), all at such times and as often as may be reasonably requested. All records shall be retained, and shall be subject to examination and audit by the Authorized Auditors, for a period of not less than four (4) years following final payment made by the Buyer hereunder or the expiration or termination date of this Agreement, whichever is later. The Seller shall make said records or to the extent accepted by the Authorized Auditors, photographs, micro-photographs, etc. or other authentic reproductions thereof, available to the Authorized Auditors at the Seller’s offices located at all reasonable times and without charge. The Authorized Auditors will have the right to reproduce, photocopy, download, transcribe, and the like any such records. Any information provided by the Seller on machine-readable media shall be provided in a format accessible and readable by the Authorized Auditors. The Seller shall not, however, be required to furnish the Authorized Auditors with commonly available software. Seller, and the Seller’s subcontractors and suppliers, as applicable to the services provided under this Agreement, shall be subject at any time with fourteen (14) calendar days prior written notice to audits or examinations by Authorized Auditors, relating to all billings and to verify compliance with all Agreement requirements relative to practices, methods, procedures, performance, compensation, and documentation. Examinations and audits will be performed using generally accepted auditing practices and principles and applicable

Governmental Authority audit standards. All information provided by the Seller or Seller's subcontractors and suppliers pursuant to this Section 11.5 shall be subject to the provisions of Section 14.21, and Buyer shall include appropriate confidentiality provisions in its contracts with Authorized Auditors; however, Seller shall not excessively mark information provided as "Confidential Information" that Seller does not reasonably believe to be protectable trade secret or otherwise exempt from public disclosure under relevant law. If Seller utilizes or is subject to FAR, Part 30 and 31, et seq. accounting procedures, or a portion thereof, examinations and audits will utilize such information. To the extent that the Authorized Auditor's examination or audit reveals inaccurate, incomplete or non-current records, or records are unavailable, the records shall be considered defective. Consistent with standard auditing procedures, the Seller will be provided fifteen (15) calendar days to review the Authorized Auditor's examination results or audit and respond to the Buyer's prior to the examination's or audit's finalization and public release. If the Authorized Auditor's examination or audit indicates the Seller has been overpaid under a previous payment application, the identified overpayment amount shall be paid by the Seller to the Buyer within fifteen (15) calendar days of notice to the Seller of the identified overpayment. The Seller shall contractually require all subcontractors performing services under this Agreement to comply with the provisions of this section by inserting this Section 11.5 in each subcontractor contract and by contractually requiring each subcontractor to insert this Section 11.5 in any of its subcontract contracts related to services under this Agreement. In addition, Seller and its subcontractors shall also include the following language in each subcontractor contract: "The Department of Water and Power of the City of Los Angeles is a third party beneficiary of the foregoing audit provision. The benefits of the audit provision shall inure solely for the benefit of the Department of Water and Power of the City of Los Angeles. The designation of the Department of Water and Power of the City of Los Angeles as a third party beneficiary of the audit provision shall not confer any rights or privileges on the Seller, subcontractor or any other person/entity." Notwithstanding the foregoing, if the audit reveals that the Buyer overpayment to the Seller is more than five percent (5.0%) of the billings reviewed, Seller shall pay all expenses and costs incurred by the Authorized Auditors arising out of or related to the examination or audit. Such examination or audit expenses and costs shall be paid by the Seller to the Buyer within fifteen (15) calendar days of notice to the Seller of such costs and expenses.

#### **Section 11.6 Electric Metering Devices.**

(a) The Facility Energy made available to Buyer or Buyer's Agent by Seller under this Agreement shall be measured using Electric Metering Devices installed, owned and maintained by the Buyer. The Electric Metering Devices shall be placed at the Buyer's substation after the Point of Delivery, and the meter readings at such point will not be adjusted to reflect any losses from the Point of Delivery. All Electric Metering Devices used to provide data for the computation of payments shall be sealed and the Buyer or its designee shall only break the seal when such Electric Metering Devices are to be inspected and tested or adjusted in accordance with this Section 11.6. Buyer or its designee shall specify the number, type, and location of such Electric Metering Devices.

(b) Buyer or its designee, at no expense to Seller, shall inspect and test all Electric Metering Devices upon installation and at least annually thereafter. Buyer shall

provide Seller with reasonable advance notice of, and permit a representative of Seller to witness and verify, such inspections and tests. Upon request by Seller, Buyer or its designee shall perform additional inspections or tests of any Electric Metering Device and shall permit a qualified representative of Seller to inspect or witness the testing of any Electric Metering Device. The actual expense of any such requested additional inspection or testing shall be borne by Seller. Buyer shall provide copies of any inspection or testing reports to Seller.

(c) **Adjustment for Inaccurate Meters.** If an Electric Metering Device fails to register, or if the measurement made by an Electric Metering Device is found upon testing to be inaccurate by more than one percent (1.0%), an adjustment shall be made correcting all measurements by the inaccurate or defective Electric Metering Device for both the amount of the inaccuracy and the period of the inaccuracy. The adjustment period shall be determined by reference to Seller's check-meters, if any, or as far as can be reasonably ascertained by Seller from the best available data, subject to review and approval by Buyer. If the period of the inaccuracy cannot be ascertained reasonably, any such adjustment shall be for a period equal to one-third of the time elapsed since the preceding test of the Electric Metering Devices. To the extent that the adjustment period covers a period of deliveries for which payment has already been made by Buyer, Buyer shall use the corrected measurements as determined in accordance with this Section 11.6 to recompute the amount due for the period of the inaccuracy and shall subtract the previous payments by Buyer for this period from such recomputed amount. If the difference is a positive number, the difference shall be paid by Buyer to Seller; if the difference is a negative number, that difference shall be paid by Seller to Buyer, or at the discretion of Buyer, may take the form of an offset to payments due to Seller from Buyer. Payment of such difference by the owing Party shall be made not later than thirty (30) days after the owing Party receives notice of the amount due, unless Buyer elects payment via an offset.

**Section 11.7 Power Revenue Fund.** Any amounts payable by Buyer under this Agreement shall be payable solely from the Buyer's Power Revenue Fund. No other fund or account held by or on behalf of Buyer (or any other department or division thereof) may be used to satisfy any such obligations.

**Section 11.8 Taxes.** Seller shall be responsible for and shall pay, before the due dates therefor, any and all federal, state and local Taxes incurred by it as a result of entering into this Agreement and all Taxes imposed or assessed with respect to the Facility, the Facility site, or any other assets of Seller, the sale or use of Facility Energy and Environmental Attributes prior to the Point of Delivery, and all Taxes related to Seller's income. If Buyer is required under any Requirement of Law to remit or pay Taxes that are Seller's responsibility hereunder, Buyer may deduct such amounts from payments to Seller hereunder; if Buyer elects not to deduct such amounts from payments to Seller, Seller shall promptly reimburse Buyer for such amounts upon request. Further, if the Facility is exempt from one or more Taxes at any time and for any reason, and that exemption should be lost during the Agreement Term, Seller shall be responsible for any additional Taxes incurred as a result of the loss of that exemption.

**ARTICLE XII**  
**REPRESENTATIONS AND WARRANTIES; COVENANTS OF SELLER**

**Section 12.1 Representations and Warranties of Buyer.** Buyer makes the following representations and warranties to Seller as of the Effective Date:

(a) Buyer is a validly existing California charter city and has the legal power and authority to own its properties, to carry on its business as now being conducted and to enter into this Agreement and each Ancillary Document to which Buyer is a party and carry out the transactions contemplated hereby and thereby and perform and carry out all covenants and obligations on its part to be performed under and pursuant to this Agreement and all such Ancillary Documents.

(b) The execution, delivery and performance by Buyer of this Agreement and each Ancillary Document to which Buyer is a party have been duly authorized by all necessary action, and do not and will not require any consent or approval of Buyer's regulatory/governing bodies, other than that which has been obtained; *provided*, that further authorizations from the Buyer's Board of Commissioners and the Los Angeles City Council, if applicable, will be required for Buyer to exercise the Project Purchase Option.

(c) This Agreement and each of the Ancillary Documents to which the Buyer is a party constitute the legal, valid and binding obligation of Buyer enforceable in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization or similar laws relating to or affecting the enforcement of creditors' rights generally or by general equitable principles, regardless of whether such enforceability is considered in a proceeding in equity or at law.

**Section 12.2 Representations, Warranties and Covenants of Seller.** Seller makes the following representations, warranties and covenants to Buyer:

(a) Each of the Seller Parties and Parent Entit(ies) is a corporation or limited liability company duly organized, validly existing and in good standing under the laws of its respective state of incorporation or organization, is qualified to do business in the State of California, and has the legal power and authority to own and lease its properties, to carry on its business as now being conducted. Each of the Seller Parties has legal power and authority to enter into this Agreement and (in the case of each Seller Party) each Ancillary Document to which it may be party and, carry out the transactions contemplated hereby and thereby and perform and carry out all covenants and obligations on its part to be performed under and pursuant to this Agreement and all Ancillary Documents.

(b) The execution, delivery and performance by the Seller Parties of this Agreement and all Ancillary Documents have been duly authorized by all necessary action, and do not and will not require any consent or approval other than those which have already been obtained.

(c) The execution and delivery of this Agreement and all Ancillary Documents, the consummation of the transactions contemplated hereby and thereby and the



fulfillment of and compliance with the provisions of this Agreement and the Ancillary Documents, do not and will not conflict with or constitute a breach of or a default under, any of the terms, conditions or provisions of any Requirement of Law, or any organizational documents, agreement, deed of trust, mortgage, loan agreement, other evidence of indebtedness or any other agreement or instrument to which any Seller Party is a party or by which it or any of its property is bound, or result in a breach of or a default under any of the foregoing or result in or require the creation or imposition of any Lien upon any of the properties or assets of any Seller Party (except as contemplated hereby), and each Seller Party has obtained or shall timely obtain all Permits required for the performance of its obligations hereunder and thereunder and operation of the Facility in accordance with Prudent Utility Practices, the requirements of this Agreement, the Ancillary Documents and all applicable Requirements of Law.

(d) Each of this Agreement and the Ancillary Documents constitutes the legal, valid and binding obligation of each Seller Party which is party thereto enforceable in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization or similar laws relating to or affecting the enforcement of creditors' rights generally or by general equitable principles, regardless of whether such enforceability is considered in a proceeding in equity or at law.

(e) There is no pending, or to the knowledge of the Seller, threatened action or proceeding affecting any Seller Party before any Governmental Authority, which purports to affect the legality, validity or enforceability of this Agreement or any of the Ancillary Documents.

(f) None of the Seller Parties is in violation of any Requirement of Law, which violations, individually or in the aggregate, would reasonably be expected to result in a material adverse effect on the business, assets, operations, condition (financial or otherwise) or prospects of any Seller Party, or the ability of any Seller Party to perform any of its obligations under this Agreement or any Ancillary Document.

(g) Seller shall inform all investors in the Seller of the existence of this Agreement and all Ancillary Documents on or before the date of such investment in the Seller.

(h) As of the Effective Date, the corporate organizational structure, capital structure and ownership of Seller and Parent Entit(ies) is as set forth on Schedule 12.2(h). Seller is a Special Purpose Entity, all of the membership interests in Seller are directly owned and controlled by Parent Entity, and all of the membership interests in Parent Entity are directly owned by Parent Entit(ies). The limited liability company interests in each of Seller and Parent Entit(ies) have been duly issued under and authorized by their respective limited liability company agreements and in accordance with applicable Requirements of Law.

(i) The Seller Parties have (i) not entered into this Agreement or any Ancillary Document with the actual intent to hinder, delay or defraud any creditor, and (ii) received reasonably equivalent value in exchange for their respective obligations under this Agreement and the Ancillary Documents. No petition in bankruptcy has been filed against any of the Seller Parties, and none of the Seller Parties nor any of their respective constituent

Persons have ever made an assignment for the benefit of creditors or taken advantage of any insolvency act for its benefit as a debtor.

(j) All of the assumptions made in the Non-Consolidation Opinion, including, but not limited to, any exhibits attached thereto, are true and correct. Seller has complied with all of the assumptions made with respect to Seller in the Non-Consolidation Opinion.

(k) None of the Seller Parties has any reason to believe that any of the CEQA authorizations or other Permits required to construct, maintain or operate the Facility in accordance with the requirements of this Agreement and all applicable Requirements of Law will not be timely obtained in the ordinary course of business.

(l) All Tax returns and reports of each Seller Party required to be filed by it have been timely filed, and all Taxes shown on such Tax returns to be due and payable and all assessments, fees and other governmental charges upon the Seller Parties and upon its properties, assets, income, business and franchises that are due and payable have been paid when due and payable. None of the Seller Parties knows of any proposed Tax assessment against any of the Seller Parties that is not being actively contested by it in good faith and by appropriate proceeding.

(m) Seller owns or possesses, or will own or possess in a timely manner, all patents, rights to patents, trademarks, copyrights and licenses necessary for the performance by the Seller of this Agreement and the Ancillary Documents and the transactions contemplated thereby, without any conflict with the rights of others. Seller owns or possesses, or will own or possess in a timely manner, all patents, rights to patents, trademarks, copyrights and licenses necessary for the performance by the Seller of this Agreement and the Ancillary Documents and the transactions contemplated thereby, without any conflict with the rights of others.

(n) Seller has not assigned, transferred, conveyed, encumbered, sold or otherwise disposed of any Facility Energy, Environmental Attributes, or Capacity-related benefits except as provided herein.

(o) At all times after the Effective Date, Seller shall have "Site Control" which means that Seller shall: (i) own the Site; or (ii) be the lessee of the Site under a lease which permits Seller to perform its obligations under this Agreement and the Ancillary Documents. Seller shall provide Buyer with prompt notice of any change in the status of Seller's Site Control. Seller's assignment and transfer to Buyer of all of Seller's rights, title and interests to the Site do not require any approval or consent of any Person, except for such approvals or consents which have been obtained.

(p) Seller shall not incur Facility Debt in amount equal to or in excess of seventy percent (70%) of the total Facility Costs (the "**Facility Debt Limitation**").

**Section 12.3 Covenant of Seller Related to Seller's Status as Special Purpose Entity.** Seller shall at all times comply with the requirements of, and qualify as, a Special Purpose Entity.

**Section 12.4 Reserved.**

**ARTICLE XIII  
DEFAULT; TERMINATION AND REMEDIES; PERFORMANCE DAMAGE**

**Section 13.1 Default.** Each of the following events or circumstances shall constitute a “*Default*” by the responsible Party (the “*Defaulting Party*”):

(a) *Buyer Payment or Performance Default.* Failure by the Buyer to make any payment or perform any of its other duties or obligations under this Agreement or any of the Ancillary Documents (except for Buyer's obligations to receive Energy as and when required by this Agreement, the exclusive remedy for which is provided in Section 6.4) when and as due which is not cured within thirty (30) calendar days after receipt of notice thereof from the Seller; *provided* that if such failure cannot be cured within such thirty (30) day period, despite reasonable commercial efforts and such failure is not a failure to make a payment when due, Buyer shall have up to ninety (90) days to cure.

(b) *Seller Payment or Performance Default.* Failure by any Seller Party to make any payment or perform any of its other duties or obligations under this Agreement or any of the Ancillary Documents when and as due (other than any failure described in Section 13.1(i)) which is not cured within thirty (30) calendar days after receipt of notice thereof from the Buyer; *provided* that if such failure cannot be cured within such thirty (30) day period, despite reasonable commercial efforts and such failure is not a failure to make a payment when due, Buyer shall have up to ninety (90) days to cure.

(c) *Buyer Breach of Representation and Warranty.* Inaccuracy in any material respect at the time made or deemed to be made of any representation, warranty, certification or other statement made by the Buyer herein or in any Ancillary Document.

(d) *Seller Breach of Representation and Warranty.* Inaccuracy in any material respect at the time made or deemed to be made of any representation, warranty, certification or other statement made by any Seller Party in this Agreement or any Ancillary Document.

(e) *Buyer Bankruptcy.* Bankruptcy of the Buyer.

(f) *Seller Party Bankruptcy.* Bankruptcy of any Seller Party or Parent Entit(ies).

(g) Reserved.

(h) *Commercial Operation Date Default.* The Seller shall fail to achieve Commercial Operation by December 31, 2016.

(i) *Performance Security Failure.* The failure of Seller to maintain the Performance Security in compliance with Section 5.4 or replace such Performance Security at least fifteen (15) Business Days prior to its expiration, unless alternative Performance Security that complies with the requirements of Section 5.4 is provided within ten (10) Business Days after notice from Buyer of any such failure; or, with respect to any obligor providing the Performance Security for the benefit of Buyer:

(1) the failure of such obligor to honor a drawing or make a payment thereunder;

(2) such obligor fails to meet the acceptance of Buyer or there shall have occurred a material adverse effect on the business, assets, operations, condition (financial or otherwise) or prospects of such obligor in accordance with Section 5.4;

(3) the Performance Security issued by such obligor shall fail to be in full force and effect in accordance with the terms of this Agreement prior to the satisfaction of all obligations of Seller under this Agreement and each of the Ancillary Documents; or

(4) such obligor shall repudiate, disaffirm, disclaim, or reject, in whole or in part, or challenge the validity of its Performance Security and in any such event, Seller fails to provide replacement Performance Security.

(j) *Reserved.*

(k) *Lease Termination.* The Lease is terminated for any reason or amended in any material respect without mutual agreement of the Parties.

(l) *Insurance Default.* The failure of Seller to maintain and provide acceptable evidence of the required insurance for the required period of coverage as set forth in Appendix F.

(m) *Fundamental Change.* Except as permitted by Section 14.7, (i) a Party makes an assignment of its rights or delegation of its obligations under this Agreement, the Option Agreement or the Lease, or (ii) a Change in Control occurs (whether voluntary or by operation of law).

### **Section 13.2 Default Remedy.**

(a) If Buyer is in Default for nonpayment, subject to any duty or obligation under this Agreement, Seller may continue to provide services pursuant to its obligations under this Agreement; *provided* that nothing in this Section 13.2(a) shall affect Seller's rights and remedies set forth in this Section 13.2. Seller's continued service to Buyer shall not act to relieve Buyer of any of its duties or obligations under this Agreement.

(b) Notwithstanding any other provision herein, if any Default has occurred and is continuing, the affected Party may, whether or not the dispute resolution procedure set forth in Section 14.3 has been invoked or completed, bring an action in any court of competent

jurisdiction as set forth in Section 14.12 seeking injunctive relief in accordance with applicable rules of civil procedure.

(c) Except as expressly limited by this Agreement, if a Default has occurred and is continuing and the Buyer is the Defaulting Party, Seller may without further notice exercise any rights and remedies provided herein or otherwise available at law or in equity, including the right to terminate this Agreement pursuant to Section 13.3. No failure of Seller to exercise, and no delay in exercising, any right, remedy or power hereunder shall operate as a waiver thereof, nor shall any single or partial exercise by Seller of any other right, remedy or power hereunder preclude any other or future exercise of any right, remedy or power.

(d) Except as expressly limited by this Agreement, if a Default has occurred and is continuing and the Seller is the Defaulting Party, Buyer may without further notice exercise any rights and remedies provided for herein, or otherwise available at law or equity, including (i) application of all amounts available under the Performance Security against any amounts then payable by Seller to Buyer under this Agreement, (ii) termination of this Agreement pursuant to Section 13.3, and (iii) exercise of the Project Purchase Option. No failure of Buyer to exercise, and no delay in exercising, any right, remedy or power hereunder shall operate as a waiver thereof, nor shall any single or partial exercise by Buyer of any right, remedy or power hereunder preclude any other or future exercise of any right, remedy or power.

(e) Cure Rights of Facility Lender. In connection with any financing or refinancing of the Facility, Buyer shall provide such consents to assignment (in form and substance satisfactory to Buyer and the Los Angeles City Attorney), as may be reasonably requested by Seller or any Facility Lender in connection with the financing of the Facility, including the acquisition of equity for the development, construction, and operation of the Facility; provided, however, that the terms of such financing and the documentation relating thereto shall comply with the applicable terms and conditions of this Agreement (such consent, the “*Facility Lender Consent*”). Any extension or alteration of time periods (including cure periods) or other obligations of Seller or Facility Lender shall be included in writing in any such Facility Lender Consent, and such Facility Lender Consent will not constitute an amendment to this Agreement. The Facility Lender Consent shall provide the Facility Lender or its agent notice of the occurrence of any Default described in Section 13.1 and the opportunity to cure any such default.

### **Section 13.3 Termination for Default.**

(a) If a Default occurs, the Party that is not the Defaulting Party (the “*Non Defaulting Party*”) may, for so long as the Default is continuing and without limiting any other rights or remedies available to the Non-Defaulting Party under this Agreement, by notice (“*Termination Notice*”) to the Defaulting Party (i) establish a date (which shall be no earlier than the date of such notice and no later than twenty (20) days after the date of such notice) (“*Early Termination Date*”) on which this Agreement shall terminate, and (ii) withhold any payments due in respect of this Agreement; *provided*, upon the occurrence of any Default of the type described in Sections 13.1(e) or (f), this Agreement shall automatically terminate,

without notice or other action by either Party as if an Early Termination Date had been declared immediately prior to such event.

(b) If an Early Termination Date has been designated, the Non-Defaulting Party shall calculate in a commercially reasonable manner its Gains, Losses and Costs resulting from the termination of this Agreement. The Gains, Losses and Costs relating to the Energy and Environmental Attributes which would have been required to be delivered under this Agreement had it not been terminated shall be determined by comparing the amounts Buyer would have paid therefor under this Agreement to the amounts Buyer reasonably expects to be available in the market under a replacement contract for this Agreement covering the same products and having a term equal to the Remaining Term at the date of the Termination Notice adjusted to account for differences in transmission, if any. It is expressly agreed that the Non-Defaulting Party shall not be required to enter into any such replacement agreement in order to determine its Gains, Losses and Costs or the Termination Payment. To ascertain the market prices of a replacement contract, the Non-Defaulting Party may consider, among other valuations, quotations from dealers in energy contracts and bona fide third party offers.

(c) For purposes of the Non-Defaulting Party's determination of its Gains, Losses and Costs and the Termination Payment, it shall be assumed, regardless of the facts, that Seller would have sold, and Buyer would have purchased, each day during the Remaining Term (i) Facility Energy in an amount equal the Assumed Daily Deliveries, and (ii) the Environmental Attributes associated therewith. The "*Assumed Daily Deliveries*" is an amount equal to the greater of (x) the quotient of the Guaranteed Generation divided by 365, and (y) the average daily deliveries of Facility Energy during the Delivery Term, if any.

(d) The Non-Defaulting Party shall aggregate its Gains, Losses and Costs as so determined into a single net amount (the "*Termination Payment*") and notify the Defaulting Party thereof. The notice shall include a written statement explaining in reasonable detail the calculation of such amount. If the Non-Defaulting Party's aggregate Losses and Costs exceed its aggregate Gains, the Defaulting Party will, within ten (10) Business Days of receipt of such notice, pay the net amount to the Non-Defaulting Party, which amount shall bear interest at the Interest Rate from the Early Termination Date until paid. If the Non-Defaulting Party's aggregate Gains exceed its aggregate Losses and Costs, the amount of the Termination Payment shall be zero.

(e) If the Defaulting Party disagrees with the calculation of the Termination Payment and the Parties cannot otherwise resolve their differences, the calculation issue shall be submitted to informal non-binding dispute resolution as provided in Section 14.3(a). Pending resolution of the dispute, the Defaulting Party shall pay the full amount of the Termination Payment calculated by the Non-Defaulting Party as and when required by this Agreement, subject to the Non-Defaulting Party refunding, with interest, at the Interest Rate, any amounts determined to have been overpaid.

(f) For purposes of this Agreement:

(i) “*Gains*” means, with respect to a Party, an amount equal to the present value of the economic benefit (exclusive of Costs), if any, resulting from the termination of its obligations under this Agreement, determined in a commercially reasonable manner;

(ii) “*Losses*” means, with respect to a Party, an amount equal to the present value of the economic loss (exclusive of Costs), if any, resulting from the termination of its obligations under this Agreement, determined in a commercially reasonable manner;

(iii) “*Costs*” means, with respect to a Party, brokerage fees, commissions and other similar transaction costs and expenses reasonably incurred in terminating any arrangement pursuant to which it has hedged its obligations or entering into new arrangements which replace this Agreement, excluding attorneys’ fees, if any, incurred in connection with enforcing its rights under this Agreement. Each Party shall use reasonable efforts to mitigate or eliminate its Costs.

(iv) In no event shall a Party’s Gains, Losses or Costs include any penalties or similar charges imposed by the Non Defaulting Party.

(v) The Present Value Rate shall be used as the discount rate in all present value calculations required to determine Gains, Losses and Costs.

(g) At the time for payment of any amount due under this Section, each Party shall pay to the other Party all additional amounts, if any, payable by it under this Agreement.

#### **ARTICLE XIV MISCELLANEOUS**

**Section 14.1 Authorized Representative.** Each Party hereto shall designate an authorized representative who shall be authorized to act on its behalf with respect to those matters contained herein (each an “*Authorized Representative*”), which shall be the functions and responsibilities of such Authorized Representatives. Each Party may also designate an alternate who may act for the Authorized Representative. Within thirty (30) calendar days after execution of this Agreement, each Party shall notify the other Party of the identity of its Authorized Representative, and alternate if designated, and shall promptly notify the other Party of any subsequent changes in such designation. The Authorized Representatives shall have no authority to alter, modify, or delete any of the provisions of this Agreement.

**Section 14.2 Notices.** With the exception of billing invoices pursuant to Section 11.2(b) hereof, all notices, requests, demands, consents, waivers and other communications which are required under this Agreement shall be (a) in writing (regardless of whether the applicable provision expressly requires a writing), and (b) shall be deemed properly sent if delivered in person or sent by facsimile transmission, reliable overnight courier, or sent by registered or certified mail, postage prepaid to the persons specified in Appendix C. In addition to the foregoing, the Parties may agree in writing at any time to deliver notices, requests,

demands, consents, waivers and other communications through alternate methods, such as electronic mail.

### **Section 14.3 Dispute Resolution.**

(a) In the event of any claim, controversy or dispute between the Parties arising out of or relating to or in connection with this Agreement (including any dispute concerning the validity of this Agreement or the scope and interpretation of this Section 14.3) (a “*Dispute*”), either Party (the “*Notifying Party*”) may deliver to the other Party (the “*Recipient Party*”) notice of the Dispute with a detailed description of the underlying circumstances of such Dispute (a “*Dispute Notice*”). The Dispute Notice shall include a schedule of the availability of the Notifying Party’s senior officers (having a title of senior vice president (or its equivalent) or higher) duly authorized to settle the Dispute during the thirty (30) day period following the delivery of the Dispute Notice.

(b) The Recipient Party shall within five (5) Business Days following receipt of the Dispute Notice, provide to the Notifying Party a parallel schedule of availability of the Recipient Party’s senior officers (having a title of senior vice president (or its equivalent) or higher) duly authorized to settle the Dispute. Following delivery of the respective senior officers’ schedules of availability, the senior officers of the Parties shall meet and confer as often as they deem reasonably necessary during the remainder of the thirty (30) day period in good faith negotiations to resolve the Dispute to the satisfaction of each Party.

(c) In the event a Dispute is not resolved pursuant to the procedures set forth in Subsections 14.3(a) and 14.3(b) by the expiration of the thirty (30) day period set forth in Subsection 14.3(a), then either Party may pursue any legal remedy available to it in accordance with the provisions of Section 14.12 of this Agreement.

(d) **Claims Presentment Under California Law.** As stated in Section 14.12, this Agreement shall be governed by, interpreted and enforced in accordance with laws of the State of California, without regard to the conflict of laws principles thereof. In addition to the Dispute Resolution process set forth in this section, parties to this Agreement must comply with California law governing claims against public entities and presentment of such claims.

**Section 14.4 Further Assurances.** Each Party agrees to execute and deliver all further instruments and documents, and take all further action not inconsistent with the provisions of this Agreement that may be reasonably necessary to effectuate the purposes and intent of this Agreement.

**Section 14.5 No Dedication of Facilities.** Any undertaking by one Party hereto to the other Party under any provisions of this Agreement shall not constitute the dedication of the system or any portion thereof of either Party to the public or to the other Party or any other Person, and it is understood and agreed that any such undertaking by either Party shall cease upon the termination of such Party’s obligations under this Agreement.



## Section 14.6 Force Majeure.

(a) A Party shall not be considered to be in default in the performance of any of its obligations under this Agreement when and to the extent such Party's performance is prevented by a Force Majeure that, despite the exercise of due diligence, such Party is unable to prevent or mitigate, provided the Party has given a written detailed description of the full particulars of the Force Majeure to the other Party reasonably promptly after becoming aware thereof (and in any event within fourteen (14) days after becoming aware of the claimed Force Majeure (the "***Force Majeure Notice***"), which notice shall include information with respect to the nature, cause and date and time of commencement of such event, and the anticipated scope and duration of the delay. The Party providing such notice shall be excused from fulfilling its obligations under this Agreement until such time as the Force Majeure has ceased to prevent performance or other remedial action is taken, at which time the Party shall promptly notify the other Party of the resumption of its obligations under this Agreement. If Seller is unable to deliver, or Buyer is unable to receive, Energy due to a Force Majeure, Buyer shall have no obligation to pay Seller for the Energy not delivered or received by reason thereof. It is understood by the Parties that the foregoing provisions shall not excuse any obligations of the Seller with respect to Shortfall Energy and Replacement Energy, as provided under Article IX, whether or not caused by Force Majeure. In no event shall Buyer be obligated to compensate Seller or any other Person for any losses, expenses or liabilities that Seller or such other Person may sustain as a consequence of any Force Majeure.

(b) The term "***Force Majeure***" means any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, or any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities (i) which prevents one Party from performing any of its obligations under this Agreement, (ii) which could not reasonably be anticipated as of the date of this Agreement, (iii) which is not within the reasonable control of, or the result of negligence, willful misconduct, breach of contract, intentional act or omission or wrongdoing on the part of the affected Party (or any subcontractor or Affiliate of that Party, or any Person under the control of that Party or any of its subcontractors or Affiliates, or any Person for whose acts such subcontractor or Affiliate is responsible), and (iv) which by the exercise of due diligence the affected Party is unable to overcome or avoid or cause to be avoided; *provided*, nothing in this clause (iv) shall be construed so as to require either Party to accede or agree to any provision not satisfactory to it in order to settle and terminate a strike or labor dispute in which it may be involved. Any Party rendered unable to fulfill any of its obligations by reason of a Force Majeure shall exercise due diligence to remove such inability with reasonable dispatch within a reasonable time period and mitigate the effects of the Force Majeure. The relief from performance shall be of no greater scope and of no longer duration than is required by the Force Majeure. Without limiting the generality of the foregoing, a Force Majeure does not include any of the following (each an "***Unexcused Cause***"): (1) any requirement to meet a RPS Law or any change (whether voluntary or mandatory) in any RPS Law that may affect the value of the Energy purchased hereunder; (2) events arising from the failure by Seller to construct, operate or maintain the Facilities in accordance with this Agreement; (3) any increase of any kind in any cost; (4) delays in or inability of a Party to obtain financing or other economic hardship of any kind; (5) Seller's ability to sell any Energy at a price in excess

of those provided in this Agreement; (6) curtailment or other interruption of any Transmission Service except as otherwise expressly provided in Section 14.6(c); (7) failure of third parties to provide goods or services essential to a Party's performance; (8) Facility or equipment failure of any kind; or (9) any changes in the financial condition of the Buyer, any Seller Party, the Facility Lender or any subcontractor or supplier affecting the affected Party's ability to perform its obligations under this Agreement.

(c) Neither Party may raise a claim of Force Majeure based in whole or in part on curtailment or other interruption of Transmission Service for any Energy at any time unless (A) in the case of Seller, and for Replacement Energy only, (i) the Seller has contracted for Firm Transmission to be provided for the Replacement Energy on the Specified Transmission Path at the time, and (ii) the curtailment or interruption is due to "force majeure" or "uncontrollable force" or a similar term as defined under the Transmission Provider's tariff; or (B) in the case of Buyer, the curtailment or interruption is due to "force majeure" or "uncontrollable force" on Buyer's Transmission System; *provided*, that in either (A) or (B) above, the existence of the foregoing factors shall not be sufficient to conclusively or presumptively prove the existence of Force Majeure absent a showing of other facts and circumstances which in the aggregate with such factors establish that a Force Majeure as defined in Section 14.6(b) has occurred.

(d) If based on a Force Majeure Notice, the unaffected Party reasonably concludes that a Force Majeure or its impact on the affected Party or the Facility will continue (i) for a period of one hundred and eighty (180) or more consecutive calendar days, or (ii) for an aggregate period of three hundred and sixty (360) or more non-consecutive calendar days in the case of any claimed Force Majeure event or series of claimed Force Majeure events, the unaffected Party shall have the right to terminate this Agreement effective upon notice to the affected Party.

#### **Section 14.7 Assignment of Agreement; Change in Control.**

(a) Except as set forth in this Section 14.7, neither Party may assign any of its rights, or delegate any of its obligations, under this Agreement or the Ancillary Documents without the prior written consent of the other Party, such consent not to be unreasonably withheld. Any Change in Control (whether voluntary or by operation of law) shall be deemed an assignment and shall require (i) the prior written consent of Buyer, which consent shall not be unreasonably withheld, and (ii) concurrently with the transaction or transactions constituting the Change in Control, the successor entity to execute a written assumption agreement in favor of Buyer pursuant to which any such successor entity shall assume all of the obligations of Seller under this Agreement and the Ancillary Documents, and agree to be bound by all the terms and conditions of this Agreement and the Ancillary Documents, as applicable. Seller shall provide Buyer with ninety (90) days' prior written notice of any proposed Change in Control. The General Manager of Buyer is authorized to grant the consents contemplated by this Section 14.7 on behalf of Buyer.

Buyer may assign this Agreement or the Ancillary Documents without the consent of Seller to a third party, so long as, at the time of such assignment, such third party has an investment grade rating from Moody's or Standard & Poor's.

(b) Seller shall not sell or transfer the Facility to any Person other than a Person to whom Seller assigns this Agreement or the Ancillary Documents in accordance with this Section 14.7, without the prior written consent of Buyer and otherwise subject to compliance with the Right of First Offer and Right of First Refusal set forth in Section 14.22.1. Any purported sale or transfer in violation of this Section 14.7(b) shall be null and void and of no force or effect.

(c) Buyer's consent shall not be required in connection with the collateral assignment or pledge of (i) this Agreement or the Ancillary Documents to any Facility Lender or (ii) all or a portion of the membership interests in Seller or Parent Entit(ies) to any Facility Lender, in each case for the purpose of financing the Facility; *provided, however*, that (1) the terms of such financing and the documentation relating thereto shall comply with the applicable terms and conditions of this Agreement and the Ancillary Documents, as applicable, and (2) in connection with any such assignment or pledge and the exercise of remedies by any Facility Lender, the Facility Lender acknowledges and agrees to be bound by the requirement the Facility be operated and maintained by a Qualified Operator. Seller shall provide Buyer with ninety (90) days' prior notice of any such collateral assignment or pledge, or any Sale-Leaseback. Notwithstanding the foregoing or anything else expressed or implied herein to the contrary, Seller shall not assign, transfer, convey, encumber, sell or otherwise dispose of all or any portion of the Products (not including the proceeds thereof) to any Facility Lender. To facilitate Seller's obtaining of financing for the Facility, Buyer agrees to provide the Facility Lender Consent. Seller shall reimburse, or shall cause the Facility Lender to reimburse, Buyer for the incremental direct expenses incurred by Buyer in the preparation, negotiation, execution or delivery of the Facility Lender Consent and any documents requested by Seller or the Facility Lender, and provided by Buyer, pursuant to this Section 14.7(c).

(d) Any collateral assignment or pledge permitted by Section 14.7(c) may not allow for Facility Debt to be in excess of the Facility Debt Limitation.

(e) In no event shall Buyer be liable to Facility Lender or its transferees or their successors in interests or assigns for any claims, losses, expenses or damages whatsoever other than liability Buyer may have to Seller under this Agreement or the Ancillary Documents, as applicable. In the event of any foreclosure, whether judicial or nonjudicial, or any deed in lieu of foreclosure, in connection with any deed of trust, mortgage, or other similar Lien, Facility Lender or other transferee, and their successors in interest and assigns, will be bound by the covenants and agreements of Seller in this Agreement and the Ancillary Documents; provided, however, that until the Person who acquires title to the Facility executes and delivers to Buyer a written assumption of Seller's obligations under this Agreement in form and substance acceptable to Buyer or Buyer's Authorized Representative, such Person will not be entitled to any of the benefits of this Agreement. Any sale or transfer of the Facility by Facility Lender shall be made only to an entity that is a Qualified Transferee.

(f) Except as otherwise provided in Buyer's indenture of trust or similar agreement under which Buyer issues or has issued bonds or other obligations relating to the Facility, it is

specifically agreed that there are no third party beneficiaries of this Agreement, and that, except as provided in this Section 14.7, this Agreement shall not grant any rights enforceable by any Person not a party to this Agreement.

**Section 14.8 Ambiguity.** The Parties acknowledge that this Agreement was jointly prepared by them, by and through their respective legal counsel, and any uncertainty or ambiguity existing herein shall not be interpreted against either Party on the basis that the Party drafted the language, but otherwise shall be interpreted according to the application of the rules on interpretation of contracts.

**Section 14.9 Attorney Fees & Costs.** Both Parties hereto agree that in any action to enforce the terms of this Agreement that each Party shall be responsible for its own attorney fees and costs. Each of the Parties to this Agreement was represented by its respective legal counsel during the negotiation and execution of this Agreement.

**Section 14.10 Voluntary Execution.** Both Parties hereto acknowledge that they have read and fully understand the content and effect of this Agreement that the provisions of this Agreement have been reviewed and approved by their respective counsel. The Parties to this Agreement further acknowledge that they have executed this Agreement voluntarily, subject only to the advice of their own counsel, and do not rely on any promise, inducement, representation or warranty that is not expressly stated herein.

**Section 14.11 Entire Agreement.** This Agreement (including all Appendices and Exhibits) contains the entire understanding concerning the subject matter herein and supersedes and replaces any prior negotiations, discussions or agreements between the Parties, or any of them, concerning that subject matter, whether written or oral, except as expressly provided for herein. This is a fully integrated document. Each Party acknowledges that no other party, representative or agent, has made any promise, representation or warranty, express or implied, that is not expressly contained in this Agreement that induced the other Party to sign this document. This Agreement may be amended or modified only by an instrument in writing signed by each Party.

**Section 14.12 Governing Law.** This Agreement was made and entered into in the City of Los Angeles and shall be governed by, interpreted and enforced in accordance with the laws of the State of California and the City of Los Angeles, without regard to conflict of law principles.

**Section 14.13 Venue.** All litigation arising out of, or relating to this Agreement, shall be brought in a state or federal court in the County of Los Angeles in the State of California. The Parties irrevocably agree to submit to the exclusive jurisdiction of such courts in the State of California and waive any defense of forum non conveniens.

**Section 14.14 Execution in Counterparts.** This Agreement may be executed in counterparts and upon execution by each signatory, each executed counterpart shall have the same force and effect as an original instrument and as if all signatories had signed the same instrument. Any signature page of this Agreement may be detached from any counterpart of this Agreement without impairing the legal effect of any signature thereon, and may be attached to

another counterpart of this Agreement identical in form hereto by having attached to it one or more signature pages.

**Section 14.15 Effect of Section Headings.** Section headings appearing in this Agreement are inserted for convenience only and shall not be construed as interpretations of text.

**Section 14.16 Waiver.** The failure of either Party to this Agreement to enforce or insist upon compliance with or strict performance of any of the terms or conditions hereof, or to take advantage of any of its rights hereunder, shall not constitute a waiver or relinquishment of any such terms, conditions or rights, but the same shall be and remain at all times in full force and effect. Notwithstanding anything expressed or implied herein to the contrary, nothing contained herein shall preclude either Party from pursuing any available remedies for breaches not rising to the level of a Default, including without limitation recovery of damages caused by the breach of this Agreement and specific performance or any other remedy given under this Agreement or now or hereafter existing in law or equity or otherwise. The Parties acknowledge that money damages may not be an adequate remedy for violations of this Agreement and that a Party may, in its sole discretion, seek and obtain from a court of competent jurisdiction specific performance or injunctive or such other relief as such court may deem just and proper to enforce this Agreement or to prevent any violation hereof. The Parties hereby waive any objection to specific performance or injunctive relief. The rights granted herein are cumulative.

**Section 14.17 Relationship of the Parties.** This Agreement shall not be interpreted to create an association, joint venture or partnership between the Parties hereto or to impose any partnership obligation or liability upon either such Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as an agent or representative of, the other Party.

**Section 14.18 Third Party Beneficiaries.** This Agreement shall not be construed to create rights in, or to grant remedies to, any third party as a beneficiary of this Agreement or any duty, obligation or undertaking established herein. The provisions of this Agreement are solely for the benefit of the Parties hereto. Nothing in this Agreement, whether express or implied, shall be construed to give to, or be deemed to create in, any other Person, whether as a third party beneficiary of this Agreement or otherwise, any legal or equitable right, remedy or claim in respect of this Agreement or any covenant, condition, provision, duty, obligation or undertaking contained or established herein. This Agreement shall not be construed in any respect to be a contract in whole or in part for the benefit of any Person not a party hereto.

**Section 14.19 Indemnification; Damage or Destruction; Insurance; Condemnation; Limit of Liability.**

(a) **Indemnification.** Seller undertakes and agrees to indemnify and hold harmless the Buyer, its Board of Water and Power Commissioners (“*Board*”), and the City of Los Angeles, and all of their respective commissioners, officers, agents, employees, assigns and successors in interest of each, and, at the option of Buyer, defend Buyer, and any and all of its Board, officers, agents, employees, advisors, assigns and successors in interest from and against any and all suits and causes of action, claims, charges, damages, demands, judgments, civil fines and penalties, or losses of any kind or nature whatsoever, for death, bodily injury or

personal injury to any person, including Seller's employees and agents, or damage or destruction to any property of either Party, or third persons in any manner arising by reason of any breach of this Agreement by Seller, any failure of a representation of Seller to be true in all material respects or the negligent acts, errors, omissions or willful misconduct incident to the performance of this Agreement on the part of Seller, or any of Seller's officers, agents, employees, or subcontractors of any tier, except to the extent caused by the gross negligence or willful misconduct of Buyer, its Board, officers, agents, or employees.

(b) **Damage or Destruction.** In the event of any damage or destruction of the Facility or any part thereof, the Facility or such part thereof shall be diligently repaired, replaced or reconstructed by the Seller so that the Facility or such part thereof shall be restored to substantially the same general condition and use as existed prior to such damage or destruction, unless a different condition or use is approved by the Buyer. Proceeds of Insurance with respect to such damage or destruction maintained as provided in this Agreement shall be applied to the payment for such repair, replacement or reconstruction of the damage or destruction.

(c) **Insurance.** Seller shall obtain and maintain the Insurance coverages listed in Appendix F on substantially the terms set forth in Appendix F.

(d) **Condemnation or Other Taking.** For the Agreement Term, Seller shall immediately notify Buyer of the institution of any proceeding for the condemnation or other taking of the Facility, the Purchased Assets or any portion thereof. Buyer may participate in any such proceeding and Seller will deliver to Buyer all instruments necessary or required by Buyer to permit such participation. Without Buyer's prior written consent, Seller (i) shall not agree to any compensation or award, and (ii) shall not take any action or fail to take any action which would cause the compensation to be determined. All awards and compensation for the taking or purchase in lieu of condemnation of the Facility, the Purchased Assets or any portion thereof shall be applied toward the repair, restoration, reconstruction or replacement of the Facility.

(e) **Limitation of Liability.** EXCEPT TO THE EXTENT INCLUDED IN THE LIQUIDATED DAMAGES, INDEMNIFICATION OBLIGATIONS RELATED TO THIRD PARTY CLAIMS OR OTHER SPECIFIC CHARGES EXPRESSLY PROVIDED FOR HEREIN, NEITHER PARTY HEREUNDER SHALL BE LIABLE FOR SPECIAL, INCIDENTAL, EXEMPLARY, INDIRECT, PUNITIVE OR CONSEQUENTIAL DAMAGES ARISING OUT OF A PARTY'S PERFORMANCE OR NON-PERFORMANCE UNDER THIS AGREEMENT, WHETHER BASED ON OR CLAIMED UNDER CONTRACT, TORT (INCLUDING SUCH PARTY'S OWN NEGLIGENCE) OR ANY OTHER THEORY AT LAW OR IN EQUITY. FURTHER, IN SIGNING THIS AGREEMENT, SELLER UNDERSTANDS AND AGREES THAT:

IN NO EVENT SHALL LADWP, THE CITY OF LOS ANGELES, OR ANY OF THEIR RESPECTIVE BOARDS, COMMISSIONERS, OFFICERS, AGENTS, EMPLOYEES, ASSIGNS AND SUCCESSORS IN INTEREST, AS APPLICABLE, BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL, PUNITIVE, EXEMPLARY OR INDIRECT DAMAGES, LOST PROFITS, LOSS OF USE OR OTHER COSTS OF BUSINESS

INTERRUPTION RELATED TO THIS AGREEMENT, WHETHER BASED ON STATUTE, TORT, CONTRACT, OR UNDER ANY OTHER THEORY OF LIABILITY. SELLER FURTHER UNDERSTANDS THAT THIS LIMITATION IS WITHOUT REGARD TO THE CAUSE OR CAUSES OF SUCH DAMAGES OR COSTS, INCLUDING NEGLIGENCE, BE IT SOLE, JOINT, CONTRIBUTORY, OR CONCURRENT, ACTIVE OR PASSIVE.

**Section 14.20 Severability.** In the event any of the terms, covenants or conditions of this Agreement, or the application of any such terms, covenants or conditions, shall be held invalid, illegal or unenforceable by any court having jurisdiction, all other terms, covenants and conditions of this Agreement and their application not adversely affected thereby shall remain in force and effect, *provided* that the remaining valid and enforceable provisions materially retain the essence of the Parties' original bargain.

**Section 14.21 Confidentiality.**

(a) Each Party agrees, and shall use reasonable efforts to cause its parent, subsidiary and Affiliates, and its and their respective directors, officers, employees and representatives, as a condition to receiving confidential information hereunder, to keep confidential, except as required by law, all documents, data, drawings, studies, projections, plans and other written information that relate to economic benefits to or amounts payable by either Party under this Agreement, and, with respect to documents, that are clearly marked "Confidential" at the time a Party shares such information with the other Party ("***Confidential Information***"). The provisions of this Section 14.21 shall survive and shall continue to be binding upon the Parties for period of one (1) year following the date of termination of this Agreement. Notwithstanding the foregoing, information shall not be considered confidential which (i) is disclosed with the prior written consent of the originating Party, (ii) was in the public domain prior to disclosure or is or becomes publicly known or available other than through the action of the receiving Party in violation of this Agreement, (iii) was lawfully in a Party's possession or acquired by a Party outside of this Agreement, which acquisition was not known by the receiving Party to be in breach of any confidentiality obligation, or (iv) is developed independently by a Party based solely on information that is not considered confidential under this Agreement.

(b) Either Party may, without violating this Section 14.21, disclose matters that are made confidential by this Agreement:

(i) to its counsel, accountants, auditors, advisors, other professional consultants, credit rating agencies, actual or prospective, co-owners, investors, lenders, underwriters, contractors, suppliers, and others involved in construction, operation, and financing transactions and arrangements for a Party or its subsidiaries, affiliates, or parent; and

(ii) to governmental officials and parties involved in any proceeding in which either Party is seeking a permit, certificate, or other regulatory approval or order necessary or appropriate to carry out this Agreement; to governmental officials or the public as required by any law, regulation, order, rule, order, ruling or other Requirement

of Law, including without limitation oral questions, discovery requests, subpoenas, civil investigations or similar processes and laws or regulations requiring disclosure of financial information, information material to financial matters, and filing of financial reports. If a Party is requested or required, pursuant to any applicable law, regulation, order, rule, order, ruling or other Requirement of Law, discovery request, subpoena, civil investigation or similar process to disclose any of the Confidential Information, such Party shall provide prompt written notice to the other Party of such request or requirement so that at such other Party's expense, such other Party can seek a protective order or other appropriate remedy concerning such disclosure.

(c) Notwithstanding the foregoing or any other provision of this Agreement, Seller acknowledges that Buyer, as a California municipal corporation, is subject to disclosure as required by the California Public Records Act, Cal. Govt. Code §§ 6250 et. seq. ("**CPRA**") and the Ralph M. Brown Act, Cal. Govt. Code §§ 54950 et. seq. ("**Brown Act**"). Confidential Information of Seller provided to the Buyer pursuant to this Agreement will become the property of the Buyer and Seller acknowledges that Buyer shall not be in breach of this Agreement or have any liability whatsoever under this Agreement or otherwise for any claims or causes of action whatsoever resulting from or arising out of Buyer's copying or releasing to a third party any of the Confidential Information of Seller pursuant to the CPRA or Brown Act. Notwithstanding the foregoing or any other provision of this Agreement, Buyer may record, register, deliver and file all such notices, statements, instruments and other documents as may be necessary or advisable to render fully valid, perfected and enforceable under all applicable law the credit support contemplated by this Agreement and the Ancillary Documents and the rights, Liens and priorities of Buyer with respect to such credit support.

(d) If Buyer receives a CPRA request for Confidential Information of Seller, and Buyer determines that such Confidential Information is subject to disclosure under the CPRA, then Buyer will notify the Seller of the request and its intent to disclose the documents. The Buyer, as required by the CPRA, will release such documents unless the Seller timely obtains a court order prohibiting such release. If Seller, at its sole expense, chooses to seek a court order prohibiting the release of Confidential Information pursuant to a CPRA request, then Seller undertakes and agrees to defend, indemnify and hold harmless Buyer from and against all suits, claims, and causes of action brought against Buyer for Buyer's refusal to disclose Confidential Information of Seller to any person making a request pursuant to CPRA. Seller's indemnity obligations shall include, but are not limited to, all actual costs incurred by Buyer, and specifically including costs of experts and consultants, as well as all damages or liability of any nature whatsoever arising out of any such suits, claims, and causes of action brought against Buyer, through and including any appellate proceedings. Seller's obligations to Buyer under this indemnification provision shall be due and payable on a monthly, on-going basis within thirty (30) days after each submission to Seller of Buyer's invoices for all fees and costs incurred by Buyer, as well as all damages or liability of any nature.

**Section 14.22 Mobile-Sierra.** Notwithstanding any provision of this Agreement, neither Party shall seek, nor shall they support any third party in seeking, to prospectively or



retroactively revise the rates, terms or conditions of service of this Agreement through application or complaint to FERC pursuant to the provisions of Section 205, 206 or 306 of the Federal Power Act, or any other provisions of the Federal Power Act, absent prior written agreement of the Parties. Further, absent the prior agreement in writing by both Parties, the standard of review for changes to the rates, terms or conditions of this Agreement proposed by a Party, a non-Party or the FERC acting sua sponte shall be the “public interest” application of the “just and reasonable” standard of review set forth in *United Gas Pipe Line Co. v. Mobile Gas Service Corp.*, 350 US 332 (1956) and *Federal Power Commission v. Sierra Pacific Power Co.*, 350 US 348 (1956).

#### **Section 14.22.1 Right of First Offer and Right of First Refusal.**

(a) Buyer has a “Right of First Offer” (or “ROFO”) and a “Right of First Refusal” (or “ROFR”) for any proposed sale of the Facility and related assets (the “Facility Assets”) by Seller, all in accordance with the provisions of this Section 14.22.1.

(b) Prior to Seller commencing the negotiation of a sale of the Facility Assets, Seller shall provide notice to Buyer of Seller’s intention to sell the Facility Assets (a “**Proposed Sale Notice**”). Upon receipt of such Proposed Sale Notice, Buyer shall have forty-five (45) days in which to provide notice to Seller indicating whether Buyer is interested in negotiating with Seller to purchase the Facility Assets from Seller (a “**Proposed Purchase Notice**”). If Buyer provides such Proposed Purchase Notice, then the Parties shall undertake for a period of up to ninety (90) days from the date of Buyer’s Proposed Purchase Notice to determine if they are able to reach mutual agreement on the terms and conditions of a sale of the Facility Assets to Buyer.

(c) If (i) Buyer does not provide such Proposed Purchase Notice to Seller indicating that Buyer is interested in negotiating the purchase of the Facility Assets from Seller following a Proposed Sale Notice, or (ii) the Parties are unable to agree upon the terms and conditions of a sale of the Facility Assets to Buyer within the ninety (90) day period set forth in Section 14.22.1(b), then Seller shall be free to negotiate the sale of the Facility Assets to any third party; provided, however, that prior to consummating any such sale, Seller shall provide Buyer with a concise summary of the commercial terms negotiated by Seller with the third party (a “**Notice of Proposed Third Party Sale**”). If the proposed purchase price for the Facility Assets set forth in the Notice of Proposed Third Party Sale is equal to or less than 110% of the purchase price included in the Proposed Purchase Notice or negotiated in connection with Buyer’s exercise of the ROFO pursuant to Section 14.22.1(b), then Buyer shall have forty-five (45) days to exercise its Right of First Refusal and complete its purchase of the Facility Assets on substantially similar terms as set forth in the Notice of Proposed Third Party Sale, subject to any modifications required to conform the transaction to requirements for transactions entered into by public agencies. If Buyer does not elect to exercise its Right of First Refusal and complete its purchase within such forty-five (45) days, Seller shall be free to consummate the sale of the Facility Assets to the third party; *provided*, that such sale shall be on substantially similar terms and conditions presented to Buyer in the Notice of Proposed Third Party Sale.

(d) If Seller fails to (i) present a Notice of Proposed Third Party Sale within six (6) months after the expiration of the ninety (90) day period set forth in Section 14.22.1(b), or (ii) consummate the sale of the Facility Assets to a third party within forty-five (45) days after the expiration of the forty-five (45) day period set forth in Section 14.22.1(c), then Seller shall provide another Proposed Sale Notice hereunder (and go through the ROFO and ROFR processes hereunder) before commencing or continuing negotiations with any third party or consummating a sale of the Facility Assets.

(e) Neither the ROFO nor the ROFR shall (i) apply to any Sale-Leaseback or similar Facility financing by Seller or to any sale by any Facility Lender in connection with the exercise of Facility Lender remedies under financing security documents, nor (ii) limit Buyer's rights to purchase the Facility Assets under the Option Agreement.

### **Section 14.23 LADWP Business Policies.**

#### **(a) LADWP's Recycling Policy.**

(1) The Buyer supports the use of recycled-content products of all types. Recycled-content products help conserve natural resources, including water and energy, and reduce demands upon landfills.

(2) The Seller shall submit all written documents on paper with a minimum of 30 percent post-consumer recycled content. Existing company/corporate letterhead/stationery that accompanies these documents is exempt from this requirement. Documents of two or more pages in length shall be duplex-copied (double-sided pages). Neon or fluorescent paper shall not be used in any written documents submitted to the Buyer.

#### **(b) Non-Discrimination/Equal Employment Practices/Affirmative Action Construction & Non-Construction Agreements.**

(1) During the performance of this Agreement, Seller shall not discriminate in its employment practices against any employee or applicant for employment because of race, religion, national origin, ancestry, sex, sexual orientation, age, disability, marital status, domestic partner status, or medical condition. All subcontracts awarded under this Agreement shall contain a like nondiscrimination provision. The applicable provisions of Executive Order No. 11246 of September 24, 1965; Part 60-741 of 41 Code of Federal Regulations pertaining to handicapped workers, including 60-741.4 Affirmative Action Clause; and Sections 10.8 to 10.13 of the Los Angeles Administrative Code pertaining to nondiscrimination in employment in the performance of City of Los Angeles contracts are incorporated herein by reference and made a part hereof as if they were fully set forth herein.

(2) Each of the above documents, if approved, shall be effective for twelve (12) months following the date of approval for the Affirmative Action practices. An Affirmative Action plan shall be in effect and on file with the Buyer for the duration of this Agreement.

(c) **Small Business Enterprise (SBE) and Disabled Veteran Business Enterprise (DVBE) Opportunity Program.** (1) It is the policy of the Buyer to provide SBEs, DVBEs, Disadvantaged Business Enterprises (DBEs), Women Business Enterprises (WBEs), Minority Business Enterprises (MBEs) and all Other Business Enterprises (OBEs) an equal opportunity to participate in the performance of all LADWP contracts. LADWP's annual goals for SBE/DVBE participation in performance of its contracts are 20 percent for SBEs and 3 percent for DVBEs. The Seller shall assist LADWP in implementing this policy by taking all reasonable steps to ensure that all available business enterprises, including SBEs and DVBEs, have an equal opportunity to compete for and participate in the work of this Agreement. (2) The Seller shall state if it is a certified SBE, DVBE, DBE, WBE, or MBE. In addition, the Seller shall provide the company name, contact person, address, and telephone number of all proposed subcontractors. The Seller shall attach copies of certifications if any of the proposed subcontractors are certified as SBE, DVBE, DBE, WBE, or MBE.

(d) **Prevailing Wage.** Seller and Seller's agents, employees, and Subcontractors shall comply with all applicable provisions of the California Labor Code and all other Requirements of Law that affect the hours of work, wages, and other compensation of employees, nondiscrimination, and other conduct of the work. Workers at the Facility shall be paid not less than prevailing wages pursuant to determinations of the Director of Industrial Relations as applicable in accordance with the California Labor Code. To access the most current information on effective determination rates, Seller shall contact: Department of Industrial Relations, Division of Labor Statistics and Research, PO Box 420603, San Francisco, CA 94142-0603; Telephone (Division Office): (415) 703-4780; Telephone (Prevailing Wage Unit): (415) 703-4774; Web:<http://www.dir.ca.gov/dlsr/DPreWageDetermination.htm>

(e) **Child Support Policy.** Seller and any of its subcontractors must fully comply with all applicable state and federal employment reporting requirements for the Seller's and any Seller's subcontractors' employees. The Seller and any of its subcontractors must fully comply with all lawfully served Wage and Earnings Assignment Orders and Notices of Assignment in accordance with the California Family Code. The Seller and any of its subcontractors must certify that the principal owner(s) thereof (defined as any person(s) who own(s) an interest of 10 percent or more) are in compliance with any Wage and Earnings Assignment Orders or Notices of Assignment applicable to them personally. The Seller and any of its subcontractors must certify that such compliance will be maintained throughout the term of this Agreement. Failure of the Seller and/or any its subcontractors to fully comply with all applicable reporting requirements or to implement lawfully served Wage and Earnings Assignments or Notices of Assignment or failure of the principal owner(s) to comply with any Wage and Earnings Assignments or Notices of Assignment applicable to them personally shall constitute a default under this Agreement. Failure of the Seller and/or any its subcontractors or principal owner(s) thereof to cure the default within ninety (90) days of notice of such default by the Buyer shall subject this Agreement to termination.

(f) **Iran Contracting Act of 2010.** In accordance with California Public Contract Code Sections 2200-2208, all bidders submitting proposals for, entering into, or renewing contracts with LADWP for goods and services estimated at one million dollars

(\$1,000,000) or more are required to complete, sign, and submit the “Iran Contracting Act of 2010 Compliance Affidavit.”

(g) **Current Los Angeles City Business Tax Registration Certificate Required.** The Seller shall obtain and keep in full force and effect during the term of this Agreement all Business Tax Registration Certificates required by the City of Los Angeles Business Tax Ordinance, Article 1, Chapter II, Section 21.00 and following, of the Los Angeles Municipal Code. Seller’s Vendor Registration Number must be shown on all invoices submitted for payment. Failure to do so, may delay payment. For additional information regarding applicability of the City Business Tax Registration, contact the City of Los Angeles Clerk’s Office at (213) 978-1521.

(h) **Taxpayer Identification Number (TIN).** Seller declares that its authorized TIN is 46-5486680. No payment will be made under this Agreement without a valid TIN number.

(i) **Compliance With Los Angeles City Charter Section 470(c)(12).** Seller, Seller’s Subcontractors and their Principals (the term “Principals” is defined as the Seller or Seller’s Subcontractor’s board chair, president, chief executive officer, chief operating officer, or the functional equivalent of those positions; any individual who holds an ownership interest in the Seller or Seller’s Subcontractors of 20 percent or more; and any individual authorized by the bid or proposal to represent the Seller or Seller’s Subcontractors before the City) are obligated to fully comply with City of Los Angeles Charter Section 470(c)(12) and related ordinances, regarding limitations on campaign contributions and fundraising for certain elected City officials or candidates for elected City office if the contract is valued at \$100,000 or more and requires approval of a City elected official. Additionally, Seller is required to provide and update certain information to the City as specified by law. Any Seller subject to Charter Section 470(c)(12), shall include the following notice in any contract with a subcontractor expected to receive at least \$100,000 for performance under this Agreement:

Notice Regarding Los Angeles Campaign Contribution and Fundraising Restrictions. As provided in Charter Section 470(c)(12) and related ordinances, you are subcontractor on City of Los Angeles contract #\_\_\_\_\_. Pursuant to City Charter Section 470(c)(12), subcontractor and its principals are prohibited from making campaign contributions and fundraising for certain elected City officials or candidates for elected City office for 12 months after the City contract is signed. Subcontractor is required to provide to contractor names and addresses of the subcontractor’s principals and contact information and shall update that information if it changes during the 12 month time period. Subcontractor’s information included must be provided to contractor within 5 business days. Failure to comply may result in termination of contract or any other legal remedies including fines. Information about the restrictions may be found at the City Ethics Commission’s website at <http://ethics.lacity.org/> or by calling (213) 978-1960.

Seller, Seller's Subcontractors and their Principals shall comply with these requirements and limitations. Violations of this provision shall entitle the City to terminate this Agreement and pursue any and all legal remedies that may be available.



**APPENDIX A**  
**PAYMENT SCHEDULE**

1. **Test Energy.** The purchase price for Delivered Energy that is Test Energy is \$52.61 per MWh.
  
2. **Facility Energy and Excess Energy.** The purchase price for Delivered Energy that is not Test Energy is \$52.61 per MWh. Replacement Energy shall have the same purchase price as Facility Energy.

**APPENDIX B**  
**FACILITY**

1. Name of Facility: Hecate Energy Beacon #1  
  
Location: Mojave, Kern County, California
2. Owner: Hecate Energy Beacon #1 LLC
3. Operator: Hecate Energy Beacon #1 LLC
4. Equipment:
  - (a) Type of Facility: Solar PV
  - (b) Capacity:  
  
Total nominal gross nameplate capacity (under expected average site conditions): 57.436 MWdc (PTC)<sup>1</sup>  
  
Total nominal net capacity (under expected average site conditions) at Point of Delivery: 56 MWac (PTC)<sup>1</sup>  
  
Total CEC-AC MW capacity: 56 MW<sup>1</sup>
5. Planned Commercial Operation Date: July 31, 2016
6. Permits: Building, grading and other permits from Kern County or other entities as required.
7. Expected Interconnection Readiness Date: May 2, 2016

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<sup>1</sup> Subject to final system design.



**APPENDIX C**  
**BUYER AND SELLER BILLING, NOTIFICATION AND SCHEDULING CONTACT**  
**INFORMATION**

1. **Authorized Representative.** Correspondence pursuant to Section 14.1 shall be transmitted to the following addresses:

1.1 If to Buyer:

Department of Water and Power of the City of Los Angeles  
111 North Hope Street, Room 1263 JFB  
Los Angeles, California 90012  
Attention: LADWP Operating Agent – Minh T. Le

Or if sent electronically, send to all the emails listed below:

Minh.Le@ladwp.com  
Michael.Webster@ladwp.com

1.2 If to Seller:

Hecate Energy Beacon #1 LLC  
c/o Hecate Energy LLC  
115 Rosa Parks Blvd.  
Nashville, TN 37203

Telephone: 480.239.5617  
Facsimile: 312.284.4514

2. Billings and payments pursuant to Section 11.1 and Appendix A shall be transmitted to the following addresses:

2.1 If Billing to Buyer:

The Department of Water and Power of the City of Los Angeles  
P.O. Box 51211  
Room 424 JFB  
Los Angeles, California 90051-5511  
Attention: Accounting Division – Accounts Payable Section – Supervisor  
Accounts Payable

Or if sent electronically, send to all the emails listed below:

Sherry.Grueter@ladwp.com  
Andrew.Virzi@ladwp.com  
Matin.Lackpour@ladwp.com

2.2 If Payment to Buyer:

The Department of Water and Power of the City of Los Angeles  
P.O. Box 51211  
Room 424 JFB  
Los Angeles, California 90051-5511  
Attention: Accounting Division – Accounts Payable Section – Supervisor  
Accounts Payable

Or if sent electronically, send to all the emails listed below:

Sherry.Grueter@ladwp.com  
Andrew.Virzi@ladwp.com  
Matin.Lackpour@ladwp.com

3. All notices (other than Scheduling notices) required under the Agreement shall be sent by facsimile transmission, reliable overnight courier, and registered or certified mail, postage prepaid, to the address specified below.

If to Buyer:

Department of Water and Power of the City of Los Angeles  
111 North Hope Street, Room 1263 JFB  
Los Angeles, California 90012  
Attention: LADWP Operating Agent – Minh T. Le

Or if sent electronically, send to all the emails listed below:

Minh.Le@ladwp.com  
Michael.Webster@ladwp.com

If to Seller:

Hecate Energy Beacon #1 LLC  
c/o Hecate Energy LLC  
115 Rosa Parks Blvd.  
Nashville, TN 37203

Telephone: 480.239.5617  
Facsimile: 312.284.4514

4. All notices related to scheduling of the Facility shall be sent to the following address:

If to Buyer:

Department of Water and Power of the City of Los Angeles  
P.O. Box 111  
Room 1148 JFB  
Los Angeles, California 90051  
Attention: Manage of Wholesale Energy Resources – ECC Dispatcher  
Phone: (818) 771-6771  
Facsimile: (818) 771-6606

Or if sent electronically, send to all the emails listed below:

Brad.Packer@ladwp.com  
[Minh.Le@ladwp.com](mailto:Minh.Le@ladwp.com)

If to Seller:

Hecate Energy Beacon #1 LLC  
c/o Hecate Energy LLC  
115 Rosa Parks Blvd.  
Nashville, TN 37203

Telephone: 480.239.5617  
Facsimile: 312.284.4514

5. Curtailments. All notices related to curtailments of the Facility shall be sent to the following address:

If to Buyer:

Department of Water and Power of the City of Los Angeles  
P.O. Box 111  
Room 1148 JFB  
Los Angeles, California 90051  
Attention: Manage of Wholesale Energy Resources – ECC Dispatcher  
Phone: (818) 771-6771  
Facsimile: (818) 771-6606

Or if sent electronically, send to all the emails listed below:

Brad.Packer@ladwp.com  
Minh.Le@ladwp.com

If to Seller:

Hecate Energy Beacon #1 LLC  
c/o Hecate Energy LLC

115 Rosa Parks Blvd.  
Nashville, TN 37203

Telephone: 480.239.5617  
Facsimile: 312.284.4514

6. Deemed Generated Energy. Unless otherwise specified by Buyer, all notices related to calculations of Deemed Generated Energy shall be sent to the following address:

If to Buyer:

Department of Water and Power of the City of Los Angeles  
P.O. Box 111  
Room 1148 JFB  
Los Angeles, California 90051  
Attention: Manage of Wholesale Energy Resources – ECC Dispatcher  
Phone: (818) 771-6771  
Facsimile: (818) 771-6606

Or if sent electronically, send to all the emails listed below:

Brad.Packer@ladwp.com  
Matin.Lackpour@ladwp.com  
Minh.Le@ladwp.com

If to Seller:

Hecate Energy Beacon #1 LLC  
c/o Hecate Energy LLC  
115 Rosa Parks Blvd.  
Nashville, TN 37203

Telephone: 480.239.5617  
Facsimile: 312.284.4514

**APPENDIX D**  
**FORM OF ATTESTATION**

\_\_\_\_\_ **(Seller)** \_\_\_\_\_ **Environmental Attribute Attestation and Bill of Sale**

\_\_\_\_\_ (“Seller”) hereby sells, transfers and delivers to City of Los Angeles acting by and through the Department of Water and Power (“Buyer”) the Environmental Attributes and Environmental Attribute Reporting Rights associated with the generation from the Facility described below:

Facility name and location:

Fuel Type:

Capacity (MW): \_\_\_\_\_ Operational Date:

As applicable: CEC Reg. no. \_\_\_\_\_ Energy Admin. ID no. \_\_\_\_\_ Q.F. ID no. \_\_\_\_\_

<u>Dates</u>	<u>MWhrs generated</u>
_____ 200_	_____
_____ 200_	_____
_____ 200_	_____

in the amount of one Environmental Attribute or its equivalent for each megawatt hour generated.

Seller further attests, warrants and represents as follows:

- i) the information provided herein is true and correct;
- ii) its sale to Buyer is its one and only sale of the Environmental Attributes and associated Environmental Attribute Reporting Rights referenced herein;
- iii) the Facility generated and delivered to the grid the Energy in the amount indicated as undifferentiated Energy; and
- iv) Seller owns the Facility and each of the Environmental Attributes and Environmental Attribute Reporting Rights associated with the generation of the indicated Energy for delivery to the grid have been generated and sold by the Facility.

This serves as a bill of sale, transferring from Seller to Buyer all of Seller’s right, title and interest in and to the Environmental Attributes and Environmental Attribute Reporting Rights associated with the generation of the Energy for delivery to the grid.

Contact Person: \_\_\_\_\_ tel:

**APPENDIX E**  
**FORM OF LETTER OF CREDIT**

**IRREVOCABLE AND UNCONDITIONAL DOCUMENTARY LETTER OF CREDIT  
NO.**

Applicant:

Beneficiary:

CITY OF LOS ANGELES  
ACTING BY AND THROUGH THE DEPARTMENT OF WATER AND POWER  
Attn: Financial Services Organization  
Finance and Risk Control  
111 North Hope Street Room 465  
Los Angeles, CA 90012

Amount:

Expiry Date:

Expiration Place:

Ladies and Gentlemen:

We hereby issue our Irrevocable Unconditional Documentary Letter of Credit in favor of the beneficiary by order and for the account of the applicant which is available at sight for USD \$[project MW \* \$180,000] by sight payment

- (a) upon presentation to us at our office at [bank's address],<sup>1</sup> of: (i) your written demand for payment containing the text of Exhibit I and (ii) your signed statement containing the text of Exhibit II; or
- (b) upon both your telephone or fax advice of demand to the attention of \_\_\_\_\_ at telephone and/or fax number \_\_\_\_\_ and presentation to us by fax of: (i) your written demand for payment containing the text of Exhibit I and (ii) your statement containing the text of Exhibit II.<sup>2</sup> Funds may be drawn

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<sup>1</sup> Note to Issuer: The Letter of Credit must be payable in U.S. dollars within the continental U.S.

<sup>2</sup> Note to Issuer: If the office specified for presentation is outside of Los Angeles, California, alternative (b) must appear in the Letter of Credit when issued. If the office is in Los Angeles, California, alternative (b) may be included only if the bank establishes and maintains with LADWP the necessary electronic arrangements.

under this Letter of Credit, from time to time, in one or more drawings, in amounts not exceeding in the aggregate the amount specified above.

Upon presentation to us in conformity with the foregoing, we will, within 60 minutes after such presentation (unless such presentation occurs after 3:00 p.m., Pacific Standard Time, on the day of such presentation, in which event payment will be made within 60 minutes after the opening of business at the office specified above on the next business day), but without any other delay whatsoever, irrevocably and without reserve or condition: (a) if the office set forth above for presentation is in Los Angeles, California, pay to your order in the account at the bank designated by you in the demand, the full amount demanded by you in the same-day funds which are immediately available to you, or (b) if the office set forth above for presentation is not in Los Angeles, California, issue payment instructions to the Federal Reserve wire transfer system in proper form to transfer to the account at the bank designated by you in the demand, the full amount demanded by you in the same-day funds which are immediately available to you in Los Angeles, California. We agree that if, on the expiration date of this Letter of Credit, the office specified above is not open for business, this Letter of Credit will be duly honored if the specified statements are presented by you within three (3) full banking days after such office is reopened for business.

Payment hereunder shall be made regardless of: (a) any written or oral direction, request, notice or other communication now or hereafter received by us from the Applicant or any other person except you, including without limitation any communication regarding fraud, forgery, lack of authority or other defect not apparent on the face of the documents presented by you, but excluding solely an effective written order issued otherwise than at our instance by a court of competent jurisdiction which order is legally binding upon us and specifically orders us not to make such payment; (b) the solvency, existence or condition, financial or other, of the Applicant or any other person or property from whom or which we may be entitled to reimbursement for such payment; and (c) without limiting clause (b) above, whether we are in receipt of or expect to receive funds or other property as reimbursement in whole or in part for such payment. We agree that we will not take any action to cause the issuance of an order described in clause (a) of the preceding sentence. We agree that the time set forth herein for payment of any demand(s) for payment is sufficient to enable us to examine such demand(s) and the related documents(s) referred to above with care so as to ascertain that on their face they appear to comply with the terms of this credit and that if such demand(s) and document(s) on their face appear to so comply, failure to make any such payment within such time shall constitute dishonor of such demand(s) and this credit.

The stated amount of this Letter of Credit may be increased or decreased, and the expiration date of this Letter of Credit may be extended, by an amendment to this Letter of Credit in the form of Exhibit III. Any such amendment shall become effective only upon acceptance by your signature on a hard copy amendment.

You shall not be bound by any written or oral agreement of any type between us and the Applicant or any other person relating to this credit, whether now or hereafter existing.

We hereby engage with you that your demand(s) for payment in conformity with the terms of this credit will be duly honored as set forth above. All fees and other costs associated with the

issuance of and any drawing(s) against this Letter of Credit shall be for the account of the Applicant. All of the rights of the City of Los Angeles acting by and through the Department of Water and Power (LADWP) set forth above shall inure to the benefit of your successors. In this connection, in the event of a drawing made by a party other than the LADWP, such drawing must be accompanied by the following signed certification:

“The undersigned does hereby certify that \_\_\_\_\_ [drawer] \_\_\_\_\_ is the successor by operation of law to the LADWP, a beneficiary named in [name of Bank] Letter of Credit no. \_\_\_\_\_.

[name and title]

Except so far as otherwise expressly stated herein, this documentary credit is subject to the “Uniform Customs and Practices for Documentary Credits,” International Chamber of Commerce, in effect on the date of issuance of this credit.

Yours faithfully,

(name of issuing bank)

By \_\_\_\_\_  
Title \_\_\_\_\_



**EXHIBIT I**  
**DEMAND FOR PAYMENT**

Re: Irrevocable and Unconditional Documentary Letter of Credit

No. \_\_\_\_\_ Dated \_\_\_\_\_, 20\_\_

To Whom It May Concern:

Demand is hereby made upon you for payment to us of \$\_\_\_\_\_ by deposit to our account no. \_\_\_\_\_ at [insert name of bank]. This demand is made under, and is subject to and governed by, your Irrevocable and Unconditional Documentary Letter of Credit no. \_\_\_\_\_ dated \_\_\_\_\_, 20\_\_ in the amount of \$\_\_\_\_\_ established by you in our favor for the account of \_\_\_\_\_ as the Applicant.

DATED: \_\_\_\_\_, 20\_\_.

CITY OF LOS ANGELES ACTING BY AND  
THROUGH THE DEPARTMENT OF WATER AND  
POWER

By \_\_\_\_\_

Title \_\_\_\_\_

**EXHIBIT II**  
**STATEMENT**

Re: Your Irrevocable and Unconditional Documentary Letter of Credit

No. \_\_\_\_\_ Dated \_\_\_\_\_, 20\_\_\_\_\_

To Whom It May Concern:

Reference is made to your Irrevocable and Unconditional Documentary Letter of Credit no. \_\_\_\_\_, dated \_\_\_\_\_, 20\_\_\_\_ in the amount of \$\_\_\_\_\_ established by you in our favor for the account of \_\_\_\_\_.

We hereby certify to you that \$\_\_\_\_\_ is due and owing to us by the Applicant.

DATED: \_\_\_\_\_, 20\_\_.

CITY OF LOS ANGELES ACTING BY AND  
THROUGH THE DEPARTMENT OF WATER AND  
POWER

By \_\_\_\_\_

Title \_\_\_\_\_

**EXHIBIT III**  
**AMENDMENT**

Re: Irrevocable and Unconditional Documentary Letter of Credit  
No. \_\_\_\_\_ Dated \_\_\_\_\_, 20\_\_

Beneficiary:

Applicant:

CITY OF LOS ANGELES  
ACTING BY AND THROUGH THE DEPARTMENT OF WATER AND POWER  
Attn: Financial Services Organization  
Finance and Risk Control  
111 North Hope Street Room 465  
Los Angeles, CA 90012

To Whom It May Concern:

The above referenced Irrevocable and Unconditional Documentary Letter of Credit is hereby amended as follows: by increasing / decreasing / leaving unchanged (*strike two*) the stated amount by \$ \_\_\_\_\_ to a new stated amount of \$ \_\_\_\_\_ or by extending the expiration date to \_\_\_\_\_ from \_\_\_\_\_. All other terms and conditions of the Letter of Credit remain unchanged.

This amendment is effective only when accepted by the LADWP, which acceptance may only be valid by a signature of an authorized representative.

Dated: \_\_\_\_\_

Yours faithfully,

(name of issuing bank)

By \_\_\_\_\_  
Title \_\_\_\_\_

**ACCEPTED**

CITY OF LOS ANGELES  
ACTING BY AND THROUGH THE DEPARTMENT OF WATER AND POWER

By \_\_\_\_\_  
Title \_\_\_\_\_  
Date \_\_\_\_\_

**APPENDIX F**  
**INSURANCE**

**I. GENERAL REQUIREMENTS**

As a condition to the Effective Date, Seller shall furnish Buyer evidence of coverage from insurers acceptable to the Buyer and in a form acceptable to the risk management section of the project manager for Buyer or acceptable to Buyer's agent for this purpose. Such insurance shall be maintained by Seller at Seller's sole cost and expense.

Such insurance shall not limit or qualify the liabilities and obligations of Seller assumed under this Agreement. Buyer shall not by reason of its inclusion under these policies incur liability to the insurance carrier for payment of premium for these policies.

Any insurance carried by Buyer which may be applicable shall be deemed to be excess insurance and Seller's insurance is primary for purposes under this Agreement despite any conflicting provision in Seller's policies to the contrary.

Said evidence of insurance shall contain a provision that the policy cannot be canceled or reduced in coverage or amount without first giving thirty (30) days' prior notice thereof (ten (10) days for non-payment of premium) by registered mail to Ronald O. Nichols, General Manager, Los Angeles Department of Water and Power, 111 North Hope Street Room 1550, Los Angeles, CA 90012.

Should any portion of the required insurance be on a "Claims Made" policy, Seller shall, at the policy expiration date following completion of work, provide evidence that the "Claims Made" policy has been renewed or replaced with the same limits, terms and conditions of the expiring policy, or that an extended discovery period has been purchased on the expiring policy at least for the contract under which the work was performed.

Failure to maintain and provide acceptable evidence of the required insurance for the required period of coverage shall constitute a breach of contract, upon which Buyer may immediately terminate or suspend the Agreement.

Seller shall be responsible for all Subcontractors' compliance with the insurance requirements.

## **II. SPECIFIC COVERAGES REQUIRED**

### **A. Commercial Automobile Liability**

Seller shall provide Commercial Automobile Liability insurance which shall include coverages for liability arising out of the use of owned, non-owned, and hired vehicles for performance of the work as required to be licensed under the California or any other applicable state vehicle code. The Commercial Automobile Liability insurance shall have not less than \$2,000,000.00 combined single limit per occurrence and shall apply to all operations of Seller.

The Commercial Automobile Liability policy shall include Buyer, its Board of Directors, its members, and their officers, agents, and employees while acting within the scope of their employment, as additional insureds with Seller, and shall insure against liability for death, bodily injury, or property damage resulting from the performance of this Agreement. The form of evidence of insurance shall be a Buyer Additional Insured Endorsement or an endorsement to the policy acceptable to Buyer's risk management agent.

### **B. Commercial General Liability**

Seller shall provide Commercial General Liability insurance with Blanket Contractual Liability, Independent Contractors, Broad Form Property Damage, Premises and Operations, Products and Completed Operations, fire Legal Liability and Personal Injury coverages included. Such insurance shall provide coverage for total limits actually arranged by Seller, but not less than \$10,000,000.00 combined single limit per occurrence. Should the policy have an aggregate limit, such aggregate limits should not be less than double the Combined Single Limit and be specific for this Agreement. Umbrella or Excess Liability coverages may be used to supplement primary coverages to meet the required limits. Evidence of such coverage shall be on Buyer's Additional Insured Endorsement form or on an endorsement to the policy acceptable to Buyer's risk management agent, and shall provide for the following:

1. Include Buyer and its officers, agents, and employees as additional insureds with the Named Insured for the activities and operations under this Agreement.
2. Severability-of-Interest or Cross-Liability Clause such as: "The policy to which this endorsement is attached shall apply separately to each insured against whom a claim is made or suit is brought, except with respect to the limits of the company's liability."
3. A description of the coverages included under the policy.

### **C. Excess Liability**

Seller may use an Umbrella or Excess Liability Coverage to meet coverage limits specified in this Agreement. Seller shall require the carrier for Excess Liability to properly schedule and to identify the underlying policies as provided for Buyer on the Buyer Additional Insured Endorsement Form, or on an endorsement to the policy acceptable to Buyer's risk management agent. Such policy shall include, as appropriate, coverage for Commercial General Liability, Commercial Automobile Liability, Employer's Liability, or other applicable insurance coverages.

**D. Workers' Compensation/Employer's Liability Insurance**

Seller shall provide Workers' Compensation insurance covering all of Seller's employees in accordance with the laws of any state in which the work is to be performed and including Employer's Liability insurance and a Waiver of Subrogation in favor of Buyer. The limit for Employer's Liability coverage shall be not less than \$1,000,000.00 each accident and shall be a separate policy if not included with Workers' Compensation coverage. Evidence of such insurance shall be in the form of a Buyer Special Endorsement of insurance or on an endorsement to the policy acceptable to Buyer's risk management agent. Workers' Compensation/Employer's Liability exposure may be self-insured *provided* that Buyer is furnished with a copy of the certificate issued by the state authorizing Seller to self-insure. Seller shall notify Buyer's Risk Management Section by receipted delivery as soon as possible of the state withdrawing authority to self-insure.

**E. Property All Risk Insurance**

Seller shall procure and maintain an All Risk Physical Damage policy to insure the full replacement value of the property located at Facility as described in this Agreement. The policy shall include coverage for expediting expense, extra expense, Business Interruption, ensuing loss from faulty workmanship, faulty materials, or faulty design (LEG 2 or equivalent).

**APPENDIX G**  
**RESERVED**

## **APPENDIX H** **QUALITY ASSURANCE PROGRAM**

Seller shall implement a Quality Assurance (“Q/A”) Program to ensure that the performance of the development, design and construction of the Facility fulfills the requirements of this Agreement. The Q/A Program shall provide assurance that design, purchasing, manufacturing, shipping, storage, construction, testing and examination of all equipment, materials, services and maintenance of the Facility will comply with the requirements of this Agreement, all applicable Requirements of Law and the manufacturers and/or suppliers requirements for successful operation of the Facility.

### **Quality at Seller**

What is quality? Seller believes that quality is the unit of measure for assessing fulfillment of project goals. A quality project meets or exceeds the contract requirements and accepted standards of professional and industry practice. Furthermore, high quality projects are those that address client and societal needs more successfully than “low” quality projects. While this may seem like a straightforward definition, the process to ensure quality is much more involved and includes quality management, quality planning, quality control, quality assurance, a quality system, and total quality management.

“Quality assurance” refers to a process that reduces the potential for error throughout the phases of a project. On projects with a Q/A Program, the chances of producing a poor quality deliverable are substantially reduced. Quality control procedures are an integral part of quality assurance. Historically, industry has used the term “quality control” to indicate a checking procedure for verifying the quality of deliverables. This checking commonly occurs at the end of the process, long after an error may have been made and compounded by subsequent work. While quality control checks at the end of a project are an essential exercise, scheduled periodic reviews at each phase of project conceptual and final design are integral to Seller’s Q/A Program. In addition, quality maintenance which meet or exceed manufacturers’ and/or suppliers’ requirements and best industry practices must be an integral part of Seller’s Q/A Program.

### **The Quality Management Process**

The surest way to achieve satisfactory quality is to adhere to a proven quality process. The term “quality” most accurately refers to a project’s ability to satisfy needs when considered as a whole and each part of the process meets or exceeds the standards of Prudent Utility Practices.

The Seller project management team is responsible for proactively planning and directing the quality of the work process, services, and deliverables. The Seller project management team targets six areas to monitor quality:

- 1) A written work plan with accompanying Q/A Manual.
- 2) Detailed review of the project design at the planning and conceptual design phase
- 3) Detailed review of project final design prior to construction.
- 4) A quality control program during construction to verify implementation is in



- compliance with design documents and document any changes.
- 5) Independent engineering review of the entire project process, from design review through commercial operation.
  - 6) A written maintenance manual for the Facility for the duration of the commercial operation that complies with the maintenance manuals of the manufacturers and suppliers from whom the Seller has purchased equipment and/or material and best industry practices.

### **Written Work Plan and Q/A Manual**

The idea of a written work plan and Q/A manual is to incorporate quality assurance in all areas of project execution. Seller has found that quality needs to be institutionalized into the project process, not only in the budgeting process, but everywhere. For example, specific tasks and duties need to be allocated to specific individuals; roles and interface points need to be clearly defined; individual assignments need to be realistic; special attention needs to be paid to complex areas within projects; schedules need to be realistic and achievable; and lastly the work culture needs to be enjoyable and open so that employees are empowered to react quickly to symptoms of quality problems before they actually manifest.

Seller's quality program shall be documented in a written work plan and Quality Assurance manual (the "Q/A Manual"). The form and the format of the Q/A Manual shall be developed by the Seller, but must comply with Prudent Utility Practices and follow manufacturers and suppliers recommendations without deviation. The content of the Q/A Manual shall provide written descriptions of policies, procedures and methodology to accomplish a quality project. Seller shall submit three (3) copies of the Q/A Manual within ninety (90) days after the Effective Date to Buyer or Buyer's Agent. The Q/A Manual shall be kept current by the Seller throughout the term of this Agreement through the submittal of revisions, as appropriate, by the Seller to Buyer or Buyer's Agent.

The Q/A Manual shall describe the authority and the responsibility of the Persons in charge of the Q/A Program and inspection activities. It shall also provide the plan for detailed review of project conceptual design and final design, hold points, and methodology for document control and comment. Furthermore, it shall provide the plan and strategy for quality control and review during the construction project and for maintenance and operations during commercial operation. The Q/A Manual shall strive; at a minimum, to define control procedures or methods to assure the following:

- (a) The design documents, drawings, specifications, Q/A procedures, records, inspection procedures and purchase documents are maintained to be current, accurate and in compliance with all applicable law.
- (b) The purchased materials, equipment and services comply with the requirements of this Agreement and all applicable Requirements of Law.
- (c) The materials received at the site are inspected for compliance with specifications.
- (d) The subcontracted work is adequately inspected by third parties.

- (e) Proper methods are employed for the qualification of personnel who are performing work for the development, design and construction of the Facility.
- (f) Proper documentation, control and disposition of nonconforming equipment and materials is maintained.
- (g) Proper records are kept and available following project completion to ensure accurate documentation of as-built conditions.
- (h) Detailed and complete plan for maintenance and operation during commercial operations consistent with manufacturers and suppliers recommendations and best industry practices.

### **Conceptual Design Review**

Seller has a team of professionals who develop and review the project layout and project conceptual design. The team consists of specialists in land-use and planning, permitting, meteorology, engineering, construction, project management, and finance. A preliminary site plan is developed and meetings are held to assess optimization of solar resource, constructability, minimization of cultural and biological impacts, land use restrictions, and landowner requirements. Preliminary road design will also be started and access to the site will be reviewed in detail. When this plan is ready for review, a formal plan and map is created and a final internal review is conducted. Following that is detailed studies for biological, cultural and other types of impacts by third parties. The site plan is then reviewed, modified as necessary, and then used to begin the permitting and public review process. The site plan is further modified based on comments in that process. At that point, the site plan can be issued for construction, and final engineering can commence.

In parallel with this process, preliminary conceptual design is started for the major areas of the project, including the substation, transmission line, foundations, underground collection system, communications system, and road and grading is done to develop construction estimates as well as materials specifications. All of these areas of conceptual designs are used to check and verify the assumptions used for development of the site plan.

### **Final Engineering Design**

Following finalization of the site plan, the detailed design is done for the collection system, fiber-optic network, foundations, roads & grading, transmission line, and substation by third party engineering firms licensed to practice in the state in which the project is to be constructed. Each firm has their own quality assurance and checking procedures, however Seller reviews the final work products in detail to check with conformance with this Agreement and provides comments as a second round of quality assurance. When Seller's comments have been incorporated, the design of each area is considered final, that design is then submitted to an independent engineer for review and comment. This ensures that another entity, in addition to Seller has done a comprehensive review of all project areas and details to ensure conformance with this Agreement.

In parallel with final design and checking activities, final geotechnical studies will be conducted at the site, and a final resource assessment will be performed with the issued-for-construction project layout. If existing subsurface conditions are different from what is expected, the foundation locations could be slightly modified or the foundation design on a specific solar panel set could be modified. Any changes of this nature would be documented in as-built design drawings and approved in advance by Seller.

### **Quality Assurance at the Construction Site**

Seller will hire a third party general contractor to construct the project. This contractor will be required to have its own quality assurance program in place using its own staff, as well as third party inspectors. The two primary areas of focus at the site are assuring conformance of construction to design drawings, and conformance of materials to specifications. The general contractor will be required to provide third party inspectors and testing for materials including concrete slump testing; rebar and concrete placement; cable trenching, soil compaction testing, etc. The general contractor will also be required to maintain a set of red-line drawings during the course of construction to document any changes to the design documents. Proposed project changes would be reviewed and approved in the field by the Seller construction management team prior to implementation.

Quality assurance of solar panel installation is achieved through a combination of procedures and processes. The general contractor will provide rigorous inspection of its installation crew. The solar supplier will have technical advisors on site to inspect and sign off on solar components received, oversee and monitor solar installation, and approve mechanical completion. In addition, Seller will have its own construction management team on site consisting of a construction manager and quality inspectors who will observe performance of all areas of the work and ensure compliance with design documents. A team consisting of the solar supplier, Seller, and the general contractor will walk down each solar panel set at mechanical completion to develop a comprehensive punchlist of any un-finished or incorrect work. This punchlist is maintained by the contractor, and is signed off by Seller upon completion of the punchlist items. Lastly, the independent engineer performs periodic audits during construction to oversee critical items, spot checks individual solar panel sets, confirms construction progress, reports on any perceived issues, and provides independent reporting and assessments to the project stakeholders.

Following completion of the project, the general contractor will be required to provide as-built all design drawings and records of all materials testing conducted at the site. This documentation will be maintained at the project site during operations of the Facility.

### **Quality Assurance During Commercial Operations**

Seller shall supply a Quality Assurance Plan for Buyer's review and approval no less than sixty (60) days prior to the anticipated Commercial Operation Date. Upon receipt of the Quality Assurance Plan, Buyer shall provide written approval, such approval not to be unreasonably withheld, or comment within ten (10) Business Days of receipt such Quality Assurance Plan.

**APPENDIX I**  
**MILESTONE SCHEDULE**

March 26, 2014

Beacon Solar Project Milestones

Preliminary Dates

1. Main Access Road Completed:	August 2014
2. Access Road to Each Site:	August 2014
3. Developer to Provide Points List for Distributed Control System (DCS):	January 2, 2015
4. Pre- Site Acceptance Testing (SAT) of each solar developer's interconnection equipment, bench tests:	April 1, 2015
5. Installation of the Vista Switchgear to each site:	April 1, 2015
6. Power provided at each site (through SCE 12 kV distribution line):	August 1, 2014
7. Water availability for construction:	August 1, 2014
8. Power through Vista Switchgear	
1) Site 4:	January 2, 2016
2) Site 3:	February 5, 2016
3) Site 2:	March 21, 2016
4) Site 1:	May 2, 2016
5) Site 5:	June 10, 2016
9. Expected Interconnection Readiness Date:	
1) Site 4:	Target, 2016
2) Site 3:	March 14, 2016
3) Site 2:	April 29, 2016
4) Site 1:	July 31, 2016
5) Site 5:	June 29, 2016

**APPENDIX J**  
**OPTION AGREEMENT**

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**OPTION AGREEMENT**

by and between

**HECATE ENERGY BEACON #1 LLC**  
as “Seller”

and

**CITY OF LOS ANGELES ACTING BY AND THROUGH THE  
DEPARTMENT OF WATER AND POWER**  
as “Buyer”

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## OPTION AGREEMENT

THIS OPTION AGREEMENT is dated for convenience as of the date of the Power Purchase Agreement by and between Hecate Energy Beacon #1 LLC (“*Seller*”), a limited liability company organized and existing under the laws of the State of Delaware and the City of Los Angeles acting by and through the Department of Water and Power (“*Buyer*”), a municipal corporation of the State of California. Each of Buyer and Seller is referred to individually in this Agreement as a “*Party*” and together they are referred to as the “*Parties*.”

### RECITALS

**WHEREAS**, Seller and Buyer have entered into that certain Power Purchase Agreement of even date herewith by and between Seller and Buyer relating to the purchase of Energy from the Facility to be constructed by Seller in Kern County, California (as the same may be amended, supplemented or otherwise modified from time to time hereafter in accordance with its terms, (the “*PPA*”)); and

**WHEREAS**, Seller desires to grant to Buyer, and Buyer wishes to have, an option to purchase the Purchased Assets on the terms and subject to the conditions set forth in this Agreement, which shall have the same “*Effective Date*” as the Effective Date of the PPA.

**NOW, THEREFORE**, in consideration of the agreements herein and in the other Operative Documents and in reliance upon the representations and warranties herein and therein, Buyer and Seller, intending to be legally bound, hereby agree as follows:

### ARTICLE I

#### DEFINITIONS

**1.1 Definitions.** Except as otherwise expressly provided herein, capitalized terms used in this Agreement, including in its *Recitals*, *Schedules* and *Exhibits*, shall have meanings given in *Exhibit 1.1*.

**1.2 Rules of Interpretation.** Except as otherwise expressly provided herein, the rules of interpretation set forth in *Exhibit 1.1* shall apply to this Agreement.

### ARTICLE II

#### OPTION TO PURCHASE; CLOSING

**2.1 Option to Purchase.** Seller hereby grants Buyer an option, on the terms and conditions set forth in this Agreement, to purchase the Purchased Assets (the “*Project Purchase Option*”).

**2.2 Exercise of Project Purchase Option.** Subject to Section 2.3 of this Agreement, Buyer may exercise the Project Purchase Option at any one or more of the following times (each an “*Option Trigger Date*”):

- (i) within six (6) months prior to the seventh, tenth and fifteenth anniversary of the Commercial Operation Date;
- (ii) within six (6) months prior to the last day of the Delivery Term; or
- (iii) within six (6) months after the date on which a termination notice is provided by Buyer in good faith to Seller pursuant to any of Sections 2.4(a)-(h), 13.2(d) or 13.3 of the PPA, and after any relevant cure periods in such Sections, if any, have expired. Further, the six (6) month window for such exercise will be delayed, if Seller has initiated any litigation regarding the validity of the termination notice, until such time as that litigation has resulted in a final, non-appealable order and the termination notice has not been found invalid.

Seller acknowledges that Buyer has no obligation to exercise the Project Purchase Option and that Buyer may decline to exercise the Project Purchase Option for any or no reason as Buyer deems appropriate in its sole discretion.

**2.3 California Environmental Quality Act.** The parties acknowledge and agree that Buyer's exercise of the Project Purchase Option (if it occurs) will be subject to compliance with the California Environmental Quality Act ("*CEQA*"). The parties therefore acknowledge and agree that Buyer reserves and retains all of its rights, powers and responsibilities under CEQA, as stated in Section 3.1(d) of the PPA, including without limitation the full discretion to participate in the CEQA review for the Facility and to exercise its independent judgment in reviewing the CEQA documentation prepared for the Facility; to adopt mitigation measures and/or alternatives to avoid or lessen significant environmental impacts resulting from the Facility; to determine that any significant impacts that cannot be mitigated are acceptable due to overriding considerations; and/or to decide not to exercise the Project Purchase Option and to terminate this Agreement based on the Facility's significant adverse environmental effects.

**2.4 Exercise Notice.** Buyer shall exercise the Project Purchase Option (if at all) by delivering to Seller a written notice of exercise signed by Buyer (the "*Purchase Option Tentative Exercise Notice*") within the time periods specified in Section 2.2. Within thirty (30) days after it receives the Purchase Option Tentative Exercise Notice (the "*Schedule Delivery Date*"), Seller will deliver to Buyer the following, dated as of the Schedule Delivery Date: (i) *Schedules 3.3(b)* through (i) (Purchased Assets), *Schedule 3.4* (Seller's Consents), *Schedule 3.6(b)* (Environmental Permits), *Schedule 3.13* (Software) and *Schedule 3.15* (Non-Environmental Permits), and (ii) a statement (the "*Disclosure Statement*") listing all qualifications required to make the representations in Sections 3.5 through 3.19 true and correct as of the Schedule Delivery Date, specifying in detail each qualification and the representation to which it applies. If Seller fails to deliver the aforesaid Schedules and Disclosure Statement on or before the Schedule Delivery Date, the Disclosure Statement will be deemed delivered without qualification. Buyer will deliver a draft of *Schedule 4.3* to Seller at the time of the Purchase Option Exercise Notice and will deliver a final version of that Schedule upon receipt of the Schedules and the Disclosure Statement from Seller.

Following the timely delivery by Buyer of a Purchase Option Tentative Exercise Notice and the Schedule Delivery Date, the Tentative Purchase Price (as defined in Exhibit 2.10) shall be

determined in accordance with **Exhibit 2.10**. If Buyer desires to exercise the Project Purchase Option after the Disclosure Schedules have been delivered and the Tentative Purchase Price has been determined pursuant to the paragraph above in this **Section 2.4**, Buyer shall give written notice (the “**Purchase Option Exercise Notice**”) to Seller no later than the Purchase Option Exercise Deadline, which notice shall state that Buyer is electing to exercise the Project Purchase Option under this Agreement on the applicable Closing Date. The delivery of a Purchase Option Exercise Notice by Buyer shall constitute a binding and irrevocable commitment by Buyer to purchase, and shall create a binding obligation of Seller to sell, the Facility Assets as specified herein (subject to the satisfaction or waiver of each of the conditions to Closing set forth in Article VII and Article VIII) by the applicable Closing Date. If Buyer does not deliver the Purchase Option Exercise Notice by the Purchase Option Exercise Deadline, Buyer will be deemed to have elected not to exercise the Project Purchase Option with respect to, and only with respect to, the Corresponding Option Trigger Date.

**2.5 Memorandum of Option.** Concurrently with the execution of this Agreement, Seller shall execute and acknowledge a memorandum of option reasonably acceptable to Buyer, and record that memorandum in the Official Records of Kern County, California. Seller shall be responsible for payment of all fees and Taxes associated with such recording.

**2.6 Closing.** In the event Buyer delivers a Purchase Option Exercise Notice, the closing of the purchase and sale of the Purchased Assets (the “**Closing**”) shall be held at 2:00 p.m. local time in Los Angeles, California on the later of (i) a Business Day no later than one hundred eighty (180) days after the date the Project Purchase Option is exercised, which date shall be specified by Buyer in the Purchase Option Exercise Notice, or (ii) the hundred eightieth (180th) Business Day next succeeding the day on which the purchase price of the Purchased Assets is determined in accordance with **Exhibit 2.10**. The Closing shall be held at the offices of Buyer in Los Angeles, California unless the parties hereto otherwise agree. All events at the Closing shall be deemed to occur simultaneously, unless otherwise provided herein. The Closing will be deemed to occur at 11:59 p.m. on the Closing Date.

**2.7 Purchase and Sale.** At the Closing, on and subject to the terms and conditions set forth in this Agreement, Seller shall sell, transfer, convey, assign and deliver to Buyer, and Buyer shall purchase, acquire and take assignment and delivery from Seller, each of the Purchased Assets, free and clear of all Liens except for Permitted Post-Closing Encumbrances.

**2.8 Assumed Liabilities.** At the Closing, Buyer shall assume, and agree to pay, perform, fulfill and discharge all obligations of Seller under the Assumed Contracts and Transferred Permits, but only to the extent such obligations (i) arise after the Closing, (ii) do not arise from or relate to any breach by Seller of any provision of any of such Assumed Contracts or Transferred Permits, (iii) do not arise from or relate to any event, circumstance or condition occurring or existing prior to the Closing that, with notice or lapse of time, would constitute or result in a breach of any of such Assumed Contracts or Transferred Permits, and (iv) are ascertainable, in nature and amount, solely by reference to the express written terms of such Assumed Contracts or Transferred Permits. The obligations of the Seller to be so assumed by the Buyer are herein referred to as the “**Assumed Liabilities.**”

**2.9 Excluded Liabilities.** Anything in this Agreement to the contrary notwithstanding, Buyer shall not assume, and shall not be deemed to have assumed, any liability or obligation of any nature, fixed or contingent or known or unknown, of Seller whatsoever other than as specifically set forth in Section 2.8 (with all such unassumed obligations referred to in this Agreement as the “*Excluded Liabilities*”). Without limiting the generality of the preceding sentence, it is agreed that Buyer shall have no liability with respect to any of the following liabilities or obligations (whether asserted before or after the Closing and regardless whether the same or the basis therefor may have been disclosed to Buyer by Seller or otherwise be known to Buyer), all of which are included in the Excluded Liabilities:

- (a) Any liability or obligation of Seller in respect of Taxes;
- (b) Any liability or obligation of Seller, other than the Assumed Liabilities, arising out of Seller’s ownership and operation of the Purchased Assets or the Business prior to the Closing;
- (c) Any liability or obligation of Seller arising out of Seller’s ownership and operation of any assets other than the Purchased Assets or any business other than the Business at any time;
- (d) Any liability or obligation of Seller under this Agreement, any of the other Operative Documents or the PPA;
- (e) Any liability or obligation of Seller under any Contract or Permit other than as expressly set forth in Section 2.8;
- (f) Any liability or obligation of Seller with respect to the employment or termination of any employee or group of employees by Seller, or the terms thereof, whether union or nonunion, whether the liability or obligation calls for performance or observance before or after the Closing and whether the liability or obligation arises from a collective bargaining agreement, pension trust fund plan or other agreement or arrangement to which Seller is a party or by which the Seller is bound (whether oral or written and whether express or implied in fact or in law) or any past practice or custom or otherwise, it being understood and agreed that Buyer will itself be specifying the terms on which it offers employment to any individual to whom it, in its sole discretion, chooses to offer employment and will not be bound by any term of employment in effect at or at any time prior to the Closing;
- (g) Any liability or obligation of Seller for pension fund payments or unfunded pension fund liabilities; and
- (h) Any liability or obligation arising from or related to any of the Excluded Assets.

**2.10 Purchase Price.** At the Closing, upon the terms and subject to the conditions set forth herein, Buyer shall pay to Seller for the sale, transfer, assignment, conveyance and delivery of the Purchased Assets by Seller to Buyer and the assumption of the Assumed Liabilities by Buyer, the purchase price determined in accordance with *Exhibit 2.10* (the



“**Purchase Price**”). Such Purchase Price shall be paid by wire transfer of immediately available funds to an account designated by Seller. The Purchase Price shall be allocated among the Purchased Assets in the manner required by Section 1060 of the Code and regulations thereunder.

## **2.11 Proration.**

(a) Buyer and Seller agree that all of the items normally prorated, including those listed below, relating to the business and operation of the Purchased Assets will be prorated as of the Closing Date, with Seller being liable therefor to the extent such items relate to any time period prior to the Closing Date, and Buyer being liable therefor to the extent Buyer is not exempt therefrom and such items relate to periods on or after the Closing Date with, to the extent practicable, a cash settlement on the Closing Date:

(i) personal property and real estate Taxes, assessments and other charges, if any, by the applicable municipality, on the basis of the applicable municipality’s fiscal year, on or with respect to the business and operation of the Purchased Assets;

(ii) rent, Taxes and other items payable by or to Seller under any of the Assumed Contracts assigned to and assumed by Buyer hereunder which are associated with the Purchased Assets;

(iii) any Permit, registration, compliance, assurance fees or other fees with respect to any Transferred Permit which comprises part of the Purchased Assets; and

(iv) sewer rents and charges for water, telephone, electricity and other utilities.

(b) In connection with the prorations referred to in Section 2.11(a) above, in the event that actual figures are not available on the Closing Date, the proration shall be based upon the actual Taxes or fees for the preceding year (or appropriate period) for which actual Taxes or fees are available and such Taxes or fees shall be re prorated upon request of Seller, on the one hand, or Buyer, on the other hand, within sixty (60) days of the date that the actual amounts become available. Seller and Buyer agree to furnish each other with such documents and other records as may be reasonably requested in order to confirm all adjustment and proration calculations made pursuant to this Section 2.11.

**2.12 Closing Costs; Transfer Taxes and Fees.** Seller shall be responsible for one hundred percent (100%) of all recording, documentary and transfer Taxes and any sales, use or other Taxes imposed against Buyer or Seller by reason of the transfer of the Purchased Assets provided hereunder (including Taxes imposed on or measured by the net income or profits of Seller) and any deficiency, interest or penalty asserted with respect thereto.

**2.13 Closing Obligations.** At the Closing: (a) Seller will deliver to Buyer each of the certificates, instruments, documents and agreements referred to in Article VII to be provided by Seller on or prior to the Closing, and (b) Buyer will deliver to Seller (i) the Purchase Price by

wire transfer to an account specified by Seller, and (ii) each of the certificates, instruments, documents and agreements referred to in Article VIII to be provided by Buyer on or prior to the Closing. If a Buyer Closing Condition is not satisfied by the relevant time in accordance with Article VII, Buyer may elect not to consummate the Closing and unless Buyer terminates this Agreement pursuant to Article X, this Agreement will remain effective.

**2.14 Bulk Sales Law.** Unless waived by Buyer, Seller shall prior to the Closing comply with the requirements of any applicable bulk sales law.

### **ARTICLE III**

#### **REPRESENTATIONS AND WARRANTIES OF SELLER**

Seller represents and warrants to Buyer as follows (i) as of the date hereof, with respect to Sections 3.1, 3.2, 3.4 (first two sentences), Section 3.12 as it relates to the Lease and Section 3.19, and (ii) as of the date hereof, the Schedule Delivery Date and the Closing Date with respect to Sections 3.1 through 3.19:

**3.1 Organization and Good Standing.** Seller is a corporation or limited liability company duly organized, validly existing and in good standing under the laws of its state of incorporation or organization, is qualified to do business in the State of California and the state where Facility is located, if different, and has the legal power and authority to own its properties, to carry on its business as now being conducted and to enter into and perform its obligations under each of the Operative Documents.

**3.2 Authority; Absence of Conflict or Breach.** The execution, delivery and performance by Seller of its obligations under each of the Operative Documents have been duly authorized by all necessary limited liability company action on the part of Seller and the owners of any interest in Seller, and do not and will not require any material consent or approval other than those which have already been obtained. Each of the Operative Documents constitutes the legal, valid and binding obligation of Seller, enforceable in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization or similar laws relating to or affecting the enforcement of creditors' rights generally or by general equitable principles, regardless of whether such enforceability is considered in a proceeding in equity or at law. The execution and delivery of the Operative Documents, the consummation of the transactions contemplated thereby and the fulfillment of and compliance with the provisions of the Operative Documents, do not and will not conflict in all material respects with or constitute a breach of, or a default under any of the terms, conditions or provisions of any Requirements of Law, or any Organizational Documents, agreement, deed of trust, mortgage, loan agreement, other evidence of indebtedness or any other agreement or instrument to which Seller is a party or by which it or any of its property is bound, or result in a breach of or a default under any of the foregoing or result in or require the creation or imposition of any Lien upon any of the properties or assets of Seller (except as contemplated hereby), and Seller has obtained or shall timely obtain all permits, licenses, approvals and consents of Governmental Authorities required for the performance of its obligations thereunder and operation of the Facility in accordance with the requirements of the Operative Documents and all applicable Requirements of Law.

**3.3 Purchased Assets.** *Schedule 3.3(a)* (with respect to the Premises), *Schedule 3.3(b)* (with respect to the Assumed Contracts), *Schedule 3.3(c)* (with respect to the Fixtures and Equipment), *Schedule 3.3(d)* (with respect to the Books and Records), *Schedule 3.3(e)* (with respect to the Transferred Permits), *Schedule 3.3(f)* (with respect to the Intellectual Property Assets), *Schedule 3.3(g)* (with respect to the Supplies), *Schedule 3.3(h)* (with respect to Transmission Assets), and *Schedule 3.3(i)* (with respect to the Warranties). Seller will provide the foregoing schedules prior to Closing and those schedules will contain a true and complete listing of the material Purchased Assets. The Fixtures and Equipment are in good repair and operating condition in all material respects, ordinary wear and tear excepted, and are suitable for continued use in the ordinary course of the Business.

**3.4 Consents.** Other than those that have been obtained or filed, no material Consent of, or registration, qualification or filing with any Person, excluding any Governmental Authority, is required for the execution and delivery by Seller of any of the Operative Documents or in order for Seller to perform its obligations thereunder. Other than those that have been obtained or filed, no Consent of, or registration, qualification or filing with any Governmental Authority, is required for the execution and delivery by Seller of any of the Operative Documents. Other than those that have been obtained or filed and except for those set forth in *Schedule 3.4*, no Consent of, or registration, qualification or filing with any Governmental Authority is required for Seller to perform its obligations under any of the Operative Documents.

**3.5 Assets of the Business.** The Purchased Assets constitute all of the material assets, properties, rights, privileges, claims and contracts of every kind and nature, real or personal, tangible or intangible, absolute or contingent, wherever located, owned or used (including those necessary to access and utilize any common use facilities), necessary to operate the Facility and to sell and deliver Energy generated by the Facility in substantially the same manner as it has historically been operated. The Purchased Assets are consistent, in all material respects, with the description of the Facility as set forth in the PPA.

**3.6 Title to Purchased Assets.** Prior to the Closing, Seller has good and marketable title to the Purchased Assets, free and clear of all Liens except for Permitted Encumbrances. At the Closing, Buyer will acquire good and marketable title to the Purchased Assets free and clear of all Liens, except for Permitted Post-Closing Encumbrances.

**3.7 Environmental.**

(a) There are no pending or outstanding Agency Actions concerning the Facility or the Premises with respect to Environmental Laws applicable to Seller, the Facility or the Premises, and Seller's operation and use of the Facility and the Premises have at all times been in material compliance with all applicable Environmental Laws. There are no writs, injunctions, decrees, orders or judgments outstanding, or any notices, actions, suits, Proceedings or investigations pending or, to Seller's knowledge, threatened against Seller relating to (i) its compliance with any Environmental Laws with respect to any of the Purchased Assets or the Premises, or (ii) the Release of any Hazardous Substances at the Premises.

(b) All Permits required by Environmental Laws and necessary for the operation of the Facility as configured and as operated by Seller, have been obtained, are currently in effect, and are set forth in *Schedule 3.7(b)*; Seller's operations at the Premises and in connection with the Purchased Assets are in material compliance with all the requirements of such Permits; and, except for Preexisting Conditions, to Seller's knowledge, there is no circumstance or condition that would preclude continued operation of the Purchased Assets, including the Premises, by the Buyer under any of these Permits.

(c) There are no material Agency Actions relating to Environmental Laws and involving Seller's operation and use of the Facility. To Seller's knowledge, Seller has delivered to Buyer all material information, reports, notices or inquiries from any Governmental Authority received by Seller relating to the Environmental Conditions at, upon or beneath the Facility or the Premises regardless of whether such Environmental Conditions were caused by or arose from Seller's operation of the Facility.

(d) The Purchased Assets and Seller each are in material compliance with all applicable Environmental Laws. Except for Preexisting Conditions, to Seller's knowledge, there are no circumstances or conditions which would reasonably be expected to prevent or substantially interfere with Buyer's material compliance with Environmental Laws in connection with Buyer's operation of the Facility in the reasonably foreseeable future in a manner consistent with Seller's operation of the Facility during the term of the PPA.

(e) Except for Preexisting Conditions, Hazardous Substances have not been generated, used, treated or stored on, or transported to or from, any of the Premises, in violation of applicable Environmental Laws.

(f) Except for Preexisting Conditions, there is no asbestos contained in or forming any part of any building, building component, structure or other asset that is part of the Purchased Assets, and no asbestos is or has been stored, disposed of or otherwise been present at the Premises or on or in any of the Purchased Assets and Seller does not have any liability for asbestos in connection with the use, operation, renovation or demolition of any of the Purchased Assets.

(g) Except for Preexisting Conditions, there has been no Release or threatened Release of Hazardous Substances at, on, under or from any of the Premises or at, on, under or from any property adjoining any of the Premises.

(h) In connection with its ownership and operation of the Purchased Assets, Seller has disposed of all wastes, including those containing any Hazardous Substances, in material compliance with all applicable Environmental Laws, and Seller has not received any written or, to Seller's knowledge, other notice or claim of liability for any on- or off-site Release or threatened Release of Hazardous Substances.

(i) Except for Preexisting Conditions, there are not now, and never have been, any above-ground or underground storage tanks or PCB-containing transformers or equipment located at the Premises.

(j) To Seller's knowledge, Seller has provided Buyer with all written reports, surveys, studies, correspondence, investigations, tests and environmental sampling and analyses (whether commissioned by Seller or otherwise) relating in any way to the environmental condition of any of the Purchased Assets or Seller's compliance with applicable Environmental Laws in the operation of the Facility, the use of the Purchased Assets or otherwise.

(k) Seller has not received any written request for information nor any written notification that it is a potentially responsible party under CERCLA or any similar state Law, including any such request or notification relating directly or indirectly to any of the Purchased Assets and, to Seller's knowledge, none of the Premises is proposed to be listed or is listed on the National Priorities List under CERCLA or any similar state Law requiring environmental investigation or cleanup.

(l) In above Sections 3.7(e), (f), (g) and (i), Seller makes no representation or warranty to Buyer, and is not otherwise responsible for, any condition which would not make such representations or warranties true that was caused by (i) a third-party exercising rights to hydrocarbons or minerals on the Premises or (ii) Buyer's Other Solar Developers, and in either case due to no fault of Seller.

**3.8 No Undisclosed Liabilities.** Seller has no liabilities (absolute, accrued, contingent or otherwise), except for (i) those set forth in the Financial Statements most recently delivered to Buyer by Seller under Section 5.2, and (ii) those arising under the Assumed Contracts or in the ordinary course of Business. All Financial Statements delivered by Seller to Buyer pursuant to Section 5.2 are true and correct and have been prepared in accordance with GAAP applied on a basis consistent with prior periods; each balance sheet included in such Financial Statements fairly represents the financial condition of Seller as of its respective date; and each statement of income and retained earnings and cash flow included in such Financial Statements fairly represents the results of operations and retained earnings and cash flow of Seller for the period covered thereby; subject, with respect to any unaudited Financial Statements other than Seller's unaudited annual Financial Statements, to the absence of footnote disclosure and to normal, recurring end-of-period adjustments, the effect of which, both individually and in the aggregate, will not be material.

**3.9 Taxes.** Seller has filed or caused to be filed with the appropriate Governmental Authorities all Tax Returns and reports relating to Seller required to be filed, all such Tax Returns were correct and complete in all material respects and all Taxes of Seller due and payable have been paid whether or not shown to be due on such Tax Returns and reports. Seller has not received any written notice from any Governmental Authority of any outstanding claims or assessments with respect to any Tax relating to the Purchased Assets and no such claim is pending or is presently being asserted against the Seller or with respect to any of the Purchased Assets. Seller knows of no proposed tax assessment against the Purchased Assets that is not being actively contested by it in good faith and by appropriate proceedings. Seller

has timely paid all Taxes shown to be due on such Tax Returns, all Tax assessments received, and all Taxes that have or may become due under applicable Law with respect to all periods or portions thereof ending on or prior to the Closing Date. There are no Liens, other than Permitted Post-Closing Encumbrances, for Taxes on any of the Purchased Assets. The Purchased Assets do not include any equity interest in any corporation or other entity. Seller is not a party to any pending Tax audit, investigation, action or Proceeding with any Governmental Authority, and, to Seller's knowledge, there is no threatened audit, investigation, action or Proceeding by any Governmental Authority with respect to any of the Purchased Assets. Seller has not received written notice of any claim by any Governmental Authority in any jurisdiction where it does not file Tax Returns or pay Taxes that it is or may be subject to Tax by that jurisdiction. Seller has timely withheld and timely paid all Taxes that are required to have been withheld and paid by it in connection with amounts paid or owing to any employee, independent contractor, creditor or other Person. Seller is not a party to or bound by any Tax sharing agreement, Tax allocation agreement, or Tax indemnity agreement. Seller is not presently liable for the Taxes of another Person under applicable Law, as transferee or successor, or by contract, indemnity or otherwise. None of the Assumed Liabilities is an obligation to make a payment that will not be deductible by reason of the limitations of Code Sections 280G or 162(m).

**3.10 Compliance with Laws.** Seller is in material compliance with all Laws applicable to the Purchased Assets and operation and use of the Facility. There are no condemnations or similar proceedings applicable to any part of the Facility pending or threatened in writing.

**3.11 Litigation.**

(a) There are no Proceedings pending, or to Seller's knowledge threatened, against Seller related to the Purchased Assets that would be material.

(b) There are no existing written Orders, writs, injunctions, judgments or decrees of any court, arbitrator, tribunal or other Governmental Authority against Seller related to the Purchased Assets that would be material.

**3.12 Assumed Contracts.** All Assumed Contracts are in full force and effect, and neither Seller, nor to Seller's knowledge, any other party thereto, is in material default under or breach of any of them, nor does any event or condition exist that after notice or lapse of time or both could constitute a default thereunder or breach thereof on the part of Seller, or to Seller's knowledge, any other party thereto. No approval, consent, or waiver of or by any Person that has not already been obtained is needed in order that the Assumed Contracts continue in full force and effect following the consummation of the transactions contemplated by this Agreement, and no Assumed Contract includes any provision, the effect of which may be to terminate (or give rise to a right of termination under) such Assumed Contract, to give rise to, enlarge, or accelerate any obligations of Seller thereunder, or to give additional rights to any other Person, upon or by reason of the consummation of the transactions contemplated by this Agreement. Seller has delivered or made available to the Buyer true and complete copies of all Assumed Contracts.

### **3.13 Intellectual Property.**

(a) Seller is the licensee of, or has, such rights under the patents, patent applications, inventions, improvements, computer programs, computer applications, operating programs, other programs and software, including without limitation, system documentation and instructions, engineering, construction and other drawings (other than drawings not needed for the operation, maintenance or repair of the Facility), designs, technology, know-how, trade secrets, trademarks, trademark applications, trade names, copyrights and other proprietary rights and proprietary information (to the extent any of the foregoing are used at the Facility, collectively, the “*Intellectual Property Assets*”) necessary to operate and maintain the Facility in substantially the same manner as it has historically been operated and maintained. Seller has not received written notice that any of the Intellectual Property Assets infringes on or conflicts with the intellectual property of others. No assignment or Consent of third parties is necessary to transfer, license, assign or convey to Buyer, as appropriate, any of the Intellectual Property Assets. Seller has the right to use, and from and after the Closing Date, Buyer will have the right to use, the Intellectual Property Assets in connection with the ongoing operation and maintenance of the Facility.

(b) There have been no written claims, and, to Seller’s knowledge, there is no basis for any claim, challenging the scope, validity or enforceability of any of the Intellectual Property Assets. There are no instances where it has been held, or to Seller’s knowledge claimed or alleged, whether directly or indirectly, and, to Seller’s knowledge, there is no basis upon which a claim may be made, that any activity of Seller relating to the operation or maintenance of the Facility, infringes or may infringe upon, is in violation of, or misappropriates, any rights of a third party.

(c) *Schedule 3.13* lists the software used in connection with the operation of the Facility, including control room operating system software, all of which will remain available at the Facility for use by Buyer.

**3.14 Brokers or Finders.** Neither Seller nor any of its officers, directors, employees, shareholders or Affiliates has employed or made any agreement with any broker, finder or similar agent or any Person which will result in the obligation of Buyer or any of its Affiliates to pay any finder’s fee, brokerage fees or commission or similar payment in connection with the transactions contemplated hereby.

**3.15 Permits.** All non-environmental Permits required by Law and necessary or useful for the operation of the Facility as configured and operated by Seller have been obtained, are currently in effect and are final and non-appealable, and are set forth in *Schedule 3.15*. Seller’s operations at the Premises and in connection with the Purchased Assets are in material compliance with all the requirements of such Permits; and, to Seller’s knowledge, there is no circumstance or condition that could preclude continued operation of the Purchased Assets, including the Premises, by the Buyer under any of these Permits. Seller has made available to Buyer complete and correct copies of each material Permit, together with all amendments thereto. To Seller’s knowledge, no suspension, cancellation or termination of any such Permit is threatened or imminent.

**3.16 Investment Company Act.** Seller is not an “investment company” or a company “controlled” by an “investment company” within the meaning of the Investment Company Act.

**3.17 Regulatory Status.** The Facility is either (a) a “Qualifying Facility” within the meaning of 18 C.F.R. § 292.101, holding all of the exemptions from regulation provided for under 18 C.F.R. §§ 292.601(c), 292.602(b), and 292.602(c), or (b) an “Exempt Wholesale Generator,” as that term is defined under 18 C.F.R. § 366.1, which is also a “public utility” under the Federal Power Act, as amended, and the regulations of the Federal Energy Regulatory Commission (“FERC”) thereunder (all collectively, the “FPA”). The status of the Seller and the Facility under either subsection (a) or (b) hereof is final, non-appealable, and not subject to any pending or, to Seller’s knowledge, threatened challenge, petition or investigation by or before the FERC. The Seller requires no authorization under the FPA to execute, deliver, and perform its obligations under this Agreement, apart from such authorizations from FERC which have already been received.

**3.18 Employees and Employee Benefit Plans.** Seller does not have and has never had any employees. Seller does not now maintain or contribute to, and has not ever maintained or contributed to, any pension, profit-sharing, deferred compensation, bonus, stock, option, share, appreciation right, severance, group or individual health, dental, medical, life, insurance, survivor benefit or similar plan, policy or arrangement for the benefit of any director, officer, consultant or employee, whether active or terminated of Seller.

**3.19 General Representation.** To Seller’s knowledge, no representation or warranty made by Seller, its agents and representatives, in any of the Operative Documents or in any certificate or other agreement delivered by Seller to Buyer in connection with the transactions contemplated thereby contains any untrue statement of fact, or omits to state a fact necessary in order to make the statements contained herein not misleading.

**3.20 Disclaimer.** Except as expressly set forth in this Article III, Buyer is acquiring the Purchased Assets “as is, where is” and neither Seller nor any Affiliate of Seller has made or makes any representation or warranty of any nature as to the Purchased Assets (including any warranty of merchantability or fitness for a particular purpose or any representation or warranty as to the value, condition, nature or capability of any Purchased Asset), and Buyer by this Agreement expressly acknowledges that no such other representations or warranties have been made by Seller or any Affiliate of Seller or relied upon by Buyer. Seller is not liable or bound in any manner by any expressed or implied warranties, guaranties, promises, statements, representations or information pertaining to the Purchased Assets made or furnished by any representative of Seller or other person representing or purporting to represent Seller, unless the warranties, guaranties, promises, statements, representations or information are expressly and specifically set forth in this Article III. Further, Seller is not responsible for Preexisting Conditions.



## ARTICLE IV

### REPRESENTATIONS AND WARRANTIES OF BUYER

Buyer represents and warrants to Seller as follows (i) as of the date hereof, with respect to Sections 4.1, 4.2, Section 4.3 (the first sentence only), and (ii) as of the date hereof and the Closing Date with respect to Sections 4.1 through 4.4:

**4.1 Organization.** Buyer is a validly existing charter city under the laws of the State of California and has the legal power and authority to own its properties, to carry on its business as now being conducted and to enter into and perform its obligations under each of the Operative Documents to which Buyer is a party.

**4.2 Authority; Binding Nature.** Subject to Section 2.3, the execution, delivery and performance by Buyer of this Agreement and each of the other Operative Documents to which it is a party have been duly authorized by all necessary action, and do not and will not require any consent or approval of Buyer's regulatory/governing bodies, other than that which has been obtained; *provided, however*, that further authorizations from the Buyer's Board of Commissioners and the Los Angeles City Council (including but not limited to necessary approvals and authorizations under CEQA, as set forth in Section 2.3) will be required for Buyer to exercise the Project Purchase Option. Subject to the foregoing, this Agreement and each of the other Operative Documents to which Buyer is a party constitute the legal, valid and binding obligation of Buyer enforceable in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization or similar laws relating to or affecting the enforcement of creditors' rights generally or by general equitable principles, regardless of whether such enforceability is considered in a proceeding in equity or at law.

**4.3 Consents.** Other than those that have been obtained or filed, no Consent of, or registration, qualification or filing with any Person, excluding any Governmental Authority, is required for the execution and delivery by Buyer of any of the Operative Documents or in order for Buyer to perform its obligations thereunder. Other than those that have been obtained or filed, no Consent of, or registration, qualification or filing with any Governmental Authority, is required for the execution and delivery by Buyer of any of the Operative Documents. Subject to Section 2.3, other than those that have been obtained or filed and except for those set forth in **Schedule 4.3**, no Consent of, or registration, qualification or filing with any Governmental Authority is required for Buyer to perform its obligations under any of the Operative Documents.

**4.4 Brokers or Finders.** Neither Buyer nor any of its officers, directors, employees, shareholders or Affiliates has employed or made any agreement with any broker, finder or similar agent or any Person which will result in the obligation of Seller or any of its Affiliates to pay any finder's fee, brokerage fees, or commission or similar payment in connection with the transactions contemplated hereby.

## ARTICLE V

### COVENANTS OF SELLER PRIOR TO CLOSING DATE

**5.1 Access and Investigations.** Between the Schedule Delivery Date and the Closing Date, upon reasonable advance notice during regular business hours, Seller will (a) afford Buyer and its Representatives full and complete access to the Facility and to Seller's personnel, Contracts, Books and Records, properties and other documents and data during normal business hours, (b) furnish Buyer and Buyer's Representatives with copies of all such Contracts, Books and Records, and other existing documents and data with respect to the Facility and the Purchased Assets as Buyer may reasonably request, and (c) furnish Buyer and its Representatives with such additional financial, operating, and other data and information of or pertaining to the Business as Buyer may reasonably request provided, that Buyer's inspections and examinations shall not unreasonably disrupt the normal operations of Seller and shall be at such Buyer's sole cost and expense; and provided, further, that Buyer, shall not conduct any intrusive environmental site assessment or activities with respect to the Purchased Assets, unless such intrusive environmental site assessment or activities are commercially reasonable. Buyer will consult with Seller prior to any planned environmental site assessment that may be intrusive. Prior to the Schedule Delivery Date, Seller will furnish to Buyer all information required to be furnished pursuant to Section 3.7(c).

**5.2 Financial Statements.** On the Schedule Delivery Date, Seller will deliver to Buyer audited balance sheets and audited statements of operations and cash flow of Seller for the five (5) most recent fiscal years of Seller, prepared in accordance with GAAP. From and after the Schedule Delivery Date, as soon as available and in any event within forty-five (45) days after the Schedule Delivery Date or the end of each fiscal month of Seller, Seller will provide Buyer with unaudited statements of income, cash flow and changes in shareholder/member equity for such month and for the period from the beginning of the then current fiscal year of Seller to the end of such month, and a balance sheet of Seller as at the end of such month, setting forth in comparative form figures for the corresponding period of the preceding fiscal year, accompanied by a certificate signed by the chief financial officer of Seller stating that such financial statements present fairly the financial condition of Seller and that the same have been prepared in accordance with GAAP, subject in the case of financial statements other than Seller's annual financial statement to the absence of footnote disclosure and to normal, recurring end-of-period adjustments, the effect of which, both individually and in the aggregate, will not be material. Seller also will deliver to Buyer copies of all financial statements or other financial information delivered to any Facility Lender after the Schedule Delivery Date contemporaneously with the delivery thereof to such Facility Lender. The financial statements required to be provided by Seller to Buyer under this Section are collectively referred to as the "*Financial Statements*."

**5.3 Operation of the Businesses.** Seller will conduct its Business with respect to the Facility as required by and at all times in accordance with the terms of the PPA.

**5.4 Disposition of Assets.** From and after the Schedule Delivery Date, Seller shall not (a) sell or otherwise dispose of or encumber (other than Permitted Encumbrances) any of the Purchased Assets or any other property or assets which are primarily related to the

operation, maintenance and use of the Facility, or (b) modify, subordinate, amend, terminate, cancel, sever or surrender, or permit or suffer the modification, subordination, amendment, termination, cancellation, severance or surrender of any Assumed Contract, Transferred Permit or Warranties, without the prior written approval of Buyer, and provided such approval is reasonable, such approval not to be unreasonably withheld, conditioned or delayed. The preceding sentence shall not prohibit sales or retirement of *de minimus* assets in the ordinary course of business when replaced with property of equivalent utility.

**5.5 Required Approvals.** As promptly as practicable after Seller has received the Purchase Option Exercise Notice, Seller will make, and thereafter diligently pursue, all registrations, qualifications or filings identified in *Schedule 3.4* or necessary or appropriate to obtain any Consent therein identified.

**5.6 Notification.** Seller shall give prompt notice (each notice, a “*Breach Notice*”) to Buyer of (i) the occurrence or non-occurrence of any event, change, effect or development of any kind which would or might cause any representation or warranty of Seller contained in any Operative Document or the PPA to be untrue or incorrect in any material respect on or prior to the Closing Date, and (ii) any failure of Seller to perform or comply with any agreement, obligation, covenant or condition to be performed or complied with by it under any Operative Document or the PPA. Each Breach Notice must include a detailed description of the event, change, effect, development or failure disclosed in the Breach Notice and a description of the action Seller has taken and proposes to take with respect thereto. The delivery of a Breach Notice will not be deemed to (i) modify any representation or warranty hereunder, (ii) modify any condition set forth in Article VII, or (iii) limit or otherwise affect the remedies available hereunder to the Buyer; *provided, however*, that Buyer will have the right to proceed with the Closing despite the existence of the Breach Notice and to have the Purchase Price reduced by the amount payable pursuant to Article XI as a result of the matters disclosed in the Breach Notice, if the matters disclosed in the Breach Notice would reasonably cause the Purchase Price to be reduced.

**5.7 Reasonable Efforts.** Seller will use all commercially reasonable efforts to cause the conditions in Articles VII and VIII to be satisfied.

**5.8 Waivers of Claims.** From and after the Schedule Delivery Date, Seller shall not cancel or compromise any debt or claim, or waive or release any material right relating to the Purchased Assets and the Assumed Liabilities, other than such adjustments with respect to parties involved with this transaction without the approval by Buyer, and provided such approval is reasonable, such approval not to be unreasonably withheld, conditioned or delayed. If any Assumed Contract necessary for the operation of the Facility expires or is terminated prior to the Closing Date, Seller will use commercially reasonable efforts to replace same with a contract approved by Buyer, such approval not to be unreasonably withheld, conditioned or delayed. The preceding sentence shall not be deemed a limitation of the obligations of Seller under Section 5.4.

## ARTICLE VI

### COVENANTS OF BUYER PRIOR TO CLOSING DATE

**6.1 Required Approvals.** Subject to Section 2.3, as promptly as practicable after Buyer has given the Purchase Option Exercise Notice, Buyer will make, and thereafter pursue, all registrations, qualifications or filings identified in *Schedule 4.3* or necessary or appropriate to obtain any Consent therein identified.

**6.2 Reasonable Efforts.** Subject to Section 2.3, after Buyer has given the Purchase Option Exercise Notice, Buyer will use reasonable efforts to cause the conditions in Article VIII to be satisfied.

## ARTICLE VII

### CONDITIONS PRECEDENT TO BUYER'S OBLIGATION TO CLOSE

Buyer's obligation to purchase the Purchased Assets and to take the other actions required to be taken by Buyer at the Closing is subject to the satisfaction, at or prior to the Closing, of each of the following conditions (each a "**Buyer Closing Condition**") (any of which may be waived by Buyer in its sole discretion, in whole or in part):

**7.1 Accuracy of Representations.** All of Seller's representations and warranties in this Agreement and the other Operative Documents (considered collectively), and each of these representations and warranties (considered individually), must have been accurate in all material respects as of the date when deemed made; provided that, with respect to each Option Trigger Date, during any period between: (i) the Buyer's receipt of Seller's Disclosure Statement and (ii) the Closing or Buyer's election not to consummate the Closing pursuant to Section 2.13, Seller's obligation under this Section 7.1 will be qualified by Seller's Disclosure Statement.

**7.2 Seller's Performance.** All of the covenants and obligations that Seller is required to perform or to comply with pursuant to this Agreement or any of the other Operative Documents at or prior to the Closing (considered collectively), and each of these covenants and obligations (considered individually), must have been duly performed and complied with in all material respects.

**7.3 Consents.** Each of the Consents identified in *Schedule 3.4* and *Schedule 4.3* must have been obtained and must be in full force and effect.

**7.4 Additional Documents.** Each of the following documents must have been delivered to Buyer:

- (a) an opinion of Seller's counsel with respect to the sale of Facility Assets pursuant to this Agreement dated the Closing Date reasonably acceptable to Buyer;

(b) Seller shall have delivered to Buyer in writing, at and as of the Closing, a certificate, in form and substance satisfactory to Buyer, executed by an officer of Seller certifying that each of the conditions specified in this Article VII have been satisfied;

(c) Reserved;

(d) a Bill of Sale and/or deed, as appropriate, dated the Closing Date, in form and substance reasonably acceptable to Buyer;

(e) agreements and related documentation effective to transfer to Buyer any permits, contracts, and any other Facility Assets, dated the Closing Date, in form and substance reasonably acceptable in form and substance to Buyer;

(f) an Assignment and Assumption Agreement, dated the Closing Date, in form and substance reasonably acceptable to Buyer;

(g) a valid, binding and enforceable owner's title insurance policy in the amount of the Purchase Price written by a title insurance company acceptable to Buyer with reinsurance and endorsements as Buyer may reasonably request, insuring Buyer's title to the Premises, subject only to Liens permitted by this Agreement and providing full coverage against Liens of all materialmen and mechanics, whether filed or unfiled; and

(h) such other documents as Buyer may reasonably request for the purpose of carrying out the intent and purpose of this Agreement.

**7.5 Litigation.** No Proceeding shall have been instituted by any Governmental Authority or by any other Person and, at what would otherwise have been the Closing Date except for the existence of such Proceeding as described in this Section 7.5, remain pending to delay, restrain or prohibit any part of the transactions contemplated by this Agreement or to seek any divestiture or to revoke or suspend any Permit by reason of any or all of the transactions contemplated by this Agreement; nor shall any Governmental Authority have notified either Party or any of their respective Affiliates that consummation of any part of the transactions contemplated by this Agreement would constitute a violation of the Laws or Environmental Laws of any jurisdiction or that it has commenced a Proceeding to restrain or prohibit any part of the transactions contemplated by this Agreement or to require such divestiture, revocation or suspension; unless, in any such case, such Governmental Authority or other Person shall have withdrawn such notice and abandoned such Proceeding to the satisfaction of Buyer.

**7.6 Assets and Property.** From the date hereof to the Schedule Delivery Date, there must not have been damage to or destruction or loss of the machinery or equipment in the Facility or the Purchased Assets, whether or not covered by insurance, or any taking which could reasonably be expected to materially and adversely affect the operation and use of the Facility or the Purchased Assets as of the Closing Date.

**7.7 No Material Adverse Effect.** Since the Effective Date, no action shall have been taken or omitted which has had or would reasonably be expected to result in a Material Adverse Effect and such Material Adverse Effect be continuing.

## ARTICLE VIII

### CONDITIONS PRECEDENT TO SELLER'S OBLIGATION TO CLOSE

Seller's obligation to sell the Purchased Assets and to take the other actions required to be taken by Seller at the Closing is subject to the satisfaction, at or prior to the Closing, of each of the following conditions (any of which may be waived by Seller in its sole discretion, in whole or in part):

**8.1 Accuracy of Representations.** All of Buyer's representations and warranties in this Agreement (considered collectively), and each of these representations and warranties (considered individually), must have been accurate in all material respects as of the date of this Agreement and must be accurate in all material respects as of the date when deemed made.

**8.2 Buyer's Performance.**

(a) All of the covenants and obligations that Buyer is required to perform or to comply with pursuant to this Agreement or any of the other Operative Documents at or prior to the Closing (considered collectively), and each of these covenants and obligations (considered individually), must have been performed and complied with in all material respects.

(b) Buyer must have paid the Purchase Price to Seller.

**8.3 Consents.** Each of the Consents identified in *Schedule 3.4* and *Schedule 4.3* must have been obtained and must be in full force and effect.

**8.4 Litigation.** No Proceeding shall have been instituted by any Governmental Authority or by any other Person and, at what would otherwise have been the Closing Date except for such Proceeding described in this Section 8.4, remain pending to delay, restrain or prohibit any material part of the transactions contemplated by this Agreement.

## ARTICLE IX

### MUTUAL COVENANTS, TAXES AND OTHER MATTERS

**9.1 Tax Matters.** Seller, at its own expense, will file, to the extent required by applicable Law, all necessary Tax Returns and other documentation with respect to all transfer, use or other sales Taxes, and, if required by applicable Law, Seller will join in the execution of any such Tax Returns or other documentation and will take such positions in such returns as are reasonably requested by Buyer.

(a) With respect to Taxes to be prorated in accordance with Section 2.11 only, Buyer shall prepare and timely file all Tax Returns required to be filed with respect to the Purchased Assets, if any, and shall duly and timely pay all such Taxes, whether imposed on Buyer or Seller, shown to be due on such Tax Returns. Buyer's preparation of any such Tax Returns shall be subject to Seller's approval, which approval shall not be unreasonably withheld. Buyer shall make such Tax Returns available for Seller's review

and approval no later than fifteen (15) Business Days prior to the due date for filing such Tax Return. Within ten (10) Business Days after receipt of such Tax Return, Seller shall pay to Buyer Seller's proportionate share of the amount shown as due on such Tax Return determined in accordance with Section 2.11. Without duplication, Seller shall indemnify and hold Buyer harmless from and against any and all Taxes which may be suffered or incurred relating to the ownership, sale, operation or use of the Purchased Assets prior to the Closing Date.

(b) Each of Buyer and Seller shall provide the other with such assistance as may reasonably be requested by the other Party in connection with the preparation of any Tax Return, any audit or other examination by any taxing authority, or any judicial or administrative Proceedings relating to liability for Taxes, and each will retain and provide the requesting Party with any records or information which may be relevant to such return, audit or examination, Proceedings or determination. Each Party will take any and all commercially reasonable steps, act in good faith, and cooperate fully, to permit the other Party to comply with its/their obligations and secure its/their rights to indemnification hereunder.

(c) Seller will be entitled to any refunds or credits of Taxes relating to the Purchased Assets for the period prior to the Closing Date and Buyer shall be entitled to such refunds or credits of Taxes relating to the Purchased Assets for the period on and after the Closing Date. Each of Buyer and Seller will promptly notify and forward to the other Party the amounts of any such refunds or credits within sixty (60) days after receipt thereof.

(d) After the Closing, Buyer will notify Seller in writing, within thirty (30) days after its receipt of any correspondence, notice or other communication from a taxing authority or any representative thereof, of any pending or threatened tax audit, or any pending or threatened Proceeding that involves Taxes relating to the Purchased Assets for the period prior to the Closing, and furnish Seller with copies of all correspondence received from any taxing authority in connection with any audit or information request with respect to any such Taxes relating to the Purchased Assets for the period prior to the Closing. After the Closing, Seller will notify Buyer in writing, within thirty (30) days after its receipt of any correspondence, notice or other communication from a taxing authority or any representative thereof, of any pending or threatened tax audit, or any pending or threatened judicial or administrative Proceeding that involves Taxes relating to the Purchased Assets for the period after the Closing, and furnish Buyer with copies of all correspondence received from any taxing authority in connection with any audit or information request with respect to any such Taxes relating to the Purchased Assets for the period after the Closing.

(e) Notwithstanding any provision of this Agreement to the contrary, with respect to any claim for refund, audit, examination, notice of deficiency or assessment or any Proceeding that involves Taxes relating to the Purchased Assets (collectively, "**Tax Claim**"), each of Buyer and Seller will reasonably cooperate with the other Party in prosecuting and/or contesting any Tax Claim, including making available original books, records, documents and information for inspection, copying and, if necessary,

introduction of evidence at any such Tax Claim contest or Proceeding and making employees available on a mutually convenient basis to provide additional information or explanation of any material provided hereunder with respect to such Tax Claim or to testify at Proceedings relating to such Tax Claim. Seller will control all Proceedings taken in connection with any Tax Claim that pertains entirely to any period prior to the Closing, and Buyer will control all Proceedings taken in connection with any Tax Claim that pertains to any period commencing after the Closing, and Seller and Buyer will jointly control all Proceedings taken in connection with any Tax Claim pertaining to any period commencing prior to and ending after the Closing; *provided, however*, Buyer may request that Seller take any action reasonably necessary to remove any Liens on the Purchased Assets relating to any Tax Claim that pertains to the period prior to or including the Closing. Buyer has no right to settle or otherwise compromise any Tax Claim which pertains entirely to the period prior to the Closing; Seller has no right to settle or otherwise compromise any Tax Claim which pertains entirely to the period after the Closing and neither Buyer nor Seller has the right to settle or otherwise compromise any Tax Claim which pertains to the period both prior to and after the Closing without the other Party's prior written consent, which consent shall not be unreasonably withheld.

**9.2 Seller Cooperation Post-Closing.** Seller agrees that for three (3) years after the Closing Date it will use reasonable efforts to respond to Buyer's inquiries relating to the Facility or the Purchased Assets.

## ARTICLE X

### TERMINATION

**10.1 Termination Events.** This Agreement may, by notice given prior to or at the Closing, be terminated:

(a) by either Buyer or Seller upon (i) a failure by the other Party to perform any of its duties or obligations under this Agreement when and as due which is not cured within thirty (30) calendar days after receipt of written notice thereof from the other Party hereto, or (ii) an inaccuracy in any material respect of any representation, warranty, certification or other statement made by the other Party herein or in any other document contemplated hereby or in any statement or certificate at any time given by a Party in writing pursuant hereto or thereto or in connection herewith or therewith at the time made or deemed to be made;

(b) by either Buyer or Seller upon any termination of the PPA pursuant to Section 2.4(a) of the PPA; by Buyer upon any termination of the PPA pursuant to Sections 2.4(b) - 2.4(i) of the PPA;

(c) (i) by Buyer if satisfaction of any of the conditions in Article VII has become impossible for all potential present and future Closing dates permitted by this Agreement (other than through the failure of Buyer to comply with its obligations under this Agreement) and Buyer has not previously waived such condition; or (ii) by Seller if satisfaction of any of the conditions in Article VIII has become impossible for all



potential present and future Closing dates permitted by this Agreement (other than through the failure of Seller to comply with its obligations under this Agreement) and Seller has not previously waived such condition on or before the Closing Date;

(d) by Buyer if a default of Seller shall have occurred under the PPA or any Ancillary Document (as defined in the PPA) remains uncured after the expiration of any applicable cure period specified in such agreement or document; or the PPA or any Ancillary Document (as defined in the PPA) shall fail to be in full force and effect in accordance with its terms for any reason, or Seller or any other Person shall contest the validity or enforceability of the PPA or any Ancillary Document (as defined in the PPA) or any provision thereof in writing or deny that it has any further liability thereunder;

(e) by Buyer if Buyer is for any reason in Buyer's sole discretion dissatisfied with the purchase price as determined in accordance with *Exhibit 2.10*; or

(f) by Buyer, under Section 2.3.

## **10.2 Effect of Termination.**

In the event of termination of this Agreement:

(i) Upon a request from the other Party, each Party will redeliver all documents, work papers and other material of any other Party relating to the transactions contemplated hereby or by the other Operative Documents, whether so obtained before or after the execution hereof, to the Party furnishing the same and each Party will withdraw any applications for approval of transfer of Permits and surrender any Permits already transferred, as necessary;

(ii) The provisions of Sections 12.1 and 12.3 shall continue in full force and effect; and

(iii) No Party hereto shall have any liability or further obligation to any other Party to this Agreement, except as stated in subsections (i) and (ii) of this Section 10.2, and except for any material breach of representation, warranty or obligation arising under this Agreement or otherwise occurring prior to the proper termination of this Agreement. The foregoing provisions shall not limit or restrict the availability of specific performance or other injunctive relief to the extent that specific performance or such other relief would otherwise be available to a Party hereunder.

## **ARTICLE XI**

### **INDEMNIFICATION; REMEDIES**

**11.1 Survival of Representations, Etc.** The representations, warranties, covenants and agreements of Seller and Buyer contained herein shall survive the consummation of the

transactions contemplated hereby and the Closing Date, without regard to any investigation made by any of the Parties hereto or the fact that the damaged Party had knowledge of any misrepresentation or breach of warranty or covenant at the time of Closing or at any other time; *provided, however*, that the representations and warranties set forth in Sections 3.7, 3.8, 3.9, 3.10, 3.11, 3.14, 3.17, 3.18, 3.19 and 4.4, and all claims and causes of action, including any pursuant to Section 11.2, with respect thereto, shall terminate upon expiration of two (2) years after the Closing Date. The termination of any representation and warranty provided herein shall not affect the rights of a Party in respect of a Claim made by such Party with specificity and in a writing received by the other Party prior to the expiration of the applicable survival period provided herein. Notwithstanding anything to the contrary herein, Buyer shall not have any claim for breach of a representation or warranty for a matter disclosed in the Disclosure Statement; further, to the extent Buyer has had the Purchase Price reduced due to a matter in a Breach Notice, Buyer may not recover again to the extent of that Purchase Price reduction through a Claim against Seller for breach of a representation or warranty in Article III.

### **11.2 Indemnification.**

(a) Seller hereby agrees to indemnify, defend and hold harmless the Buyer Indemnified Parties from and against any and all Losses arising directly or indirectly, in whole or in part, out of (i) any breach or inaccuracy of any representation or warranty made by Seller in this Agreement or any of the other Operative Documents; or (ii) any Excluded Liability. All indemnity obligations of Seller under the Operative Documents are subject to the limitations of liability set forth in Section 11.2(c).

(b) Claims. Buyer shall promptly notify Seller of any action, suit, proceeding, demand or breach (a “**Claim**”) with respect to which Buyer claims indemnification; *provided, however*, that failure of Buyer to give such notice shall not relieve Seller of its obligations under this Article XI. If such Claim relates to any action, suit, proceeding or demand instituted by a third party (a “**Third Party Claim**”), upon receipt of such notice from the Buyer, Seller shall be entitled to participate in the defense of such Third Party Claim, and if and only if each of the following conditions is satisfied, Seller shall assume the defense of such Third Party Claim, and in the case of such an assumption Seller shall have the authority, with consent of Buyer, to negotiate, compromise and settle such Third Party Claim:

(i) Seller confirms in writing, without qualification of any kind, that it is obligated to indemnify the Buyer Indemnified Parties with respect to such Third Party Claim;

(ii) Seller has selected counsel to handle the defense who is acceptable to the Los Angeles City Attorney;

(iii) Buyer does not give Seller written notice that it has determined, in the exercise of its reasonable discretion, that matters of policy or a conflict of interest make separate representation by Buyer’s own counsel advisable; and

(iv) Seller establishes to the reasonable satisfaction of Buyer that Seller has (and will continue to have) adequate financial resources to satisfy and discharge such action or claim.

Buyer shall retain the right to participate in the defense of any Third Party Claim, the defense of which has been assumed by Seller pursuant hereto, but Buyer shall bear and shall be solely responsible for its own costs and expenses in connection with such participation. In the event Seller shall fail or not be entitled to assume the defense of any Third Party Claim, then Buyer shall control the defense and settlement thereof at Seller's cost and expense, and any judgment on or settlement of such Third Party Claim shall be conclusive and binding on the Seller for all purposes.

(c) Limitations of Liability. Notwithstanding any other provision of this Agreement or any of the other Operative Documents or the failure of the essential purposes of any remedies set forth in this Agreement or any of the other Operative Documents, Seller and Buyer shall only be liable for direct damages as a result of a breach or default by either such Party under this Agreement or any other Operative Documents; *provided, however,* the limitations on liability set forth in this Section 11.2(c) and in Section 12.11 shall not limit (i) Seller's obligation to indemnify, defend and hold harmless Buyer for any Losses occasioned by Third Party Claims, or (ii) Buyer's rights and remedies under Section 12.19.

(d) No Release of Insurers. The provisions of this Section 11.2 shall not be construed so as to relieve any insurer of its obligation to pay any insurance proceeds in accordance with the terms and conditions of valid and collectible insurance policies.

(e) Representatives. No individual Representative of either Party shall be personally liable for any Losses under the provisions contained in this Section 11.2. Except as set forth in Section 11.2(d), nothing herein shall relieve either Party of any liability to make any payment expressly required to be made by such Party pursuant to this Agreement.

(f) Survival of Indemnities. Except as set forth in Section 11.1, the provisions of this Section 11.2 shall survive the consummation of the transactions contemplated hereby and the Closing Date.

## ARTICLE XII

### GENERAL PROVISIONS

**12.1 Expenses.** Except as otherwise expressly provided in this Agreement, each Party to this Agreement will bear its respective expenses incurred in connection with the preparation, execution, and performance of this Agreement and the transactions contemplated by this Agreement, including all fees and expenses of agents, representatives, counsel, and accountants. Both Parties hereto agree that in any action to enforce the terms of this Agreement that each Party shall be responsible for its own attorney fees and costs. Each of the Parties to

this Agreement was represented by its respective legal counsel during the negotiation and execution of this Agreement.

**12.2 Ambiguity.** The Parties acknowledge that this Agreement was jointly prepared by them, by and through their respective legal counsel, and any uncertainty or ambiguity existing herein shall not be interpreted against either Party on the basis that the Party drafted the language, but otherwise shall be interpreted according to the application of the rules on interpretation of contracts.

**12.3 Voluntary Execution.** Both Parties hereto acknowledge that they have read and fully understand the content and effect of this Agreement and that the provisions of this Agreement have been reviewed and approved by their respective counsel. The Parties to this Agreement further acknowledge that they have executed this Agreement voluntarily, subject only to the advice of their own counsel, and do not rely on any promise, inducement, representation or warranty that is not expressly stated herein.

**12.4 Notices.** All notices, requests, demands and other communications which are required or may be given under this Agreement shall be in writing and shall be deemed to have been duly given when given in the manner set forth in Section 14.2 of the PPA.

**12.5 Entire Agreement.** This Agreement (including all Schedules and Exhibits) contains the entire understanding concerning the subject matter herein and supersedes and replaces any prior negotiations, discussions or agreements between the Parties, or any of them, concerning that subject matter, whether written or oral, except as expressly provided for herein. This is a fully integrated document. Each Party acknowledges that no other party, representative or agent, has made any promise, representation or warranty, express or implied, that is not expressly contained in this Agreement or the other documents of even date herewith between the Parties that induced the other Party to sign this document. This Agreement may be amended or modified only by an instrument in writing signed by each Party.

**12.6 Further Assurances.** The Parties agree (a) to furnish upon request to each other such further information, (b) to execute and deliver to each other such other documents, and (c) to do such other acts and things, all as the other Party may reasonably request for the purpose of carrying out the intent of this Agreement and the other Operative Documents.

**12.7 Waiver.** The failure of either Party to this Agreement to enforce or insist upon compliance with or strict performance of any of the terms or conditions hereof, or to take advantage of any of its rights hereunder, shall not constitute a waiver or relinquishment of any such terms, conditions or rights, but the same shall be and remain at all times in full force and effect.

**12.8 Assignment; Change in Control.** The provisions of Section 14.7 of the PPA (“Assignment of Agreement; Change in Control”) are incorporated herein in their entirety, *mutatis mutandis*.

**12.9 Severability.** In the event any of the terms, covenants or conditions of this Agreement, or the application of any such terms, covenants or conditions, shall be held invalid, illegal or unenforceable by any court having jurisdiction, all other terms, covenants and

conditions of this Agreement and their application not adversely affected thereby shall remain in force and effect; *provided, however*, that the remaining valid and enforceable provisions materially retain the essence of the Parties' original bargain.

**12.10 Article and Section Headings, Construction.** The headings of Sections in this Agreement are provided for convenience only and will not affect its construction or interpretation. All references to "Article", "Articles", "Section" or "Sections" refer to the corresponding Article, Articles, Section or Sections of this Agreement. All words used in this Agreement will be construed to be of such gender or number as the circumstances require. Unless otherwise expressly provided, the word "including" does not limit the preceding words or terms. A reference to any Person includes its permitted successors and permitted assigns. The words "herein," "hereof," "hereunder" and words of like import shall refer to this Agreement as a whole and not to any particular section or subdivision of this Agreement. Each reference to an Article or Section of, or Exhibit or Schedule to, this Agreement shall be deemed to be followed by the word "hereof."

**12.11 Consequential Damages.** Except as otherwise expressly set forth in Section 11.2, neither Party shall be liable to the other Party for any consequential, special, punitive, exemplary, incidental, or indirect damages, or lost profit damages for any claim or cause of action arising out of or related to this Agreement or the transactions contemplated herein.

**12.12 Time of Essence.** With regard to all dates and time periods set forth or referred to in this Agreement, time is of the essence.

**12.13 Governing Law.** This Agreement shall be interpreted, governed by, and construed under the laws of the State of California without consideration of conflicts of law principles. The venue for any litigation relating to this Agreement shall be in Los Angeles, California and each Party hereby waives any objections on the basis of forum non-conveniens or otherwise with respect to the venue of any such action being heard in Los Angeles, California.

**12.14 Counterparts.** This Agreement may be executed in counterparts and upon execution by each signatory, each executed counterpart shall have the same force and effect as an original instrument and as if all signatories had signed the same instrument. Any signature page of this Agreement may be detached from any counterpart of this Agreement without impairing the legal effect of any signature thereon, and may be attached to another counterpart of this Agreement identical in form hereto by having attached to it one or more signature pages.

**12.15 Reserved.**

**12.16 Relationship of the Parties.** This Agreement shall not be interpreted to create an association, joint venture or partnership between the Parties hereto or to impose any partnership obligation or liability upon either such Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as an agent or representative of, the other Party.

**12.17 Third Party Beneficiaries.** This Agreement shall not be construed to create rights in, or to grant remedies to, any third party as a beneficiary of this Agreement or any duty, obligation or undertaking established herein.

**12.18 Provisions of PPA.** The provisions of Sections 14.21, 14.22 and 14.23 of the PPA are incorporated herein in their entirety, *mutatis mutandis*.

**12.19 Equitable Remedies.** The Parties acknowledge that money damages may not be an adequate remedy for violations of this Agreement by Seller and that Buyer may, in its sole discretion, seek and obtain from a court of competent jurisdiction specific performance or injunctive or such other equitable relief as such court may deem just and proper to enforce this Agreement or to prevent any violation hereof. Seller hereby waives any objection to specific performance or injunctive or other equitable relief.

IN WITNESS WHEREOF, the parties have executed and delivered this Agreement.

CITY OF LOS ANGELES acting by and through  
the DEPARTMENT OF WATER AND POWER

By BOARD OF WATER AND POWER  
COMMISSIONERS OF THE CITY OF  
LOS ANGELES

By: \_\_\_\_\_  
Marcie L. Edwards  
GENERAL MANAGER

And: \_\_\_\_\_  
SECRETARY

Date: \_\_\_\_\_

APPROVED AS TO FORM AND LEGALITY  
MICHAEL N. FEUER, CITY ATTORNEY

MAY 30 2014

BY \_\_\_\_\_  
JÉAN-CLAUDE BERTET  
DEPUTY CITY ATTORNEY

HECATE ENERGY BEACON #1 LLC

By: CS BY

Its: CEO

Date: MAY 1, 2014

## **EXHIBIT 1.1 DEFINITIONS**

“*Affiliate*” means, as to any Person, any other Person that, directly or indirectly, is in control of, is controlled by or is under common control with such Person or is a director or officer of such Person or of an Affiliate of such Person. As used in this Agreement, “control” shall mean the possession, directly or indirectly, of the power to direct or cause the direction of management, policies or activities of a Person, whether through ownership of voting securities, by contract or otherwise.

“*Agency Action*” means any notice of violation, complaint, order, consent order, consent agreement, assessment of a fine or penalty or other similar demand for action brought by a Governmental Authority having the requisite authority and jurisdiction to bring such action.

“*Agreement*” means this Option Agreement, as it may be amended, supplemented or otherwise modified from time to time hereafter in accordance with its terms.

“*Assignment and Assumption Agreement*” means the document, dated the Closing Date, in form and substance reasonably acceptable to Buyer.

“*Assumed Contracts*” means (i) the Contracts listed in *Schedule 3.3(b)* all of which are solely for the provision of goods or services to Seller in connection with the Facility and either (A) (i) are on commercially reasonable terms, (ii) are with Persons who are not Affiliates of Seller, and (iii) have a remaining term as of the Closing Date of not more than one year, or (B) are terminable on not more than thirty (30) days notice, and (ii) the Lease.

“*Assumed Liabilities*” shall have the meaning set forth in Section 2.8.

“*Bill of Sale*” means a bill of sale and/or deed, as appropriate, dated the Closing Date, in form and substance reasonably acceptable to Buyer.

“*Books and Records*” means, to the extent relating to periods of time prior to the Closing, (a) all books, records, purchasing records, lists, files and papers in the possession of Seller or its agents pertaining to the Purchased Assets and the Facility, and all records and lists concerning suppliers to and personnel of the Facility, (b) all ledgers, and reports, plans, drawings, maps, photographs, technical manuals and operating records of every kind maintained by Seller with respect to the Facility, whether in hard copy or computer format, and (c) all software used by Seller primarily in connection with the operation of the Facility, to the extent transferable.

“*Breach Notice*” shall have the meaning set forth in Section 5.6.

“*Business*” means the business of owning and operating the Facility.

“*Business Day*” means any calendar day that is not a Saturday, a Sunday, or a day on which commercial banks are authorized or required to be closed in Los Angeles, California or New York, New York.



“**Buyer**” shall have the meaning set forth in the first paragraph of this Agreement.

“**Buyer Indemnified Parties**” means Buyer, its Affiliates, and its and their respective commissioners, officers, directors, agents, attorneys, consultants and employees.

“**Buyer’s Other Solar Developers**” means one or more solar developers (and their subcontractors), not including Seller, developing solar generating facilities near the Facility pursuant to one or more agreements with Buyer.

“**CEQA**” means the California Environmental Quality Act, as amended from time to time, and any successor statute.

“**CERCLA**” means the federal Comprehensive Environmental Response, Compensation and Liability Act.

“**Claim**” shall have the meaning set forth in Section 11.2(b).

“**Closing**” shall have the meaning set forth in Section 2.6.

“**Closing Date**” means the date and time as of which the Closing actually takes place.

“**Code**” means the Internal Revenue Code of 1986.

“**Commercial Operation Date**” shall have the meaning ascribed to it in the PPA.

“**Consent**” means any approval, consent, ratification, waiver, license, permit, certification, registration or other authorization (including any Governmental Approval).

“**Contract**” means any agreement, arrangement, lease, commitment, sales order, purchase order, indenture, mortgage, right, warrant or instrument, which is intended to or purports to be binding and enforceable.

“**Delivery Term**” shall have the meaning ascribed to it in the PPA.

“**Energy**” means electrical energy.

“**Environment**” includes (a) the navigable waters, the contiguous zone, and the ocean waters of which the natural resources are under the exclusive management authority of the United States under the Magnuson-Stevens Fishery Conservation and Management Act and (b) any other surface water, ground water, drinking water supply, land surface or subsurface strata, or ambient air within the United States or a foreign nation or under jurisdiction of the United States or a foreign nation.

“**Environmental Conditions**” means the presence of Hazardous Substances which have been released into the Environment or the presence of Hazardous Substances which pose a threat of release of Hazardous Substances into the Environment.

“**Environmental Law**” means any current or future treaty, constitution, law, statute, ordinance, rule, order, decree, regulation or other directive which is legally binding and has been

enacted, issued or promulgated by any Governmental Authority that imposes liability for or standards of conduct or compliance or other requirements or obligations concerning protection of health, or safety (in each case, to the extent relating to exposure to Hazardous Substances), natural resources or the environment and includes all Hazardous Substances Law.

“**Excluded Assets**” means, notwithstanding any other provision of this Agreement, any assets of Seller which are not identified in Schedules 3.3(a)-(h), including the following:

(a) cash, certificates of deposit and other bank deposits, treasury bills and other cash equivalents or other investments, on hand or in bank accounts, and all of Seller’s bank accounts, intercompany accounts and accounts receivable;

(b) any computers not used primarily in connection with the Facility, and any communication or data network systems not used primarily in connection with the Facility, and any other equipment not reasonably required to operate the Facility;

(c) life insurance policies of officers and other employees of Seller and other insurance policies relating to the Facility, including any and all rights to make claims or receive any proceeds thereunder;

(d) all refunds or credits, if any, of Taxes due to or from Seller and (i) accrued prior to the Closing or (ii) which otherwise cannot be assigned by Law; and

(e) all corporate records of Seller, all financial and tax records of Seller which do not relate in whole or in part to the Facility and which do not constitute Books and Records.

“**Excluded Liability**” shall have the meaning set forth in Section 2.9.

“**Facility**” shall have the meaning ascribed to it in the PPA.

“**Facility Assets**” shall have the same meaning as Purchased Assets, defined below in this Exhibit 1.1.

“**Facility Lender**” means any lender providing senior or subordinated construction, interim or long-term debt or equity financing or refinancing for or in connection with the development, construction, purchase, installation or operation of the Facility, including any equity and tax investor providing financing or refinancing for the Facility or purchasing equity ownership interests of Seller and/or its Affiliates, and any trustee or agent acting on their behalf, and any Person providing interest rate protection agreements to hedge any of the foregoing debt obligations.

“**FERC**” shall have the meaning ascribed to it in Section 3.17.

“**Financial Statements**” shall have the meaning specified in Section 5.2.

“**Fixtures and Equipment**” means the fixtures, equipment (including turbines, control rooms and other auxiliaries, furniture, office equipment, communications equipment, fixtures,

furnishings, machinery, vehicles, equipment, computers, air conditioning ventilation and heating equipment and control stations) and other tangible personal property owned or used by Seller in connection with the operation of the Facility and listed on *Schedule 3.3(c)* to this Agreement.

“*FPA*” shall have the meaning ascribed to it in Section 3.17.

“*GAAP*” means generally accepted accounting principles that are consistent with the principles promulgated or adopted by the Financial Accounting Standards Board and its predecessors in effect for the applicable period of Seller.

“*Governmental Approval*” means any Consent issued, granted, given, or otherwise made available by or under the authority of any Governmental Authority or pursuant to any Law or Environmental Law.

“*Governmental Authority*” means any Federal, state, local, foreign or other governmental, regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority.

“*Hazardous Substances*” means any substance, material or waste that is regulated by or forms the basis of liability now or hereafter under, any Hazardous Substances Law, including any material, substance or waste that is (a) defined as a “solid waste,” “hazardous waste,” “hazardous material,” “hazardous substance,” “extremely hazardous waste,” “restricted hazardous waste,” “pollutant,” “contaminant,” “hazardous constituent,” “special waste,” “toxic substance” or other similar term or phrase under any Environmental Law, (b) petroleum or any fraction or by-product thereof, asbestos, polychlorinated biphenyls (PCB’s), or any radioactive substance.

“*Hazardous Substances Law*” means any current or future treaty, constitution, law, statute, ordinance, rule, order, decree, regulation or other directive which is legally binding and has been enacted, issued or promulgated by any Governmental Authority that imposes liability for or standards of conduct or compliance concerning the generation, distribution, use, treatment, storage, disposal, cleanup, transport or handling of Hazardous Substances, including, the Federal Water Pollution Control Act, the Resource Conservation and Recovery Act of 1976, CERCLA, the Toxic Substances Control Act, the Oil Pollution Act, the Safe Drinking Water Act, and includes the Occupational Safety and Health Act of 1970, to the extent that it relates to the handling of and exposure to hazardous or toxic materials or similar substances.

“*Income Tax*” means any Federal, State, local or foreign Tax (a) based upon, measured by or calculated with respect to net income, profits or receipts (including, without limitation, capital gains Taxes and minimum Taxes but excluding sales, use, rental, license, transfer, ad valorem and property Taxes) or (b) based upon, measured by or calculated with respect to multiple bases (including, without limitation, corporate franchise taxes) if one or more of the bases on which such Tax may be based upon, measured by or calculated with respect to, is described in clause (a), in each case together with any interest, penalties, or additions to such Tax.

“*Intellectual Property Assets*” shall have the meaning set forth in Section 3.13.

**“Investment Company Act”** means the Investment Company Act of 1940.

**“Law”** means any Order, constitution, law, ordinance, consent decree, regulation, license, permit, statute, or treaty of any Governmental Authority in effect and as construed as of the date on which an representation is made or deemed made or other relevant date, but excluding all Environmental Laws.

**“Lease”** means that certain ground lease between Seller and Buyer, which is attached as an exhibit to the PPA.

**“Lien”** means any mortgage, deed of trust, lien, security interest, retention of title or lease for security purposes, pledge, charge, encumbrance, equity, attachment, claim, easement, right of way, covenant, condition or restriction, leasehold interest, purchase right or other right of any kind, including an option, of any other Person in or with respect to any real or personal property.

**“Losses”** means any and all costs, expenses (including reasonable attorneys’ fees other than attorney’s fees incurred in connection with the enforcement of the covenants contained in this Agreement or any of the Operative Documents), claims, demands, losses, liabilities, obligations, deficiencies, actions, lawsuits and other Proceedings, judgments and awards.

**“Material Adverse Effect”** means a material adverse effect on (i) Seller, (ii) the Facility, (iii) the business, condition (financial or otherwise), results of operations of the Business, or (iv) the Purchased Assets except for any such change or event resulting from or arising out of (a) changes in economic conditions generally or in the industries in which the Company operates, whether international, national, regional or local, (b) changes in international, national, regional, state or local wholesale or retail markets (including market description or pricing) for energy, electricity, fuel supply or ancillary services, (c) changes in general regulatory or political conditions, (d) any changes in the costs of commodities, services, equipment, materials or supplies, including fuel and other consumables, or changes in the price of energy, capacity or ancillary services, and (e) effects of weather or meteorological events.

**“Material Casualty Event”** means any physical damage or destruction to all or a portion of the Facility that would materially and adversely affect Buyer’s ownership of, and operation of, the Facility Assets as of and following the Closing.

**“Operative Documents”** means this Agreement and each of the agreements between the Parties to be delivered pursuant to Section 7.4 hereof.

**“Order”** means any award, decision, injunction, judgment, order, ruling, subpoena, or verdict entered, issued, made, or rendered by any court, administrative agency, or other Governmental Authority or by any arbitrator.

**“Organizational Documents”** means (a) the articles or certificate of incorporation and the bylaws of a corporation; (b) any charter or similar document adopted or filed in connection with the creation, formation, or organization of a Person; (c) the certificate of organization and the operating agreement of a limited liability company; and (d) any amendment to any of the foregoing.

“**Permit**” means any permit, license, Governmental Authority, franchise, concession, consent, authorization, approval, registration, filing or similar act of or made with any Governmental Authority that are used by or necessary to operate the Facility.

“**Permitted Encumbrances**” means (i) any other Lien approved by Buyer in a writing separate from this Agreement which expressly identifies the Lien as a Permitted Encumbrance, (ii) Liens for Taxes not yet due or for Taxes being contested in good faith by appropriate proceedings, so long as such proceedings do not involve a risk of the sale, forfeiture, loss or restriction on the use of the Facility or any part thereof, *provided* that such proceedings end by the Closing Date, and (iii) suppliers’, vendors’, mechanics’, workman’s, repairman’s, employees’ or other like Liens arising in the ordinary course of business for work or service performed or materials furnished in connection with the Facility for amounts the payment of which is either not yet delinquent or is being contested in good faith by appropriate proceedings so long as such proceedings do not involve a risk of the sale, forfeiture, loss or restriction on use of the Facility or any part thereof, *provided* that such proceedings end by Closing Date, and *provided further* that in each case of Liens being contested under subsections (ii) and (iii), the Seller has provided additional security as required by the PPA.

“**Permitted Post-Closing Encumbrances**” means easements, rights of way, use rights, exceptions, encroachments, reservations, restrictions, conditions or limitations existing before the Effective Date of the PPA, and any other Lien approved by Buyer in a writing separate from this Agreement which expressly identifies the Lien as a Permitted Post-Closing Encumbrance.

“**Person**” means any individual, corporation (including any non-profit corporation), general or limited partnership, limited liability company, joint venture, estate, trust, association, organization, labor union, or other entity or Governmental Authority.

“**PPA**” shall have the meaning set forth in the Recitals.

“**Premises**” means the fee (if any), leasehold, easement and other real property interests listed on *Schedule 3.3(a)* to this Agreement.

“**Preexisting Conditions**” shall have the meaning given such term in the Lease.

“**Proceeding**” means any action, order, writ, judgment or decree outstanding, arbitration, audit, hearing, investigation, claim, litigation, or suit (whether civil, criminal, regulatory, administrative, investigative, or informal) commenced, brought, conducted, or heard by or before, or otherwise involving, any Person.

“**Project Purchase Option**” shall have the meaning specified in Section 2.1.

“**Provided Materials**” shall have the meaning set forth in Section 3.19.

“**Purchase Price**” shall have the meaning set forth in Section 2.10.

“**Purchased Assets**” means the following:

1. all Assumed Contracts;

2. all Fixtures and Equipment;
3. the Premises;
4. all Books and Records;
5. all Transferred Permits;
6. all Intellectual Property Assets;
7. all Supplies;
8. all Transmission Assets; and
9. all Warranties.
10. all other assets, properties, rights, privileges, claims and Contracts of every kind and nature, real or personal, tangible or intangible, absolute or contingent, wherever located, owned or used (including those necessary to access or to utilize any common use facilities), comprising the Facility.

“**Purchase Option Exercise Deadline**” means a period of nine (9) months after the Schedule Delivery Date for the applicable Option Trigger Date.

“**Purchase Option Exercise Notice**” shall have the meaning specified in Section 2.4.

“**Purchase Option Tentative Exercise Notice**” shall have the meaning specified in Section 2.4.

“**Qualified Appraiser**” means a California Licensed Certified Real Estate Appraiser which shall (a) be qualified to appraise independent electric generating businesses, (b) have been engaged in the appraisal or business valuation and consulting business for a period of not less than five (5) years.

“**Release**” means any release, spill, emission, leaking, pumping, injection, deposit, disposal, discharge, dispersal, dumping, leaching or migration of Hazardous Substances in the indoor or outdoor environment, including the movement of Hazardous Substances through or in the air, soil, surface water, ground water or property.

“**Representative**” means, with respect to a particular Person, any director, officer, employee, agent, consultant, advisor, or other representative of such Person, including legal counsel, accountants, and financial advisors.

“**Requirement of Law**” means Federal, state, local and foreign laws, statutes, regulations, rules, codes or ordinances enacted, adopted, issued or promulgated by any federal, state, local or other Governmental Authority (including those pertaining to electrical, building, zoning, environmental and occupational safety and health requirements).

“**Seller**” shall have the meaning set forth in the first paragraph of this Agreement.

“**Supplies**” means the supplies, inventories and spare parts used or held for use by Seller in connection with the operation of the Facility, and described in **Schedule 3.3(g)**, all of which are new and in amounts customarily held by Seller.

“**Tax Claim**” shall have the meaning set forth in Section 9.1(e).

“**Tax Return**” means any return, report, information return or other document (including any related or supporting information) required to be supplied to any authority with respect to Taxes.

“**Taxes**” means all taxes, charges, fees, levies, penalties or other assessments imposed by any United States Federal, state or local taxing authority, or a foreign taxing authority, including, but not limited to, income, excise, property, sales, use, transfer, franchise, payroll, withholding, social security or other taxes, including any interest, penalties or additions attributable thereto.

“**Third Party Claim**” shall have the meaning set forth in Section 11.2(b).

“**Transferred Permits**” means the Permits listed on **Schedule 3.3(e)** hereto.

“**Transmission Assets**” means the fixtures, equipment (including transformers and switchgear) and other tangible property owned or used by Seller in connection with the transmission of Energy from the Facility and listed in **Schedule 3.3(h)**.

“**Warranties**” means all rights of Seller under or pursuant to all warranties, representations and guarantees made by manufacturers and suppliers in connection with the Purchased Assets or services furnished to Seller pertaining to the Facility or affecting the Purchased Assets, as more particularly described on **Schedule 3.3(i)**.

## **RULES OF INTERPRETATION**

In this Agreement, unless a clear contrary intention appears:

1. The singular includes the plural and the plural includes the singular.
2. Unless the context clearly requires otherwise, “or” is not exclusive.
3. A reference to any Law, rule, regulation, statute, ordinance, Order, code or similar form of decision of any Governmental Authority having the effect and force of Law includes any amendment or modification or successor thereto, and all regulations rulings promulgated under such Governmental Rule.
4. Accounting terms have the meanings assigned to them by generally accepted accounting principles, as consistently applied by the accounting entity to which they refer.
5. References to any document, instrument or agreement (a) shall include all exhibits, schedules and other attachments thereto, (b) shall include all documents, instruments or agreements issued or executed in replacement thereof, and (c) shall mean such document, instrument or agreement, or replacement or predecessor thereto, as amended, modified and supplemented from time to time and in effect at any given time.
6. References to “days” shall mean calendar days, unless otherwise indicated. References to a time of day shall mean such time in Los Angeles, California unless otherwise indicated.



**EXHIBIT 2.10**  
**PURCHASE PRICE**

1. The “*Tentative Purchase Price*” shall be an amount equal to the Fair Market Value, as determined in accordance with this *Exhibit 2.10*. For purposes of this Agreement, “Fair Market Value” means the amount that a willing buyer would pay a willing seller, neither being under a particular compulsion to buy or to sell, each fully aware of all relevant facts about the property, and all other conditions as in effect on the relevant valuation date that may reasonably be considered in determining the fair market value of the property.
2. Within fifteen (15) days following the Schedule Delivery Date, the Parties shall meet and attempt to agree on the Tentative Purchase Price taking into account the Seller Disclosure Schedules and Breach Notice under Section 5.6, if any, delivered by Seller. If the Parties are unable to agree on the Tentative Purchase Price within thirty (30) days after the Schedule Delivery Date, the Parties shall, within fourteen (14) additional days, jointly select a Qualified Appraiser. If the Parties cannot agree on a Qualified Appraiser within such fourteen (14) day period, then each of Seller and Buyer shall select an independent recognized appraiser, which independent appraisers shall, within fourteen (14) days of being selected by each of Buyer and Seller, agree upon and appoint a third Qualified Appraiser to perform the appraisal. If the two selected appraisers cannot agree on a third Qualified Appraiser within such fourteen (14) day period, then either Party may apply to the American Arbitration Association to make such an appointment. The appraisal shall determine the Fair Market Value including taking into account the Seller Disclosure Schedules and Breach Notice under Section 5.6, if any, delivered by Seller, shall be completed, final and binding (absent fraud or manifest error) within thirty (30) days of the appointment of the last Qualified Appraiser.
3. The Tentative Purchase Price shall be adjusted from time to time by the amount (as determined by the Parties in good faith, or absent their mutual agreement, by Qualified Appraisers using the same methodology set forth in paragraph 2 above) necessary to compensate Buyer for (i) any differences between the Seller Disclosure Schedules originally delivered to Buyer on the Schedule Delivery Date and any updated Seller Disclosure Schedules delivered to Buyer from time to time prior to Closing, (ii) any item or omission in a Seller Disclosure Schedule that is not resolved to the reasonable satisfaction of Buyer, (iii) any differences in Facility Assets, Excluded Assets, Assumed Liabilities or Excluded Liabilities from the Schedule Delivery Date to the Closing, (iv) the inability of Seller to satisfy any of the Buyer Closing Conditions set forth in Article VII or (v) a Material Casualty Event or any real or threatened condemnation or eminent domain proceeding.
4. The “*Final Purchase Price*” to be paid by Buyer at the Closing shall be an amount equal to the greater of (a) the Tentative Purchase Price, or (b) the Minimum Purchase Price (as defined below); provided that in the event that (i) the Tentative Purchase Price is at any time greater than the Maximum Purchase Price (as defined below), then Buyer, upon written notice to Seller, may, without liability, terminate the Project Purchase Option with respect to the relevant Purchase Option Opportunity, and

such Purchase Option Opportunity shall expire and shall no longer be effective (but such expiration shall not affect Buyer’s right to exercise any Project Purchase Option with respect to any future Purchase Option Opportunity).

5. The “*Minimum Purchase Price*” and the “*Maximum Purchase Price*” shall be as follows, corresponding to the applicable Purchase Option Opportunity for which Buyer has exercised its Project Purchase Option:

<b>Purchase Opportunity:</b>	<b>Minimum Purchase Price</b>	<b>Maximum Purchase Price</b>
7 <sup>th</sup> Contract Year (Sec. 2.2(i))	\$56,002,050	\$66,902,460
10 <sup>th</sup> Contract Year (Sec. 2.2(i))	\$51,457,734	\$56,453,507
15 <sup>th</sup> Contract Year (Sec. 2.2(i))	\$48,885,309	\$53,773,840
End of Delivery Term (Sec. 2.2(ii))	\$28,585,313	\$29,939,578
Within 6 months of delivery of a termination notice by Buyer (Sec. 2.2(iii))	The aggregate amount of outstanding Facility Debt immediately prior to Closing, if any (not exceeding the Facility Debt Limitation as defined in the PPA). Otherwise, none.	Not applicable.

**SCHEDULE 3.3(a)-(i)**  
**PURCHASED ASSETS**

[All Purchased Assets, including the Premises, Assumed Contracts, Fixtures and Equipment, Books and Records, Transferred Permits, Intellectual Property Assets, Supplies, Transmission Assets, and Warranties shall be specified and briefly described in this series of Schedules 3.3(a)-3.3(i)]

**SCHEDULE 3.4**  
**SELLER'S CONSENTS**

All Consents of Seller which are necessary or incidental to the Facility shall be specified and briefly described in this Schedule by Seller prior to Closing.

**SCHEDULE 3.7(b)**  
**ENVIRONMENTAL PERMITS**

Any Environmental Permits which are necessary or incidental to the Facility shall be specified and briefly described in this Schedule by Seller prior to Closing.

**SCHEDULE 3.13**  
**SOFTWARE**

All Software necessary or incidental to the Facility or the operation thereof shall be specified and fully described in this Schedule by Seller prior to Closing.

**SCHEDULE 3.15**  
**NON-ENVIRONMENTAL PERMITS**

All non-environmental permits necessary or incidental to the facility shall be specified and briefly described in this Schedule by Seller prior to Closing.

**SCHEDULE 4.3**  
**BUYER'S CONSENTS**

All Consents of Buyer which are necessary or incidental to the Closing shall be specified and briefly described in this Schedule by Seller prior to Closing.



**APPENDIX K**  
**NON-CONSOLIDATION OPINION**

[NON-CONSOLIDATION OPINION TO BE ATTACHED PRIOR TO EFFECTIVE DATE]

**APPENDIX L**  
**LEASE**

**GROUND LEASE**

Between

THE CITY OF LOS ANGELES ACTING BY AND THROUGH  
THE DEPARTMENT OF WATER AND POWER

And

HECATE ENERGY BEACON #1 LLC

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## **GROUND LEASE**

This Lease made as of the date of the Power Purchase Agreement (for identification purposes and for convenience), by and between the City of Los Angeles, a municipal corporation of the State of California, acting by and through the Department of Water and Power (“*Landlord*”) and Hecate Energy Beacon #1 LLC (“*Tenant*”), a limited liability company organized and existing under the laws of the State of Delaware. Each of Landlord and Tenant is referred to individually in this Lease as a “*Party*” and together they are referred to as the “*Parties*”.

The Parties to this Lease hereby agree with each other as follows:

### **ARTICLE 1 DEFINITIONS; INTERPRETATION**

**Section 1.1 Definitions.** The following terms whenever initially capitalized and used herein shall have the following meanings:

“*Additional Rent*” shall have the meaning set forth in Section 4.3.

“*Affiliate*” means, as to any Person, any other Person that, directly or indirectly, is in control of, is controlled by or is under common control with such Person or is a director or officer of such Person or of an Affiliate of such Person. As used in this Lease, “control” shall mean the possession, directly or indirectly, of the power to direct or cause the direction of management, policies or activities of a Person, whether through ownership of voting securities, by contract or otherwise.

“*Alteration*” shall have the meaning set forth in Section 8.4.

“*Authorized Auditors*” means representatives of Landlord who are authorized to conduct audits on behalf of Landlord.

“*Award*” shall mean all compensation, sums or anything of value awarded, paid or received in a total or a partial Condemnation.

“*Base Rent*” shall mean the amount of rent set forth in Section 4.1.1.

“*Bankruptcy*” means any case, action or proceeding under any bankruptcy, reorganization, debt arrangement, insolvency or receivership law or any dissolution or liquidation proceeding commenced by or against a Person and, if such case, action or proceeding is not commenced by such Person, such case or proceeding shall be consented to or acquiesced in by such Person or shall result in an order for relief or shall remain undismitted for ninety (90) days.

“*Brown Act*” shall have the meaning set forth in Section 18.14(c).

**“Business Day”** means any calendar day that is not a Saturday, a Sunday, or a day on which commercial banks are authorized or required to be closed in Los Angeles, California or New York, New York.

**“Buyer’s Other Solar Developers”** means one or more solar developers (and their subcontractors), not including Tenant, developing solar generating facilities near the Facility pursuant to one or more agreements with Landlord.

**“CAMD”** means the Clean Air Markets Division of the United States Environmental Protection Agency, any successor agency and any other state, regional or federal or intergovernmental entity or Person that is given authorization or jurisdiction or both over a program involving the registration, validation, certification or transferability or any of the foregoing of Environmental Attributes.

**“Capacity”** shall have the meaning set forth in the Power Purchase Agreement.

**“Commencement Date”** shall be the date on which Tenant gives notice to Landlord that it has all Permits required to commence construction of the Facility or a discrete portion of the work that Tenant will conduct on the Premises and expects to start construction of the Facility imminently.

**“Commercial Operation Date”** shall mean the date on which commercial operation of the Facility shall have occurred under the Power Purchase Agreement.

**“Condemnation”** shall mean (i) the taking or condemnation by a Condemnor of the title to or the possession or use of all or part of the Premises by virtue of eminent domain or for any public or quasi-public use and (ii) a voluntary sale or transfer by Landlord to any Condemnor, either under threat of condemnation or while legal proceedings for condemnation are pending.

**“Condemnor”** shall mean any public or quasi-public authority, or private corporation or individual having the power of Condemnation.

**“Confidential Information”** shall have the meaning set forth in Section 18.14(a).

**“Contested Imposition”** shall have the meaning set forth in Section 4.8.

**“Contract Year”** shall have the meaning set forth in the Power Purchase Agreement.

**“CPRA”** shall have the meaning set forth in Section 18.14(c).

**“Credit Rating”** means, with respect to any Person, the rating assigned to such Person’s unsecured, senior long-term debt obligations (not supported by third party credit enhancements) by Standard & Poor’s or Moody’s, or if such entity does not have a rating for its senior unsecured long-term debt, the rating assigned to such entity as an issuer rating by Standard & Poor’s or Moody’s Investor Service.

**“Deficiency”** shall have the meaning set forth in Section 16.3.

**“Dispute”** shall have the meaning set forth in Section 18.3

**“Dispute Notice”** shall have the meaning set forth in Section 18.3

**“Effective Date”** means the date Landlord executes this Lease, so long as the conditions precedent set forth in Section 2.1 have been met by such date.

**“Environmental Attributes”** has the meaning set forth in the Power Purchase Agreement.

**“Environmental Attribute Reporting Rights”** has the meaning set forth in the Power Purchase Agreement.

**“Environmental Condition”** shall mean any condition resulting from the presence or Release of any Hazardous Substance at, on, under, to or from the Premises that does or reasonably could (i) require monitoring, abatement, correction, clean-up, mitigation, removal, remediation or any other response action, (ii) give rise to liability under any Environmental Law, or (iii) result in material limitations under Environmental Laws on the development or use of the Facility by Tenant.

**“Environmental Laws”** shall mean and include all present and future federal, state, county, regional and local laws, statutes, ordinances, regulations, rules, judicial and administrative orders and decrees, permits, licenses, approvals, authorizations and similar requirements of all federal, state and local governmental agencies or other governmental entities with legal authority pertaining to Hazardous Substances (as hereinafter defined), natural resources, pollution, or protection of human health, safety or the environment, including without limitation the laws, ordinances, rules, regulations and written policies provided pursuant to or under the Comprehensive Environmental Response Compensation and Liability Act, 42 U.S.C. §§9601 et seq., the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq., the Resource Conservation and Recovery Act, 42 U.S.C. §6901 et seq., the Safe Drinking Water Act, 42 U.S.C. §3000(f) et seq., the Toxic Substances Control Act, 15 U.S.C. §2601 et seq., the Clean Air Act, 42 U.S.C. §7401 et seq., and other similar state, county, regional and local statutes, and any regulations promulgated thereto.

**“Event of Default”** shall have the meaning set forth in Section 16.1.

**“Facility”** shall mean the solar powered electric generating facility described on Exhibit C.

**“Governmental Authority”** shall mean any federal, state, regional, city or local government, any intergovernmental association or political subdivision thereof, or other governmental, regulatory or administrative agency, court, commission, administration, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority, or any Person acting as a delegate or agent of any Governmental Authority. The term “Governmental Authority” shall not include Landlord or the City of Los Angeles.

**“Gross Revenues”** shall mean all payments received by or on behalf of Tenant or any other owner of the Facility from any person or entity resulting from any contract or transaction

between Tenant or any other owner of the Facility and such person or entity for the sale of production, energy, electricity or Environmental Attributes or payments by an insurer which are made specifically in lieu of the foregoing revenues. Gross Revenues shall be calculated without offset for any cost of producing, gathering, storing, transporting, marketing or otherwise making electricity, energy, capacity or Environmental Attributes ready for sale or use and delivering it at a transmission circuit.

**“Hazardous Substances”** shall mean and include any substance or chemical which is or becomes: (a) defined under any Environmental Law as a hazardous substance, hazardous waste, hazardous material, toxic substance, pollutant or contaminant; (b) a petroleum hydrocarbon, including crude oil or any fraction thereof, asbestos in any form, urea formaldehyde, perchlorate or polychlorinated biphenyls; (c) a hazardous, toxic, corrosive, flammable, explosive, infectious, radioactive, carcinogenic or a reproductive toxicant; or (d) otherwise regulated by or forming the basis of liability under any Environmental Laws.

**“Impositions”** shall have the meaning set forth in Section 4.5.

**“Indemnification Claims”** shall have the meaning set forth in Section 8.7(c).

**“LADWP Indemnitees”** shall have the meaning set forth in Section 12.1.

**“Inspection and Testing Program”** shall have the meaning set forth in Section 18.20.

**“Interest Rate”** shall mean the lesser of (i) two hundred (200) basis points above the per annum Prime Rate reported daily in the Wall Street Journal, or (ii) the maximum rate permitted by applicable Requirements of Law.

**“Land”** shall have the meaning set forth in Section 2.2.

**“Lease”** shall mean this Ground Lease, as it may be amended, modified or supplemented from time to time in the manner provided herein.

**“Landlord”** shall have the meaning set forth in the Preamble, subject, however, to the provisions of Section 18.1.

**“Landlord Default”** shall have the meaning set forth in Section 16.7.

**“Mortgage”** shall mean any mortgage, deed of trust or other indenture constituting a lien on this Lease and/or the Facility or any interest therein, together with the note or obligations which it secures.

**“MW”** shall mean megawatt, alternating current.

**“Notifying Party”** shall have the meaning set forth in Section 18.3.

**“Option Agreement”** shall have the meaning ascribed to it in the Power Purchase Agreement.

**“Pacific Prevailing Time”** shall have the meaning ascribed to it in the Power Purchase Agreement.

**“Party”** or **“Parties”** shall have the meaning set forth in the Preamble.

**“Permits”** shall have the meaning ascribed to it in the Power Purchase Agreement.

**“Permitted Mortgage”** shall mean any Mortgage which constitutes, or any security interest given in connection therewith, which together constitute a lien upon this Lease and all of the leasehold estate hereby created and Tenant’s interest in the Facility, which Mortgage complies with the requirements of Article 15.

**“Permitted Mortgagee”** shall have the meaning set forth in Section 15.6.1.

**“Permitted Uses”** shall be site preparation and testing, construction, equipping, operation and maintenance of the Facility and the production and sale of electrical energy therefrom pursuant to the Power Purchase Agreement.

**“Person”** means any individual, corporation, partnership, joint venture, limited liability company, association, joint stock company, trust, unincorporated organization, entity, government or other political subdivision.

**“Power Purchase Agreement”** or **“PPA”** shall mean that certain Power Purchase Agreement of even date herewith between Landlord, as buyer, and Tenant, as seller, relating to the Facility, as it may be amended, supplemented or otherwise modified from time to time hereafter in accordance with its terms.

**“PPA Termination”** shall have the meaning set forth in Section 3.2.

**“Pre-Existing Condition”** shall mean any Environmental Condition existing prior to the Effective Date, including the matters listed on Exhibit D.

**“Premises”** shall mean the Land and the Facility.

**“RECs”** means a certificate of proof associated with the generation of electricity from an eligible renewable energy resource, which certificate is issued through the accounting system established by the CEC pursuant to RPS Law, evidencing that one (1) MWh of energy was generated and delivered from such eligible renewable energy resource. Such certificate is a tradable environmental commodity (also known as a “green tag”) for which the owner of the REC can prove that it has purchased renewable energy.

**“Recipient Party”** shall have the meaning set forth in Section 18.3

**“Release”** shall mean and include any accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, discharging, injection, escaping, leaching, migrating, dumping or disposing into the air, land, surface water, ground water or the environment (including the abandonment or discarding of receptacles containing any Hazardous Materials).

**“Requirements of Law”** shall mean federal, state, regional and local laws, statutes, regulations, rules, codes or ordinances enacted, adopted, issued or promulgated by any federal, state, local or other Governmental Authority (including those pertaining to electrical, building, zoning, environmental and occupational safety and health requirements) having jurisdiction over the Premises.

**“Risk Manager”** shall have the meaning set forth in Section 5.5.

**“RPS Law”** shall mean the California Renewable Energy Resources Act, including without limitation the California Renewables Portfolio Standard Program (Article 16 of Chapter 2.3, Division 1 of the Public Utilities Code), Sections 399.25 and 399.30 of the California Public Utilities Code, and California Public Resources Code Sections 25740 through 25741, and as all of the foregoing may be amended, replaced or supplemented from time to time.

**“Substantial Alteration”** shall have the meaning set forth in Section 8.4.

**“Taking”** shall mean the date of the pre-judgment order for possession in the Condemnation action or the date of title transfer pursuant to any final order of Condemnation or the effective date that title transfers pursuant to a settlement agreement or stipulated judgment between the parties to the action, whichever is earlier.

**“Tenant”** shall have the meaning set forth in the Preamble.

**“Term”** shall have the meaning set forth in Section 3.1.

**“Termination Date”** shall mean the earlier to occur of (i) the last day of the Term, (ii) the date of termination of the Lease by Landlord as the result of an Event of Default, (iii) the date of termination of the Lease by Tenant as a result of an Event of Default, and (iv) the date of termination pursuant to Article 14.

**“Unavoidable Delays”** shall mean delays due to governmental restrictions or priorities, war, enemy action, civil commotion, fire or unavoidable casualties beyond the reasonable control of Tenant, except that Tenant’s lack of funds or inability to obtain funds or permits shall not be included in this definition.

**Section 1.2 Interpretation.** In this Lease, unless a clear contrary intention appears:

(a) all capitalized terms not defined in this Lease shall have the meaning set forth in the Power Purchase Agreement.

(b) the singular number includes the plural number and vice versa;

(c) reference to any Person includes such Person’s successors and assigns but, in the case of a Party hereto, only if such successors and assigns are permitted by this Lease, and reference to a Person in a particular capacity excludes such Person in any other capacity or individually;

- (d) reference to any gender includes the other;
- (e) reference to any agreement (including this Lease), document, instrument or tariff means such agreement, document, instrument or tariff as amended or modified and in effect from time to time in accordance with the terms thereof and, if applicable, the terms hereof;
- (f) reference to any Article, Section, or Exhibit means such Article of this Lease, Section of this Lease, or such Exhibit to this Lease, as the case may be, and references in any Article or Section or definition to any clause means such clause of such Article or Section or definition;
- (g) “hereunder”, “hereof”, “hereto” and words of similar import shall be deemed references to this Lease as a whole and not to any particular Article or Section or other provision hereof or thereof;
- (h) “including” (and with correlative meaning “include”) means including without limiting the generality of any description preceding such term;
- (i) relative to the determination of any period of time, “from” means “from and including”, “to” means “to but excluding” and “through” means “through and including”; and
- (j) reference to time shall always refer to Pacific Prevailing Time; and reference to any “day” shall mean a calendar day unless otherwise indicated.

**ARTICLE 2  
LEASE OF PREMISES.**

**Section 2.1 Effective Date.** This Lease shall be effective as of the Effective Date; *provided, however,* that on or prior to the Effective Date, each of the following shall have occurred:

- (a) The Power Purchase Agreement shall have become effective;
- (b) Landlord shall have received copies of all requisite resolutions and incumbency certificates of Tenant and any other documents evidencing all actions taken by Tenant to authorize the execution and delivery of this Lease, such resolutions to be certified as of the date of Tenant’s execution of this Lease by an authorized representative of Tenant; and
- (c) Landlord shall have received an executed original of a written legal opinion of the General Counsel for Hecate Energy Beacon #1 LLC, concerning Tenant’s due authorization and execution of this Lease and related matters in form and substance satisfactory to Landlord and its counsel dated as of the Effective Date and addressed to Landlord.

**Section 2.2 Premises.** Landlord, for and in consideration of the rents, covenants and agreements herein contained on the part of Tenant to be paid, kept and performed, has leased, rented, let and demised, and by these presents does lease, rent, let and demise, unto Tenant, and Tenant does hereby take, accept and hire, upon and subject to the conditions hereinafter expressed, all surface rights with respect to those certain plots and parcels of land located in Kern County, California, and more particularly described in Exhibit A annexed hereto and made a part hereof, which land is hereinafter referred to as the “*Land*”):

SUBJECT, however, to:

- (a) Any state of facts an inspection and an accurate survey may show.
- (b) Covenants, restrictions, easements, agreements and reservations in effect on the Effective Date.
- (c) Present and future building restrictions and regulations and present and future zoning laws, ordinances, resolutions and regulations of the municipality and county in which the Land lies and all present and future ordinances, laws, regulations and orders of all Governmental Authorities now or hereafter having jurisdiction that affect the development, use, occupancy or enjoyment of the Premises.
- (d) The condition and state of repair of the Land as the same may be on the Commencement Date.
- (e) All taxes, duties, assessments, special assessments, water charges and sewer rents and any other Impositions, accrued or unaccrued, fixed or not fixed, to the extent not yet due and payable.

On the Commencement Date, Landlord will deliver possession of the Land to Tenant free and clear of all tenants or parties-in-possession.

**Section 2.2.1 Land Description Replacement.** Landlord and Tenant may agree to a description of the Land in Exhibit A which is sufficient to describe the Land for purposes of this Lease but may not be a formal legal description of the Land. It is the intent of Landlord and Tenant that once such a formal legal description becomes available, it will be substituted, after submission by Landlord to Tenant and reasonable review and acceptance by Tenant, for the existing Exhibit A, if Exhibit A does not already contain a formal legal description. It is the further intent of the Parties to make this substitution at any stage in the contracting process, whether before or after execution.

**Section 2.3 Exclusion from Leasehold Estate and Retained Rights.** There is excluded from this Lease and the leasehold conveyed hereby and the definition of Land, and Landlord expressly reserves (with the right to grant similar rights to others), all water, water rights and water stock, minerals and mineral rights belonging to the Land and the right to drill for, produce, extract, take and remove therefrom those resources; *provided, however*, that Landlord will not exercise surface rights related to the foregoing or otherwise exercise any rights related to the foregoing in a manner that would interfere with Tenant’s operations (nor will



Landlord grant or allow any third party to do so) except that Landlord reserves to itself (with the right to grant similar rights to others) the following:

(a) The non-exclusive right and easement in common with Tenant to flow surface water runoff over the Land through such storm drains, catchments, basins, culverts, ditches, conduits and other facilities constructed and used by Landlord for such purposes as may exist on the Land from time to time; and

(b) The exclusive right and easement to construct, maintain, repair, replace and operate one or more transmission or distribution lines for the delivery of electrical energy from any electrical generation facility constructed on or adjacent to the Premises to substation(s) constructed on or adjacent to the Land. Notwithstanding the foregoing, Landlord intends to only construct those transmission or distribution lines specified in Appendix V to the Power Purchase Agreement; to the extent Landlord exercises its rights (or grants rights to others) beyond those set forth in Appendix V to the Power Purchase Agreement under this Section 2.3 and such exercise of rights, through shading of light or otherwise, affects Tenant's production of Facility Energy, Tenant shall be entitled to count such reduction in Facility Energy production as Deemed Delivered Energy through the same method as set forth in Section 4.6 of the Power Purchase Agreement.

Tenant acknowledges that Landlord may construct or cause the construction of additional renewable electrical generating facilities adjacent to the Land. Landlord and Tenant agree that they will cooperate to allow Landlord to achieve that goal. However, Landlord agrees that, it will not exercise its rights hereunder in a manner that would interfere in any material respect with the rights granted to Tenant under this Lease.

**Section 2.4 Site Access Provided by Landlord.** To the extent not otherwise provided for in this Lease, Landlord will at all times provide Tenant access to the Land across or through adjacent Landlord property at such locations as are specified by Landlord.

**Section 2.5 Grant of Utility Access.** In the event that Tenant determines, in the exercise of its reasonable discretion, that it is necessary to grant access rights to utility companies for the provision of water, storm drainage, telecommunications or electrical service to the Facility, Landlord agrees to join in the grant of such access rights; *provided, however*, that such access rights are on terms satisfactory to Landlord in the exercise of its reasonable discretion and provide that, upon non-use of any such access right for a period of more than one year, such access right will terminate and that Landlord may record a notice in the Official Records of Kern County, California evidencing such termination, which notice shall be effective against all persons claiming an interest in such access right.

**Section 2.6 Hydrocarbon or Mineral Activity.** If the holder of any rights to hydrocarbons or minerals in effect on the Effective Date shall at any time request the removal of a portion of the Facility in connection with its efforts to recover hydrocarbons or minerals from under the Premises, Tenant will inform Landlord thereof, Landlord shall have the right to contest such removal at its expense and Tenant will cooperate with Landlord in any proceedings brought by Landlord to contest such removal. If Landlord suspends or is unsuccessful in such contest and Tenant is required to remove a portion of the Facility, (i) if the removal is permanent, or if

Landlord does not so contest, Landlord will pay Tenant for such removed Capacity promptly in an amount as set forth in the following formula: (a) for the period from the Effective Date up to and including seven (7) years after, \$1,100 per kW of Capacity removed, *provided however*, that if Seller reasonably believes that due to such removal Seller has suffered a loss in federal or state tax benefits or incentives that it would not have lost had the removal occurred after the beginning of the seventh (7) year after the Effective Date, Seller shall present evidence of such loss to Buyer, and, to the extent Buyer reasonably agrees with such loss estimate, Buyer will add any additional amounts to the payment price per kW, if any, needed to compensate Seller with respect to such loss; (b) for the period after seven (7) years up to and including ten (10) years after, \$960 per kW removed; (c) for the period after ten (10) years and up to and including fifteen (15) years, \$910 per kW removed, and anytime after fifteen years, \$520 per kW removed, and (ii) if the removal is temporary, Landlord will pay Tenant an amount equal to the reasonable and necessary third party costs incurred by Tenant to remove, store, relocate and reinstall any portions of the Facility so affected and for any electrical revenues lost as a result of such temporary removal at the purchase price as provided on Appendix A to the Power Purchase Agreement. For purposes of this Section 2.6, a removal shall be deemed permanent if it would result in a loss of Capacity for a period of greater than one (1) year. Whenever Landlord makes a request for removal of a portion of the Facility hereunder, Tenant will use reasonable efforts to revise its installation plan or, if the Capacity is already installed, relocate the Capacity at Landlord's sole cost on the Premises to minimize the adverse effects and costs to Landlord of such relocation request and Landlord shall pay Tenant according to clauses (i) and (ii) above, as applicable.

### **ARTICLE 3 TERM.**

**Section 3.1 Term.** This Lease shall commence on the Commencement Date and end on the last day of the twenty-fifth (25th) Contract Year as defined under the Power Purchase Agreement, unless modified in accordance with Section 3.3 or sooner terminated in accordance with this Lease (the "***Term***"). Prior to the Commencement Date, Tenant will provide Landlord with evidence reasonably satisfactory to Landlord that Tenant has obtained all Permits required to commence construction of the Facility.

**Section 3.2 Early Termination.** As long as the Landlord is also the "Buyer" under the Power Purchase Agreement, this Lease shall terminate upon a termination of the Power Purchase Agreement (a "***PPA Termination***") pursuant to the following sections of the Power Purchase Agreement: Section 2.4(b), Early Termination for Default; Section 2.4(c), Early Termination for Business Policies; Section 2.4(f), Early Termination for Failure to Achieve Commercial Operation Date; Section 2.4(g), Early Termination for Failure to Obtain CEC Certification; Section 2.4(h), Early Termination for Force Majeure; Section 2.4(i), Early Termination for CEQA; and Section 2.4(j), Early Termination by Exercise of Project Purchase Option; *provided, however*, that, if Landlord has a right upon such termination of the PPA to purchase the Facility pursuant to the Option Agreement (as defined in the PPA), the Term shall continue until the later of the expiration of such right to purchase or the closing of, or failure of closing of, such purchase pursuant to the Option Agreement.

**Section 3.3 Term Following Termination of Power Purchase Agreement.** As long as the Landlord is also the “Buyer” under the Power Purchase Agreement at the time of a PPA Termination, upon a PPA Termination (except for the PPA Terminations specified in Section 3.2), the Term of this Lease shall automatically be modified to end, unless sooner terminated in accordance with this Lease, on the date of such PPA Termination. Notwithstanding the foregoing, if the PPA should terminate due to the expiration of the full 25 year PPA term, Tenant is granted an option, at Tenant’s sole discretion, to extend the Term of this Lease by another 7 years by delivering a term extension notice letter to Landlord in the period starting one (1) year and ending six (6) months before the Term is to expire. In the case of such 7 year extension, the Parties agree that the rent shall be adjusted to a market rate.

## **ARTICLE 4 RENT.**

### **Section 4.1 Base Rent.**

**Section 4.1.1 Initial Base Rent (Years 1 through 5).** For Contract Years 1-5, Tenant shall pay to Landlord, a net rental (“*Base Rent*”) of \$1 on an annual basis.

**Section 4.1.2 Subsequent Base Rent (Years 6 and afterwards).** The Base Rent will continue at the same amount for each year after Contract Year 5 unless adjusted in accordance with the procedure in this section 4.1.2. Not less than once every five years, the Parties agree to discuss potential adjustments to the Base Rent. Provided that the terms of the PPA and the Lease have not materially changed since the date of the last discussion of potential adjustments or the Effective Date (if there have been no prior potential adjustment meetings) the Base Rent will not be changed.

**Section 4.1.3 Rent Installments.** The Base Rent for the Term will be paid annually beginning on the Commencement Date, and on each anniversary of the Commencement Date.

**Section 4.1.4 Audit.** In the event any component of the Base Rent as increased pursuant to Section 4.1.2 is based on production or generation from the Facility or Gross Revenues, Tenant shall maintain all records pertaining to Gross Revenues (including all billings, metering, and Environmental Attributes), in their original form, including reports, documents, deliverables, accounting procedures and practices, records of financial transactions, and other evidence, regardless of form (e.g., machine readable media such as disk, tape, etc.) or type (e.g., databases, applications software, database management software, utilities, etc.), sufficient to properly reflect Gross Revenues. Landlord and the Authorized Auditors shall have the right to discuss such records with Tenant’s officers and independent public accountants (and by this provision Tenant authorizes said accountants to discuss such billings and costs), all at such times and as often as may be reasonably requested. All records shall be retained, and shall be subject to examination and audit by the Landlord and its Authorized Auditors, for a period of not less than four (4) years following payment of any component of the Base Rent related to production, generation or Gross Revenues. Tenant shall make said records or to the extent accepted by the Landlord and its Authorized Auditors, photographs, micro-

photographs, etc. or other authentic reproductions thereof, available to the Landlord and its Authorized Auditors at the Tenant's offices located at all reasonable times and without charge. The Landlord and its Authorized Auditors will have the right to reproduce, photocopy, download, transcribe, and the like any such records. Tenant shall be subject at any time with fourteen (14) days prior written notice to audits or examinations by Landlord and its Authorized Auditors, relating to all payments of components of the Base Rent related to production, generation or Gross Revenues. Examinations and audits will be performed using generally accepted auditing practices and principles and applicable Governmental Authority or Landlord's audit standards. If Tenant utilizes or is subject to Federal Acquisition Regulations, Part 30 and 31, et seq. accounting procedures, or a portion thereof, examinations and audits will utilize such information. To the extent that the Authorized Auditor's examination or audit reveals inaccurate, incomplete or non-current records, or records are unavailable, the records shall be considered defective. Consistent with standard auditing procedures, Tenant will be provided fifteen (15) calendar days to review the Authorized Auditor's examination results or audit and respond to the Landlord prior to the examination's or audit's finalization and public release. If the audit reveals that the Tenant underpaid any component of the Base Rent related to production, generation or Gross Revenues by more than five percent (5%), Tenant shall pay all expenses and costs incurred by the Landlord and its Authorized Auditors arising out of or related to the examination or audit. Such examination or audit expenses and costs shall be paid by Tenant to Landlord within thirty (30) days of notice to Tenant of such costs and expenses.

**Section 4.2 Base Rent Absolutely Net.** It is the purpose and intent of Landlord and Tenant that Base Rent payable hereunder shall be absolutely net to Landlord so that this Lease shall yield to Landlord the Base Rent herein specified, in each year during the Term, free of any charges, assessments, Impositions or deductions of any kind charged, assessed, or imposed on or against the Premises, and without abatement, deduction or set-off by the Tenant, except as hereinafter specifically otherwise provided in Section 14.2, and Landlord shall not be expected or required to pay any such charge, assessment or Imposition, or be under any obligation or liability hereunder except as herein expressly set forth, and that all costs, expenses and obligations of any kind relating to the maintenance and operation of the Premises, including all alterations, repairs, reconstruction and replacements as provided in this Lease, which may arise or become due during the term hereof shall be paid by Tenant.

**Section 4.3 Additional Rent.** Tenant shall also pay without notice (except as specifically provided) and without abatement, deduction or set-off as additional rent ("***Additional Rent***"), all sums, Impositions (defined in Section 4.5 below), costs, expenses and other payments which Tenant in any of the provisions of this Lease assumes or agrees to pay and in the event of any non-payment of Additional Rent, Landlord shall have in recovering the Additional Rent (in addition to all other rights and remedies) all the rights and remedies provided for herein or by law in the case of non-payment of Base Rent.

**Section 4.4 No Release of Obligations.** Except to the extent provided in Article 14, no happening, event, occurrence or situation during the term hereof, whether foreseen or unforeseen, shall permit the Tenant to quit or surrender the Premises or this Lease or shall relieve the Tenant from its liability to pay the Base Rent and Additional Rent and other charges under

this Lease, or shall relieve the Tenant from any of its other obligations under this Lease, and the Tenant waives any rights now or hereafter conferred upon, to the extent permitted by law, to quit or surrender the Premises of this Lease, or any part thereof, or to any abatement, set-off, reduction or suspension of rent on account of any such act, happening, occurrence or situation. Tenant hereby waives California Civil Code Sections 1932(2) and 1933(4), providing for termination of hiring upon destruction of the thing hired.

**Section 4.5 “Impositions” Defined.** Tenant shall pay as Additional Rent during the Term, before any fine, penalty, interest or cost may be added thereto, imposed for the non-payment thereof, all taxes (including personal property taxes and taxes on rents, leases, possessory interests or occupancy, if any), assessments, special assessments, water and sewer rents, rates and charges, charges for public utilities, excises, levies, license and permit fees and other governmental or quasi-governmental charges, general and special, ordinary and extraordinary, foreseen and unforeseen, of any kind and nature whatsoever accruing from and after the Commencement Date and before the expiration of the Term that may be assessed against, or become due and payable or become a lien on the Facility, out of or in respect of, any use or occupation of the Premises by Tenant, or such franchises as may be appurtenant to the use of the Premise (all of which are sometimes herein referred to collectively as “*Impositions*” and individually as “*Imposition*”); provided such Impositions are not imposed by Landlord against the Premise in a discriminatory manner.

**Section 4.5.1 Payment in Installments.** If, by law, any Imposition may at the option of the taxpayer or Tenant be paid in installments (whether or not interest shall accrue on the unpaid balance of such Imposition), Tenant may exercise the option to pay the same in installments and in such event, shall pay such installments as may become due during the Term as the same respectively become due and before any fine, penalty, further interest or cost may be added thereto, but shall, in consideration of such privilege, pay the balance of such Imposition not later than one year prior to the last day of the Term.

**Section 4.5.2 Apportionment of Imposition.** Any Imposition (excluding Impositions which have been converted into installment payments by Tenant, as referred to in Section 4.5.1) relating to a fiscal period of the taxing authority, a part of which period is included within the Term and a part of which is included in a period of time before or after the expiration of the Term shall (whether or not such Imposition shall be assessed, imposed upon or in respect of or become a lien upon the Premises, or shall be payable, during the Term) be adjusted between Landlord and Tenant as of the commencement and expiration of the Term, so that Tenant shall pay that portion of such Imposition which that part of such fiscal periods included in the Term bears to such fiscal period, and Landlord shall pay the remainder thereof.

**Section 4.5.3 Real Property Taxes.** Except as provided in Section 4.5.4 and Section 4.5.5, Landlord shall pay all real property taxes, assessments, special assessments (and any taxes in substitution thereof) accruing from and after the Effective Date and before the expiration of the Term that may be assessed against, or become due and payable out of or in respect of, or become a lien upon, the Land.

**Section 4.5.4 Apportionment of Tax Bill(s).** If at any time tax bill(s) are issued for the Land or a portion thereof, Landlord and Tenant shall apportion the amount of the tax shown on such bill equitably between them based on the relative share of acreage and/or facilities owned, occupied and/or operated by each of Landlord and Tenant, and each shall pay its share of the tax directly to the taxing authority. Each party shall have a right to contest such a tax bill as it respects the portion paid by it. If Landlord and Tenant cannot agree on an equitable apportionment of such bill, the apportionment shall be determined by a single arbiter appointed by the then president of the Los Angeles chapter of the American Arbitration Association.

**Section 4.5.5 Possessory Interest Tax.** By executing this Lease and accepting the benefits thereof, a property interest may be created known as a "possessory interest," and such property interest will be subject to property taxation. Tenant, as the party in whom the possessory interest is vested, will be subject to the payment of the property taxes levied upon such interest. Tenant herewith acknowledges that notice required by Revenue and Taxation Code Section 107.6 has been provided.

**Section 4.6 Additional Rent Exclusions.** Nothing herein contained in this Lease shall require Tenant to pay municipal, state, or federal income taxes assessed against Landlord, municipal, state or federal capital levy, excess profits, gift, estate, succession, inheritance or transfer taxes of Landlord, or corporation franchise or income taxes imposed upon any corporate owner of the Land; *provided, however*, that if at any time during the Term (i) the methods of taxation prevailing at the Commencement Date shall be altered so as to cause the whole or any part of the Impositions, in lieu of or substitution thereof, to be levied, assessed and imposed on the rents received by Landlord under this Lease (ii) or if any tax, assessment, levy, imposition or charge, or any part thereof, in lieu of or substitution for or supplemental to the Impositions shall be measured by or be based in whole or in part upon the Premises and shall be imposed upon Landlord, then all such taxes, assessments, levies, impositions or charges, or the part thereof to the extent that they are so measured or based, shall be deemed to be included within the term "*Impositions*" for the purposes hereof, to the extent that such Impositions would be payable if the Premises were the only property of Landlord subject to such Impositions, and Tenant shall pay and discharge the same as herein provided in respect of the payment of Impositions.

**Section 4.7 Payments.** Tenant shall pay all such Impositions directly to the taxing authority, and shall deliver to Landlord photostatic copies of the receipted bills or other evidence satisfactory to Landlord showing such payment, promptly after such receipts shall have been received by Tenant.

**Section 4.8 Contests.** Tenant, if it shall so desire, may contest the validity or amount of any Imposition, in which event, Tenant may defer the payment of such Imposition (the "*Contested Imposition*") during the pendency of such contest; *provided, however*, that before the Contested Imposition shall have become due, Tenant shall have deposited with Landlord an amount equal to one hundred twenty-five percent (125%) of the amount of the Contested Imposition, which amount shall be applied to the payment of Contested Imposition when the amount thereof shall be finally fixed and determined. In lieu of such cash deposit, Tenant may deliver to Landlord a surety company bond in such amount in form and substance reasonably satisfactory to Landlord issued by a surety company reasonably acceptable to Landlord.

Notwithstanding the foregoing, no Contested Imposition shall remain unpaid for such length of time as shall permit the Premises, or any part thereof, to be sold, or the lien created by the Contested Imposition to be foreclosed for the non-payment of the Contested Imposition. Landlord may, on reasonable notice to Tenant, pay the Contested Imposition out of the sums so deposited in case of undue delay in the prosecution of said proceedings, or if the protection of the Premises or of the Landlord's interest therein shall in the reasonable judgment of Landlord require such payment. If the amount so deposited shall exceed the amount of such payment, the excess shall be paid to Tenant or, in case there shall be any deficiency, the amount of such deficiency shall be promptly paid by Tenant to Landlord and, if not so paid, shall be payable as Additional Rent (together with interest at the Interest Rate from the respective dates of the Landlord's making of each such payment) on demand.

**Section 4.9 Assessment Reduction.** Tenant may, if it shall so desire, endeavor at any time or times to obtain a lowering of the assessed value of the Premises for the purpose of reducing taxes thereon and, in such event, Landlord will offer no objection and, at the request of Tenant, will cooperate with Tenant, but without expense to Landlord, in effecting such a reduction. Tenant may institute abatement proceedings for that purpose and any such tax refund shall be the property of Tenant to the extent to which it may be based on a payment made by Tenant, subject, however, to an apportionment between Landlord in the year in which the Term commences or ends, after deducting from such refund the costs and expenses, including reasonable legal fees, incurred in connection with obtaining such refund.

## **ARTICLE 5 INSURANCE.**

Tenant at its cost shall maintain insurance as follows:

**Section 5.1 General Statement.** It is the policy of Los Angeles Department of Water and Power (LADWP) that upon the award of a contract, the selected Tenant must provide evidence of insurance that conforms to the insurance requirements of the bid/proposal/agreement. Insurance requirements are explained in detail in the following language and "Contract Insurance Requirements" sheet, which specifically outlines the types and amounts of coverage required for this project/tenancy. For your information and use, "Special Endorsement Forms", "Guidance for Submitting Evidence of Insurance" and information on our insurance program for small vendors are available on our website.

When and if you are awarded a contract/agreement, acceptable evidence of required insurance, from insurers acceptable to the Department, will be required to be submitted within 30-days of the date of award and maintained current throughout the term of the contract. Said evidence of insurance must be on file with the Risk Management Section in order to receive payment under any contract for services rendered, and in order to commence work/tenancy under your contract.

For further information regarding these requirements, please contact:

Los Angeles Department of Water and Power  
Risk Management Section  
Phone: (213) 367-4674

Fax: (213) 367-0214

Web: [www.ladwp.com/riskmanagement](http://www.ladwp.com/riskmanagement)

**Section 5.2 Additional Insured Status Required.** Tenant shall procure at its own expense, and keep in effect at all times during the term of this Lease, the types and amounts of insurance specified on the attached Contract Requirement page. The specified insurance shall also, either by provisions in the policies, by City's own endorsement form or by other endorsement attached to such policies, include and insure City, its Department of Water and Power, its Board of Commissioners (hereinafter referred to as "Board"), and all of its officers, employees and agents, their successors and assigns, as additional insureds (except for Professional Liability and Workers' Compensation), against the area of risk described herein as respects Tenant's acts or omissions in its performance of the agreement, use and occupancy of the premises hereunder or other related functions performed by or on behalf of Tenant. Such insurance shall not limit or qualify the liabilities and obligations of the Tenant assumed under the contract.

**Section 5.3 Severability of Interests and Cross Liability Required.** Each specified insurance policy (other than Workers' Compensation and Employers' Liability and Property coverages) shall contain a Severability of Interest and Cross Liability clause which states, "It is agreed that the insurance afforded by this policy shall apply separately to each insured against whom claim is made or suit is brought except with respect to the limits of the company's liability," and a Contractual Liability Endorsement which shall state, "Such insurance as is afforded by this policy shall also apply to liability assumed by the insured under this Lease with the City of Los Angeles."

**Section 5.4 Primary and Non-Contributory Insurance Required.** All such insurance shall be Primary and Noncontributing with any other insurance held by City's Department where liability arises out of or results from the acts or omissions of Tenant, its agents, employees, officers, assigns, or any person or entity acting for or on behalf of Tenant. Any insurance carried by the Department which may be applicable shall be deemed to be excess insurance and the Tenant's insurance is primary for all purposes despite any conflicting provision in the Tenant's policies to the contrary.

**Section 5.5 Deductibles Subject to Department's Discretion.** Deductibles and/or self-insured retentions shall be at the sole discretion of the Risk Manager of the Department (hereinafter referred to as "*Risk Manager*"). The Department shall have no liability for any premiums charged for such coverage(s). The inclusion of the Department of Water and Power, its Board, and all of its officers, employees and agents, and their agents and assigns, as additional insureds, is not intended to, and shall not, make them, or any of them a partner or joint venturer with Tenant in its operations.

**Section 5.6 Proof of Insurance for Renewal or Extension Required.** At least ten (10) days prior to the expiration date of any of the policies required on the attached Contract Requirement page, documentation showing that the insurance coverage has been renewed or extended shall be filed with the Department. If such coverage is canceled or reduced in coverage, Tenant shall, within fifteen (15) days of such cancellation or reduction of coverage,



file with the Department evidence that the required insurance has been reinstated or provided through another insurance company or companies.

**Section 5.7 Submission of Acceptable Proof of Insurance and Notice of Cancellation.** Tenant shall provide proof to the Department's Risk Manager of all specified insurance and related requirements either by production of the actual insurance policy(ies), by use of Department's own endorsement form(s), by other written evidence of insurance acceptable to the Risk Manager, but always in a form acceptable to the Risk Manager and the Office of the City Attorney. The documents evidencing all specified coverages shall be filed with the Department prior to Tenant beginning operations or occupying the premises hereunder. Said proof shall contain at a minimum, the applicable policy number, the inclusive dates of policy coverages, the date the protection begins for the Department of Water and Power, and the insurance carrier's name. It shall bear an original signature of an authorized representative of said carrier, and shall provide that such insurance shall not be subject to cancellation, material reduction in coverage or non-renewal except after written notice by certified mail, return receipt requested, to the City Attorney of the City of Los Angeles at least thirty (30) calendar days prior to the effective date thereof. The notification shall be sent by registered mail to: Risk Management Section – Department of Water and Power, Post Office Box 51111, JFB Room 465, Los Angeles, California 90051-0100.

**Section 5.8 Claims-Made Insurance Conditions.** Should any portion of the required insurance be on a "Claims Made" policy, the Tenant shall, at the policy expiration date following completion of work, provide evidence that the "Claims Made" policy has been renewed or replaced with the same limits, terms and conditions of the expiring policy, or that an extended three (3) years discovery period has been purchased on the expiring policy at least for the contract under which the work was performed.

**Section 5.9 Failure to Maintain and Provide Proof as Cause for Termination.** Failure to maintain and provide acceptable evidence of the required insurance for the required period of coverage shall constitute a breach of contract, upon which the Department may immediately terminate or suspend the agreement.

**Section 5.10 Sub-Contractor Compliance.** The Tenant shall be responsible for all sub-Lessee's/sub-Permittee's/Sub-Licensee's/sub-Tenant's (if any such entities are permitted under the PPA and/or this Lease) compliance with the insurance requirements.

**Section 5.11 Specific Insurance Requirements.** See Attachment "Specific Insurance Requirements", attached hereto and incorporated herein as Exhibit E.

## ARTICLE 6 SURRENDER ON TERMINATION.

**Section 6.1 Surrender, Removable Property.** Within six (6) months after the Commercial Operation Date, Tenant shall restore the surface of any portion of the Land disturbed by Tenant in the course of construction of the Facility and not occupied by structures forming a part of the Facility to a condition reasonably similar to its condition as of the Effective Date (ordinary wear and tear excepted). Within one hundred twenty (120) days after the

Termination Date (unless otherwise agreed in writing between the Parties at each Party's sole discretion), Tenant shall (a) remove from the Land the Facility, and (b) leave the surface of the Land free from debris; and Tenant shall have a continuing right of access to enter the Land only for such purpose during such one hundred twenty (120) day period. Any portion of the Facility remaining on the Land more than one hundred twenty (120) days after the Termination Date may, at the option of Landlord, be deemed to have been abandoned, and either may be retained by Landlord as its property or may be disposed of in such manner as Landlord may see fit. If such portion of the Facility shall be sold, Landlord may receive and retain the proceeds of such sale and apply the same, at its option, against the expenses of the sale, removal and storage, any arrears of Base Rent or Additional Rent payable hereunder and any damages to which the Landlord may be entitled under Article 16 or pursuant to law; any amounts in excess of such applications will not be returned to Tenant. Tenant shall not be required to remove any underground improvements constructed pursuant to any access right Landlord has joined in pursuant to Section 2.5 and agreed at the time of the joinder may remain on the Land after the expiration or earlier termination of this Lease.

**Section 6.2 Title to the Facility.** Landlord and Tenant agree that (i) the Facility shall at all times during the Term be considered the property of Tenant, and (ii) to the extent permitted by applicable Law, real property. The foregoing shall not be interpreted to bind Tenant to any characterization of the Facility for book or tax purposes. Landlord shall have no ownership, lien, security or other interest in the Facility or any profits derived therefrom. Landlord agrees that during the Term, any mortgage, deed of trust, or other encumbrance or security interest granted by Landlord in the Land shall provide that the lien of such instrument does not extend to the Facility, and that the holder of such instrument holds no rights in the Facility.

## **ARTICLE 7 LANDLORD'S PERFORMANCE OF TENANT'S OBLIGATIONS.**

**Section 7.1 Cures - Rights, Costs and Damages.** If Tenant shall fail to pay any Imposition or make any other payment required to be made under this Lease or shall default in the performance of any other covenant, agreement, term, provision, limitation or condition herein contained, Landlord, without being under any obligation to do so and without thereby waiving such default, may make such payment and/or remedy such other default for the account and at the expense of Tenant, immediately and without notice in the case of emergency, or in any other case only provided Tenant shall fail to make such payment or remedy such default within the time periods provided by this Lease (including the notice and cure periods set forth in Section 16.1). Bills for any reasonable expense actually incurred by Landlord in connection therewith, and bills for all such expenses and disbursements of every kind and nature whatsoever, including reasonable counsel fees, involved in the collection of the Base Rent or Additional Rent or any part thereof, or the enforcement of any right against Tenant or fulfilling any obligations of Tenant, under or in connection with this Lease (together with interest at the Interest Rate from the respective dates of the Landlord's making of each such payment or incurring of each such cost or expense), may be sent by Landlord to Tenant monthly, or immediately, at Landlord's option, and shall be due and payable in accordance with the terms of said bills and if not paid when due the amount thereof shall immediately become due and payable as Additional Rent.

**ARTICLE 8**  
**TENANT’S DUTY TO MAINTAIN.**

**Section 8.1 Sole Responsibility of Tenant.** Tenant has leased the Land after a full and complete examination thereof, as well as the title thereto and knowledge of its present uses and non-uses. Tenant accepts the Land in the condition or state in which they now are without any representation or warranty, express or implied in fact or by law, by Landlord and without recourse to Landlord, except as expressly provided in this Lease, as to the title thereto, the nature, condition or usability thereof or the use or uses to which the Land or any part thereof may be put. Landlord shall not be required to furnish any services to facilities (including sanitation services; water services upon and after the Commercial Operation Date; electrical services, or waste management services) or to make any repairs or alterations in or to the Premises, throughout the Term, Tenant hereby assuming the full and sole responsibility for the condition, construction, operation, repair, demolition, replacement, maintenance and management of the Facility, including the performance of all burdens running with the Land, except for those duties expressly assumed by Landlord as “Buyer” under Section 3.1 of the PPA. Tenant hereby waives the provisions of California Civil Code Sections 1932(1) and 1942 and of any similar laws now or hereafter in effect.

**Section 8.2 Use and Occupancy.** Tenant shall use and occupy the Premises as and for the Permitted Uses and for no other purposes. Tenant shall not use or occupy or permit the Premises to be used or occupied, not do or permit anything to be done in or on the Premises, in whole or in part, in a manner which would in any way violate any certificate of occupancy affecting the Premises, or make void or voidable any insurance then in force with respect thereto, or which may make it impossible to obtain insurance required to be furnished by Tenant hereunder, or which will constitute a public or private nuisance.

**Section 8.3 Maintenance, Repairs, Indemnity.** Tenant shall take good care of the Premises, make all repairs thereto, interior and exterior, structural and non-structural, ordinary and extraordinary, foreseen and unforeseen, and shall maintain and keep the Premises in good order, repair and condition, ordinary wear and tear and damage by fire or other casualty excepted. Tenant shall indemnify Landlord and the Indemnitees and save them harmless from any and all claims or demands, upon or arising out of any accident, injury or damage to any person or property, including adjacent property, which shall or may happen in, upon or about the Premises or any part thereof, however caused, except to the extent caused by the gross negligence or willful misconduct of Landlord.

**Section 8.4 Alterations.** Tenant shall have the right from time to time after the completion of the Facility, for the sole purpose of complying with Tenant’s obligations under this Lease and the PPA, and at its sole cost and expense to make additions, alterations and changes, structural or otherwise (any addition, alteration or change involving an estimated cost up to but not exceeding One Hundred Thousand Dollars (\$100,000.00) being called an “*Alteration*” and any addition, alteration, or change involving an estimated cost of more than One Hundred Thousand Dollars (\$100,000.00) being hereinafter called a “*Substantial Alteration*”) in or to the Premises, provided no Event of Default shall be continuing, subject, however, in all cases to the following:

(a) No Alteration or Substantial Alteration shall be made which would tend to change the general design, use, character or structure of the Facility;

(b) No Alteration or Substantial Alteration shall be undertaken until Tenant shall have procured and paid for, so far as the same may be required from time to time, all Permits; and

(c) Any Substantial Alterations shall be made with reasonable dispatch (Unavoidable Delays excepted). Tenant shall provide Landlord reasonable notice of and an opportunity to review and reasonably approve planned Substantial Alterations.

(d) All Alterations and Substantial Alterations shall be done in a good and workmanlike manner and in compliance with all Requirements of Law.

**Section 8.5 Compliance With Laws.** Except as otherwise provided in the PPA, Tenant shall assume and perform any and all obligations of Landlord under any covenants, access rights and agreements affecting the title to the Premises in effect on the Effective Date or created pursuant to Section 2.5 and shall diligently comply with and execute at its own expense during the Term, all Requirements of Law or of the National Board of Fire Underwriters, or other body having similar functions, that are applicable to the Premises; *provided, however*, that Tenant may, in good faith (and wherever necessary, in the name of, but without expense to, Landlord) and after having secured the Landlord to its reasonable satisfaction by cash or by a surety company bond in an amount, in a company and in substance reasonably satisfactory to Landlord against loss or damage, contest the validity of any Requirements of Law and, pending the determination of such contest, may postpone compliance therewith, except that Tenant shall not so postpone compliance therewith, as to subject Landlord to the risk of any fine or penalty or to prosecution for a crime, or to cause the Premises or any part thereof to be condemned or to be vacated.

**Section 8.6 Impairment of Landlord's Title.** Tenant shall not permit any portion of the Premises to be used by any person or persons or by the public, as such, at any time or times during the Term, in such manner as might reasonably tend to impair Landlord's title to the Land or any portion thereof, or in such manner as might reasonably make possible a claim of adverse use, adverse possession, prescription, dedication, or other similar claim of, in, to or with respect to the Premises or any part thereof.

**Section 8.7 Hazardous Substances.** Tenant hereby covenants and agrees that:

(a) Tenant shall not knowingly permit the Premises or any portion thereof to be a site for the use, generation, treatment, manufacture, storage, disposal or transportation of Hazardous Substances or otherwise knowingly permit the presence of Hazardous Substances in, on or under the Premises in violation of any applicable law.

(b) Tenant shall keep and maintain the Premises and each portion thereof in compliance with, and shall not cause or permit the Premises or any portion thereof to be in violation of any Environmental Laws.

(c) Without limiting the generality of the indemnifications set forth in this Lease, Tenant hereby agrees to indemnify, protect, hold harmless and defend (by counsel acceptable to the Landlord) the Landlord and the LADWP Indemnitees from and against any and all claims, losses, damages, liabilities, fines, penalties, charges, administrative and judicial proceedings and orders, judgments, remedial action requirements, enforcement actions of any kind, and all costs and expenses incurred in connection therewith (including, but not limited to, reasonable attorney's fees and expenses), arising directly or indirectly, in whole or in part, out of: (1) the failure of the Tenant, its agents, employees, or contractors to comply with any Environmental Law relating in any way whatsoever to the handling, treatment, presence, removal, storage, decontamination, cleanup, transportation or disposal of Hazardous Substances into, on, under or from the Premises; (2) the presence in, on or under the Premises of any Hazardous Substances other than Pre-Existing Conditions or any releases or discharges of any Hazardous Substances into, on, under or from the Premises occurring after the Effective Date; or (3) any activity carried on or undertaken on or off the Premises, subsequent to the Effective Date, by Tenant or any employees, agents, contractors or subcontractors of Tenant at any time occupying or present on the Premises, in connection with the handling, treatment, removal, storage, decontamination, cleanup, transport or disposal of any Hazardous Substances at any time located or present on or under the Premises (collectively "Indemnification Claims"). The foregoing indemnity shall further apply to any residual contamination on or under the Premises, or affecting any natural resources, and to any contamination of any property or natural resources arising in connection with the generation, use, handling, treatment, storage, transport or disposal of any such Hazardous Substances by Tenant, and irrespective of whether any of such activities were or will be undertaken in accordance with Environmental Laws. The indemnification in this Section 8.7(c) shall not apply to actions performed solely by either Landlord or Buyer's Other Solar Developers which are not caused in whole or in part by Tenant. This indemnity obligation shall survive the termination of this Lease.

## **ARTICLE 9 CONSTRUCTION OF FACILITY.**

**Section 9.1 General Description.** Tenant shall construct the Facility in a manner and within the time periods required by the Power Purchase Agreement. Prior to commencement of construction of the Facility, Tenant shall submit outline plans and specification for the Facility for approval by Landlord, such approval not to be unreasonably withheld. In like manner Tenant shall submit to Landlord for approval amendments to said plans and specifications. The approval by Landlord of the plans and specifications or any other action taken by such Landlord with respect thereto under the provisions of this Lease shall not constitute an opinion or representation by Landlord as to the sufficiency of said plans and specifications nor impose any present or future liability or responsibility upon Landlord. Tenant will erect the Facility in a good, careful, proper and workmanlike manner in accordance with the approved plans and specifications with normal on-site changes, and with all Requirements of Law.

## **ARTICLE 10 MECHANIC'S LIENS.**

**Section 10.1 No Liens.** Tenant shall not create, or suffer to be created or to remain, and shall discharge, any mechanic's, laborer's or materialman's lien upon the Premises or any part

thereof or the income therefrom and Tenant will not suffer any other matter or thing arising out of Tenant's use and occupancy of Premises whereby the estate, rights and interests of Landlord in the Premises or any part thereof might be impaired.

**Section 10.2 Discharge.** If any mechanic's, laborer's or materialman's lien shall at any time be filed against the Premises or any part thereof as a result of or in connection with the furnishing of materials or services by any person or entity to or on behalf of Tenant or its agents, representatives or contractors, or otherwise as a result of the use of the Premises by Tenant or its agents, representatives or contractors, Tenant, within thirty (30) days after Tenant's receipt of written notice of the filing thereof, shall cause such lien to be discharged of record by payment, deposit, bond, order of court of competent jurisdiction or otherwise. If Tenant shall fail to cause such lien to be discharged within the period aforesaid, then, in addition to any other right or remedy, Landlord may, but shall not be obligated to, discharge the same either by paying the amount claimed to be due or by procuring the discharge of such lien by deposit or by bonding and in any such event, Landlord shall be entitled, if Landlord so elects, to compel the prosecution of an action for the foreclosure of such lien by the lienor with interest, costs and allowances. Any amount so paid by Landlord and costs and expenses incurred by Landlord in connection therewith, together with interest thereon at the Interest Rate from the respective dates of Landlord's making of the payment or incurring of the cost and expenses, shall constitute Additional Rent payable by Tenant and shall be paid by Tenant to Landlord on demand. Notwithstanding the foregoing, Tenant may challenge the filing of any mechanic's, laborer's or materialman's lien provided that Tenant has provided such security as may be required under applicable law in such proceeding to prevent the sale, forfeiture, loss or restriction on the use of the Premises or any part thereof.

## **ARTICLE 11 LANDLORD'S RIGHT TO INSPECT AND ENTER.**

**Section 11.1 Inspection and Entry.** During the course of site preparation, construction and completion of the Facility, Tenant shall keep on the Premises all plans, shop drawings and specifications relating to such site preparation and construction which Landlord, its architects and engineers may examine at reasonable times for the purpose of determining whether the work conforms to the agreements contained in this Lease. In addition, Landlord shall have the right to show the Land at any time during the Term to any prospective purchasers, mortgagees or lessees of the same, and may enter upon the Premises, or any part thereof, for the purpose of ascertaining their condition or whether Tenant is observing and performing the obligations assumed by it under this Lease, all without hindrance or molestation from Tenant. Any such entry and inspection shall be performed at Landlord's sole cost and expense and be done in a manner so as to minimize any disturbance to Tenant's business from such entry. Landlord shall also have the right to enter upon the Premises for the purpose of A) making any necessary repairs and performing any work that may be necessary by reason of Tenant's failure to make any such repairs or perform any such work upon ten (10) days prior written notice to the Tenant, except in case of emergency; and B) fulfilling Landlord's obligations and duties under the PPA, including but not limited to Landlord's duties under Section 3.1 of the PPA. The above-mentioned rights of entry shall be exercisable at reasonable times, at reasonable hours and, subject to the provisions of the preceding sentence, on reasonable notice. Nothing contained herein, however, shall impose or imply any duty on the part of the Landlord to make any such repairs or perform

any such work. Tenant shall have a right to have a representative present at any such entry or inspection.

**Section 11.2 Limitation of Liability.** Landlord may, during the progress of any work performed by Landlord pursuant to this Lease, keep and store upon the Premises all necessary materials, tools, supplies and equipment. Landlord shall not be liable for inconvenience, annoyance, disturbance, loss of business or other damage of Tenant or any subtenant reasonably and necessarily required by the making of such repairs or the performance of any such work, or on account of bringing materials, tools, supplies and equipment into or through the Premises during the course thereof, and the obligations of Tenant hereunder shall not be affected thereby.

## **ARTICLE 12 INDEMNIFICATION.**

**Section 12.1 Indemnification – General.** The Tenant has inspected the premises, knows the condition thereof, and on behalf of itself and its successors, assigns and sub-Lessees/sub-Permittees/sub-Licensees/sub-Tenants undertakes and agrees to indemnify and hold harmless the City of Los Angeles, the Department of Water and Power, the Board of Water and Power Commissioners of the City of Los Angeles, and all of their officers, agents, successors in interest, insurers, assigns and/or employees (individually and collectively, “LADWP Indemnitees”), and at the option of the Landlord, defend by counsel satisfactory to the Landlord, the LADWP Indemnitees from and against any and all liens and claims of lien, suits, causes of action, claims, charges, damages (including but not limited to indirect, consequential, and incidental), demands, judgments, civil fines, penalties, or losses of any kind or nature whatsoever that are incurred by or asserted against the LADWP Indemnitees, for death, bodily injury or personal injury to any person, including Tenant employees and agents, or damage or destruction or loss of use of any property of either party hereto, or third persons in any manner arising by reason of, incident to, or connected in any manner to the acts, errors, omissions to act, willful misconduct, or non-performance or breach by Tenant of any term and/or condition of this Lease, resulting from or incident to the presence upon or performance of activities by Tenant or its personnel with respect to the subject area/property covered under this Lease, on the part of the Tenant, or the Tenant’s officers, agents, employees, or sub-Tenants of any tier, regardless of any negligence on the part of Indemnitees, except for the sole active negligence or willful misconduct of the Landlord. This indemnity shall apply whether occurring during the term of this Lease and any time thereafter, and shall be in addition to any other rights or remedies which LADWP Indemnitees have under law or under this Lease.

**Section 12.2 Indemnification – Environmental.** The Tenant on behalf of itself and its successors, assigns and sub-Lessees/sub-Permittees/sub-Licensees/sub-Tenants further undertakes and agrees to indemnify and hold harmless the LADWP Indemnitees, and at the option of the Landlord, defend by counsel satisfactory to Landlord, the LADWP Indemnitees from and against any and all liens and claims of lien, suits, causes of action, claims, charges, damages, demands, judgments, civil fines, penalties, (including but not limited to costs, expenses, and legal liability for environmental investigations, monitoring, containment, abatement, removal, repair, cleanup, restoration, remediation, penalties and fines arising from the violation of any local, regional, state, or federal law, or regulation, disbursements, and other environmental response costs), or losses of any kind or nature whatsoever that are incurred by or

asserted against the LADWP Indemnitees, for death, bodily injury or personal injury to any person, including Tenant employees and agents, or damage or destruction or loss of use of any property of either party hereto, or third persons in any manner arising by reason of, incident to, or connected in any manner to the acts, errors, omissions to act, willful misconduct, or non-performance or breach by Tenant of any term and/or condition of this Lease, relating directly or indirectly to the release or spill of any legally designated hazardous material or waste, resulting from or incident to the presence upon or performance of activities by Tenant or its personnel with respect to the Premises or other property of Landlord, on the part of the Tenant, or the Tenant officers, agents, employees, or sub-Tenant of any tier, regardless of any negligence on the part of Indemnitees, except for the sole negligence or willful misconduct of Landlord. This indemnity shall apply whether occurring during the term of this Lease and any time thereafter, and shall be in addition to any other rights or remedies which LADWP Indemnitees have under law or under this Lease.

### **ARTICLE 13 DAMAGE OR DESTRUCTION.**

**Section 13.1 Tenant Repair and Restoration.** If, at any time during the Term, the Premises or any part thereof shall be damaged or destroyed by fire or other occurrence (including any occurrence for which insurance coverage was not obtained or obtainable) of any kind or nature, ordinary or extraordinary, foreseen or unforeseen, Tenant shall proceed with reasonable diligence (subject to a reasonable time allowance for Unavoidable Delays) to repair or replace the same as nearly as possible to its value, condition and character immediately prior to such damage or destruction.

**Section 13.2 Lease Obligations Continue.** In no event shall Tenant be entitled to any abatement, allowance, reduction or suspension of rent because part or all of the Premises shall be untenable owing to the partial or total destruction thereof; nor shall such damage or destruction release Tenant of or from any other obligations imposed upon Tenant under this Lease.

### **ARTICLE 14 CONDEMNATION.**

**Section 14.1 Total, Partial Taking; Termination of Lease.** If, during the Term or during any period of time between the execution of this Lease and the date the Term commences, there is any Taking of all or any part of the Premises or any interest in this Lease by Condemnation, the rights and obligations of Landlord and Tenant shall be as follows:

**Section 14.1.1 Total Taking.** If title or possession to the whole or substantially all of the Premises shall be taken by Condemnation, this Lease shall terminate and expire on the date of such Taking and the Base Rent and Additional Rent reserved shall be apportioned and paid to the date of such Condemnation.

**Section 14.1.2 Partial Taking.** If title to less than the whole or substantially all of the Premises shall be taken in condemnation and (i) more than fifty percent (50%) of the Facility has been taken, and (ii) the portion of the Facility not so taken cannot be so



repaired or reconstructed so as to be economically viable as determined by Tenant in the exercise of its reasonable discretion, Tenant may, at its option, terminate this Lease within ninety (90) days after such Taking by serving upon Landlord at any time within said ninety (90) day period, a thirty (30) day written notice of Tenant's election to so terminate accompanied by a certificate of Tenant listing the portion of the Facility taken and showing why, in detail, the remaining portion of the Facility cannot be repaired or reconstructed so as to be economically viable in Tenant's reasonable discretion.

**Section 14.2 Partial Taking - Lease Continues.** In the event of a Condemnation which does not result in a termination of this Lease pursuant to Section 14.1, the term of this Lease shall not be reduced or affected in any way; *provided, however*, that Tenant shall be entitled to a pro rata abatement of Base Rent based on any reduction in the capacity of the Facility resulting from the Condemnation. Tenant, at its sole cost and expense and whether or not the Award shall be sufficient for the purpose, shall proceed with reasonable diligence to repair and restore the remaining part of the Premises to substantially their former condition, so as to constitute a complete, architectural unit of substantially the same usefulness as immediately before the Condemnation.

**Section 14.3 Taking Award.** In the event of a Condemnation, (a) the Landlord shall first be entitled to receive such portion of the Award as shall represent compensation for the value of the Land, or the part thereof so taken, considered as vacant and unimproved and unencumbered by this Lease and such portion of the Award as shall represent (i) consequential or severance damages, if any, to the portion of the Land not so taken, considered as vacant and unimproved and encumbered by this Lease, and (ii) all improvements located on the Land and not owned by Tenant; and (b) Tenant shall then be entitled to receive the entire balance of the Award (including that portion of the Award attributed to Tenant's relocation or moving expenses and damage to Tenant's business). Any payments to be made to Tenant under the provisions of this Section 14.3 are subject to the condition that Tenant shall not be in default in any of the terms, covenants and conditions of this Lease on the Termination Date and if any such default should then exist, the amount of said payments shall be reduced by such amount as may be required to remedy any such default.

**Section 14.4 Rights of Participation.** Each Party shall have the right, at its own expense, to appear in a Condemnation proceeding and to participate in any and all hearings and trials.

**Section 14.5 Notice of Proceeding.** In the event Landlord or Tenant shall receive notice of any proposed or pending Condemnation affecting the Premises, the Party receiving such notice shall promptly notify the other Party of the receipt and contents thereof.

**Section 14.6 Statutory Waiver.** Tenant hereby waives the provisions of California Code of Civil Procedure Section 1265.130 and any other applicable existing or future law providing for, or allowing Tenant to petition the courts of the state of California for, a termination of this Lease upon a partial taking of the Premises.

**ARTICLE 15**  
**ASSIGNMENT, SUBLETTING, MORTGAGE.**

**Section 15.1 Assignment; Change in Control.** The provisions of Section 14.7 of the PPA (“Assignment of Agreement; Change in Control”) are incorporated herein in their entirety, mutatis mutandis.

**Section 15.2 Rent from Assignee.** If this Lease is assigned, whether or not in violation of the provisions hereof, Landlord may and hereby is empowered to collect rent from the assignee. In such event, Landlord may apply the net amount received by it to the Base Rent and Additional Rent, and no such collection shall be deemed a waiver of the covenant herein against assignment, mortgage, encumbrance, pledge or subletting, or an acceptance of the assignee or subtenant as a Tenant under this Lease, or a release of Tenant from the further performance of the covenants herein contained on the part of Tenant.

**Section 15.3 No Release of Tenant.** The making of any assignment, mortgage, pledge, encumbrance or subletting, in whole or in part, shall not operate to relieve Tenant from its obligations under this Lease and, notwithstanding any such assignment, mortgage, pledge, encumbrance or subletting Tenant shall remain liable for the payment of all Base Rent and Additional Rent and for the due performance of all the covenants and agreements of this Lease to the full end of the Term whether or not there shall have been any prior termination of this Lease by summary proceedings or otherwise.

**Section 15.4 Consent Limited.** Any consent by Landlord herein contained or hereafter given to any act of assignment, mortgage, pledge or encumbrance shall be held to apply only to the specific transaction hereby or thereby approved.

**Section 15.5 Permitted Mortgages - Conditions of.** Tenant from time to time during the term of this Lease may make one or more Permitted Mortgages, subject to Landlord’s consent and the following provisions:

(a) Each Permitted Mortgage shall cover no interests in any real property other than Tenant’s interest in the Lease and the Facility and in any appurtenant easements held by Tenant in connection with the Facility.

(b) Tenant or the holder of such Mortgage shall promptly deliver to Landlord in the manner herein provided for the giving of notice to Landlord, a true copy of the Permitted Mortgage and of any assignment thereof and shall notify Landlord of the address of the Permitted Mortgage to which notices may be sent.

(c) Each Permitted Mortgage shall contain provisions permitting the disposition and application of Awards payable to Landlord in the manner provided in this Lease.

(d) All Permitted Mortgages shall comply with the restrictions on and requirements of Permitted Encumbrances in the PPA.

**Section 15.6 Permitted Mortgages - Provisions.** With respect to any Permitted Mortgage made in accordance with the provisions of Section 15.5, the following provisions shall apply:

**Section 15.6.1 Definition of Permitted Mortgages.** For the purposes of this Article 15, the term “*Permitted Mortgagee*” shall mean the holder of record of a Permitted Mortgage, but an Affiliate of Tenant shall not be a Permitted Mortgagee for purposes of this Lease.

**Section 15.6.2 Permitted Mortgages not Assignment, etc.** The making of a Permitted Mortgage shall not be deemed to constitute an assignment or transfer of this Lease, nor shall any Permitted Mortgagee, as such, be deemed an assignee or transferee of this Lease or of the leasehold estate hereby created so as to require such Permitted Mortgagee, as such, to assume the performance of any of the terms, covenants or conditions on the part of Tenant to be performed hereunder. A Permitted Mortgagee may acquire Tenant’s interest in the Lease and the Facility at any sale of this Lease in any proceedings for the foreclosure of any Permitted Mortgage or by assignment or transfer in lieu of the foreclosure of any Permitted Mortgage and shall thereupon be deemed to be an assignee or transferee within the meaning of this Section 15.6.2 and shall be deemed to have assumed the performance of all of the terms, covenants and conditions on the part of Tenant to be performed hereunder from and after the date of such purchase and assignment and shall promptly cure any continuing defaults under this Lease. Any such Permitted Mortgagee shall not (i) be required to cure any default occurring before such Permitted Mortgagee’s acquisition of Tenant’s rights by foreclosure or assignment unless such defaults is continuing; (ii) be liable for any damage or other relief attributable to any act or omission, breach of representation or warranty or indemnity obligation of any prior tenant; or (iii) be bound by an amendment or modification of this Lease made without its consent. In the event that any Permitted Mortgagee becomes the Tenant under this Lease or any new lease pursuant to Section 15.9, the Permitted Mortgagee shall be personally liable for the obligations of Tenant under this Lease or such new lease only for the period of time that the Permitted Mortgagee or its designee remains the actual beneficial holder of the leasehold estate hereunder or thereunder.

**Section 15.7 Notice to Mortgagees.** So long as any Permitted Mortgage shall remain a lien on Tenant’s leasehold estate hereunder, Landlord agrees, simultaneously with the giving of any written notice to Tenant relating to Tenant’s breach, violation or failure to perform its obligations under this Lease, to give a copy of such notice to any Permitted Mortgagee, provided the provisions of Section 15.5 shall be complied with. No such notice by Landlord to Tenant shall be deemed to have been duly given unless and until a copy thereof has been sent to any such Permitted Mortgagee.

**Section 15.8 Mortgagee Cures.** Each Permitted Mortgagee will have the same period after receipt of the notice as provided in Section 15.7 to it for remedying the default or causing the same to be remedied as is given Tenant after notice to it plus twenty (20) days thereafter and Landlord agrees to accept such performance on the part of a Permitted Mortgagee as though the same had been done or performed by Tenant. At the expiration of the period provided in such notice plus twenty (20) days, Landlord will take no action to effect a termination of this Lease by

reason of any default (except a default in the payment of Base Rent or Additional Rent or a default under any other provision of this Lease which requires Tenant to pay money) without first giving to each Permitted Mortgagee reasonable time within which either (i) to obtain possession of the Premises (including possession by a receiver) and thereafter to cure such default, or (ii) to institute foreclosure proceedings and to complete such foreclosure, or otherwise to acquire Tenant's interest under this Lease with diligence and without unreasonable delay. The Permitted Mortgagee shall not be required to continue such foreclosure proceedings if the default shall be cured by Tenant; *provided, however*, that nothing herein shall preclude Landlord from exercising any rights or remedies under this Lease with respect to any other default by Tenant during any period of such forbearance. Landlord shall accept such performance by the Permitted Mortgagee as though the same had been performed by Tenant, and for such purpose Landlord hereby authorized the Permitted Mortgagee to enter upon the Premises and to exercise any of Tenant's rights and duties under this Lease, so long as the Permitted Mortgagee complies in all material respects with the terms and conditions of this Lease as the same relate to Tenant. The provisions of this Section 15.8 are conditioned on the following provisions:

**Section 15.8.1 Acquisition of Possession.** The Permitted Mortgagee shall, within twenty (20) days after notice of such default notify Landlord of its election to proceed with due diligence promptly to acquire possession of the Premises or to foreclose the Permitted Mortgage or otherwise to extinguish Tenant's interest in this Lease.

**Section 15.8.2 Agreement of Permitted Mortgagee.** Such notice from the Permitted Mortgagee shall be accompanied by an instrument in writing wherein such Permitted Mortgagee agrees that:

(a) during the period that such Permitted Mortgagee shall be in possession of the Premises and so long as it remains in possession and/or during the pendency of any such foreclosure or other proceedings and until the interest of Tenant in this Lease shall terminate or such proceeding shall be discontinued, it will pay or cause to be paid to Landlord all sums from time to time becoming due hereunder for Base Rent or Additional Rent; and

(b) if delivery of possession of the Premises shall be made to such Permitted Mortgagee, whether voluntarily or pursuant to any foreclosure or other proceedings or otherwise, such Permitted Mortgagee shall, except as otherwise provided in Section 15.6.2, promptly following such delivery of possession, perform all the covenants and agreements herein contained on Tenant's part to be performed (including payment of Base Rent and Additional Rent) to the extent that Tenant shall have failed to perform the same to the date of delivery of possession, as aforesaid, except such covenants and agreements which cannot with the exercise of due diligence be performed by such Permitted Mortgagee. Nothing in this subclause (b) shall be construed to require such Permitted Mortgagee to perform any of the Tenant's obligations hereunder accruing after such Permitted Mortgagee ceases to be in possession.

(c) if delivery of possession of the Premises shall be made to such Permitted Mortgagee, whether voluntarily or pursuant to any foreclosure or other proceedings or otherwise (including Section 15.9 below), such Permitted Mortgagee shall, at Landlord's

request and election, honor any commitment in the Power Purchase Agreement to sell the electrical energy generated by the Facility to Landlord under the same terms and conditions of such Power Purchase Agreement.

**Section 15.9 New Lease with Mortgagee.** In the event of the termination of this Lease prior to its stated expiration date because of an Event of Default that was not susceptible of being cured or performed by a third party, Landlord agrees that it will give all Permitted Mortgagees notice of such termination and will enter into a new lease of the Premises with such Permitted Mortgagee or, at the request of such Permitted Mortgagee and reasonable approval by Landlord, with its assignee, designee or nominee for the remainder of the Term effective as of the date of such termination, upon the same terms as contained in this Lease except for requirements which are no longer applicable or have already been performed, provided (i) such Permitted Mortgagee makes written request upon Landlord for such new lease within sixty (60) days after the giving of such notice of termination and such written request is accompanied by payment to Landlord of all amounts then due to landlord of which Landlord shall have given the Permitted Mortgagee notice, (ii) such Permitted Mortgagee pays or causes to be paid to Landlord at the time of the execution and delivery of such new lease any and all additional sums which would at the time of the execution and delivery thereof be due under this Lease but for such termination, and (iii) such Permitted Mortgagee pays or causes to be paid any and all reasonable out-of-pocket expenses including reasonable counsel fees incurred by Landlord in connection with any such termination and in connection with the execution and delivery of such new lease, less the net income from the Premises collected by Landlord subsequent to the Termination Date and prior to the execution and delivery of such new lease. Landlord agrees that all improvements constructed on the Premises by Tenant and deemed to be the property of Tenant pursuant to Section 6.2 shall be deemed to be the property of the Permitted Mortgagee under the new lease. If Landlord receives more than one written request in accordance with the provisions of this Section 15.9, Landlord shall only be required to deliver the new lease to the Permitted Mortgagee whose Permitted Mortgage is prior in lien to any and all other Permitted Mortgages whose holders have made such request, and the written request, and its rights hereunder, of any Permitted Mortgagee which is subordinate in lien shall be null and void and of no force or effect. Landlord may rely upon the certificate of a representative of a title insurance company reviewing the Official Records of Kern County, California, in determining which Permitted Mortgage is prior in lien to all others. The provisions of this Section 15.9 shall survive the termination of this Lease and shall continue if full force and effect thereafter to the same extent as if this Section 15.9 were a separate and independent contract among Landlord, Tenant and Permitted Mortgagees. Landlord shall have no obligations, however, to deliver possession of the Premises as against anyone. In the event a new lease is entered into in accordance with the foregoing, the Parties shall execute a memorandum of such new lease in form suitable for recording in the Official Records of Kern County, California.

**Section 15.10 Cancellation by Tenant.** This Lease shall not be modified or surrendered to Landlord or cancelled by Tenant, nor shall Landlord accept a surrender of this Lease without the prior written consent of all Permitted Mortgagees nor shall any merger result from the acquisition by any one entity of the fee and leasehold estates in the Premises.

**Section 15.11 Reserved.**

**ARTICLE 16**  
**DEFAULTS.**

**Section 16.1 Events of Default.** If any one or more of the following events (herein sometimes called “*Events of Default*”) shall happen:

- (a) if a default shall be made in the due and punctual payment of any Base Rent or Additional Rent within thirty (30) days after notice thereof to Tenant, or
- (b) if default shall be made by Tenant in the performance of or compliance with any of the covenants and agreements of this Lease other than those referred to in the foregoing subsection (a), that is not cured within thirty (30) days after written notice thereof from Landlord to Tenant (provided, that if Tenant proceeds with due diligence during such thirty (30) day period to cure such default and is unable by reason of the nature of the work involved to cure the same within the said thirty (30) days, such thirty (30) day period shall be extended by the time reasonably necessary to cure the same); or
- (c) Inaccuracy in any material respect at the time made or deemed to be made of any representation or warranty made by Tenant herein; or
- (d) the Bankruptcy of Tenant; or
- (e) Tenant shall vacate or abandon the Premises (for purposes of this Lease, Tenant shall be deemed to have “vacated” or “abandoned” the Premises if no development, construction, installation, operation, use, maintenance or electric generation activities with respect to the Facility have occurred at the Premises for a period of six (6) consecutive months);

then and in any such event and subject to the rights of the Permitted Mortgagee hereunder, if such Event of Default is with respect to a material obligation hereunder, Landlord at any time thereafter may give written notice to Tenant specifying such Event of Default and stating that this Lease and the Term shall expire and terminate on the date specified in such notice, which shall be at least ten (10) Business Days after the giving of such notice, and upon the date specified in such notice, subject to the provisions of Section 16.4, this Lease shall terminate as though such date were the date originally set forth herein for the termination hereof, but Tenant shall continue to be liable to Landlord as hereinafter provided.

**Section 16.2 Surrender and Re-entry.** Upon a termination of this Lease resulting from an Event of Default, Tenant shall quit and peacefully surrender the Premises to Landlord. At any time on or after any such termination, Landlord may without notice enter upon and re-enter the Premises and possess and repossess itself thereof, by summary proceedings, ejectment or otherwise, and may dispossess Tenant and remove Tenant and may have, hold and enjoy the Land and the right to receive all income of and from the same. Landlord shall have no obligations to relet the Land or any part thereof.

**Section 16.3 Tenant Liability Continues.** No termination of this Lease resulting from an Event of Default shall relieve Tenant of its liability and obligations under this Lease, and such liability and obligations shall survive any such termination. In the event of any such termination,

whether or not the Premises or any part thereof shall have been relet, Tenant shall pay to Landlord the Base Rent and Additional Rent required to be paid by Tenant up to the Termination Date, and thereafter Tenant, until the end of what would have been the Term in the absence of such termination, shall be liable to Landlord for, and shall pay to Landlord for Tenant's default the difference between:

- (a) the equivalent of the amount of the Base Rent and Additional Rent which would be payable hereunder by Tenant if this Lease were still in effect, *less*
- (b) the net proceeds of any reletting after deducting all Landlord's reasonable and actual out-of-pocket expenses in connection with such reletting, including all repossession costs, brokerage commissions, legal expenses, reasonable attorneys' fees, alteration costs, and expenses of preparation for such reletting.

Tenant shall pay such current damages (herein called "**Deficiency**") to Landlord on the days on which the Base Rent and Additional Rent would have been payable under this Lease if this Lease were still in effect, and Landlord shall be entitled to recover from Tenant each Deficiency as the same shall arise.

**Section 16.4 Liquidated Damages.** If this Lease shall be terminated as provided in Section 16.1, then at any time after such termination, Landlord shall be entitled to recover from Tenant, and Tenant shall pay to Landlord, on demand, as and for liquidated and agreed final damages for Tenant's default, an amount equal to the difference between the Base Rent and Additional Rent payable hereunder for the unexpired portion of the Term and the then fair and reasonable rental value of the Land for the same period discounted to the Termination Date (as determined if there had not been a termination under Section 16.1) at the rate of the Interest Rate less two hundred (200) basis points per annum. If the Premises or any part thereof be relet by Landlord for more or less than the unexpired Term before presentation of proof of such liquidated damages to any court, commission or tribunal, the amount of rent reserved upon such reletting shall be deemed *prima facie* to be the fair and reasonable rental value for the part or the whole of the Premises so relet during the term of the reletting.

**Section 16.5 Tenant Waivers.** Tenant hereby expressly waives, insofar as permitted by law, the service of any notice of intention to re-enter provided for in any statute, or of the institution of legal proceedings to that end, and Tenant, for and on behalf of itself and all persons claiming through or under Tenant, also waives any and all right of redemption or re-entry or repossession or to restore the operation of this Lease.

**Section 16.6 Additional Damages.** If this Lease shall terminate as provided in Section 16.1, Landlord, in addition to any other rights under this Article 16, shall be entitled to recover as damages (i) the cost of performing any work required to be done by Tenant under this Lease and all damages resulting from Tenant's default in performing such work, and (ii) the cost of placing the Premises in the same condition as Tenant is required to surrender them hereunder.

**Section 16.7 Landlord Default.** If any one or more of the following events (a "**Landlord Default**") shall happen (a) a default shall be made by Landlord in the performance of or compliance with any of the covenants and agreements of this Lease and such default shall

continue for a period of thirty (30) days after written notice thereof from Tenant to Landlord (provided, that if Landlord proceeds with due diligence during such thirty (30) day period to cure such default and is unable by reason of the nature of the work involved to cure the same within the said thirty (30) days, such thirty (30) day period shall be extended by the time reasonably necessary to cure the same), or (b) inaccuracy in any material respect at the time made or deemed to be made of any representation or warranty made by Landlord herein, then and in any such event, Tenant at any time thereafter may, in addition to any other remedies it may have at law or equity, give written notice to Landlord specifying such Landlord Default and stating that this Lease and the Term shall expire and terminate on the date specified in such notice, which shall be at least ten (10) Business Days after the giving of such notice, and upon the date specified in such notice this Lease shall terminate as though such date were the date originally set forth herein for the termination hereof.

## **ARTICLE 17 ESTOPPEL, NO WAIVERS.**

**Section 17.1 Estoppel Certificates.** Landlord and Tenant shall execute and deliver to each other, within sixty (60) days after receipt of a written request therefore, a certificate evidencing whether or not (i) the Lease is in full force and effect; (ii) the Lease has been modified or amended in any respect and describing such modifications or amendments, if any; and (iii) there are any existing defaults thereunder to the knowledge of the party executing the certificate, and specifying the nature of such defaults, if any. If either party shall fail to deliver said certificate within sixty (60) days from request therefor it shall be concluded that the Lease is in full force and effect, unmodified and without default.

**Section 17.2 No Implied Waivers-Remedies Cumulative.** No covenant or agreement of this Lease shall be deemed to have been waived by Landlord unless such waiver is in writing, signed by Landlord or Landlord's agent duly authorized in writing. Consent or approval of Landlord to any act or matter must be in writing and shall apply only with respect to the particular act or matter in which such consent or approval is given and shall not relieve Tenant from the obligation wherever required under this Lease to obtain the consent or approval of Landlord to any other act or matter. The failure of Landlord to insist upon the strict performance of any one of the covenants or agreements of this Lease or to exercise any right, remedy or election herein contained or permitted by law shall not constitute or be construed as a waiver or relinquishment for the future of such covenant or agreement, right, remedy or election, but the same shall continue and remain in full force and effect. Any right or remedy of Landlord herein specified or any other right or remedy that Landlord may have at law, in equity or otherwise upon breach of any covenant or agreement herein contained upon the part of Tenant to be performed shall be distinct, separate and cumulative rights or remedies and no one of them, whether exercise by Landlord or not, shall be deemed to be in exclusion of any other.

**Section 17.3 Acceptance of Rent.** Receipt or acceptance of rent by Landlord shall not be deemed to be a waiver of any default under the covenants or agreements, of this Lease, or of any right which Landlord may be entitled to exercise hereunder.



**ARTICLE 18**  
**MISCELLANEOUS.**

**Section 18.1 Limitation of Landlord's Liability.** The term "*Landlord*," as used herein, so far as Landlord's covenants and agreements hereunder are concerned, shall be limited to mean and include only the owner or owners at the time in question of the fee title to the Land. In the event of any conveyance of such fee title, Landlord herein named and each subsequent grantor shall be automatically relieved, from and after the date of such conveyance, of all personal liability as respects the performance of any of Landlord's covenants and agreements thereafter to be performed that accrue from and after the date of such transfer, and such grantee shall be bound by all such covenants and agreements. Tenant shall not look to any disclosed or undisclosed principal of any Landlord for performance of any of the terms, provisions, covenants, limitations and conditions of this Lease. Tenant specifically agrees to look solely to Landlord's then equity interest in the Land at the time owned for recovery of any judgment from Landlord; it being specifically agreed that Landlord shall not be personally liable for any such judgment or for the payment of any monetary obligation to Tenant. In no event shall Landlord be liable for any special, incidental, exemplary, indirect, punitive or consequential damages arising from its performance or non-performance under this Lease, including any loss of business revenues.

**Section 18.2 Notices from One Party to the Other.** All notices, approvals, consents, requests, and elections required or permitted under this Lease shall be in writing and shall be deemed duly given if and when if delivered in person or sent by facsimile transmission, reliable overnight courier, or sent by registered or certified mail, postage prepaid to the persons specified in Exhibit B. In addition to the foregoing, the Parties may agree in writing at any time to deliver notices, requests, demands, consents, waivers and other communications through alternate methods, such as electronic mail.

**Section 18.3 Dispute Resolution.** In the event of any claim, controversy or dispute between the Parties arising out of or relating to or in connection with this Lease (including any dispute concerning the validity of this Lease or the scope and interpretation of this Section 18.3) (a "*Dispute*"), either Party (the "*Notifying Party*") may deliver to the other Party (the "*Recipient Party*") notice of the Dispute with a detailed description of the underlying circumstances of such Dispute (a "*Dispute Notice*"). The Dispute Notice shall include a schedule of the availability of the Notifying Party's senior officers (having a title of senior vice president (or its equivalent) or higher) duly authorized to settle the Dispute during the thirty (30) day period following the delivery of the Dispute Notice. This Section 18.3 shall not limit Landlord's rights under other provisions of this Lease to cure defaults of Tenant.

(a) The Recipient Party shall within five (5) Business Days following receipt of the Dispute Notice, provide to the Notifying Party a parallel schedule of availability of the Recipient Party's senior officers (having a title of senior vice president (or its equivalent) or higher, or, in the case of a governmental authority, a person duly authorized to negotiate such dispute and recommend such resolution of the Dispute to its authorizing body for approval) duly authorized to settle the Dispute. Following delivery of the respective senior officers' schedules of availability, the senior officers of the Parties shall meet and confer as often as they deem reasonably necessary during the

remainder of the thirty (30) day period in good faith negotiations to resolve the Dispute to the satisfaction of each Party.

(b) In the event a Dispute is not resolved pursuant to the procedures set forth in this Section 18.3 by the expiration of the thirty (30) day period of the Dispute Notice, then either Party may pursue any legal remedy available to it in accordance with the provisions of Section 18.9.

**Section 18.4 Further Assurances.** Each Party agrees to execute and deliver all further instruments and documents, and take all further action not inconsistent with the provisions of this Lease that may be reasonably necessary to effectuate the purposes and intent of this Lease.

**Section 18.5 Ambiguity.** The Parties acknowledge that this Lease was jointly prepared by them, by and through their respective legal counsel, and any uncertainty or ambiguity existing herein shall not be interpreted against either Party on the basis that the Party drafted the language, but otherwise shall be interpreted according to the application of the rules on interpretation of contracts.

**Section 18.6 Attorney Fees and Costs.** Both Parties hereto agree that in any action to enforce the terms of this Lease that each Party shall be responsible for its own attorney fees and costs. Each of the Parties to this Lease was represented by its respective legal counsel during the negotiation and execution of this Lease.

**Section 18.7 Voluntary Execution.** Both Parties hereto acknowledge that they have read and fully understand the content and effect of this Lease that the provisions of this Lease have been reviewed and approved by their respective counsel. The Parties to this Lease further acknowledge that they have executed this Lease voluntarily, subject only to the advice of their own counsel, and do not rely on any promise, inducement, representation or warranty that is not expressly stated herein.

**Section 18.8 Entire Agreement.** This Lease (including all Appendices and Exhibits) contains the entire understanding concerning the subject matter herein and supersedes and replaces any prior negotiations, discussions or agreements between the Parties, or any of them, concerning that subject matter, whether written or oral, except as expressly provided for herein. This is a fully integrated document. Each Party acknowledges that no other party, representative or agent, has made any promise, representation or warranty, express or implied, that is not expressly contained in this Lease that induced the other Party to sign this document or the other documents of even date herewith between the Parties that induced the other Party to sign this document. This Lease may be amended or modified only by an instrument in writing signed by each Party.

**Section 18.9 Governing Law, Venue.** This Lease was made and entered into in the City of Los Angeles and shall be governed by, interpreted and enforced in accordance with the laws of the State of California and the City of Los Angeles, without regard to conflict of law principles. All litigation arising out of, or relating to this Lease, shall be brought in a state or federal court in the County of Los Angeles in the State of California. The Parties irrevocably

agree to submit to the exclusive jurisdiction of such courts in the State of California and waive any defense of forum non conveniens.

**Section 18.10 Execution in Counterparts.** This Lease may be executed in counterparts and upon execution by each signatory, each executed counterpart shall have the same force and effect as an original instrument and as if all signatories had signed the same instrument. Any signature page of this Lease may be detached from any counterpart of this Lease without impairing the legal effect of any signature thereon, and may be attached to another counterpart of this Lease identical in form hereto by having attached to it one or more signature pages.

**Section 18.11 Effect of Section Headings.** Section headings appearing in this Lease are inserted for convenience only and shall not be construed as interpretations of text.

**Section 18.12 Quiet Enjoyment.** Subject to all of the conditions, terms and provisions contained in this Lease, Landlord covenants that Tenant, upon paying the Base Rent and Additional Rent and observing and keeping all terms, covenants, agreements, limitations and conditions hereof on its part to be kept, shall quietly have and enjoy the Premises during the term hereof, without hindrance or molestation by Landlord.

**Section 18.13 Memorandum.** Landlord and Tenant agree that at the request of either, each will execute a short form memorandum of this Lease in form satisfactory for recording in the Official Records of Kern County, California that shall be recorded on or promptly following the Effective Date.

**Section 18.14 Confidentiality.**

(a) Each Party agrees, and shall use reasonable efforts to cause its parent, subsidiary and Affiliates, and its and their respective directors, officers, employees and representatives, as a condition to receiving confidential information hereunder, to keep confidential, except as required by law, all documents, data, drawings, studies, projections, plans and other written information that relate to economic benefits to or amounts payable by either Party under this Lease, and, with respect to documents, that are clearly marked “Confidential” at the time a Party shares such information with the other Party (“*Confidential Information*”). The provisions of this Section 18.14 shall survive and shall continue to be binding upon the Parties for period of one (1) year following the date of termination of this Lease. Notwithstanding the foregoing, information shall not be considered confidential which (i) is disclosed with the prior written consent of the originating Party, (ii) was in the public domain prior to disclosure or is or becomes publicly known or available other than through the action of the receiving Party in violation of this Lease, (iii) was lawfully in a Party’s possession or acquired by a Party outside of this Lease, which acquisition was not known by the receiving Party to be in breach of any confidentiality obligation, or (iv) is developed independently by a Party based solely on information that is not considered confidential under this Lease.

(b) Either Party may, without violating this Section 18.14, disclose matters that are made confidential by this Lease:

(i) to its counsel, accountants, auditors, advisors, other professional consultants, credit rating agencies, actual or prospective, co-owners, investors, lenders, underwriters, contractors, suppliers, and others involved in construction, operation, and financing transactions and arrangements for a Party or its subsidiaries, affiliates, or parent; and

(ii) to governmental officials and parties involved in any proceeding in which either Party is seeking a permit, certificate, or other regulatory approval or order necessary or appropriate to carry out this Lease; to governmental officials or the public as required by any law, regulation, order, rule, order, ruling or other Requirement of Law, including oral questions, discovery requests, subpoenas, civil investigations or similar processes and laws or regulations requiring disclosure of financial information, information material to financial matters, and filing of financial reports. If a Party is requested or required, pursuant to any applicable law, regulation, order, rule, order, ruling or other Requirement of Law, discovery request, subpoena, civil investigation or similar process to disclose any of the Confidential Information, such Party shall provide prompt written notice to the other Party of such request or requirement so that at such other Party's expense, such other Party can seek a protective order or other appropriate remedy concerning such disclosure.

(c) Notwithstanding the foregoing or any other provision of this Lease, Tenant acknowledges that Landlord, as a California municipal corporation, is subject to disclosure as required by the California Public Records Act, Cal. Govt. Code §§ 6250 et. seq. ("**CPRA**") and the Ralph M. Brown Act, Cal. Govt. Code §§ 54950 et. seq. ("**Brown Act**"). Confidential Information of Tenant provided to the Landlord pursuant to this Lease will become the property of the Landlord and Tenant acknowledges that Landlord shall not be in breach of this Lease or have any liability whatsoever under this Lease or otherwise for any claims or causes of action whatsoever resulting from or arising out of Landlord's copying or releasing to a third party any of the Confidential Information of Tenant pursuant to the CPRA or Brown Act. Notwithstanding the foregoing or any other provision of this Lease, Landlord may record, register, deliver and file all such notices, statements, instruments and other documents as may be necessary or advisable to render fully valid, perfected and enforceable under all applicable law the credit support contemplated by this Lease, the Power Purchase Agreement and the Option Agreement and the rights, liens and priorities of Landlord with respect to such credit support.

(d) If Landlord receives a CPRA request for Confidential Information of Tenant, and Landlord determines that such Confidential Information is subject to disclosure under the CPRA, then Landlord will notify the Tenant of the request and its intent to disclose the documents. The Landlord, as required by the CPRA, will release such documents unless the Tenant timely obtains a court order prohibiting such release. If Tenant, at its sole expense, chooses to seek a court order prohibiting the release of Confidential Information pursuant to a CPRA request, then Tenant undertakes and agrees to defend, indemnify and hold harmless Landlord from and against all suits, claims, and causes of action brought against Landlord for Landlord's refusal to disclose Confidential Information of Tenant to any person making a request pursuant to CPRA. Tenant's

indemnity obligations shall include all actual costs incurred by Landlord, and specifically including costs of experts and consultants, as well as all damages or liability of any nature whatsoever arising out of any such suits, claims, and causes of action brought against Landlord, through and including any appellate proceedings. Tenant's obligations to Landlord under this indemnification provision shall be due and payable on a monthly, ongoing basis within thirty (30) days after each submission to Tenant of Landlord's invoices for all fees and costs incurred by Landlord, as well as all damages or liability of any nature.

**Section 18.15 Covenants Bind and Inure.** The covenants and agreements herein contained shall bind and inure to the benefit of Landlord and Tenant and their respective heirs, legal representatives, successors and assigns, except as otherwise provided herein. During the Term, Landlord shall have full right and authority to sell, convey, lease, assign, mortgage, encumber, grant other easements or transfer to one or more transferees any and all right or interest of Landlord in the Land, including its rights to receive payments under this Lease, subject, however, to the rights of the Tenant hereunder.

**Section 18.16 LADWP Business Policies.** Tenant agrees to follow the LADWP Business Policies as set forth in Section 14.23 of the PPA, which are hereby incorporated into and made a part of this Lease.

**Section 18.17 Representations and Warranties of Landlord.** Landlord makes the following representations and warranties to Tenant as of the Effective Date:

(a) Landlord is a validly existing California charter city and has the legal power and authority to own its properties, to carry on its business as now being conducted and to enter into this Lease and carry out the transactions contemplated hereby and thereby and perform and carry out all covenants and obligations on its part to be performed under and pursuant to this Lease.

(b) The execution, delivery and performance by Landlord of this Lease has been duly authorized by all necessary action, and do not and will not require any consent or approval of Landlord's regulatory/governing bodies, other than that which has been obtained.

(c) This Lease constitutes the legal, valid and binding obligation of Landlord enforceable in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization or similar laws relating to or affecting the enforcement of creditors' rights generally or by general equitable principles, regardless of whether such enforceability is considered in a proceeding in equity or at law.

**Section 18.18 Representation and Warranties of Tenant.** Tenant makes the following representations, warranties and covenants to Landlord as of the date Tenant executes this Lease and as of the Effective Date:

(a) Tenant is a limited liability company existing and in good standing under the laws of its respective state of incorporation or organization, is qualified to do business in the State of California and has the legal power and authority to own and lease its

properties, to carry on its business as now being conducted and to enter into this Lease and carry out the transactions contemplated hereby and perform and carry out all covenants and obligations on its part to be performed under and pursuant to this Lease.

(b) The execution, delivery and performance by Tenant of this Lease has been duly authorized by all necessary action, and do not and will not require any consent or approval other than those which have already been obtained.

(c) The execution and delivery of this Lease, the consummation of the transactions contemplated hereby and thereby and the fulfillment of and compliance with the provisions of this Lease, does not and will not conflict with or constitute a breach of or a default under, any of the terms, conditions or provisions of any Requirement of Law, or any organizational documents, agreement, deed of trust, mortgage, loan agreement, other evidence of indebtedness or any other agreement or instrument to which Tenant is a party or by which it or any of its property is bound, or result in a breach of or a default under any of the foregoing or result in or require the creation or imposition of any lien upon any of the properties or assets of Tenant (except as contemplated hereby).

(d) This Lease constitutes the legal, valid and binding obligation of Tenant, enforceable in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization or similar laws relating to or affecting the enforcement of creditors' rights generally or by general equitable principles, regardless of whether such enforceability is considered in a proceeding in equity or at law.

**Section 18.19 Reserved.**

(a) Reserved.

**Section 18.20 Inspection and Testing Program.** Tenant acknowledges that it intends to construct a Facility for the purpose of generating solar power involving a number of electrically energized components, which may include solar panels, modules, breakers, relays, transformers, voltage lines and busses of low, medium and high voltage, both AC and DC, control devices and inverters, among other components. In order to minimize the potential risks to any persons coming in contact with or in the vicinity of such potentially energized equipment or other equipment on the Premises, Tenant agrees to create and implement a regular and ongoing program of inspection and, where appropriate, testing (the "***Inspection and Testing Program***"). In addition to any comprehensive safety or other inspection or testing programs that Tenant may have, Tenant's Inspection and Testing Program will include representative pre-installation testing of energized components under conditions designed to detect potential electrical hazards in such components in a range of environmental circumstances including dry and wet conditions, and shall include a periodic inspection of a representative sampling of installed components at the Facility no less than twice yearly. Tenant shall report the results of such periodic inspections to Landlord. This Section 18.20 shall automatically terminate if the City of Los Angeles acting by and through the Department of Water and Power is no longer the Landlord under this Lease.

IN WITNESS WHEREOF, the parties have hereunto set their hand and seals as of the date first above written.

LANDLORD: CITY OF LOS ANGELES acting by and through the DEPARTMENT OF WATER AND POWER


By BOARD OF WATER AND POWER COMMISSIONERS OF THE CITY OF LOS ANGELES

Date: \_\_\_\_\_


By: \_\_\_\_\_  
Marcie L. Edwards  
General Manager

APPROVED AS TO FORM AND LEGALITY  
MICHAEL N. FEUER, CITY ATTORNEY

And: \_\_\_\_\_  
Secretary to the Board of Water and Power Commissioners

MAY 30 2014  
BY:   
JEAN-CLAUDE BERTET  
DEPUTY CITY ATTORNEY

TENANT: HECATE ENERGY BEACON #1 LLC

By:   
Its: CEO

Date: MAY 1, 2014

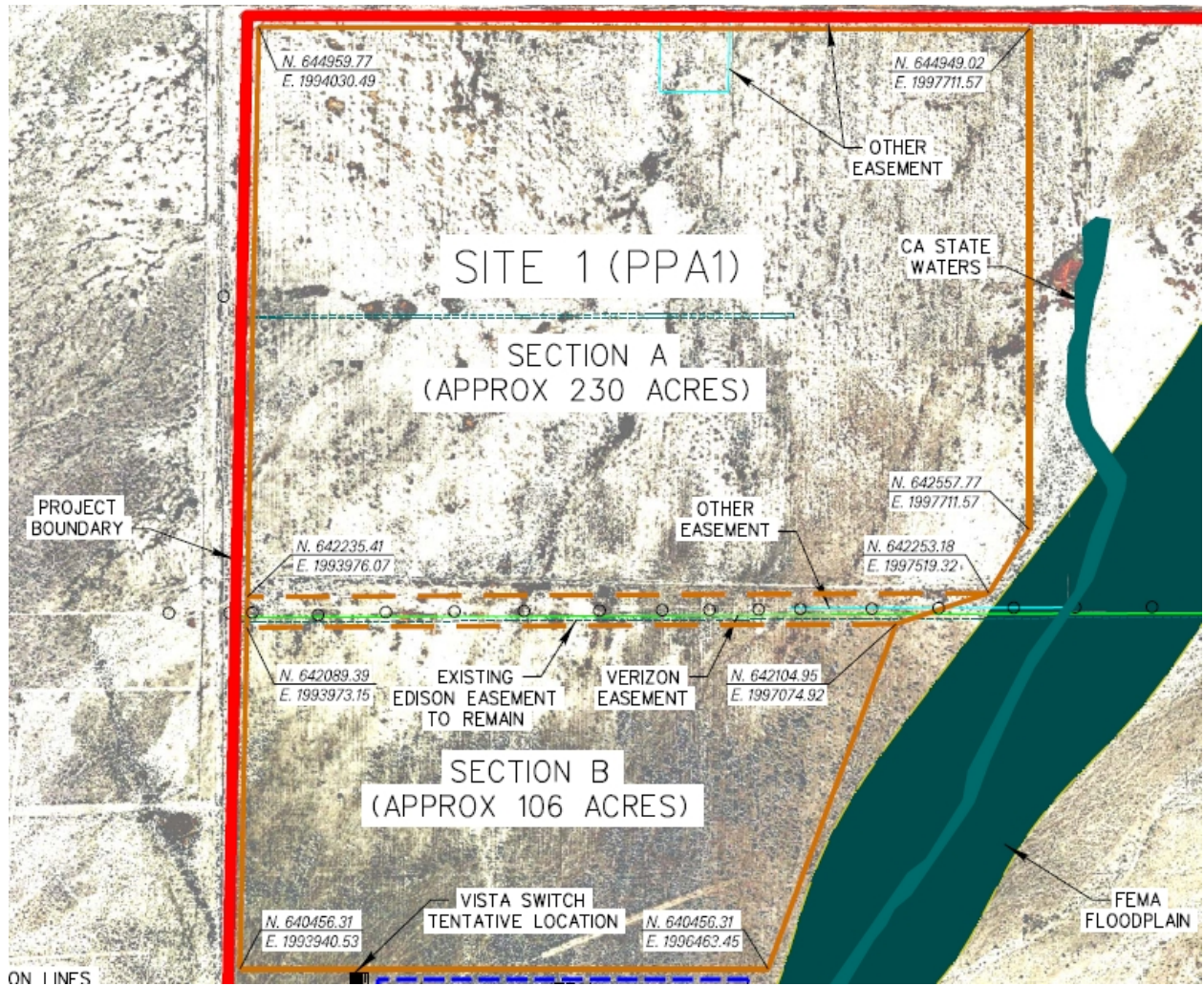
**EXHIBIT A**

**LAND AND SITE PLAN**

In accordance with Section 2.2, the Land will consist of Site No. 1 as shown on the following map.







**EXHIBIT B**

**PARTIES FOR NOTIFICATION**

Correspondence pursuant to Section 18.2 shall be transmitted to the following addresses:

1.1 If to Landlord:

Real Estate Business Group  
Department of Water and Power of the City of Los Angeles  
111 North Hope Street, Room 1031  
Los Angeles, California 90012  
Attention: Reynan L. Ledesma, Manager of Real Estate

Facsimile: (213)367-0746

1.2 If to Tenant:

Hecate Energy Beacon #1  
c/o Hecate Energy LLC  
115 Rosa Parks Blvd.  
Nashville, TN 37203  
480-239-5617 p  
312-284-4514 f

**EXHIBIT C**

**DESCRIPTION OF FACILITY**

The Facility description set forth in Appendix B of the PPA is hereby incorporated by reference into this Lease.

**EXHIBIT D**

**PRE-EXISTING CONDITIONS**

None, except for those cultural resources that may be on the Land as indicated in Exhibit C of the Conditional Use Permit.

**EXHIBIT E**

**SPECIFIC INSURANCE REQUIREMENTS**

**CONTRACT INSURANCE REQUIREMENTS -- DEPARTMENT OF WATER AND POWER  
For Contractors, Service Providers, Vendors, and Tenants**

Agreement/Activity/Operation: Ground Lease for Construction and Operation of Beacon Solar Project  
 Reference/Agreement: \_\_\_\_\_  
 Term of Agreement: Lease Agreement  
 Contract Administrator and Phone: Ron Davis/Roberto Sarmiento  
 Buyer and Phone Number: TBD

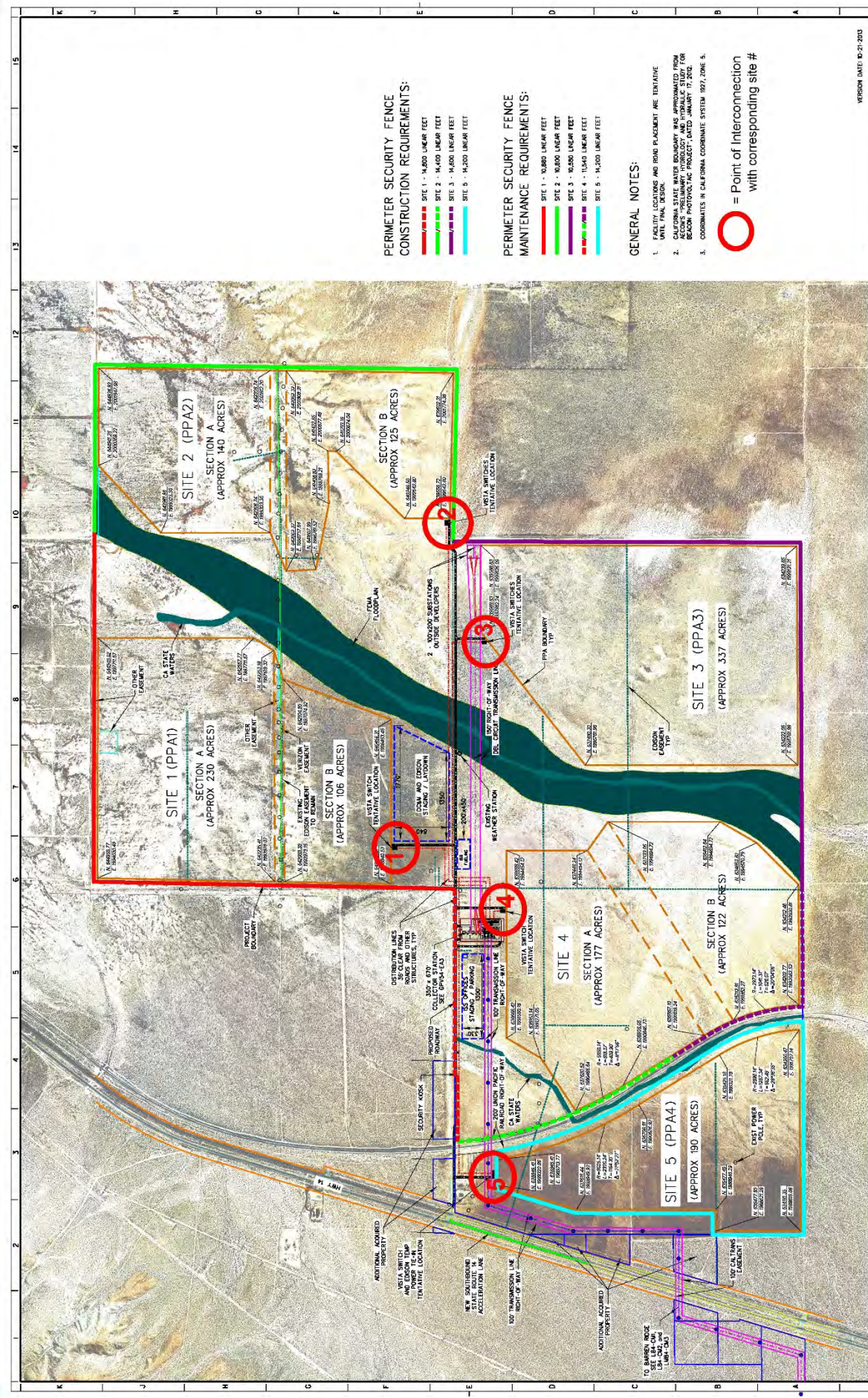
Contract-required types and amounts of insurance as indicated below by checkmark are the minimum which must be maintained. All limits are Combined Single Limit (Bodily Injury/Property Damage) unless otherwise indicated. Firm 30 day Notice of Cancellation required by Receipted Delivery.

**PER OCCURRENCE LIMITS**

- () WORKERS' COMPENSATION(Stat. Limits)/Employer's Liability: ( \$1,000,000.00 )  
 () Broad Form All States Endorsement ( ) US L&H (Longshore and Harbor Workers)  
 ( ) Jones Act (Maritime Employment) ( ) Outer Continental Shelf  
 () Waiver of Subrogation ( ) Black Lung (Coal Mine Health and Safety)  
 ( ) Other: \_\_\_\_\_ ( ) Other: COI Acceptable - MAS
- () AUTOMOBILE LIABILITY: ( \$1,000,000.00 )  
 () Owned Autos ( ) Any Auto  
 () Hired Autos () Non-Owned Auto  
 ( ) Contractual Liability () Additional Insured  
 ( ) MCS-90 (US DOT) ( ) Trucker's Form  
 ( ) Waiver of Subrogation ( ) Other: \_\_\_\_\_
- () GENERAL LIABILITY: ( ) Limit Specific to Project ( ) Per Project Aggregate ( \$5,000,000.00 )  
 () Broad Form Property Damage () Contractual Liability () Personal Injury  
 () Premises and Operations () Products/Completed Ops. () Independent Contractors  
 () Fire Legal Liability ( ) Garagekeepers Legal Liab. ( ) Child Abuse/Molestation  
 ( ) Corporal Punishment ( ) Collapse/Underground ( ) Explosion Hazard  
 ( ) Watercraft Liability ( ) Pollution () Addition Insured Status  
 ( ) Waiver of Subrogation ( ) Airport Premises ( ) Hangarkeepers Legal Liab.  
 ( ) Marine Contractors Liability ( ) Other: \_\_\_\_\_ ( ) Other: \_\_\_\_\_
- ( ) PROFESSIONAL LIABILITY: ( ) \_\_\_\_\_ ( ) \_\_\_\_\_  
 ( ) Contractual Liability ( ) Waiver of Subrogation ( ) 3 Year Discovery Tail  
 ( ) Additional Insured ( ) Vicarious Liability Endt. ( ) Other: \_\_\_\_\_
- ( ) AIRCRAFT LIABILITY: ( ) \_\_\_\_\_ ( ) \_\_\_\_\_  
 ( ) Passenger Per Seat Liability ( ) Contractual Liability ( ) Hull Waiver of Subrogation  
 ( ) Pollution ( ) Additional Insured ( ) Other: \_\_\_\_\_
- ( ) PROPERTY DAMAGE: ( ) Loss Payable Status (AOIMA) ( ) \_\_\_\_\_ ( ) \_\_\_\_\_  
 ( ) Replacement Value ( ) Actual Cash Value ( ) Agreed Amount  
 ( ) All Risk Form ( ) Named Perils Form ( ) Earthquake: \_\_\_\_\_  
 ( ) Builder's Risk:\$ \_\_\_\_\_ ( ) Boiler and Machinery ( ) Flood: \_\_\_\_\_  
 ( ) Transportation Floater:\$ \_\_\_\_\_ ( ) Contractors Equipment\$ \_\_\_\_\_ ( ) Loss of Rental Income: \_\_\_\_\_  
 ( ) Scheduled Locations/Propt. ( ) Other: \_\_\_\_\_ ( ) Other: \_\_\_\_\_
- ( ) WATERCRAFT: ( ) \_\_\_\_\_ ( ) \_\_\_\_\_  
 ( ) Protection and Indemnity ( ) Pollution ( ) Additional Insured  
 ( ) Waiver of Subrogation ( ) Other: \_\_\_\_\_ ( ) Other: \_\_\_\_\_
- ( ) POLLUTION: ( ) \_\_\_\_\_ ( ) \_\_\_\_\_  
 ( ) Incipient/Long Term ( ) Sudden and Accidental ( ) Additional Insured  
 ( ) Waiver of Subrogation ( ) Contractor's Pollution ( ) Other: \_\_\_\_\_
- ( ) CRIME: ( ) Joint Loss Payable Status ( ) Additional Insured ( ) \_\_\_\_\_  
 ( ) Fidelity Bond ( ) Financial Institution Bond ( ) Loss of Monies/Securities  
 ( ) Employee Dishonesty ( ) In Transit Coverage ( ) Wire Transfer Fraud  
 ( ) Computer Fraud ( ) Commercial Crime ( ) Forgery/Alteration of Docs.  
 ( ) Other: \_\_\_\_\_ ( ) Other: \_\_\_\_\_
- ( ) ASBESTOS LIABILITY: ( ) Additional Insured ( ) \_\_\_\_\_

**APPENDIX M**  
**POINTS OF INTERCONNECTION ON BUYER'S SYSTEM**





- PERIMETER SECURITY FENCE CONSTRUCTION REQUIREMENTS:**
- 1. SITE 1 - 14,800 LINEAR FEET
  - 2. SITE 2 - 14,800 LINEAR FEET
  - 3. SITE 3 - 14,800 LINEAR FEET
  - 4. SITE 4 - 14,800 LINEAR FEET
  - 5. SITE 5 - 14,800 LINEAR FEET

- PERIMETER SECURITY FENCE MAINTENANCE REQUIREMENTS:**
- 1. SITE 1 - 10,800 LINEAR FEET
  - 2. SITE 2 - 10,800 LINEAR FEET
  - 3. SITE 3 - 10,800 LINEAR FEET
  - 4. SITE 4 - 10,800 LINEAR FEET
  - 5. SITE 5 - 10,800 LINEAR FEET

**GENERAL NOTES:**

1. FACILITY LOCATIONS AND ROAD PLACEMENT ARE TENTATIVE UNTIL FINAL DESIGN.
2. CALIFORNIA STATE WATER BOUNDARY WAS APPROXIMATED FROM BEACON PHOTOGRAPHIC PROJECT DATED JANUARY 17, 2012.
3. COORDINATES IN CALIFORNIA COORDINATE SYSTEM 1927, ZONE 5.

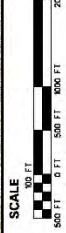
**○** = Point of Interconnection with corresponding site #

VERSION DATE: 09-21-2013

**SITE DEVELOPMENT**  
**BEACON SOLAR PROJECT**

POWER SYSTEM AND POWER DEPARTMENT CITY OF LOS ANGELES

SHEET NO. 1 OF 2  
SCALE: 1" = 600'  
DRAWN BY: [Name]  
CHECKED BY: [Name]



REF: 014-CH-04 - SITE PLAN  
DATE: 09-21-2013

**APPENDIX N**  
**Environmental Impact Report for the Beacon Solar Project**

The Final Environmental Impact Report for the Beacon Photovoltaic project as certified by the Kern County Board of Supervisors (State Clearinghouse No. 2012011029) (October 30, 2012), which consisted of Conditional Use Permit (CUP) No. 11, Map 152 is hereby incorporated by reference into this Agreement. Seller acknowledges that Buyer has provided Seller with a copy of the foregoing Environmental Impact Report in digital format.

**APPENDIX O**  
**Conditional Use Permit (CUP)**

Resolution No. 2012-301 of the Kern County Board of Supervisors (October 30, 2012) adopting Conditional User Permit CUP 11, Map 152 is hereby incorporated by reference into this Agreement. Seller acknowledges that Buyer has provided Seller with a copy of the foregoing Conditional Use Permit in digital format.

**APPENDIX P**  
**Incidental Take Permit**



California Department of Fish and Wildlife  
Central Region (4)  
1234 EAST SHAW AVENUE  
FRESNO, CALIFORNIA 93710

California Endangered Species Act  
Incidental Take Permit No. 2081-2012-039-04

**BEACON PHOTOVOLTAIC PROJECT**

**Authority:** This California Endangered Species Act (CESA) incidental take permit (ITP) is issued by the Department of Fish and Wildlife (CDFW) pursuant to Fish and Game Code section 2081, subdivisions (b) and (c), and California Code of Regulations, Title 14, section 783.0 et seq. CESA prohibits the take<sup>1</sup> of any species of wildlife designated by the California Fish and Game Commission as an endangered, threatened, or candidate species.<sup>2</sup> CDFW may authorize the take of any such species by permit if the conditions set forth in Fish and Game Code section 2081, subdivisions (b) and (c) are met. (See Cal. Code Regs., tit. 14, § 783.4).

**Permittee:** Los Angeles Department of Water and Power  
**Principal Officer:** Charles C. Holloway, Manager of Environmental Planning and Assessment  
**Contact Person:** Charles C. Holloway, (213) 367-0285  
**Mailing Address:** 111 North Hope Street, Room 1044  
Los Angeles, California 90012

**Effective Date and Expiration Date of this ITP:**

This ITP shall be executed in duplicate original form and shall become effective once a duplicate original is acknowledged by signature of the Permittee on the last page of this ITP and returned to CDFW's Habitat Conservation Planning Branch at the address listed in the Notices section of this ITP. Unless renewed by CDFW, this ITP's authorization to take the Covered Species shall expire on **November 1, 2042**.

Notwithstanding the expiration date on the take authorization provided by this ITP, Permittee's obligations pursuant to this ITP do not end until CDFW accepts as complete the Permittee's Final Mitigation Report required by Condition of Approval 6.7 of this ITP.

<sup>1</sup>Pursuant to Fish and Game Code section 86, "'Take' means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." See also *Environmental Protection Information Center v. California Department of Forestry and Fire Protection* (2008) 44 Cal.4th 459, 507 (for purposes of incidental take permitting under Fish and Game Code section 2081, subdivision (b), "'take' ... means to catch, capture or kill").

<sup>2</sup>The definition of an endangered, threatened, and candidate species for purposes of CESA are found in Fish and Game Code sections 2062, 2067, and 2068, respectively.

**Project Location:**

The Beacon Photovoltaic Project (Project) is located in the Mojave Desert region of unincorporated eastern Kern County, along the SR-14 corridor, approximately 4 miles from the northern boundary of California City and 15 miles from the town of Mojave (Figure 1; in Township 30 South, Range 37 East, Southwest quarter of Section 8).

**Project Description:**

The Project (Figure 2) will construct, operate and decommission a 250-megawatt (MW) alternating current (AC) photovoltaic (PV) solar power-generating facility (plant site) on approximately 2,298 acres as well as an associated generation-tie (gen-tie) line. The plant site includes solar arrays, collection systems, inverters, Project switchyard, power poles, operation and maintenance (O&M) building, water storage tanks and water treatment equipment, perimeter security fence, and permanent desert tortoise exclusion fence. Project activities include grubbing, grading, trenching, pile driving, road construction, fence construction, well reactivation, construction of a permanent operations and maintenance (O&M) building, and potential construction of a temporary structure for PV solar array assembly.

**Project Construction**

The PV solar arrays will be mounted on concrete foundations, driven steel piles, or grouted steel piles. The collection system will be mounted on the solar array racks and rack-mounted cabling will continue to a combiner box. Cables will be installed underground from the combiner boxes to the inverters. Cables will continue from the inverters to the open-air switchyard. The switching equipment will be mounted on a concrete pad near the middle of the plant site.

The 5,000 square-foot O&M building includes a gravel parking lot, office and storage space, and septic system. Chain-link security fencing will be installed around the 2,298-acre plant site perimeter, which includes the switchyard and O&M building. The security fence will be 8 feet tall and topped with 1 foot of barbed wire mounted on 45-degree extension arms. The fence posts will be set in concrete. Fencing will be designed to be compatible with DT exclusion fencing. Motion-activated security lighting will be installed at all gates, O&M building and switchyard. Security lighting will be installed at 14 feet or lower. The Project will pave the existing access road from SR-14 that runs along the northern boundary of the plant site boundary and east into the plant site. The road will be approximately 24 feet wide with a 3-foot shoulder on each side. Additional gravel roads will also be constructed within the site. Roads will generally be constructed slightly above grade. It is expected that three or four inactive on-site water wells, including a former domestic well (located on the eastern edge of the site boundary near the access road), will be reactivated for water supply during construction and operations.

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The approximately two-mile gen-tie line will begin at the Project switchyard and continue to the existing Barren Ridge substation. Approximately half of the gen-tie line will be located within the plant site boundary. The gen-tie line will be installed on new steel/concrete monopole structures, which are expected to average 79 feet in height, with a maximum height of 110 feet, with a span length averaging approximately 500 feet. The total ground disturbance area of the gen-tie line outside of the plant site is 3.3 acres, which includes pull-sites, staging and laydown areas.

Road construction, building construction, and tracker foundation installation will include localized grading and vegetation removal. Most of the vegetation is expected to be cut, trimmed, or flattened during Project construction, but the root mass will be left in place outside of roads, O&M building, and PV solar array foundations so that re-establishment is possible. Construction equipment to be used includes trenching machines, compactors, concrete trucks and pumbers, vibrators, boom trucks, cranes, tractors, welding machines, rubber-tired loaders, rubber-tired backhoes, and forklifts. A temporary building may be constructed for PV solar array assembly.

The Project will also add a new southbound acceleration lane on State Route 14 starting at Beacon Road. The length of the new acceleration lane is approximately 0.4 miles. The new addition will be 12' of acceleration lane and 4' of shoulder area. The lane will be situated in the median area between the existing northbound and southbound lanes. The sequence of work will be to remove the existing 5' asphalt shoulder, grade and build up the new subgrade to accommodate the new widening, install aggregate base material for the new widening, and then install the new asphalt pavement section.

#### Project Operation and Maintenance

O&M activities for the plant site include the cleaning, maintenance, and replacement of existing access roads, collection and transmission lines, solar panels, and buildings and structures (e.g., O&M facilities, electrical substations, towers, poles, fences) identified in the As-Built Plans (Condition 7.21). Other O&M activities include washing solar panels, replacing lubricating fluids, checking parts for wear and replacing as required, solid waste disposal, and mechanical and electrical testing. The PV solar panels will be washed seasonally, and it is expected to take approximately 35 days to complete a wash of all PV solar panels. Panel washing will occur up to four times per year, or for a total of 135 to 145 days per year. O&M activities associated with habitat features and wildlife include fire hazard fuel management by vegetation management and weed control. Vegetation will be maintained at less than 6 inches in height through mowing during operations, except in areas designated as "Waters of the State" and other adjacent areas with flood flow velocities or depths that make panel installation infeasible. Herbicide will only be used in the field to control invasive plants if hand labor methods are infeasible. These activities will occur inside the permanent desert tortoise exclusion fence.

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O&M activities for the gen-tie line that will not result in ground or vegetation disturbance includes routine line patrols and insulator washing. Gen-tie line O&M activities that may involve ground or vegetation disturbance include pole and tower repair, insulator replacement, cross arm replacement, anchor and guy replacement, pole and tower replacement, restringing corridors, and road maintenance. Herbicide may be used in the immediate vicinity of the gen-tie line infrastructure to control invasive plant species if hand labor methods are not feasible.

### Decommissioning

Decommissioning activities will include: collection and recycling of PV solar arrays; crushing and recycling of concrete equipment pads; removal of underground conduit and wires; removal of gen-tie poles; and removal and salvage of collection lines. In addition, buildings and other structures (including met towers) will be deconstructed, transported off-site, and salvaged. The restoration of topsoil and revegetation of the Project site will occur after decommissioning activities are completed.

### **Covered Species Subject to Take Authorization Provided by this ITP:**

This ITP covers the following species:

<b>Name</b>	<b>CESA Status</b>
1. Desert tortoise ( <i>Gopherus agassizii</i> )	Threatened <sup>3</sup>
2. Mohave ground squirrel ( <i>Spermophilus mohavensis</i> )	Threatened <sup>4</sup>

These species and only these species are the "Covered Species" for the purposes of this ITP.

### **Impacts of the Taking on Covered Species:**

Project activities and their resulting impacts are expected to result in the incidental take of individuals of the Covered Species. The activities described above expected to result in incidental take of individuals of the Covered Species include land clearing and grading, road construction, communication and electrical cable installation, temporary concrete batch plants, PV solar array block, generation tie-line construction, substation construction, fence installation, Covered Species relocation, and O&M and decommissioning activities as described in the Project description (Covered Activities).

Incidental take of individuals of the Covered Species in the form of mortality ("kill") may occur as a result of Covered Activities such as:

<sup>3</sup>See Cal. Code Regs. tit. 14 § 670.5, subd. (b)(4)(A).

<sup>4</sup>See Cal. Code Regs. tit. 14 § 670.5, subd. (b)(6)(A).



- New road construction and other ground-disturbing activities, which can result in collapsed or excavated burrows;
- Project-related traffic on and off the Project site, including traffic associated with O&M activities, which can result in vehicle and construction equipment strikes;
- Increased predation of Covered Species resulting from ravens and coyotes being attracted to human activities associated with Project construction and O&M, and
- Noise and ground vibration, which could cause desert tortoises (tortoises) and Mohave ground squirrels (squirrels) to leave burrows at inappropriate times, potentially increasing their stress levels and exposure to predation and adverse environmental conditions.

Incidental take of individuals of the Covered Species may also occur from the Covered Activities in the form of capture of the Covered Species from relocation ("capture") of Covered Species, required by this ITP to minimize the potential of direct take via mortality. Relocation could, absent implementation of the protective measures in this ITP, also result in mortality, injury, and/or disease transmission to Covered Species by individuals involved in the relocation effort.

Take could occur throughout the Project site (2,301.3 acres), including the plant site, acceleration lane, and within the gen-tie line (collectively, the Project Area). The Project's gen-tie line is expected to cause the permanent loss of 3.3 acres of Covered Species habitat. Development of the plant site will result in the isolation of the wash that bisects the plant site (will be within the area encircled by security fencing) and the associated approximate 372 acres of disturbed *Atriplex* scrub and 59 acres of Mojave desert wash scrub present within the plant site at the time of ITP issuance, which provides opportunities for Covered Species to disperse across the plant site. At the time of ITP issuance, the remainder of the plant site consists of fallowed agriculture - ruderal habitat that is very low quality habitat for the Covered Species. The disturbed *Atriplex* scrub, Mojave desert wash scrub, and ruderal habitat within the plant site may support a few Covered Species individuals because of their proximity to high quality occupied Covered Species habitat adjacent to the Project site. The estimated area of disturbance required for construction of the acceleration lane is 4.5 acres. Covered Species habitat associated with the acceleration lane is considered low quality because of its location between the north and southbound lanes of Highway 14.

Desert tortoise could occur within portions of the plant site, specifically within the remnant though degraded patches of *Atriplex* sp. shrub or desert wash. However, due to the poor habitat quality present within the plant site, desert tortoise presence within the plant site would likely be transient in nature and likely primarily attributable to native habitat adjacent to the plant site. The Mojave creosote bush scrub north of the plant site is poor-to-fair quality desert tortoise habitat because it has also been disrupted by past farming activities;

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therefore, desert tortoise densities are expected to be low in this area. Furthermore, desert tortoises may have been excluded for decades from much of the plant site by a chicken wire perimeter fence originally built to exclude rabbits from the agricultural fields. Long segments of this fence are intact, blocking desert tortoise from entering the site.

Desert washes often provide movement corridors for desert tortoise and other wildlife, but the desert wash within the plant site is unlikely to provide a connection between suitable desert tortoise habitats; the portion of Pine Tree Creek that is vegetated consists of a patch of vegetation with low shrub diversity and discontinuous vegetative cover present on the northwest side of the plant site that is bounded on the east and south by large barren areas. Further, the northern terminus of Pine Tree Creek is dominated by stands of the non-native Russian thistle (*Salsola* sp.). Pine Tree Creek also transitions from moderately suitable desert tortoise habitat south of the plant site to low quality habitat in the northeast within and adjacent to the plant site.

An extensive area of Mojave creosote bush scrub immediately adjoins the plant site to the east and south, and this habitat provides suitable habitat for the Mohave ground squirrel (MGS). However, the plant site itself provides low quality habitat for this species. Approximately 430 acres of the plant site supports scattered perennial vegetation; the remaining area is essentially barren as a result of past agricultural disturbance. It is unlikely that the portion of the plant site with some perennial plant cover would support a resident population of MGS, because essential food resources appear to be absent. MGS are known to eat saltbush foliage and small amounts of the two non-native herbs present on the site (red-stemmed filaree and Mediterranean grass), but it is not believed that MGS can maintain themselves on a diet composed only of only these plants. The portion of Pine Tree Creek within the plant site is also likely unsuitable for resident MGS because the shrub vegetation is sparse with extensive barren stretches, plant diversity is low, and there is little cover or forage appropriate for the species. While dispersing MGS juveniles might enter the plant site from adjoining creosote bush habitat to the west, south, or east, they would likely not cross wide bands of barren fallow agricultural land, though disturbed agricultural lands can support annual plant species cover and provide seasonal foraging habitat during high rainfall years.

In consideration of the above, it is estimated that Project impacts, primarily during the construction phase, may result in the "take" of two (2) desert tortoise and two (2) Mohave ground squirrel. Impacts of the proposed taking also include adverse impacts to the Covered Species related to temporal losses, increased habitat fragmentation and edge effects, and the Project's incremental contribution to cumulative impacts (indirect impacts). These impacts are described as follows:

- Roads and permanent exclusion fencing associated with the plant site will fragment blocks of Covered Species' habitat and create an increased probability of vehicles striking Covered Species;

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- Access roads could facilitate the spread of invasive species that cause habitat degradation, and generally support vegetation that has less nutritional value for the Covered Species;
- Access roads could compact soil, making soil conditions unsuitable for burrows;
- Health impacts on the Covered Species could be associated with short-term construction-generated fugitive dust;
- Herbicide application for weed control could affect individuals of the Covered Species directly or reduce their food sources;
- Altered behavior of the Covered Species and loss of foraging area could result from Project activity in occupied habitat areas; and

Temporary desert tortoise exclusion fencing associated with the gen-tie line will temporarily limit tortoise movements throughout the Project Area and may temporarily limit breeding potential between the few remaining tortoises known to be present in the Project Area. Fencing will also temporarily limit access to foraging areas and other resources within established desert tortoise home ranges.

**Incidental Take Authorization of Covered Species:**

This ITP authorizes incidental take of the Covered Species and only the Covered Species. With respect to incidental take of the Covered Species, CDFW authorizes the Permittee, its employees, contractors, and agents to take Covered Species incidentally in carrying out the Covered Activities, subject to the limitations described in this section and the Conditions of Approval identified below. This ITP does not authorize take of Covered Species from activities outside the scope of the Covered Activities, take of Covered Species outside of the Project Area, take of Covered Species resulting from violation of this ITP, or intentional take of Covered Species except for capture and relocation of Covered Species as authorized by this ITP.

**Conditions of Approval:**

Unless specified otherwise, the following measures apply to all Covered Activities within the Project Area, including areas used for vehicular ingress and egress, staging and parking, and noise and vibration generating activities that may cause take. CDFW's issuance of this ITP and Permittee's authorization to take the Covered Species are subject to Permittee's compliance with and implementation of the following Conditions of Approval:

- 1. Legal Compliance:** Permittee shall comply with all applicable federal, state, and local laws in existence on the effective date of this ITP or adopted thereafter.
- 2. CEQA Compliance:** Permittee shall implement and adhere to the mitigation measures related to the Covered Species in the Biological Resources section of the Environmental Impact Report (SCH No.: 2012011029) certified by Kern County on October 30, 2012 as

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lead agency for the Project pursuant to the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.).

- 3. LSA Agreement Compliance:** Permittee shall implement and adhere to the mitigation measures and conditions related to the Covered Species in the Lake and Streambed Alteration Agreement (LSAA) (Notification No. 1600-2012-0088-R4) for the Project executed by CDFW pursuant to Fish and Game Code section 1600 et seq.
- 4. ITP Time Frame Compliance:** Permittee shall fully implement and adhere to the conditions of this ITP within the time frames set forth below and as set forth in the Mitigation Monitoring and Reporting Program (MMRP), which is included as Attachment 1 to this ITP.
- 5. General Provisions:**
  - 5.1. Designated Representative.** Before starting Covered Activities, Permittee shall designate a representative (Designated Representative) responsible for communications with CDFW and overseeing compliance with this ITP. Permittee shall notify CDFW in writing before starting Covered Activities of the Designated Representative's name, business address, and contact information, and shall notify CDFW in writing if a substitute Designated Representative is selected or identified at any time during the term of this ITP.
  - 5.2. Designated Biologist.** Permittee shall submit to CDFW in writing the name, qualifications, business address, and contact information of a biological monitor (Designated Biologist) at least 30 days before starting Covered Activities. Permittee shall ensure that the Designated Biologist is knowledgeable and experienced in the biology, natural history and handling of the Covered Species. The Designated Biologist shall be responsible for monitoring Covered Activities to help minimize and fully mitigate or avoid the incidental take of individual Covered Species and to minimize disturbance of Covered Species' habitat. Permittee shall obtain CDFW approval of the Designated Biologist in writing before starting Covered Activities, and shall also obtain approval in advance in writing if the Designated Biologist must be changed.
  - 5.3. Designated Biologist Authority.** To ensure compliance with the Conditions of Approval of this ITP, the Designated Biologist shall have authority to immediately stop any activity that does not comply with this ITP, and/or to order any reasonable measure to avoid the unauthorized take of an individual of the Covered Species.
  - 5.4. Education Program.** Permittee shall conduct an education program for all persons employed or otherwise working in the Project Area before performing any work.

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The program shall consist of a presentation from the Designated Biologist that includes a discussion of the biology and general behavior of the Covered Species, information about the distribution and habitat needs of the Covered Species, sensitivity of the Covered Species to human activities, its status pursuant to CESA including legal protection, recovery efforts, penalties for violations and Project-specific protective measures described in this ITP. Permittee shall provide interpretation for non-English speaking workers, and the same instruction shall be provided to any new workers before they are authorized to perform work in the Project Area. Permittee shall prepare and distribute wallet-sized cards or a fact sheet handout containing this information for workers to carry in the Project Area. Upon completion of the program, employees shall sign a form stating they attended the program and understand all protection measures. This training shall be repeated at least once annually for long-term and/or permanent employees that will be conducting O&M activities and other work in the Project Area.

- 5.5. Construction Monitoring Notebook. The Designated Biologist shall maintain a construction-monitoring notebook on-site throughout the construction period which shall include a copy of this ITP with attachments and a list of signatures of all personnel who have successfully completed the education program. Permittee shall ensure a copy of the construction-monitoring notebook is available for review at the Project site upon request by CDFW.
- 5.6. Trash Abatement. Permittee shall initiate a trash abatement program before starting Covered Activities and shall continue the program for the duration of the Project. Permittee shall ensure that trash and food items are contained in animal-proof containers and removed at least once a week to avoid attracting opportunistic predators such as ravens, coyotes, and feral dogs.
- 5.7. Dust Control. Permittee shall implement dust control measures during Covered Activities to facilitate visibility for monitoring of the Covered Species by the Designated Biologist. Permittee shall keep the amount of water used to the minimum amount needed, and shall not allow water to form puddles.
- 5.8. Erosion Control Materials. Permittee shall prohibit use of erosion control materials potentially harmful to Covered Species and other species, such as mono-filament netting (erosion control matting) or similar material, in potential Covered Species' habitat.
- 5.9. Delineation of Property Boundaries. Before starting Covered Activities, Permittee shall clearly delineate the boundaries of the Project Area with fencing, stakes, or flags. Permittee shall restrict all Covered Activities to within the fenced, staked, or

flagged areas. Permittee shall maintain all fencing, stakes, and flags until the completion of Covered Activities.

- 5.10. Delineation of Habitat. Permittee shall clearly delineate habitat of the Covered Species within the Project Area with posted signs, posting stakes, flags, and/or rope or cord, and place fencing as necessary to minimize the disturbance of Covered Species' habitat.
- 5.11. Project Access. Project-related personnel shall access the Project Area using existing routes, and shall not cross Covered Species' habitat outside of or en route to the Project Area. Permittee shall restrict Project-related vehicle traffic to established roads, staging, and parking areas. Permittee shall ensure that vehicle speeds do not exceed 20 miles per hour to avoid Covered Species on or traversing the roads. If Permittee determines construction of routes for travel are necessary outside of the Project Area, the Designated Representative shall contact CDFW for written approval before carrying out such an activity. CDFW may require an amendment to this ITP, among other reasons, if additional take of Covered Species will occur as a result of the Project modification.
- 5.12. Staging Areas. Permittee shall confine all Project-related parking, storage areas, laydown sites, equipment storage, and any other surface-disturbing activities to the Project Area using, to the extent possible, previously disturbed areas. Additionally, Permittee shall not use or cross Covered Species' habitat outside of the marked Project Area unless provided for as described in Condition of Approval 5.11 of this ITP.
- 5.13. Hazardous Waste. Permittee shall immediately stop and, pursuant to pertinent state and federal statutes and regulations, arrange for repair and clean up by qualified individuals of any fuel or hazardous waste leaks or spills at the time of occurrence, or as soon as it is safe to do so. Permittee shall limit the storage of hazardous materials to the O&M building and shall properly contain and dispose of any unused or leftover hazardous products off-site.
- 5.14. CDFW Access. Permittee shall provide CDFW staff with reasonable access to the Project and mitigation lands under Permittee control, and shall otherwise fully cooperate with CDFW efforts to verify compliance with or effectiveness of mitigation measures set forth in this ITP.
- 5.15. Refuse Removal. Upon completion of Covered Activities, Permittee shall remove from the Project Area and properly dispose of all temporary fill and construction refuse, including, but not limited to, broken equipment parts, wrapping material, cords, cables, wire, rope, strapping, twine, buckets, metal or

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plastic containers, and boxes.

## **6. Monitoring, Notification and Reporting Provisions:**

- 6.1. Notification Before Commencement. The Designated Representative shall notify CDFW 14 calendar days before starting Covered Activities and shall document compliance with all pre-Project Conditions of Approval before starting Covered Activities.
- 6.2. Notification of Non-compliance. The Designated Representative shall immediately notify CDFW in writing if it determines that the Permittee is not in compliance with any Condition of Approval of this ITP, including but not limited to any actual or anticipated failure to implement measures within the time periods indicated in this ITP and/or the MMRP. The Designated Representative shall report any non-compliance with this ITP to CDFW within 24 hours.
- 6.3. Compliance Monitoring. The Designated Biologist(s) shall be on-site daily during construction, O&M, and decommissioning activities that result in ground or vegetation disturbance. The Designated Biologist shall conduct compliance inspections to (1) minimize incidental take of the Covered Species; (2) prevent unlawful take of species; (3) check for compliance with all measures of this ITP; (4) check all exclusion zones; and (5) ensure that signs, stakes, and fencing are intact, and that Covered Activities are only occurring in the Project Area. The Designated Representative or Designated Biologist shall prepare daily written observation and inspection records summarizing: oversight activities and compliance inspections, observations of Covered Species and their sign, survey results, and monitoring activities required by this ITP. During the construction and decommissioning phases, the Designated Biologist shall conduct compliance inspections a minimum of once per month during periods of inactivity during periods of inactivity and after clearing, grubbing, and grading are completed. Compliance inspections will be extended to once per year after completion of construction for the O&M phase.
- 6.4. Quarterly Compliance Report. The Designated Representative or Designated Biologist shall compile the observation and inspection records identified in Condition of Approval 6.3 into a Quarterly Compliance Report and submit it to CDFW along with a copy of the MMRP table with notes showing the current implementation status of each mitigation measure for the construction and decommissioning phases of the Project. Compliance reports for the O&M phase may be included with the Annual Status Report described in Condition 6.5. Quarterly Compliance Reports shall be submitted to CDFW's Regional Office at the office listed in the Notices section of this ITP and via e-mail to CDFW's

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Regional Representative. At the time of this ITP's approval, the CDFW Regional Representative is Craig Bailey (Craig.Bailey@wildlife.ca.gov). CDFW may at any time increase the timing and number of compliance inspections and reports required under this provision depending upon the results of previous compliance inspections. If CDFW determines the reporting schedule must be changed, CDFW will notify Permittee in writing of the new reporting schedule.

- 6.5. Annual Status Report. The Permittee shall provide CDFW with an Annual Status Report (ASR) no later than January 31 of every year beginning with issuance of this ITP and continuing until CDFW accepts the Final Mitigation Report identified below. Each ASR shall include, at a minimum: (1) a summary of all Quarterly Compliance Reports for that year identified in Condition; (2) a general description of the status of the Project Site and Covered Activities, including actual or projected completion dates, if known; (3) a copy of the table in the MMRP with notes showing the current implementation status of each mitigation measure; (4) an assessment of the effectiveness of each completed or partially completed mitigation measure in avoiding, minimizing, and mitigating Project impacts; (5) all available information about Project-related incidental take of the Covered Species; (6) a summary of findings from pre-construction surveys (e.g., number of times a Covered Species or a den or burrow was encountered, location, if avoidance was achieved, if not, what other measures were implemented); (7) beginning and ending dates of O&M activities, emergency related, and other Covered Activities undertaken during the reporting year; and (8) information about other Project impacts on the Covered Species.
- 6.6. CNDDDB Observations. The Designated Biologist shall submit all observations of Covered Species to CDFW's California Natural Diversity Database (CNDDDB) within 60 calendar days of the observation and the Designated Biologist shall include copies of the submitted forms with the next Quarterly Compliance Report or ASR, whichever is submitted first relative to the observation.
- 6.7. Final Mitigation Report. Within 30 days of ITP expiration, Permittee shall provide CDFW with a Final Mitigation Report. The Designated Biologist shall prepare the Final Mitigation Report which shall include, at a minimum: (1) a summary of all Quarterly Compliance Reports and all ASRs; (2) a copy of the table in the MMRP with notes showing when each of the mitigation measures was implemented; (3) all available information about Project-related incidental take of the Covered Species; (4) information about other Project impacts on the Covered Species; (5) beginning and ending dates of Covered Activities; (6) an assessment of the effectiveness of this ITP's Conditions of Approval in minimizing and fully mitigating Project impacts of the taking on Covered Species; (7) recommendations on how mitigation measures might be changed to more effectively minimize take and



mitigate the impacts of future projects on the Covered Species; and (8) any other pertinent information.

6.8. Notification of Take or Injury. Permittee shall immediately notify the Designated Biologist if a Covered Species is taken or injured by a Project-related activity, or if a Covered Species is otherwise found dead or injured within the vicinity of the Project. The Designated Biologist or Designated Representative shall provide initial notification to CDFW by calling the Regional Office at (559) 243-4005. The initial notification to CDFW shall include information regarding the location, species, and number of animals taken or injured and the ITP Number. Following initial notification, Permittee shall send CDFW a written report within two calendar days. The report shall include the date and time of the finding or incident, location of the animal or carcass, and if possible provide a photograph, explanation as to cause of take or injury, and any other pertinent information.

## 7. Take Minimization Measures:

The following requirements are intended to ensure the minimization of incidental take of Covered Species in the Project Area during Covered Activities. Permittee shall implement and adhere to the following conditions to minimize take of Covered Species:

### Construction Activities

7.1. Permittee shall avoid disturbance beyond the Project Area by using existing roads to the site, except for roads that will be newly constructed and documented in the as-built Plans (Condition 7.21). Permittee shall restrict vehicle and equipment movement to designated routes and work-site locations. Cross-country travel (*i.e.*, travel off existing roads) is prohibited except when absolutely required by the Project and as explicitly described in the ITP. If unauthorized off-road vehicle/equipment use occurs, CDFW may halt continued operations until the cause of the violation is remedied. Permittee may consider implementing additional avoidance measures, such as posting signs and installing physical barriers as necessary.

7.2. Road Construction. New and existing roads that are planned for either construction or widening shall not extend beyond the planned impact area (*i.e.*, the existing access road be widened to a total width of no more than 30 feet, including road shoulders. Impacts to Covered Species habitat associated with the gen-tie line access roads will be limited to 1.7 acres). All vehicles passing or turning around shall do so within the planned impact area or in previously disturbed areas. No berms shall be placed along roads, to ensure that tortoises are able to move between habitat fragments. Where new access is required outside of existing

roads or the construction zone, the route shall be clearly marked (*i.e.*, flagged and/or staked) prior to the onset of construction. Cross-country access shall be the standard for temporary activities (as opposed to new road construction). To the extent possible, access to the Project Area shall be restricted to designated "open" routes of travel. The Designated Biologist(s) shall select and flag the access routes, whether cross-country or bladed, to avoid burrows and to minimize disturbance of vegetation.

- 7.3. Transmission Line Construction. Where practicable, construction of transmission lines shall be done without any new road construction, to reduce permanent disturbed areas and eliminate blading. Cross-country travel is authorized for transmission line construction.
- 7.4. Conductor Stringing. Permittee shall only string conductor in Covered Species' habitat if the conductor and line are not allowed to drag on the ground or through vegetation and all vehicles remain on marked access roads.
- 7.5. Covered Species Inspections. All workers shall inspect for Covered Species under vehicles and equipment every time the vehicles and equipment are moved. If a Covered Species is present, the workers shall wait for the Covered Species to move to a safe location. Alternatively, Permittee shall contact the Designated Biologist(s) to determine if the Designated Biologist(s) can safely move the animal within the conditions of the ITP.
- 7.6. Translocation Plan. The Designated Biologist(s) shall develop translocation plans for each of the Covered Species prior to the start of the surveys for Covered Species required by Conditions 7.10 and 7.14 below. The Designated Biologist(s) shall submit the translocation plans to CDFW for review and approval prior to the start of Covered Activities. The Permittee and Designated Biologist(s) shall implement the translocation plans after they have been approved by CDFW.
- 7.7. Desert Tortoise Translocation Plan Guidelines. The Desert Tortoise Translocation Plan shall use the methods described in the USFWS "Guidelines for Handling Desert Tortoises – Mojave Population and their Eggs," (Attachment 2) contained in the "Desert Tortoise Field Manual." If physical capture of desert tortoise is necessary, the Designated Biologist(s) shall capture, collect measurement and identification data, permanently mark, and relocate any tortoises found within construction areas to suitable, undisturbed off-site habitat approved in advance by CDFW. If a tortoise is found above ground, it shall be released above ground in the shade. Any tortoise removed from a burrow shall be relocated to an unoccupied burrow of similar size. If no such burrows are available for relocating, the Designated Biologist(s) shall construct an artificial burrow that is approximately

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the same size, depth, and orientation as the original burrow, following the protocols found in the "Desert Tortoise Field Manual." The Designated Biologist(s) shall record the position of all tortoise burrows, tortoises, and relocation sites using global positioning system (GPS) technology. The Designated Biologist(s) shall collapse all potential or actual desert tortoise burrows present within the work site after establishing that they are not currently occupied by desert tortoise, in order to prevent re-occupancy. Tortoises that appear to be sick or injured may be relocated by the Designated Biologist(s) to an appropriate facility outside the State of California with CDFW's prior written consent.

- 7.8. Desert Tortoise Handling Procedures. The Designated Biologist(s) must comply with the procedures for handling tortoise described in the "Desert Tortoise Field Manual." During all handling procedures, tortoises must be treated in a manner to ensure that they do not overheat, show signs of overheating (e.g., gaping, foaming at the mouth, etc.), or get placed in a situation where they cannot maintain surface and core temperatures necessary for their well-being. Tortoises must be kept in the shade at all times until it is safe to release them. For the purposes of this ITP, ambient air temperature must be measured in the shade, protected from wind, at a height of two inches (five centimeters) above the ground surface. No tortoise shall be captured, moved, transported, released, or purposefully caused to leave its burrow for whatever reason when the ambient air temperature is above 95 degrees Fahrenheit (35 degrees Celsius). No desert tortoise shall be captured if the ambient air temperature is anticipated to exceed 95 degrees Fahrenheit (35 degrees Celsius) before handling or processing can be completed. If the ambient air temperature exceeds 95 degrees Fahrenheit (35 degrees Celsius) during handling or processing, desert tortoises shall be kept in a shaded environment that does not exceed 95 degrees Fahrenheit (35 degrees Celsius), and shall not be released until ambient air temperature declines to below 95 degrees Fahrenheit (35 degrees Celsius). In an effort to prevent further spread of Upper Respiratory Tract Disease, Designated Biologist(s) shall use plastic gloves whenever handling tortoises. After handling each tortoise, gloves shall be disposed of and all equipment that came into contact with the tortoise shall be sterilized. Only the Designated Biologist(s) shall handle desert tortoises.
- 7.9. Desert Tortoise Handling Records. The Designated Biologist(s) shall maintain a record of all tortoises handled. This information shall include for each tortoise: (a) the locations (narrative and maps) and dates of observation; (b) general condition and health, including injuries and state of healing, and whether or not the tortoise voided its bladder; (c) location moved from and location moved to (using GPS technology); (d) diagnostic markings (i.e., identification numbers or marked lateral scutes); (e) ambient temperature when handled and released; and (f) digital photograph of each tortoise handled as described below. If the Designated

Biologist(s) moves a tortoise from within the Project Area, that tortoise shall be marked for future identification, using the acrylic paint/epoxy covering technique, by placing an identification number on the fourth left costal scute, as described in the Tortoise Handling Guidelines. Digital photographs of the carapace, plastron, and fourth costal scute shall be taken. No notching of scutes is authorized.

- 7.10. Pre-Construction Surveys. No more than 30 days prior to ground-disturbing activities, the Designated Biologist(s) shall be present to perform pre-construction surveys for Covered Species, and shall remain on-site until temporary or permanent exclusion fencing has been installed to preclude tortoises from entering the work area (Conditions 7.11 and 7.12). These surveys shall cover the existing access routes and the proposed construction right-of-way (ROW), with a 50-foot buffer zone. All potential burrows within the construction ROW shall be flagged to alert biological and work crews to their presence. The Designated Biologist(s) shall submit a report documenting the results of the pre-construction surveys to CDFW within 30 days after performing the surveys.
- 7.11. Temporary Exclusion Fencing. Prior to any surface disturbance, Permittee shall install temporary tortoise proof exclusion fencing (exclusion fence) around the perimeter of all the Project work areas during Project construction not within the plant site, including but not limited to roads, pull sites, staging areas, storage areas, excavation and disposal sites. The Permittee shall install permanent fencing around the plant site (Condition 7.13). For linear portions of the Project Area, including roads and transmission lines, Permittee shall install temporary exclusion fencing in a sequential manner that corresponds to the progression of active construction work at the site. For example, temporary fencing shall not be installed simultaneously at all work locations, and shall be removed immediately upon completion of Project construction activities in each segment to minimize the tortoise habitat fragmentation impacts caused by fencing. Permittee may conduct activities without installing temporary exclusion fencing, for some types of limited duration construction impacts; if a Designated Biologist(s) is present at all times at the specific work location to monitor activities and ensure impacts to Covered Species are minimized. The Permittee shall notify CDFW in writing prior to implementation of such exceptions. Temporary exclusion fencing will not be required for the southbound acceleration lane if preconstruction surveys do not detect any Covered Species, their sign, or potential burrows.
- 7.12. Exclusion Fencing Installation. Permittee shall locate temporary desert tortoise exclusion fencing to avoid Covered Species burrows, so that the burrows are isolated from the active work areas when possible. The Designated Biologist(s) shall accompany the exclusion fence construction crew(s) to ensure that Covered Species are not killed or injured during fence installation. Permittee shall construct

the exclusion fence according to the United States Fish and Wildlife Service (USFWS) "Desert Tortoise Exclusion Fence" guidelines (Attachment 3), contained in the "Desert Tortoise Field Manual." An alternative exclusion fence design may be used if CDFW has provided written approval in advance of fence installation. The exclusion fence shall be supported sufficiently to maintain its integrity under all conditions such as wind and heavy rain for the duration of the active construction period. Permittee shall construct all openings in the exclusion fence lines such that they prohibit tortoise passage or passively direct the tortoise back into suitable natural habitat. Permittee shall check the exclusion fence at least once weekly and maintain/repair the fence when necessary.

- 7.13. Permanent Exclusion Fencing. Prior to initial ground disturbance, Permittee shall install permanent desert tortoise proof exclusion fencing (permanent exclusion fence) around the perimeter of the plant site and associated infrastructure (e.g., O&M Building). Permittee shall locate the permanent exclusion fence to avoid Covered Species burrows and, when possible, so that the burrows are isolated from the active work areas. The Designated Biologist(s) shall accompany the permanent exclusion fence construction crew to ensure that Covered Species are not killed or injured during this activity. Permittee shall construct the permanent exclusion fence according to the USFWS "Desert Tortoise Exclusion Fence" guidelines (Attachment 2), contained in the "Desert Tortoise Field Manual." An alternative permanent exclusion fence design may be used if CDFW has provided written approval in advance of fence installation. The permanent exclusion fence shall be supported sufficiently to maintain its integrity under all conditions, such as wind and heavy rain, for the duration of the Project, including O&M activities. Permittee shall construct all openings in the permanent exclusion fence lines such that they prohibit tortoise passage or passively direct the tortoise back into suitable natural habitat. Permittee shall maintain the permanent exclusion fence and repair when necessary. Permittee shall install the permanent exclusion fence flush against any security fencing installed for the Project.
- 7.14. Clearance Surveys. After the installation of the temporary and permanent exclusion fencing and prior to any ground disturbance within the fenced areas, the Designated Biologist(s) shall examine the Project Area for Covered Species and their burrows. The survey shall provide 100 percent coverage within the Project boundaries. The use of specialized equipment (e.g., fiber optics) may be necessary to thoroughly inspect all burrows. If any desert tortoises are found within the fenced area, the Designated Biologist(s) shall comply with the Translocation Plan prepared in accordance with Condition 7.6. The Designated Biologist(s) shall also conduct surveys in the area immediately outside of the exclusion fence for Covered Species, and shall conduct periodic inspections of the exclusion fence itself to ensure its integrity. Particular attention shall be given after

rainstorms, especially where the fence has been constructed in washes.

- 7.15. Excavate Burrows. Any burrows present within the portion of the Project site to be disturbed and that are suspected or known to be occupied by the Covered Species shall be fully excavated by hand by the Designated Biologist(s). The Designated Biologist(s) shall allow any Mohave ground squirrels encountered in the excavated burrows during their active period to escape out of harm's way if outside the Plant site. If Mohave squirrels are observed within the Plant site, Mohave ground squirrels shall be relocated as described in the Translocation Plan (Condition 7.6). Mohave ground squirrels encountered during their dormant period shall be collected and moved to an artificial burrow. The Designated Biologist(s) shall consult with CDFW prior to Covered Activities regarding the need and protocol for taking and preserving tissue/fluid samples from live animals. Burrows within temporary exclusion fences should be left intact if ground-disturbing activities can avoid the burrows.
- 7.16. DFG Notification for Desert Tortoise Nests. In the event that an active tortoise nest is detected during pre-construction burrow excavation or during construction activities, procedures outlined in the Desert Tortoise Translocation Plan in accordance with Condition 7.6 shall be followed. The Designated Biologist(s) shall notify DFG immediately upon discovery of an active desert tortoise nest, and the site of egg relocation shall be approved by CDFW prior to relocation.
- 7.17. Mohave Ground Squirrel Handling Records. The Designated Biologist(s) shall maintain a record of all squirrels handled. This information shall include, for each squirrel: (a) the locations (narrative and maps) and dates of observation; (b) general condition and health, including injuries and state of healing; (c) location moved from and location moved to (using GPS technology); (d) any diagnostic markings (if applicable); (e) ambient temperature when handled and released; and (f) digital photograph of each squirrel handled.
- 7.18. Covered Species Avoidance. During Project implementation, all workers shall inform the Designated Biologist(s) if a Covered Species is seen within or near the Project Area. Permittee shall cease all work in the vicinity of the Covered Species which could injure or kill the animal until the Covered Species is moved by the Designated Biologist(s) or it moves from the construction area on its own.
- 7.19. Daily Entrapment Inspections. The Designated Biologist(s) shall inspect all open holes and trenches within Covered Species' habitat at the beginning of the day, middle of the day, and end of the day for trapped animals. The Covered Species shall be allowed to escape or shall be moved and relocated by the Designated Biologist(s) before work continues at that location.

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7.20. Covered Species Injury. If a Covered Species is injured as a result of Project-related activities, the Designated Biologist(s) shall immediately take it to a CDFW-approved wildlife rehabilitation or veterinary facility. Permittee shall identify the facility before starting Covered Activities. Permittee shall bear any costs associated with the care or treatment of such injured Covered Species. Permittee shall notify CDFW of the injury to the Covered Species immediately by telephone and e-mail, followed by a written incident report. Notification shall include the date, time, location, and circumstances of the incident, and the name of the facility where the animal was taken. Injured tortoises may be relocated to an appropriate facility outside the State of California with CDFW's prior written consent.

7.21. As-Built Plans. Permittee shall submit as-built plans to CDFW within six (6) months of completing Project construction. The as-built plan sheets shall delineate and quantify the extent of Project ground and vegetation disturbance and permanent Project features, including roads, fuel breaks, substations, solar arrays, all electrical infrastructure, staging areas and pull sites, the area within all permanent exclusion fences, and all other facilities and features associated with the Project. Plans shall include topographic data, with contour intervals not to exceed five feet, as a background layer. The plan scale shall be 1":250' (one inch to 250 feet) or smaller. Plans shall be derived from engineering survey data acquired after Project construction and shall be verified by the Designated Biologist(s). The plans shall be submitted in Portable Document Format (PDF) or a similar electronic format.

7.22. Contribution to the Raven Management Plan. To reduce the potential for increased raven predation on tortoise, Permittee shall develop a site-specific raven management plan to minimize the potential for ravens to occupy the Project Area. This plan shall be approved by CDFW. To mitigate this Project's portion of the cumulative effect of increasing the raven population in the desert region, Permittee shall contribute one hundred five dollars (\$105.00) per acre for the 2,301.3 acres of developed land that has the potential to provide food or other subsidies for ravens in the Project area. For this 30-year ITP, the payment shall be **\$241,636.50** (2,301.3 acres x \$105 per acre). Payment of **\$241,636.50** shall go to the USFWS regional raven management program to fund the following raven management measures as specified in the environmental assessment for the implementation of a plan for the reduction of predation by the common raven on the federally threatened desert tortoise in the California desert (Raven EA):

- Reduction of food, water, sheltering and nesting sites;
- Common raven nest removal;

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- Common raven removal;
- Evaluation of effectiveness and adaptive management; and
- Education and outreach.

Permittee shall develop the raven management plan and make the required payment to USFWS within eighteen (18) months of the effective date of this ITP.

### **Operations and Maintenance (O&M)**

- 7.23. O&M Personnel Requirements. During O&M activities that follow initial construction, all personnel working at the site shall obey the speed limits specified in this ITP (Condition 5.11) and shall have participated in an annual worker/contractor education program (Condition 5.4) based on the measures in this ITP. Permittee shall provide to CDFW a record of annual worker training, including the list of attendees, with the annual monitoring reports required by this ITP.
- 7.24. O&M Vehicle Access. Access to the Project Area during the O&M phase shall only be by permanent roads established during the construction phase and public roads maintained by Kern County or Caltrans.
- 7.25. O&M Activity Location. O&M activities shall not disturb habitat outside of the Project Area disturbed during the construction phase of this Project (Condition 7.21). Impacts from ground-disturbing O&M activities that may result in an impact to habitat not previously disturbed during the Project construction phase are not authorized by this ITP. Permittee shall request an ITP amendment if O&M impacts beyond the Project Area are anticipated and shall not conduct such activities until an ITP amendment is issued by CDFW.
- 7.26. O&M Activity Requirements. O&M activities shall implement all General Provisions of the ITP (Condition 5 et seq.).
- 7.27. O&M Pre-Activity Surveys. No more than 30 days prior to ground-disturbing O&M activities, the Designated Biologist(s) shall be present to perform pre-activity surveys for Covered Species. These surveys shall cover the existing access routes and the proposed maintenance area with a 50-foot buffer zone. All potential burrows within the maintenance area shall be flagged to alert biological and work crews to their presence. The Designated Biologist shall determine if desert tortoise exclusion fencing is warranted after completion of pre-activity Surveys. Exclusion fencing shall be installed or the Permittee shall notify CDFW of its exception as described in Condition 7.11. The Designated Biologist(s) shall

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submit a report documenting the results of the pre-construction surveys to CDFW with the annual compliance report.

- 7.28. O&M Activity Covered Species Avoidance. During the O&M period of Project implementation, all workers shall inform the Designated Biologist(s) if a Covered Species is seen within or near the Project Area. Permittee shall cease all work in the vicinity of the Covered Species which could injure or kill the animal until the Covered Species is moved by the Designated Biologist(s) or it moves from the construction area on its own.
- 7.29. O&M Activity Daily Entrapment Inspections. The Designated Biologist(s) shall inspect all open holes and trenches within Covered Species' habitat at the beginning of the day, middle of the day, and end of the day for trapped animals. The Covered Species shall be allowed to escape or shall be moved and relocated by the Designated Biologist(s) before work continues at that location.
- 7.30. O&M Activity Covered Species Injury. If a Covered Species is injured as a result of Project-related activities, the Designated Biologist(s) shall immediately take it to a CDFW-approved wildlife rehabilitation or veterinary facility. Permittee shall identify the facility before starting Covered Activities. Permittee shall bear any costs associated with the care or treatment of such injured Covered Species. Permittee shall notify CDFW of the injury to the Covered Species immediately by telephone and e-mail, followed by a written incident report. Notification shall include the date, time, location, and circumstances of the incident, and the name of the facility where the animal was taken. Injured tortoises may be relocated to an appropriate facility outside the State of California with CDFW's prior written consent.
- 7.31. O&M Buffer. Permittee shall ensure that all O&M activities maintain a minimum buffer of 50 feet from active or suspected Covered Species burrows. The Permittee shall contact CDFW if the buffer is not feasible to determine appropriate Take Minimization Measures. Any alternative buffers shall be approved in writing by CDFW.
- 7.32. Road Repair. Fill material for road repair, washouts, or other eroded areas may only be obtained from Covered Species' habitat if it is within areas identified as permanent impacts in this ITP (Condition 7.21), the Designated Biologist(s) has/have completed a pre-activity survey in the area, and the buffers described in Condition 7.31 are being implemented.

- 7.33. Reconductoring. Permittee shall only string conductor in Covered Species' habitat if the conductor and line are not allowed to drag on the ground or through vegetation and all vehicles remain on marked access roads. Permittee shall maintain appropriate buffers for Covered Species during O&M activities (Condition 7.31).
- 7.34. Herbicide Use. Permittees shall ensure that all herbicide use (mixing, application, and clean-up) conforms to all applicable federal, state, and local regulations. Nothing in this ITP represents a herbicide use recommendation that allows for actions that conflict with herbicide use regulations. Permittees shall ensure that any application of herbicide is done by a licensed applicator in accordance with all applicable federal, State, and local laws and regulations.
- 7.35. Rodenticides. The use of rodenticides is prohibited outside of buildings in the Project Area.

### **Decommissioning**

- 7.36. Decommissioning Plan. Prior to the start of decommissioning activities, Permittees shall submit a decommissioning plan to CDFW for review and written approval. The decommissioning plan will describe the decommissioning activities, potential associated impacts, their location, and the appropriate ITP "Take Minimization Measures" that will be implemented to minimize take of Covered Species.
- 7.37. Decommissioning Activity Location. Decommissioning activities shall not disturb habitat outside of the area disturbed during the construction phase of this Project (Condition 7.21). Impacts from ground-disturbing decommissioning activities that may result in an impact to habitat not previously disturbed during the Project construction phase are not authorized by this ITP. Permittees shall request an ITP amendment or new ITP if decommissioning activity impacts beyond the construction footprint are anticipated, and shall not conduct such activities until an ITP amendment or new ITP is issued by CDFW. Permittees shall restore areas subject to temporary impacts from ground-disturbing decommissioning activities rather than mitigate off-site. A revegetation plan will be submitted to CDFW as part of the Decommissioning Plan (Condition 7.32).

### **8. Habitat Management Land Acquisition:**

CDFW has determined that permanent protection and perpetual management of compensatory habitat is necessary and required pursuant to CESA to fully mitigate Project-

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related impacts of the taking on the Covered Species that will result with implementation of the Covered Activities. This determination is based on factors including an assessment of the quality and importance of the habitat in the Project Area for the Covered Species, the extent to which the Covered Activities will impact the habitat, and CDFW's estimate of the acreage required to provide for adequate compensation.

To meet this requirement, the Permittee shall either purchase 115 acres of Covered Species credits from a CDFW-approved mitigation or conservation bank (Condition of Approval 8.2) OR shall provide for both the permanent protection and management of 115 acres of Habitat Management (HM) lands pursuant to Condition of Approval 8.3 below and the calculation and deposit of the management funds pursuant to Condition of Approval 8.4 below. Permanent protection and funding for perpetual management of compensatory habitat must be complete before starting Covered Activities, or within 18 months of the effective date of this ITP if Security is provided pursuant to Condition of Approval 9 below for all uncompleted obligations.

8.1. Cost Estimates. CDFW has estimated the cost of acquisition, protection, and perpetual management of the HM lands as follows:

- 8.1.1. Land acquisition costs for HM lands identified in Condition of Approval 8.3 below, estimated at \$4,000.00/acre for 115 acres: **\$460,000.00**. Land acquisition costs are estimated using local fair market current value for lands with habitat values meeting mitigation requirements;
- 8.1.2. Start-up costs for HM lands, including initial site protection and enhancement costs as described in Condition of Approval 8.3.5 below, estimated at **\$45,660.41**;
- 8.1.3. Interim management period funding as described in Condition of Approval 8.3.6 below, estimated at **\$49,249.15**;
- 8.1.4. Long-term management funding as described in Condition of Approval 8.4 below, estimated at \$4,415.00/acre for 115 acres: **\$507,714.00**. Long-term management funding is estimated initially for the purpose of providing Security to ensure implementation of HM lands management.
- 8.1.5. Related transaction fees including but not limited to account set-up fees, administrative fees, title and documentation review and related title transactions, expenses incurred from other state agency reviews, and overhead related to transfer of HM lands to CDFW as described in Condition of Approval 8.5, estimated at **\$5,000.00**.

8.2. Covered Species Credits. Permittee shall purchase 115 acres of Covered Species credits from a CDFW-approved mitigation or conservation bank prior to initiating Covered Activities, or no later than 18 months from the issuance of this ITP if Security is provided pursuant to Condition of Approval 9 below.

OR:

8.3. Habitat Acquisition and Protection. To provide for the acquisition and perpetual protection and management of the HM lands, the Permittee shall:

8.3.1. Fee Title/Conservation Easement. Transfer fee title to the HM lands to CDFW pursuant to terms approved in writing by CDFW. Alternatively, CDFW, in its sole discretion, may authorize a governmental entity, special district, non-profit organization, for-profit entity, person, or another entity to hold title to and manage the property provided that the district, organization, entity, or person meets the requirements of Government Code sections 65965-65968, as amended. If CDFW does not hold fee title to the HM lands, CDFW shall act as grantee for a conservation easement over the HM lands or shall, in its sole discretion, approve a non-profit entity, public agency, or Native American tribe to act as grantee for a conservation easement over the HM lands provided that the entity, agency, or tribe meets the requirements of Civil Code section 815.3. If CDFW does not hold the conservation easement, CDFW shall be expressly named in the conservation easement as a third-party beneficiary. The Permittee shall obtain CDFW written approval of any conservation easement before its execution or recordation. No conservation easement shall be approved by CDFW unless it complies with Government Code sections 65965-65968, as amended and includes provisions expressly addressing Government Code sections 65966(j) and 65967(e);

8.3.2. HM Lands Approval. Obtain CDFW written approval of the HM lands before acquisition and/or transfer of the land by submitting, at least three months before acquisition and/or transfer of the HM lands, a formal Proposed Lands for Acquisition Form (see Attachment 4B) identifying the land to be purchased or property interest conveyed to an approved entity as mitigation for the Project's impacts on Covered Species;

8.3.3. HM Lands Documentation. Provide a recent preliminary title report, initial hazardous materials survey report, and other necessary documents (see Attachment 4A). All documents conveying the HM lands and all conditions of title are subject to the approval of CDFW, and if applicable, the Wildlife Conservation Board and the Department of General Services;

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8.3.4. Land Manager. Designate both an interim and long-term land manager approved by CDFW. The interim and long-term land managers may, but need not, be the same. The interim and/or long-term land managers may be the landowner or another party. Documents related to land management shall identify both the interim and long-term land managers. Permittee shall notify CDFW of any subsequent changes in the land manager within 30 days of the change. If CDFW will hold fee title to the mitigation land, CDFW will also act as both the interim and long-term land manager unless otherwise specified.

8.3.5. Start-up Activities. Provide for the implementation of start-up activities, including the initial site protection and enhancement of HM lands, once the HM lands have been approved by CDFW. Start-up activities include, at a minimum: (1) preparing a final management plan for CDFW approval (see <http://www.dfg.ca.gov/habcon/conplan/mitbank/>); (2) conducting a baseline biological assessment and land survey report within four months of recording or transfer; (3) developing and transferring Geographic Information Systems (GIS) data if applicable; (4) establishing initial fencing; (5) conducting litter removal; (6) conducting initial habitat restoration or enhancement, if applicable; and (7) installing signage;

8.3.6. Interim Management (Initial and Capital). Provide for the interim management of the HM lands. The Permittee shall ensure that the interim land manager implements the interim management of the HM lands as described in the final management plan and conservation easement approved by CDFW. The interim management period shall be a minimum of three years from the date of HM land acquisition and protection and full funding of the Endowment and includes expected management following start-up activities. Interim management period activities described in the final management plan shall include fence repair, continuing trash removal, site monitoring, and vegetation and invasive species management, and Covered Species monitoring. Permittee shall either (1) provide a security to CDFW for the minimum of three years of interim management that the land owner, Permittee, or land manager agrees to manage and pay for at their own expense, (2) establish an escrow account with written instructions approved in advance in writing by CDFW to pay the land manager annually in advance, or (3) establish a short-term enhancement account with CDFW or a CDFW-approved entity for payment to the land manager.

8.4. Endowment Fund. The Permittee shall ensure that the HM lands are perpetually managed, maintained, and monitored by the long-term land manager as described in this ITP, the conservation easement, and the final management plan approved by CDFW. After obtaining CDFW approval of the HM lands, Permittee shall provide long-term management funding for the perpetual management of the HM lands by

establishing a long-term management fund (Endowment). The Endowment is a sum of money, held in a CDFW-approved fund that provides funds for the perpetual management, maintenance, monitoring, and other activities on the HM lands consistent with the management plan(s) required by Condition of Approval 8.3.5. Endowment as used in this ITP shall refer to the endowment deposit and all interest, dividends, other earnings, additions and appreciation thereon. The Endowment shall be governed by this ITP, Government Code sections 65965-65968, as amended, and Probate Code sections 18501-18510, as amended.

After the interim management period, Permittee shall ensure that the designated long-term land manager implements the management and monitoring of the HM lands according to the final management plan. The long-term land manager shall be obligated to manage and monitor the HM lands in perpetuity to preserve their conservation values in accordance with this ITP, the conservation easement, and the final management plan. Such activities shall be funded through the Endowment.

8.4.1. Identify an Endowment Manager. The Endowment shall be held by the Endowment Manager, which shall be either CDFW or another entity qualified pursuant to Government Code sections 65965-65968, as amended. Permittee shall submit to CDFW a written proposal that includes: (i) the name of the proposed Endowment Manager; (ii) whether the proposed Endowment Manager is a governmental entity, special district, nonprofit organization, community foundation, or congressionally chartered foundation; (iii) whether the proposed Endowment Manager holds the property or an interest in the property for conservation purposes as required by Government Code section 65968(b)(1) or, in the alternative, the basis for finding that the Project qualifies for an exception pursuant to Government Code section 65968(b)(2); and (iv) a copy of the proposed Endowment Manager's certification pursuant to Government Code section 65968(e). Within thirty days of CDFW's receipt of Permittee's written proposal, CDFW shall inform Permittee in writing if it determines the proposal does not satisfy the requirements of Fish and Game Code section 2081(b)(4) and, if so, shall provide Permittee with a written explanation of the reasons for its determination. If CDFW does not provide Permittee with a written determination within the thirty-day period, the proposal shall be deemed consistent with Section 2081(b)(4).;

8.4.2. Calculate the Endowment Funds Deposit. After obtaining CDFW written approval of the HM lands, long-term management plan, and Endowment Manager, Permittee shall prepare a Property Analysis Record (PAR) or PAR-equivalent analysis (hereinafter "PAR") to calculate the amount of funding necessary to ensure the long-term management of the HM lands (Endowment

Deposit Amount). The Permittee shall submit to CDFW for review and approval the results of the PAR before transferring funds to the Endowment Manager.

8.4.2.1. Capitalization Rate and Fees. Permittee shall obtain the capitalization rate from the selected Endowment Manager for use in calculating the PAR and adjust for any additional administrative, periodic, or annual fees.

8.4.2.2. Endowment Buffers/Assumptions. Permittee shall include in PAR assumptions the following buffers for endowment establishment and use that will substantially ensure long-term viability and security of the Endowment:

8.4.2.2.1. 10 Percent Contingency. A 10 percent contingency shall be added to each endowment calculation to hedge against underestimation of the fund, unanticipated expenditures, inflation, or catastrophic events.

8.4.2.2.2. Three Years Delayed Spending. The endowment shall be established assuming spending will not occur for the first three years after full funding.

8.4.2.2.3. Non-annualized Expenses. For all large capital expenses to occur periodically but not annually such as fence replacement or well replacement, payments shall be withheld from the annual disbursement until the year of anticipated need or upon request to Endowment Manager and CDFW.

8.4.3. Transfer Long-term Endowment Funds. Permittee shall transfer the long-term endowment funds to the Endowment Manager upon CDFW approval of the Endowment Deposit Amount identified above. The approved Endowment Manager may pool the Endowment with other endowments for the operation, management, and protection of HM lands for local populations of the Covered Species but shall maintain separate accounting for each Endowment. The Endowment Manager shall, at all times, hold and manage the Endowment in compliance with this ITP, Government Code sections 65965-65968, as amended, and Probate Code sections 18501-18510, as amended.

8.5. Reimburse CDFW. Permittee shall reimburse CDFW for all reasonable expenses incurred by CDFW such as transaction fees, account set-up fees, administrative fees, title and documentation review and related title transactions, expenses incurred from other state agency reviews, and overhead related to transfer of HM lands to CDFW.

## 9. Performance Security

The Permittee may proceed with Covered Activities only after the Permittee has ensured funding (Security) to complete any activity required by Condition of Approval 8 that has not been completed before Covered Activities begin. Permittee shall provide Security as follows:

- 9.1. Security Amount. The Security shall be in the amount of **\$1,067,623.56**. This amount is based on the cost estimates identified in Condition of Approval 8.1 above.
- 9.2. Security Form. The Security shall be in the form of an irrevocable letter of credit (see Attachment 5) or another form of Security approved in advance in writing by CDFW's Office of the General Counsel.
- 9.3. Security Timeline. The Security shall be provided to CDFW before Covered Activities begin or within 30 days after the effective date of this ITP, whichever occurs first.
- 9.4. Security Holder. The Security shall be held by CDFW or in a manner approved in advance in writing by CDFW.
- 9.5. Security Transmittal. If CDFW holds the Security, Permittee shall transmit it to CDFW with a completed Mitigation Payment Transmittal Form (see Attachment 6) or by way of an approved instrument such as escrow, irrevocable letter of credit, or other.
- 9.6. Security Drawing. The Security shall allow CDFW to draw on the principal sum if CDFW, in its sole discretion, determines that the Permittee has failed to comply with the Conditions of Approval of this ITP.
- 9.7. Security Release. The Security (or any portion of the Security then remaining) shall be released to the Permittee after CDFW has conducted an on-site inspection and received confirmation that all secured requirements have been satisfied, as evidenced by:
  - Written documentation of the acquisition of the HM lands;
  - Copies of all executed and recorded conservation easements;
  - Written confirmation from the approved Endowment Manager of its receipt of the full Endowment; and
  - Timely submission of all required reports.

Even if Security is provided, the Permittee must complete the required acquisition, protection and transfer of all HM lands and record any required conservation easements no later than 18 months from the effective date of this ITP. CDFW may require the Permittee to provide additional HM lands and/or additional funding to ensure the impacts of the taking are minimized and fully mitigated, as required by law, if the Permittee does



not complete these requirements within the specified timeframe.

**Amendment:**

This ITP may be amended as provided by California Code of Regulations, Title 14, section 783.6, subdivision (c), and other applicable law. This ITP may be amended without the concurrence of the Permittee as required by law, including if CDFW determines that continued implementation of the Project as authorized under this ITP would jeopardize the continued existence of the Covered Species or where Project changes or changed biological conditions necessitate an ITP amendment to ensure that all Project-related impacts of the taking to the Covered Species are minimized and fully mitigated.

**Stop-Work Order:**

CDFW may issue Permittee a written stop-work order requiring Permittee to suspend any Covered Activity for an initial period of up to 25 days to prevent or remedy a violation of this ITP, including but not limited to the failure to comply with reporting or monitoring obligations, or to prevent the unauthorized take of any CESA endangered, threatened, or candidate species. Permittee shall stop work immediately as directed by CDFW upon receipt of any such stop-work order. Upon written notice to Permittee, CDFW may extend any stop-work order issued to Permittee for a period not to exceed 25 additional days. Suspension and revocation of this ITP shall be governed by California Code of Regulations, Title 14, section 783.7, and any other applicable law. Neither the Designated Biologist nor CDFW shall be liable for any costs incurred in complying with stop-work orders.

**Compliance with Other Laws:**

This ITP sets forth CDFW's requirements for the Permittee to implement the Project pursuant to CESA. This ITP does not necessarily create an entitlement to proceed with the Project. Permittee is responsible for complying with all other applicable federal, state, and local law.

**Notices:**

The Permittee shall deliver a fully executed duplicate original ITP by registered first class mail or overnight delivery to the following address:

Habitat Conservation Planning Branch  
California Department of Fish and Wildlife  
Attention: CESA Permitting Program  
1416 Ninth Street, Suite 1260  
Sacramento, California 95814

Written notices, reports and other communications relating to this ITP shall be delivered to CDFW by registered first class mail at the following address, or at addresses CDFW may subsequently provide the Permittee. Notices, reports, and other communications shall reference the Project name, Permittee, and ITP Number (2081-2012-039-04) in a cover letter

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and on any other associated documents.

Original cover with attachment(s) to:

Jeffrey R. Single, Ph.D., Regional Manager  
California Department of Fish and Wildlife  
1234 East Shaw Avenue  
Fresno, California 93710  
Telephone (559) 243-4005  
Fax (559) 243-4020

Copy of cover without attachment(s) to:

Climate Science and Renewable Energy Branch  
California Department of Fish and Wildlife  
1416 Ninth Street, Suite 1341-B  
Sacramento, California 95814

Unless Permittee is notified otherwise, CDFW's Regional Representative for purposes of addressing issues that arise during implementation of this ITP is:

Craig Bailey, Senior Environmental Scientist (Specialist)  
1234 East Shaw Avenue  
Fresno, California 93710  
Telephone (559) 243-4014, extension 261  
Fax (559) 243-4020  
[craig.bailey@wildlife.ca.gov](mailto:craig.bailey@wildlife.ca.gov)

**Compliance with CEQA:**

CDFW's issuance of this ITP is subject to CEQA. CDFW is a responsible agency pursuant to CEQA with respect to this ITP because of prior environmental review of the Project by the lead agency, Kern County. (See generally Pub. Resources Code, §§ 21067, 21069.) The lead agency's prior environmental review of the Project is set forth in the Beacon Photovoltaic Project by Beacon Solar, LLC Environmental Impact Report, (State Clearinghouse No. 201201102) approved by Kern County, with a Notice of Determination filed on November 8, 2012. At the time the lead agency certified the EIR and approved the Project it also adopted various mitigation measures for the Covered Species as conditions of Project approval.

This ITP, along with CDFW's related CEQA findings, which are available as a separate document, provide evidence of CDFW's consideration of the lead agency's EIR for the Project and the environmental effects related to issuance of this ITP (CEQA Guidelines, § 15096, subd. (f)). CDFW finds that issuance of this ITP will not result in any previously

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undisclosed potentially significant effects on the environment or a substantial increase in the severity of any potentially significant environmental effects previously disclosed by the lead agency. Furthermore, to the extent the potential for such effects exists, CDFW finds adherence to and implementation of the Conditions of Project Approval adopted by the lead agency, and that adherence to and implementation of the Conditions of Approval imposed by CDFW through the issuance of this ITP, will avoid or reduce to below a level of significance any such potential effects. CDFW consequently finds that issuance of this ITP will not result in any significant, adverse impacts on the environment.

**Findings Pursuant to CESA:**

These findings are intended to document CDFW's compliance with the specific findings requirements set forth in CESA and related regulations. (Fish & G. Code § 2081, subs. (b)-(c); Cal. Code Regs., tit. 14, §§ 783.4, subds. (a)-(b), 783.5, subd. (c)(2).)

CDFW finds based on substantial evidence in the ITP application, Beacon Photovoltaic Project by Beacon Solar, LLC Environmental Impact Report, the results of site visits and consultations, and the administrative record of proceedings, that issuance of this ITP complies and is consistent with the criteria governing the issuance of ITPs pursuant to CESA:

- (1) Take of Covered Species as defined in this ITP will be incidental to the otherwise lawful activities covered under this ITP;
- (2) Impacts of the taking on Covered Species will be minimized and fully mitigated through the implementation of measures required by this ITP and as described in the MMRP. Measures include: (1) permanent habitat protection; (2) establishment of avoidance zones; (3) worker education; and (4) Quarterly and Annual Compliance Reports. CDFW evaluated factors including an assessment of the quality and importance of the habitat in the Project Area for the Covered Species, the extent to which the Covered Activities will impact the habitat, and CDFW's estimate of the acreage required to provide for adequate compensation. Based on this evaluation, CDFW determined that the protection and management in perpetuity of 115 acres of compensatory habitat that is contiguous with other protected Covered Species habitat and/or is of higher quality than the habitat being destroyed by the Project, along with the minimization, monitoring, reporting, and funding requirements of this ITP minimizes and fully mitigates the impacts of the taking of two (2) desert tortoise and two (2) Mohave ground squirrel expected as a result of Project implementation;
- (3) The take avoidance and mitigation measures required pursuant to the conditions of this ITP and its attachments are roughly proportional in extent to the impacts of the taking authorized by this ITP;
- (4) The measures required by this ITP maintain Permittee's objectives to the greatest

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extent possible;

- (5) All required measures are capable of successful implementation;
- (6) This ITP is consistent with any regulations adopted pursuant to Fish and Game Code sections 2112 and 2114;
- (7) Permittee has ensured adequate funding to implement the measures required by this ITP as well as for monitoring compliance with, and the effectiveness of, those measures for the Project; and
- (8) Issuance of this ITP will not jeopardize the continued existence of the Covered Species based on the best scientific and other information reasonably available, and this finding includes consideration of the species' capability to survive and reproduce, and any adverse impacts of the taking on those abilities in light of (1) known population trends; (2) known threats to the species; and (3) reasonably foreseeable impacts on the species from other related projects and activities. Moreover, CDFW's finding is based, in part, on CDFW's express authority to amend the terms and conditions of this ITP without concurrence of the Permittee as necessary to avoid jeopardy and as required by law.

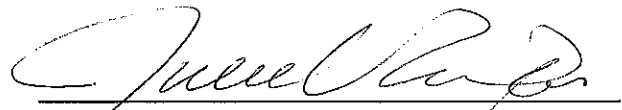
**Attachments:**

FIGURE 1	Project Location
FIGURE 2	Project Facilities
ATTACHMENT 1	Mitigation Monitoring and Reporting Program
ATTACHMENT 2	Desert Tortoise Exclusion Fence Guidelines
ATTACHMENT 3	Guidelines for Handling Desert Tortoises – Mojave Population and their Eggs
ATTACHMENT 4A, 4B	Habitat Management Lands Checklist; PLFAF Form
ATTACHMENT 5	Letter of Credit Form
ATTACHMENT 6	Mitigation Payment Transmittal Form

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**ISSUED BY THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE**

on 11/14/13



Jeffrey R. Single, Ph.D.  
Regional Manager  
REGION 4, CENTRAL REGION

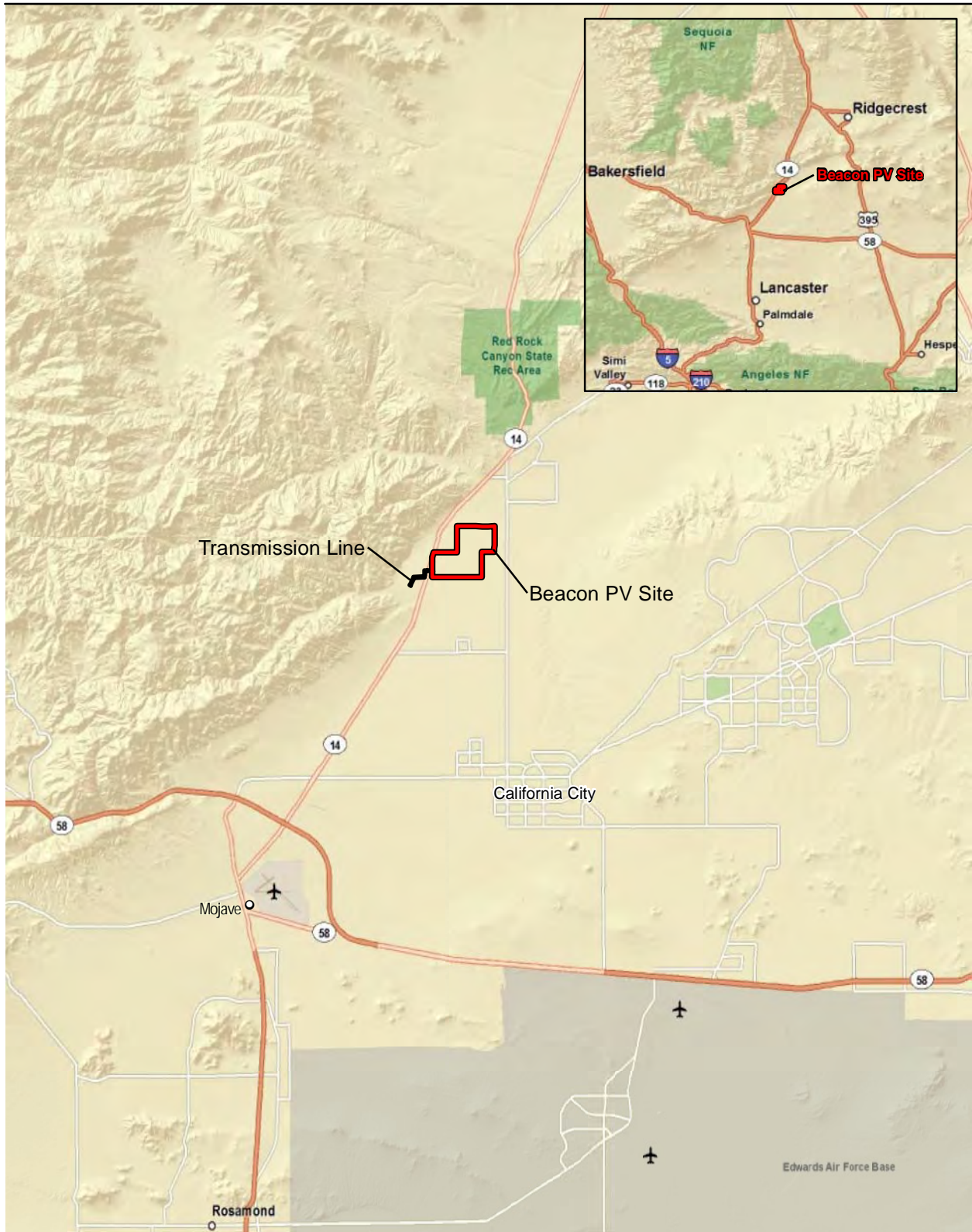
**ACKNOWLEDGMENT**

The undersigned: (1) warrants that he or she is acting as a duly authorized representative of the Permittee, (2) acknowledges receipt of this ITP, and (3) agrees on behalf of the Permittee to comply with all terms and conditions

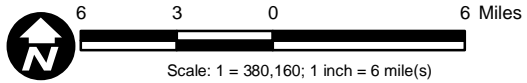
By: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

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Source: Worley Parsons 2011; ESRI 2011



**Figure 1**  
**Regional Map**

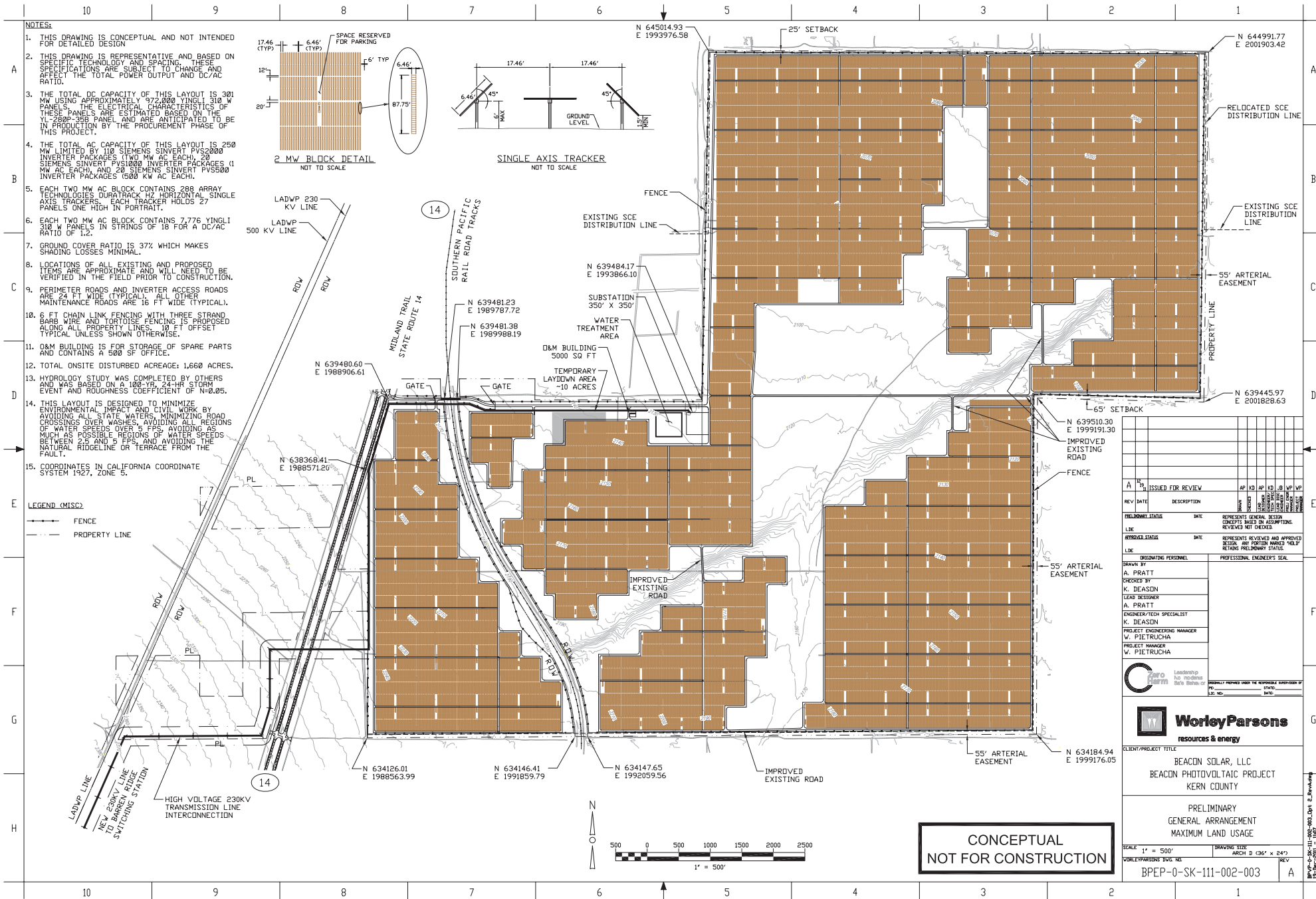


Figure 2. Project Facilities

ATTACHMENT 1  
Mitigation Monitoring and Reporting Program



**Attachment 1**

**CALIFORNIA DEPARTMENT OF FISH AND GAME  
MITIGATION MONITORING AND REPORTING PROGRAM  
CALIFORNIA ENDANGERED SPECIES ACT**

**INCIDENTAL TAKE PERMIT NO. 2081-2012-039-04**

**PERMITTEE:**           **Los Angeles Department of Water and Power  
(LADWP)**

**PROJECT:**           **BEACON PHOTOVOLTAIC PROJECT**

**PURPOSE OF THE Mitigation Monitoring and Reporting Program**

The purpose of the Mitigation Monitoring and Reporting Program (MMRP) is to ensure that the impact minimization and mitigation measures required by the Department of Fish and Game (DFG) for the above-referenced Project are properly implemented, and thereby to ensure compliance with section 2081(b) of the Fish and Game Code and section 21081.6 of the Public Resources Code. A table summarizing the mitigation measures required by DFG is attached. This table is a tool for use in monitoring and reporting on implementation of mitigation measures, but the descriptions in the table do not supersede the mitigation measures set forth in the California Incidental Take Permit (ITP) and in attachments to the ITP, and the omission of an ITP requirement from the attached table does not relieve the Permittee of the obligation to ensure the requirement is performed.

**OBLIGATIONS OF PERMITTEE**

Mitigation measures must be implemented within the time periods indicated in the table that appears below. Permittee has the primary responsibility for monitoring compliance of all mitigation measures and for reporting to DFG on the progress in implementing those measures. These monitoring and reporting requirements are set forth in the ITP itself and are summarized at the front of the attached table.

**VERIFICATION OF COMPLIANCE, EFFECTIVENESS**

DFG may, at its sole discretion, verify compliance with any mitigation measure or independently assess the effectiveness of any mitigation measure.

## **TABLE OF MITIGATION MEASURES**

The following items are identified for each mitigation measure: Mitigation Measure, Source, Implementation Schedule, Responsible Party, and Status/Date/Initials. The Mitigation Measure column summarizes the mitigation requirements of the ITP. The Source column identifies the ITP condition that sets forth the mitigation measure. The Implementation Schedule column shows the date or phase when each mitigation measure will be implemented. The Responsible Party column identifies the person or agency that is primarily responsible for implementing the mitigation measure. The Status/Date/Initials column shall be completed by the Permittee during preparation of each Status Report and the Final Mitigation Report, and must identify the implementation status of each mitigation measure, the date that status was determined, and the initials of the person determining the status.

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
<b>BEFORE DISTURBING SOIL OR VEGETATION</b>					
1	Before starting Covered Activities, Permittee shall designate a representative (Designated Representative) responsible for communications with CDFW and overseeing compliance with this ITP. Permittee shall notify CDFW in writing before starting Covered Activities of the Designated Representative's name, business address, and contact information, and shall notify CDFW in writing if a substitute Designated Representative is selected or identified at any time during the term of this ITP.	ITP Condition # 5.1	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	
2	Permittee shall submit to CDFW in writing the name, qualifications, business address, and contact information of a biological monitor (Designated Biologist) at least 30 days before starting Covered Activities. Permittee shall ensure that the Designated Biologist is knowledgeable and experienced in the biology, natural history and handling of the Covered Species. The Designated Biologist shall be responsible for monitoring Covered Activities to help minimize and fully mitigate or avoid the incidental take of individual Covered Species and to minimize disturbance of Covered Species' habitat. Permittee shall obtain CDFW approval of the Designated Biologist in writing before starting Covered Activities, and shall also obtain approval in advance in writing if the Designated Biologist must be changed.	ITP Condition # 5.2	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	
3	To ensure compliance with the Conditions of Approval of this ITP, the Designated Biologist shall have authority to immediately stop any activity that does not comply with this ITP, and/or to order any reasonable measure to avoid the unauthorized take of an individual of the Covered Species.	ITP Condition # 5.3	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	
4	Permittee shall conduct an education program for all persons employed or otherwise working in the Project Area before performing any work. The program shall consist of a presentation from the Designated Biologist that includes a discussion of the biology and general behavior of the Covered Species, information about the distribution and habitat needs of the Covered Species, sensitivity of the Covered Species to human activities, its status pursuant to CESA including legal protection, recovery efforts, penalties for violations and Project-specific protective measures described in this ITP. Permittee shall provide interpretation for non-English speaking workers, and the same instruction shall be provided to any new workers before they are authorized to perform work in the Project Area. Permittee shall prepare and distribute wallet-sized cards or a fact sheet handout containing this information for workers to carry in the Project Area. Upon completion of the program, employees shall sign a form stating they attended the program and understand all protection measures. This training shall be repeated at least once annually for long-term and/or permanent employees that will be conducting work in the Project Area.	ITP Condition # 5.4	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	
5	Permittee shall initiate a trash abatement program before starting Covered Activities and shall continue the program for the duration of the Project. Permittee shall ensure that trash and food items are contained in animal-proof containers and removed at least once a week to avoid attracting opportunistic predators such as ravens, coyotes, and feral dogs.	ITP Condition # 5.6	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	

	<b>Mitigation Measure</b>	<b>Source</b>	<b>Implementation Schedule</b>	<b>Responsible Party</b>	<b>Status / Date / Initials</b>
6	Before starting Covered Activities, Permittee shall clearly delineate the boundaries of the Project Area with fencing, stakes, or flags. Permittee shall restrict all Covered Activities to within the fenced, staked, or flagged areas. Permittee shall maintain all fencing, stakes, and flags until the completion of Covered Activities.	ITP Condition # 5.9	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	
7	Permittee shall clearly delineate habitat of the Covered Species within the Project Area with posted signs, posting stakes, flags, and/or rope or cord, and place fencing as necessary to minimize the disturbance of Covered Species' habitat.	ITP Condition # 5.10	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	
8	The Designated Representative shall notify DFG 14 calendar days before starting Covered Activities and shall document compliance with all pre-Project Conditions of Approval before starting Covered Activities.	ITP Condition # 6.1	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	
9	The Designated Biologist(s) shall develop translocation plans for each of the Covered Species prior to the start of the surveys for Covered Species required by Conditions 7.10 and 7.14 below. The Designated Biologist(s) shall submit the translocation plans to CDFW for review and approval prior to the start of Covered Activities. The Permittee and Designated Biologist(s) shall implement the translocation plans after they have been approved by CDFW.	ITP Condition # 7.6	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	
	The Desert Tortoise Translocation Plan shall use the methods described in the USFWS "Guidelines for Handling Desert Tortoises – Mojave Population and their Eggs," (Attachment 2) contained in the "Desert Tortoise Field Manual." If physical capture of desert tortoise is necessary, the Designated Biologist(s) shall capture, collect measurement and identification data, permanently mark, and relocate any tortoises found within construction areas to suitable, undisturbed off-site habitat approved in advance by CDFW. If a tortoise is found above ground, it shall be released above ground in the shade. Any tortoise removed from a burrow shall be relocated to an unoccupied burrow of similar size. If no such burrows are available for relocating, the Designated Biologist(s) shall construct an artificial burrow that is approximately the same size, depth, and orientation as the original burrow, following the protocols found in the "Desert Tortoise Field Manual." The Designated Biologist(s) shall record the position of all tortoise burrows, tortoises, and relocation sites using global positioning system (GPS) technology. The Designated Biologist(s) shall collapse all potential or actual desert tortoise burrows present within the work site after establishing that they are not currently occupied by desert tortoise, in order to prevent re-occupancy. Tortoises that appear to be sick or injured may be relocated by the Designated Biologist(s) to an appropriate facility outside the State of California with CDFW's prior written consent..	ITP Condition # 7.7	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	

	<b>Mitigation Measure</b>	<b>Source</b>	<b>Implementation Schedule</b>	<b>Responsible Party</b>	<b>Status / Date / Initials</b>
10	The Designated Biologist(s) must comply with the procedures for handling tortoise described in the "Desert Tortoise Field Manual." During all handling procedures, tortoises must be treated in a manner to ensure that they do not overheat, show signs of overheating (e.g., gaping, foaming at the mouth, etc.), or get placed in a situation where they cannot maintain surface and core temperatures necessary for their well-being. Tortoises must be kept in the shade at all times until it is safe to release them. For the purposes of this ITP, ambient air temperature must be measured in the shade, protected from wind, at a height of two inches (five centimeters) above the ground surface. No tortoise shall be captured, moved, transported, released, or purposefully caused to leave its burrow for whatever reason when the ambient air temperature is above 95 degrees Fahrenheit (35 degrees Celsius). No desert tortoise shall be captured if the ambient air temperature is anticipated to exceed 95 degrees Fahrenheit (35 degrees Celsius) before handling or processing can be completed. If the ambient air temperature exceeds 95 degrees Fahrenheit (35 degrees Celsius) during handling or processing, desert tortoises shall be kept in a shaded environment that does not exceed 95 degrees Fahrenheit (35 degrees Celsius), and shall not be released until ambient air temperature declines to below 95 degrees Fahrenheit (35 degrees Celsius). In an effort to prevent further spread of Upper Respiratory Tract Disease, Designated Biologist(s) shall use plastic gloves whenever handling tortoises. After handling each tortoise, gloves shall be disposed of and all equipment that came into contact with the tortoise shall be sterilized. Only the Designated Biologist(s) shall handle desert tortoises.	ITP Condition # 7.8	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	
11	The Designated Biologist(s) shall maintain a record of all tortoises handled. This information shall include for each tortoise: (a) the locations (narrative and maps) and dates of observation; (b) general condition and health, including injuries and state of healing, and whether or not the tortoise voided its bladder; (c) location moved from and location moved to (using GPS technology); (d) diagnostic markings (i.e., identification numbers or marked lateral scutes); (e) ambient temperature when handled and released; and (f) digital photograph of each tortoise handled as described below. If the Designated Biologist(s) moves a tortoise from within the Project Area, that tortoise shall be marked for future identification, using the acrylic paint/epoxy covering technique, by placing an identification number on the fourth left costal scute, as described in the Tortoise Handling Guidelines. Digital photographs of the carapace, plastron, and fourth costal scute shall be taken. No notching of scutes is authorized.	ITP Condition # 7.9	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	
12	No more than 30 days prior to ground-disturbing activities, the Designated Biologist(s) shall be present to perform pre-construction surveys for Covered Species, and shall remain on-site until temporary or permanent exclusion fencing has been installed to preclude tortoises from entering the work area (Conditions 7.11 and 7.12). These surveys shall cover the existing access routes and the proposed construction right-of-way (ROW), with a 50-foot buffer zone. All potential burrows within the construction ROW shall be flagged to alert biological and work crews to their presence. The Designated Biologist(s) shall submit a report documenting the results of the pre-construction surveys to CDFW within 30 days after performing the surveys.	ITP Condition # 7.10	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	

	<b>Mitigation Measure</b>	<b>Source</b>	<b>Implementation Schedule</b>	<b>Responsible Party</b>	<b>Status / Date / Initials</b>
13	Prior to any surface disturbance, Permittee shall install temporary tortoise proof exclusion fencing (exclusion fence) around the perimeter of all the Project work areas during Project construction not within the plant site, including but not limited to roads, pull sites, staging areas, storage areas, excavation and disposal sites. The Permittee shall install permanent fencing around the plant site (Condition 7.13). For linear portions of the Project Area, including roads and transmission lines, Permittee shall install temporary exclusion fencing in a sequential manner that corresponds to the progression of active construction work at the site. For example, temporary fencing shall not be installed simultaneously at all work locations, and shall be removed immediately upon completion of Project construction activities in each segment to minimize the tortoise habitat fragmentation impacts caused by fencing. Permittee may conduct activities without installing temporary exclusion fencing, for some types of limited duration construction impacts, if a Designated Biologist(s) is present at all times at the specific work location to monitor activities and ensure impacts to Covered Species are minimized. The Permittee shall notify CDFW in writing prior to implementation of such exceptions. Temporary exclusion fencing will not be required for the southbound acceleration lane if preconstruction surveys do not detect any Covered Species, their sign, or potential burrows.	ITP Condition # 7.11	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	
14	Permittee shall locate temporary desert tortoise exclusion fencing to avoid Covered Species burrows, so that the burrows are isolated from the active work areas when possible. The Designated Biologist(s) shall accompany the exclusion fence construction crew(s) to ensure that Covered Species are not killed or injured during fence installation. Permittee shall construct the exclusion fence according to the United States Fish and Wildlife Service (USFWS) "Desert Tortoise Exclusion Fence" guidelines (Attachment 3), contained in the "Desert Tortoise Field Manual." An alternative exclusion fence design may be used if CDFW has provided written approval in advance of fence installation. The exclusion fence shall be supported sufficiently to maintain its integrity under all conditions such as wind and heavy rain for the duration of the active construction period. Permittee shall construct all openings in the exclusion fence lines such that they prohibit tortoise passage or passively direct the tortoise back into suitable natural habitat. Permittee shall check the exclusion fence at least once weekly and maintain/repair the fence when necessary.	ITP Condition # 7.12	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	
15	Prior to initial ground disturbance, Permittee shall install permanent desert tortoise proof exclusion fencing (permanent exclusion fence) around the perimeter of the plant site and associated infrastructure (e.g., O&M Building). Permittee shall locate the permanent exclusion fence to avoid Covered Species burrows and, when possible, so that the burrows are isolated from the active work areas. The Designated Biologist(s) shall accompany the permanent exclusion fence construction crew to ensure that Covered Species are not killed or injured during this activity. Permittee shall construct the permanent exclusion fence according to the USFWS "Desert Tortoise Exclusion Fence" guidelines (Attachment 2), contained in the "Desert Tortoise Field Manual." An alternative permanent exclusion fence design may be used if CDFW has provided written approval in advance of fence installation. The permanent exclusion fence shall be supported sufficiently to maintain its integrity under all conditions, such as wind and heavy rain, for the duration of the Project, including O&M activities. Permittee shall construct all openings in the permanent exclusion fence lines such that they prohibit tortoise passage or passively direct the tortoise back into suitable natural habitat. Permittee shall maintain the permanent exclusion fence and repair when necessary. Permittee shall install the permanent exclusion fence flush against any security fencing installed for the Project.	ITP Condition # 7.13	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
16	After the installation of the temporary and permanent exclusion fencing and prior to any ground disturbance within the fenced areas, the Designated Biologist(s) shall examine the Project Area for Covered Species and their burrows. The survey shall provide 100 percent coverage within the Project boundaries. The use of specialized equipment (e.g., fiber optics) may be necessary to thoroughly inspect all burrows. If any desert tortoises are found within the fenced area, the Designated Biologist(s), shall comply with the Translocation Plan prepared in accordance with Condition 7.6. The Designated Biologist(s) shall also conduct surveys in the area immediately outside of the exclusion fence for Covered Species, and shall conduct periodic inspections of the exclusion fence itself to ensure its integrity. Particular attention shall be given after rainstorms, especially where the fence has been constructed in washes.	ITP Condition # 7.14	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	
23	Any burrows present within the portion of the Project site to be disturbed and that are suspected or known to be occupied by the Covered Species shall be fully excavated by hand by the Designated Biologist(s). The Designated Biologist(s) shall allow any Mohave ground squirrels encountered in the excavated burrows during their active period to escape out of harm's way if outside the Plant site. If Mohave squirrels are observed within the Plant site, Mohave ground squirrels shall be relocated as described in the Translocation Plan (Condition 7.6). Mohave ground squirrels encountered during their dormant period shall be collected and moved to an artificial burrow. The Designated Biologist(s) shall consult with CDFW prior to Covered Activities regarding the need and protocol for taking and preserving tissue/fluid samples from live animals. Burrows within temporary exclusion fences should be left intact if ground-disturbing activities can avoid the burrows.	ITP Condition # 7.15	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	
24	In the event that an active tortoise nest is detected during pre-construction burrow excavation or during construction activities, procedures outlined in the Desert Tortoise Translocation Plan in accordance with Condition 7.6 shall be followed. The Designated Biologist(s) shall notify DFG immediately upon discovery of an active desert tortoise nest, and the site of egg relocation shall be approved by CDFW prior to relocation.	ITP Condition # 7.16	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	
25	The Designated Biologist(s) shall maintain a record of all squirrels handled. This information shall include, for each squirrel: (a) the locations (narrative and maps) and dates of observation; (b) general condition and health, including injuries and state of healing; (c) location moved from and location moved to (using GPS technology); (d) any diagnostic markings (if applicable); (e) ambient temperature when handled and released; and (f) digital photograph of each squirrel handled.	ITP Condition # 7.17	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	
26	To reduce the potential for increased raven predation on tortoise, Permittee shall develop a site-specific raven management plan to minimize the potential for ravens to occupy the Project Area. This plan shall be approved by DFG. To mitigate this Project's portion of the cumulative effect of increasing the raven population in the desert region, Permittee shall contribute one hundred five dollars (\$105.00) per acre for the 2,301.3 acres of developed land that has the potential to provide food or other subsidies for ravens in the Project area. For this 30-year ITP, the payment shall be <b>\$241,636.50</b> (2,301.3 acres x \$105 per acre). Payment of <b>\$241,636.50</b> shall go to the USFWS regional raven management program to fund the following raven management measures as specified in the environmental assessment for the implementation of a plan for the reduction of predation by the common raven on the federally threatened desert tortoise in the California desert (Raven EA).	ITP Condition # 7.22	Within 18 months of ITP issuance.	Permittee	

	<b>Mitigation Measure</b>	<b>Source</b>	<b>Implementation Schedule</b>	<b>Responsible Party</b>	<b>Status / Date / Initials</b>
27	The Permittee shall either purchase 115 acres of Covered Species credits from a DFG-approved mitigation or conservation bank (Condition of Approval 8.2) OR shall provide for both the permanent protection and management of 115 acres of Habitat Management (HM) lands pursuant to Condition of Approval 8.3 below and the calculation and deposit of the management funds pursuant to Condition of Approval 8.4 below. Permanent protection and funding for perpetual management of compensatory habitat must be complete before starting Covered Activities, or within 18 months of the effective date of this ITP if Security is provided pursuant to Condition of Approval 9 below for all uncompleted obligations	ITP Condition # 8	Before commencing ground- or vegetation-disturbing activities (or within 18 months of issuance of the ITP if Security is provided)	Permittee	
28	Transfer fee title to the HM lands to DFG pursuant to terms approved in writing by DFG. Alternatively, DFG, in its sole discretion, may authorize a governmental entity, special district, non-profit organization, for-profit entity, person, or another entity to hold title to and manage the property provided that the district, organization, entity, or person meets the requirements of Government Code sections 65965-65968, as amended. If DFG does not hold fee title to the HM lands, DFG shall act as grantee for a conservation easement over the HM lands or shall, in its sole discretion, approve a non-profit entity, public agency, or Native American tribe to act as grantee for a conservation easement over the HM lands provided that the entity, agency, or tribe meets the requirements of Civil Code section 815.3. If DFG does not hold the conservation easement, DFG shall be expressly named in the conservation easement as a third-party beneficiary. The Permittee shall obtain DFG written approval of any conservation easement before its execution or recordation.	ITP Condition # 8.3.1	Before commencing ground- or vegetation-disturbing activities (or within 18 months of issuance of the ITP if Security is provided)	Permittee	
29	Obtain DFG written approval of the HM lands before acquisition and/or transfer of the land by submitting, at least three months before acquisition and/or transfer of the HM lands, a formal Proposed Lands for Acquisition Form (see Attachment 4B) identifying the land to be purchased or property interest conveyed to an approved entity as mitigation for the Project's impacts on Covered Species.	ITP Condition # 8.3.2	Before commencing ground- or vegetation-disturbing activities (or within 18 months of issuance of the ITP if Security is provided)	Permittee	
30	Provide a recent preliminary title report, initial hazardous materials survey report, and other necessary documents (see Attachment 4A). All documents conveying the HM lands and all conditions of title are subject to the approval of DFG, and if applicable, the Wildlife Conservation Board and the Department of General Services.	ITP Condition # 8.3.3	Before commencing ground- or vegetation-disturbing activities (or within 18 months of issuance of the ITP if Security is provided)	Permittee	



	<b>Mitigation Measure</b>	<b>Source</b>	<b>Implementation Schedule</b>	<b>Responsible Party</b>	<b>Status / Date / Initials</b>
31	Designate both an interim and long-term land manager approved by DFG. The interim and long-term land managers may, but need not, be the same. The interim and/or long-term land managers may be the land owner or another party. Documents related to land management shall identify both the interim and long-term land managers. Permittee shall notify DFG of any subsequent changes in the land manager within 30 days of the change. If DFG will hold fee title to the mitigation land, DFG will also act as both the interim and long-term land manager unless otherwise specified.	ITP Condition # 8.3.4	Before commencing ground- or vegetation-disturbing activities (or within 18 months of issuance of the ITP if Security is provided)	Permittee	
32	Provide for the implementation of start-up activities, including the initial site protection and enhancement of HM lands, once the HM lands have been approved by DFG. Start-up activities include, at a minimum: (1) preparing a final management plan for DFG approval (see <a href="http://www.dfg.ca.gov/habcon/conplan/mitbank/">http://www.dfg.ca.gov/habcon/conplan/mitbank/</a> ); (2) conducting a baseline biological assessment and land survey report within four months of recording or transfer; (3) developing and transferring Geographic Information Systems (GIS) data if applicable; (4) establishing initial fencing; (5) conducting litter removal; (6) conducting initial habitat restoration or enhancement, if applicable; and (7) installing signage.	ITP Condition # 8.3.5	Before commencing ground- or vegetation-disturbing activities (or within 18 months of issuance of the ITP if Security is provided)	Permittee	
33	Provide for the interim management of the HM lands. The Permittee shall ensure that the interim land manager implements the interim management of the HM lands as described in the final management plan and conservation easement approved by DFG. The interim management period shall be a minimum of three years from the date of HM land acquisition and protection and full funding of the Endowment and includes expected management following start-up activities. Interim management period activities described in the final management plan shall include fence repair, continuing trash removal, Covered Species monitoring, site monitoring, and vegetation and invasive species management. Permittee shall either (1) provide a security to DFG for the minimum of three years of interim management that the land owner, Permittee, or land manager agrees to manage and pay for at their own expense, (2) establish an escrow account with written instructions approved in advance in writing by DFG to pay the land manager annually in advance, or (3) establish a short-term enhancement account with DFG or a DFG-approved entity for payment to the land manager.	ITP Condition # 8.3.6	Before commencing ground- or vegetation-disturbing activities (or within 18 months of issuance of the ITP if Security is provided)	Permittee	
34	The Permittee shall ensure that the HM lands are perpetually managed, maintained, and monitored by the long-term land manager as described in this ITP, the conservation easement, and the final management plan approved by DFG. After obtaining DFG approval of the HM lands, Permittee shall provide long-term management funding for the perpetual management of the HM lands by establishing a long-term management fund (Endowment). The Endowment is a sum of money, held in a DFG-approved fund that provides funds for the perpetual management, maintenance, monitoring, and other activities on the HM lands consistent with the management plan(s) required by Condition of Approval 8.3.5. Endowment as used in this ITP shall refer to the endowment deposit and all interest, dividends, other earnings, additions and appreciation thereon. The Endowment shall be governed by this ITP, Government Code sections 65965-65968, as amended, and Probate Code sections 18501-18510, as amended.	ITP Condition # 8.4	Before commencing ground- or vegetation-disturbing activities (or within 18 months of issuance of the ITP if Security is provided)	Permittee	

	<b>Mitigation Measure</b>	<b>Source</b>	<b>Implementation Schedule</b>	<b>Responsible Party</b>	<b>Status / Date / Initials</b>
35	The Endowment shall be held by the Endowment Manager, which shall be either DFG or another entity qualified pursuant to Government Code sections 65965-65968, as amended, and approved in writing by DFG in its sole discretion. Permittee shall submit to DFG a written proposal for an Endowment Manager along with a copy of the proposed Endowment Manager's certification pursuant to Government Code section 65968(e). DFG shall notify Permittee in writing of its approval or disapproval of the proposed Endowment Manager. If DFG does not approve the proposed Endowment Manager, it shall provide Permittee with a written explanation of the reasons for its disapproval.	ITP Condition # 8.4.1	Before commencing ground- or vegetation-disturbing activities (or within 18 months of issuance of the ITP if Security is provided)	Permittee	
36	After obtaining DFG written approval of the HM lands, long-term management plan, and Endowment Manager, Permittee shall prepare a Property Analysis Record (PAR) or PAR-equivalent analysis (hereinafter "PAR") to calculate the amount of funding necessary to ensure the long-term management of the HM lands (Endowment Deposit Amount). The Permittee shall submit to DFG for review and approval the results of the PAR before transferring funds to the Endowment Manager.	ITP Condition # 8.4.2	Before commencing ground- or vegetation-disturbing activities (or within 18 months of issuance of the ITP if Security is provided)	Permittee	
37	Permittee shall transfer the long-term endowment funds to the Endowment Manager upon DFG approval of the Endowment Deposit Amount identified above. The approved Endowment Manager may pool the Endowment with other endowments for the operation, management, and protection of HM lands for local populations of the Covered Species but shall maintain separate accounting for each Endowment. The Endowment Manager shall, at all times, hold and manage the Endowment in compliance with this ITP, Government Code sections 65965-65968, as amended, and Probate Code sections 18501-18510, as amended.	ITP Condition # 8.4.3	Before commencing ground- or vegetation-disturbing activities (or within 18 months of issuance of the ITP if Security is provided)	Permittee	
38	Permittee shall reimburse DFG for all reasonable expenses incurred by DFG such as transaction fees, account set-up fees, administrative fees, title and documentation review and related title transactions, expenses incurred from other state agency reviews, and overhead related to transfer of HM lands to DFG.	ITP Condition # 8.5	Before commencing ground- or vegetation-disturbing activities (or within 18 months of issuance of the ITP if Security is provided)	Permittee	
39	The Permittee may proceed with Covered Activities only after the Permittee has ensured funding (Security) to complete any activity required by Condition of Approval 8 that has not been completed before Covered Activities begin. The Security shall be in the amount of <b>\$1,067,623.56</b> . This amount is based on the cost estimates identified in Condition of Approval 8.1 above	ITP Condition # 9/9.1	Before commencing ground- or vegetation-disturbing activities or within 30 days of ITP effective date, whichever comes first	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
<b>DURING CONSTRUCTION</b>					
40	The Designated Biologist shall maintain a construction-monitoring notebook on-site throughout the construction period which shall include a copy of this ITP with attachments and a list of signatures of all personnel who have successfully completed the education program. Permittee shall ensure a copy of the construction-monitoring notebook is available for review at the Project site upon request by CDFW.	ITP Condition # 5.5	Entire Project	Permittee	
41	Permittee shall implement dust control measures during Covered Activities to facilitate visibility for monitoring of the Covered Species by the Designated Biologist. Permittee shall keep the amount of water used to the minimum amount needed, and shall not allow water to form puddles.	ITP Condition # 5.7	Entire Project	Permittee	
42	Permittee shall prohibit use of erosion control materials potentially harmful to Covered Species and other species, such as mono-filament netting (erosion control matting) or similar material, in potential Covered Species' habitat.	ITP Condition # 5.8	Entire Project	Permittee	
43	Project-related personnel shall access the Project Area using existing routes, and shall not cross Covered Species' habitat outside of or en route to the Project Area. Permittee shall restrict Project-related vehicle traffic to established roads, staging, and parking areas. Permittee shall ensure that vehicle speeds do not exceed 20 miles per hour to avoid Covered Species on or traversing the roads. If Permittee determines construction of routes for travel are necessary outside of the Project Area, the Designated Representative shall contact DFG for written approval before carrying out such an activity. DFG may require an amendment to this ITP, among other reasons, if additional take of Covered Species will occur as a result of the Project modification.	ITP Condition # 5.11	Entire Project	Permittee	
44	Permittee shall confine all Project-related parking, storage areas, laydown sites, equipment storage, and any other surface-disturbing activities to the Project Area using, to the extent possible, previously disturbed areas. Additionally, Permittee shall not use or cross Covered Species' habitat outside of the marked Project Area unless provided for as described in Condition of Approval 5.11 of this ITP..	ITP Condition # 5.12	Entire Project	Permittee	
45	Permittee shall immediately stop and, pursuant to pertinent state and federal statutes and regulations, arrange for repair and clean up by qualified individuals of any fuel or hazardous waste leaks or spills at the time of occurrence, or as soon as it is safe to do so. Permittee shall limit the storage and handling of hazardous materials to the O&M building and shall properly contain and dispose of any unused or leftover hazardous products off-site.	ITP Condition # 5.13	Entire Project	Permittee	
46	Permittee shall provide DFG staff with reasonable access to the Project and mitigation lands under Permittee control, and shall otherwise fully cooperate with DFG efforts to verify compliance with or effectiveness of mitigation measures set forth in this ITP.	ITP Condition # 5.14	Entire Project	Permittee	
47	The Designated Representative shall immediately notify DFG in writing if it determines that the Permittee is not in compliance with any Condition of Approval of this ITP, including but not limited to any actual or anticipated failure to implement measures within the time periods indicated in this ITP and/or the MMRP. The Designated Representative shall report any non-compliance with this ITP to DFG within 24 hours..	ITP Condition # 6.2	Entire Project	Permittee	

	<b>Mitigation Measure</b>	<b>Source</b>	<b>Implementation Schedule</b>	<b>Responsible Party</b>	<b>Status / Date / Initials</b>
48	The Designated Biologist(s) shall be on-site daily during construction, O&M, and decommissioning activities that result in ground or vegetation disturbance. The Designated Biologist shall conduct compliance inspections to (1) minimize incidental take of the Covered Species; (2) prevent unlawful take of species; (3) check for compliance with all measures of this ITP; (4) check all exclusion zones; and (5) ensure that signs, stakes, and fencing are intact, and that Covered Activities are only occurring in the Project Area. The Designated Representative or Designated Biologist shall prepare daily written observation and inspection records summarizing: oversight activities and compliance inspections, observations of Covered Species and their sign, survey results, and monitoring activities required by this ITP. During the construction and decommissioning phases, the Designated Biologist shall conduct compliance inspections a minimum of once per month during periods of inactivity during periods of inactivity and after clearing, grubbing, and grading are completed. Compliance inspections will be extended to once per year after completion of construction for the O&M phase.	ITP Condition # 6.3	Entire Project	Permittee	
49	The Designated Representative or Designated Biologist shall compile the observation and inspection records identified in Condition of Approval 6.3 into a Quarterly Compliance Report and submit it to CDFW along with a copy of the MMRP table with notes showing the current implementation status of each mitigation measure for the construction and decommissioning phases of the Project. Compliance reports for the O&M phase may be included with the Annual Status Report described in Condition 6.5. Quarterly Compliance Reports shall be submitted to CDFW's Regional Office at the office listed in the Notices section of this ITP and via e-mail to CDFW's Regional Representative. At the time of this ITP's approval, the CDFW Regional Representative is Craig Bailey (Craig.Bailey@wildlife.ca.gov). CDFW may at any time increase the timing and number of compliance inspections and reports required under this provision depending upon the results of previous compliance inspections. If CDFW determines the reporting schedule must be changed, CDFW will notify Permittee in writing of the new reporting schedule.	ITP Condition # 6.4	Entire Project	Permittee	
50	The Permittee shall provide CDFW with an Annual Status Report (ASR) no later than January 31 of every year beginning with issuance of this ITP and continuing until CDFW accepts the Final Mitigation Report identified below. Each ASR shall include, at a minimum: (1) a summary of all Quarterly Compliance Reports for that year identified in Condition; (2) a general description of the status of the Project Site and Covered Activities, including actual or projected completion dates, if known; (3) a copy of the table in the MMRP with notes showing the current implementation status of each mitigation measure; (4) an assessment of the effectiveness of each completed or partially completed mitigation measure in avoiding, minimizing, and mitigating Project impacts; (5) all available information about Project-related incidental take of the Covered Species; (6) a summary of findings from pre-construction surveys (e.g., number of times a Covered Species or a den or burrow was encountered, location, if avoidance was achieved, if not, what other measures were implemented); (7) beginning and ending dates of O&M activities, emergency related, and other Covered Activities undertaken during the reporting year; and (8) information about other Project impacts on the Covered Species.	ITP Condition # 6.5	Entire Project	Permittee	
51	The Designated Biologist shall submit all observations of Covered Species to DFG's California Natural Diversity Database (CNDDB) within 60 calendar days of the observation and the Designated Biologist shall include copies of the submitted forms with the next Quarterly Compliance Report or ASR, whichever is submitted first relative to the observation.	ITP Condition # 6.6	Entire Project	Permittee	

	<b>Mitigation Measure</b>	<b>Source</b>	<b>Implementation Schedule</b>	<b>Responsible Party</b>	<b>Status / Date / Initials</b>
52	Permittee shall immediately notify the Designated Biologist if a Covered Species is taken or injured by a Project-related activity, or if a Covered Species is otherwise found dead or injured within the vicinity of the Project. The Designated Biologist or Designated Representative shall provide initial notification to DFG by calling the Regional Office at (559) 243-4014. The initial notification to DFG shall include information regarding the location, species, and number of animals taken or injured and the ITP Number. Following initial notification, Permittee shall send DFG a written report within two calendar days. The report shall include the date and time of the finding or incident, location of the animal or carcass, and if possible provide a photograph, explanation as to cause of take or injury, and any other pertinent information.	ITP Condition # 6.8	Entire Project	Permittee	
53	Permittee shall avoid disturbance beyond an actual work/construction site by using existing roads to the site, except for roads that will be newly constructed and documented in the as-built Plans (Condition 7.21). Permittee shall restrict vehicle and equipment movement to designated routes and work-site locations. Cross-country travel ( <i>i.e.</i> , travel off existing roads) is prohibited except when absolutely required by the Project and as explicitly described in the ITP. If unauthorized off-road vehicle/equipment use occurs, DFG may halt continued operations until the cause of the violation is remedied. Permittee may consider implementing additional avoidance measures, such as posting signs and installing physical barriers as necessary.	ITP Condition # 7.1	Entire Project	Permittee	
54	New and existing roads that are planned for either construction or widening shall not extend beyond the planned impact area ( <i>i.e.</i> , the existing access road be widened to a total width of no more than 30 feet, including road shoulders. Impacts to Covered Species habitat associated with the gen-tie line will be limited to 0.17 acres). All vehicles passing or turning around shall do so within the planned impact area or in previously disturbed areas. No berms shall be placed along roads, to ensure that tortoises are able to move between habitat fragments. Where new access is required outside of existing roads or the construction zone, the route shall be clearly marked ( <i>i.e.</i> , flagged and/or staked) prior to the onset of construction. Cross-country access shall be the standard for temporary activities (as opposed to new road construction). To the extent possible, access to the Project Area shall be restricted to designated "open" routes of travel. The Designated Biologist(s) shall select and flag the access routes, whether cross-country or bladed, to avoid burrows and to minimize disturbance of vegetation.	ITP Condition # 7.2	Entire Project	Permittee	
55	Where practicable, construction of transmission lines shall be done without any new road construction, to reduce permanent disturbed areas and eliminate blading. Cross-country travel is authorized for transmission line construction.	ITP Condition # 7.3	Entire Project	Permittee	
56	Permittee shall only string conductor in Covered Species' habitat if the conductor and line are not allowed to drag on the ground or through vegetation and all vehicles remain on existing access roads.	ITP Condition # 7.4	Entire Project	Permittee	
57	All workers shall inspect for Covered Species under vehicles and equipment every time the vehicles and equipment are moved. If a Covered Species is present, the workers shall wait for the Covered Species to move to a safe location. Alternatively, Permittee shall contact the Designated Biologist(s) to determine if the Designated Biologist(s) can safely move the animal within the conditions of the ITP.	ITP Condition # 7.5	Entire Project/Operation & Maintenance	Permittee	
58	During Project implementation, all workers shall inform the Designated Biologist(s) if a Covered Species is seen within or near the Project Area. Permittee shall cease all work in the vicinity of the Covered Species which could injure or kill the animal until the Covered Species is moved by the Designated Biologist(s) or it moves from the construction area on its own.	ITP Condition # 7.18	Entire Project	Permittee	

	<b>Mitigation Measure</b>	<b>Source</b>	<b>Implementation Schedule</b>	<b>Responsible Party</b>	<b>Status / Date / Initials</b>
59	The Designated Biologist(s) shall inspect all open holes and trenches within Covered Species' habitat at the beginning of the day, middle of the day, and end of the day for trapped animals. If Covered Species are trapped, the Designated Biologist(s) shall be notified immediately. The Covered Species shall be allowed to escape or shall be moved and relocated by the Designated Biologist(s) before work continues at that location.	ITP Condition # 7.19	Entire Project	Permittee	
60	If a Covered Species is injured as a result of Project-related activities, the Designated Biologist(s) shall immediately take it to a DFG-approved wildlife rehabilitation or veterinary facility. Permittees shall identify the facility before starting Covered Activities. Permittees shall bear any costs associated with the care or treatment of such injured Covered Species. Permittees shall notify DFG of the injury to the Covered Species immediately by telephone and e-mail, followed by a written incident report. Notification shall include the date, time, location, and circumstances of the incident, and the name of the facility where the animal was taken. Injured tortoises may be relocated to an appropriate facility outside the State of California with DFG's prior written consent.	ITP Condition # 7.20	Entire Project	Permittee	
<b>POST-CONSTRUCTION</b>					
61	Upon completion of Covered Activities, Permittee shall remove from the Project Area and properly dispose of all temporary fill and construction refuse, including, but not limited to, broken equipment parts, wrapping material, cords, cables, wire, rope, strapping, twine, buckets, metal or plastic containers, and boxes.	ITP Condition #5.15	Project Completion	Permittee	
62	Within 30 days of ITP expiration, Permittee shall provide DFG with a Final Mitigation Report. The Designated Biologist shall prepare the Final Mitigation Report which shall include, at a minimum: (1) a summary of all Quarterly Compliance Reports and all ASRs; (2) a copy of the table in the MMRP with notes showing when each of the mitigation measures was implemented; (3) all available information about Project-related incidental take of the Covered Species; (4) information about other Project impacts on the Covered Species; (5) beginning and ending dates of Covered Activities; (6) an assessment of the effectiveness of this ITP's Conditions of Approval in minimizing and fully mitigating Project impacts of the taking on Covered Species; (7) recommendations on how mitigation measures might be changed to more effectively minimize take and mitigate the impacts of future projects on the Covered Species; and (8) any other pertinent information.	ITP Condition #6.7	Within 45 days of Project Completion	Permittee	
63	Permittee shall submit as-built plans to DFG within six (6) months of completing Project construction. The as-built plan sheets shall delineate and quantify the extent of Project ground and vegetation disturbance and permanent Project features, including roads, fuel breaks, substations, solar arrays, all electrical infrastructure, staging areas and pull sites, the area within all permanent exclusion fences, and all other facilities and features associated with the Project. Plans shall include topographic data, with contour intervals not to exceed five feet, as a background layer. The plan scale shall be 1":250' (one inch to 250 feet) or smaller. Plans shall be derived from engineering survey data acquired after Project construction and shall be verified by the Designated Biologist(s). The plans shall be submitted in Portable Document Format (PDF) or a similar electronic format.	ITP Condition #7.21	Within 6 months of Project Construction Completion	Permittee	

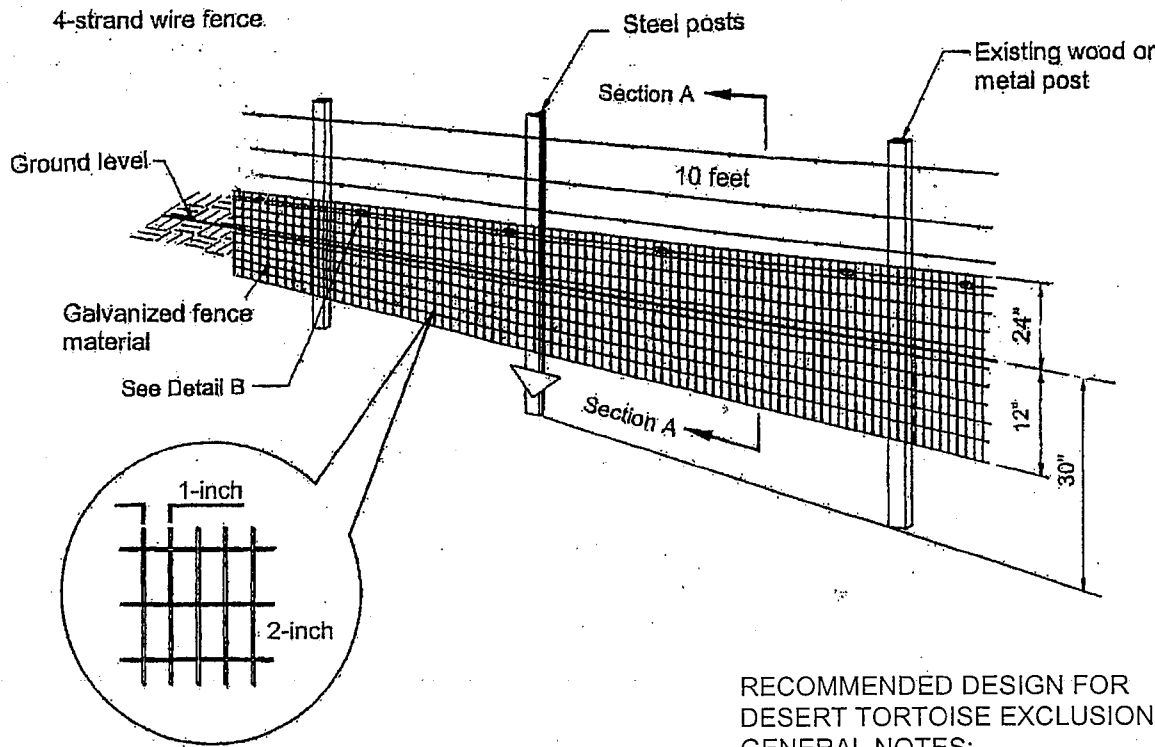
	<b>Mitigation Measure</b>	<b>Source</b>	<b>Implementation Schedule</b>	<b>Responsible Party</b>	<b>Status / Date / Initials</b>
64	During O&M activities that follow initial construction, all personnel working at the site shall obey the speed limits specified in this ITP (Condition 5.11) and shall have participated in an annual worker/contractor education program (Condition 5.4) based on the measures in this ITP. Permittee shall provide to CDFW a record of annual worker training, including the list of attendees, with the annual monitoring reports required by this ITP.	ITP Condition #7.23	Operations and Maintenance	Permittee	
65	Access to the Project Area during the O&M phase shall only be by permanent roads established during the construction phase and public roads maintained by Kern County or Caltrans.	ITP Condition #7.24	Operations and Maintenance	Permittee	
66	O&M activities shall not disturb habitat outside of the area disturbed during the construction phase of this Project (Condition 7.21). Impacts from ground-disturbing O&M activities that may result in an impact to habitat not previously disturbed during the Project construction phase are not authorized by this ITP. Permittee shall request an ITP amendment if O&M impacts beyond the construction footprint are anticipated and shall not conduct such activities until an ITP amendment is issued by DFG.	ITP Condition #7.25	Operations and Maintenance	Permittee	
67	O&M activities shall implement all General Provisions of the ITP (Condition 5 et seq.).	ITP Condition #7.26	Operations and Maintenance	Permittee	
68	No more than 30 days prior to ground-disturbing O&M activities, the Designated Biologist(s) shall be present to perform pre-activity surveys for Covered Species. These surveys shall cover the existing access routes and the proposed maintenance area with a 50-foot buffer zone. All potential burrows within the maintenance area shall be flagged to alert biological and work crews to their presence. The Designated Biologist shall determine if desert tortoise exclusion fencing is warranted after completion of pre-activity Surveys. Exclusion fencing shall be installed or the Permittee shall notify CDFW of its exception as described in Condition 7.11. The Designated Biologist(s) shall submit a report documenting the results of the pre-construction surveys to CDFW with the annual compliance report.	ITP Condition #7.27	Operations and Maintenance	Permittee	
69	During the O&M period of Project implementation, all workers shall inform the Designated Biologist(s) if a Covered Species is seen within or near the Project Area. Permittee shall cease all work in the vicinity of the Covered Species which could injure or kill the animal until the Covered Species is moved by the Designated Biologist(s) or it moves from the construction area on its own.	ITP Condition #7.28	Operations and Maintenance	Permittee	
70	The Designated Biologist(s) shall inspect all open holes and trenches within Covered Species' habitat at the beginning of the day, middle of the day, and end of the day for trapped animals. The Covered Species shall be allowed to escape or shall be moved and relocated by the Designated Biologist(s) before work continues at that location.	ITP Condition #7.29	Operations and Maintenance	Permittee	
71	If a Covered Species is injured as a result of Project-related activities, the Designated Biologist(s) shall immediately take it to a CDFW-approved wildlife rehabilitation or veterinary facility. Permittee shall identify the facility before starting Covered Activities. Permittee shall bear any costs associated with the care or treatment of such injured Covered Species. Permittee shall notify CDFW of the injury to the Covered Species immediately by telephone and e-mail, followed by a written incident report. Notification shall include the date, time, location, and circumstances of the incident, and the name of the facility where the animal was taken. Injured tortoises may be relocated to an appropriate facility outside the State of California with CDFW's prior written consent.	ITP Condition #7.30	Operations and Maintenance	Permittee	

	<b>Mitigation Measure</b>	<b>Source</b>	<b>Implementation Schedule</b>	<b>Responsible Party</b>	<b>Status / Date / Initials</b>
72	The Permittee shall contact CDFW if the buffer is not feasible to determine appropriate Take Minimization Measures. Any alternative buffers shall be approved in writing by CDFW.	ITP Condition #7.31	Operations and Maintenance	Permittee	
73	Fill material for road repair, washouts, or other eroded areas may only be obtained from Covered Species' habitat if it is within areas identified as permanent impacts in this ITP (Condition 7.21), the Designated Biologist(s) has/have completed a pre-activity survey in the area, and the buffers described in Condition 7.31 are being implemented.	ITP Condition #7.32	Operations and Maintenance	Permittee	
74	Permittee shall only string conductor in Covered Species' habitat if the conductor and line are not allowed to drag on the ground or through vegetation and all vehicles remain on marked access roads. Permittee shall maintain appropriate buffers for Covered Species during O&M activities (Condition 7.31).	ITP Condition #7.33	Operations and Maintenance	Permittee	
75	Permittees shall ensure that all herbicide use (mixing, application, and clean-up) conforms to all applicable federal, state, and local regulations. Nothing in this ITP represents a herbicide use recommendation that allows for actions that conflict with herbicide use regulations. Permittees shall ensure that any application of herbicide is done by a licensed applicator in accordance with all applicable federal, State, and local laws and regulations.	ITP Condition #7.34	Operations and Maintenance	Permittee	
76	The use of rodenticides is prohibited outside of buildings in the Project Area.	ITP Condition #7.35	Operations and Maintenance	Permittee	
77	Prior to the start of decommissioning activities, Permittees shall submit a decommissioning plan to CDFW for review and written approval. The decommissioning plan will describe the decommissioning activities, potential associated impacts, their location, and the appropriate ITP "Take Minimization Measures" that will be implemented to minimize take of Covered Species.	ITP Condition #7.36	Decommissioning	Permittee	
78	Decommissioning activities shall not disturb habitat outside of the area disturbed during the construction phase of this Project (Condition 7.21). Impacts from ground-disturbing decommissioning activities that may result in an impact to habitat not previously disturbed during the Project construction phase are not authorized by this ITP. Permittees shall request an ITP amendment or new ITP if decommissioning activity impacts beyond the construction footprint are anticipated, and shall not conduct such activities until an ITP amendment or new ITP is issued by CDFW. Permittees shall restore areas subject to temporary impacts from ground-disturbing decommissioning activities rather than mitigate off-site. A revegetation plan will be submitted to CDFW as part of the Decommissioning Plan (Condition 7.32).	ITP Condition #7.37	Decommissioning	Permittee	

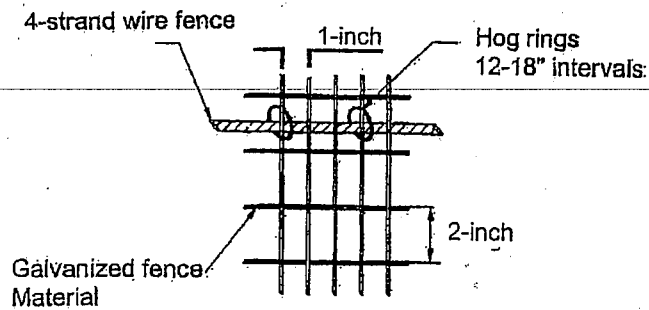


ATTACHMENT 2  
Desert Tortoise Exclusion Fence Guidelines

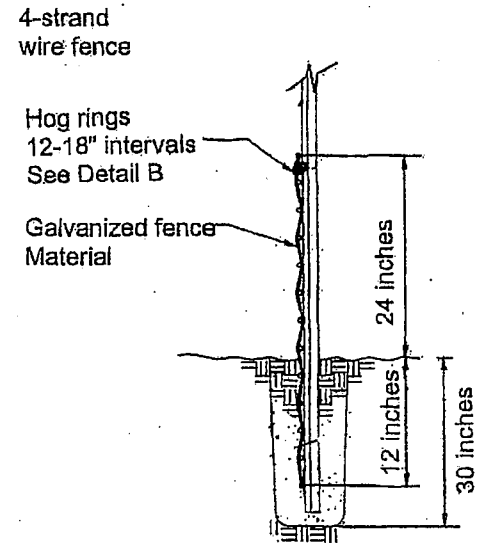
# DESERT TORTOISE EXCLUSION FENCE (2005)



DETAIL A



DETAIL B



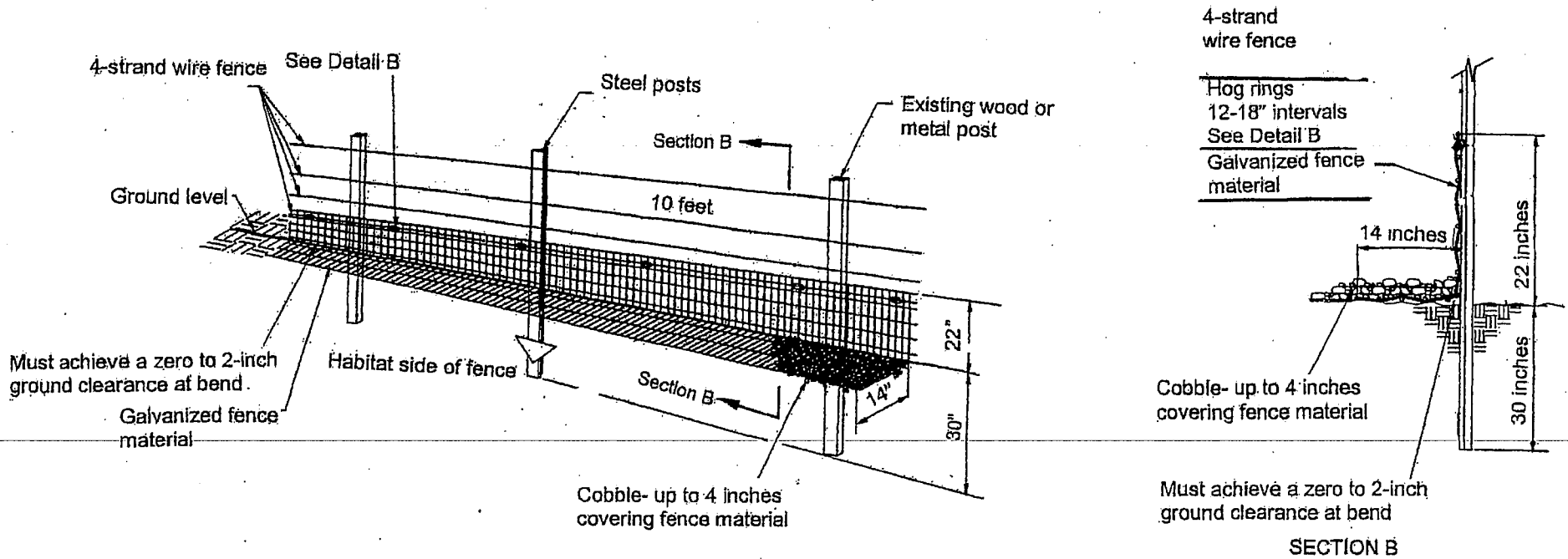
SECTION A

## RECOMMENDED DESIGN FOR DESERT TORTOISE EXCLUSION FENCE GENERAL NOTES:

1. Ensure that fence posts and materials conform to the standards approved by the U.S. Fish and Wildlife Service.
2. Ensure that the height above ground level is no less than 18 inches and no higher than 24 inches.
3. Ensure that the depth of fence material below ground level is about 12 inches but no less than 6 inches. (See SECTION A above)
4. Install additional steel posts when span between existing fence posts exceed 10 feet.
5. Attach fence material to existing fence or wire using hog rings at 12-inch intervals.
6. Fasten fence material to posts with 3 tie wires with a wire near the top, bottom, and center of the fence material.
7. Backfill trenches with excavated material and compact the material.
8. Attach fence material to all gates. Ensure that clearance at base of gate achieves zero ground clearance.
9. Substitute smooth wire for barbed wire if additional support wires are necessary.
10. The number and placement of support wires may be modified to allow sheep and deer to pass safely.
11. Erosion at the edge of the fence material where the fence crosses washes may occur and requires appropriate and timely monitoring and repair.
12. Tie the fence into existing culverts and cattleguards when determined necessary to allow desert tortoise passage underneath roadways.

## FOR BEDROCK OR CALICHE SUBSTRATE

1. Use this fence design (see below) only for that portion of the fence where fence material cannot be placed 6 inches below existing ground level due to presence of bedrock, large rocks or caliche substrate.
2. Ensure that the fence height above ground level is no less than 22 inches.
3. Ensure that there is a zero to 2-inch ground clearance at the bend.
4. Ensure that the bent portion of the fence is lying on the ground and pointed in the direction of desert tortoise habitat.
5. Cover the portion of the fence that is flush with the ground with cobble (rocks placed on top of the fence material to a vertical thickness up to 4 inches).
6. When substrate no longer is composed of bedrock or caliche, install fence using design shown above.



ATTACHMENT 3  
Guidelines for Handling Desert Tortoises – Mojave Population and their  
Eggs

## **CHAPTER 7. GUIDELINES FOR HANDLING DESERT TORTOISES-MOJAVE POPULATION AND THEIR EGGS**

### **7.1. Objectives**

- Provide the reader with the most current methods for handling desert tortoises based on research and experience implementing previous handling protocols.
- Provide guidance to ensure the health and well-being of desert tortoises while allowing collection of data and necessary handling of desert tortoises.
- Ensure that diseases and parasites are not transmitted among desert tortoises.

### **7.2. Specific Considerations before Handling Desert Tortoises**

Depending on the circumstances, desert tortoises that are beneath machinery, in trenches or pipes, under pallets, or anywhere on the project site may be in danger and may need to be moved. Desert tortoises may be handled only by authorized personnel, but other project personnel may move a desert tortoise the shortest distance necessary to remove the desert tortoise from imminent danger if an Authorized Biologist is not present. The desert tortoise shall be monitored until an Authorized Biologist or USFWS is contacted for further instruction. If desert tortoises must be moved, a secure location must be available and the appropriate procedures in this Manual must be followed to ensure safe handling. If a secure location is not available, the tortoise must be held pending instruction from USFWS and the appropriate State wildlife agency. Before touching a desert tortoise, implement procedures described in Section 7.6.

### **7.3. Temperature Considerations**

Desert tortoises, particularly small ones, have been observed to be active aboveground every month of the year. However, the preferred daytime body temperature of desert tortoises is 69 degrees F to 101 degrees F (20.5 degrees C to 38 degrees C) (McGinnis and Voigt 1971). The critical maximum body temperature is between 103 degrees F and 112 degrees F (39 degrees C to 44 degrees C) (Brattstrom 1965, Naegle 1976). Berry and Turner (1984) found that juvenile desert tortoises preferred air temperatures of 63 degrees F to 66 degrees F (17 degrees C to 19 degrees C) during March, and 77 degrees F to 83 degrees F (25 degrees C to 28 degrees C) during June. Consequently, more juvenile desert tortoises were located in the morning (76.1 percent) than in the afternoon (23.9 percent). Zimmerman et al. (1994) found that air temperatures were comparable between 2 and 10 inches (5 centimeters to 25.4 centimeters) aboveground, with maximum variance of less than 3.5 degrees F (1.2 degrees C). Current information on lower temperature limits for desert tortoise activity is not well known.

Walde et al. (2003) observed that desert tortoises retreated into burrows when the air temperature reached 91.0 degrees F  $\pm$  3.5 degrees F (32.7 degrees C  $\pm$  1.2 degrees) and ground temperatures reached 95 degrees F  $\pm$  6 degrees F (35 degrees C  $\pm$  2.4 degrees); 95 percent of the desert tortoise observations aboveground occurred at air temperatures less than 91.4 degrees F (33 degrees C). Ground temperatures shall be measured on the ground surface in an area near the desert tortoise in full sun, with the thermometer in the shadow of the observer. Ambient air temperature shall

be measured in the shade, protected from wind, at a height of 2 inches (5 centimeters) above the ground surface.

During extreme heat, desert tortoises that shelter in relatively shallow burrows will remain in the burrow as long as the burrow temperature is lower than the temperature outside of the burrow. At night the air and surface temperatures drop faster than the temperature in the burrow. When the air and surface temperature drop below the burrow temperature, the desert tortoise may exit the burrow in an effort to lower its body temperature. Desert tortoises have been observed moving from a few feet out of the burrow to 50 feet (15 meters) or more during the night (Steve Ferrand, 2009, Nevada Biological Consulting, *in litt.*). Tortoises shall not be blocked in burrows during extreme temperatures and construction sites shall be carefully inspected during these periods for tortoises aboveground.

#### **7.4. Hot Temperatures**

Desert tortoises shall be treated in a manner to ensure that they do not overheat or exhibit signs of overheating, which include aggressive struggling by the desert tortoise, hot to the touch, frothing at the mouth, excessive salivation, or voiding its bladder. Desert tortoises shall not be placed in a situation where they cannot maintain surface and core temperatures necessary to their well-being. Desert tortoises shall be kept shaded at all times until it is safe to release them. Ground temperatures are much hotter than air temperatures thus never place a desert tortoise on unshaded ground. Removal of the upper layer of hot substrate would expose a cooler layer below.

No desert tortoise shall be captured, moved, transported, released, or purposefully caused to leave its burrow for whatever reason when the ground temperature is above 95 degrees F (35 degrees C). Temperature must be measured in the shade and protected from the wind at a height of 2 inches (5 centimeters) above the ground. No desert tortoise shall be captured if ground temperature is anticipated to exceed 95 degrees F (35 degrees C) before handling and relocation can be completed. If the ground temperature exceeds 95 degrees F (35 degrees C) during handling or processing, desert tortoises shall be kept shaded in an environment where the ambient air temperatures do not exceed 91 degrees F (32.7 degrees C) and ground temperature does not exceed 95 degrees F (35 degrees C). The desert tortoise shall not be released until ground temperature at the release site declines to below 95 degrees F (35 degrees C).

If a desert tortoise is found aboveground when these upper temperatures are exceeded and the desert tortoise must be moved from harm's way, place the desert tortoise in a clean, unused cardboard box or disinfected open plastic container, and keep it in a climate-controlled environment (e.g., air conditioned vehicle or building) until the ambient air and ground temperatures are below upper limits.

## Hyperthermic Desert Tortoises

Before touching a desert tortoise, implement procedures described in Section 7.6. If an animal begins frothing at the mouth, it is probably nearing an upper lethal body temperature and immediate action is required: a) capture, transport, and hold the desert tortoise in a climate-controlled environment, or b) if a nearby climate-controlled environment is unavailable, place the desert tortoise in an unused or open disinfected plastic container in the shade and pour cool water over the shell to a depth that ensures the nares remain above the water level. If no container is available, excavate a depression in a shaded area; place the desert tortoise in the depression and pour water over the shell. Heat-stressed desert tortoises shall not be released until they resume normal behavior. Monitor the desert tortoise after release until normal behavior resumes including sheltering.

### **7.5. Cold Temperatures**

If a desert tortoise is found aboveground during cold temperatures (i.e., ambient temperature less than 55 degrees F or 12.8 degrees C) and its burrow cannot be located nearby or will be destroyed, then capture the animal and implement the appropriate actions in Table 7.1. Before touching a desert tortoise, implement procedures described in Section 7.6. If relocating the desert tortoise to a natural burrow, ensure that the burrow is unoccupied; both a natural or artificial burrow must be of appropriate size within the average home range for that size and sex animal. If the end of the burrow cannot be seen, the burrow must be examined with a fiber-optic scope to ensure that the burrow and all side channels are unoccupied by other desert tortoises. Placing a desert tortoise in a burrow occupied by another desert tortoise may promote disease transmission and aggressive behavior between the desert tortoises.

**Table 7.1. Actions to implement for desert tortoises in harm’s way or adjacent to project areas during cold temperatures.**

CIRCUMSTANCE	ACTIONS		
	Find natural, unoccupied burrow; block tortoise inside	Construct artificial burrow; block tortoise inside	Construct pen around tortoise and burrow (Section 6.9)
<b>Desert tortoise above ground:</b>			
Desert tortoise in harm’s way, not in burrow	<b>X</b>	<b>X</b>	
Desert tortoise and burrow in harm’s way	<b>X</b>	<b>X</b>	
Desert tortoise in harm’s way, nearby burrow not in harm’s way			<b>X</b>
Desert tortoise adjacent to project, burrow in harm’s way	<b>X</b>	<b>X</b>	
Desert tortoise adjacent to project, no burrow	<b>X</b>	<b>X</b>	
Desert tortoise and burrow adjacent to project, not in harm’s way			<b>X</b>
<b>Desert tortoise in burrow:</b>			
Desert tortoise in harm’s way	<b>X</b>	<b>X</b>	
Desert tortoise adjacent to project			<b>X</b>

## **7.6. Procedures to Avoid Transmission of Diseases or Parasites**

At all times, handle a desert tortoise as if it has a contagious disease or parasites, and in such a way to avoid transmitting disease or parasites from one desert tortoise to another. Much of the following information was developed by Berry and Christopher 2001.

During handling each desert tortoise, wear a new pair of disposable latex or rubber gloves (i.e., one pair of gloves, per desert tortoise, per encounter). If a glove is torn while handling a desert tortoise, which is likely when its toenail scrapes the glove, put on a new glove over the old one. Used gloves and disposable supplies (e.g., surveyors tape or flagging, etc.) must be placed in a plastic trash bag and disposed of offsite.

All tools that contact desert tortoises shall be disinfected in accordance with procedures described in Section 7.6.2.

### **7.6.1. Disinfecting Clothing**

Do not allow a desert tortoise to contact clothing. If it does, change clothes before handling another desert tortoise. Contaminated clothes must be washed before worn again while handling desert tortoises. Keep a change of clothes on-hand and change clothes, including shoes, before leaving the site for another geographical location (e.g., another valley or mountain range would



be considered a separate location). As an alternative, wear disposable jumpsuits or gowns and disposable paper or plastic shoe covers. Use disposable paper or plastic sheeting to place under the desert tortoise or on the lap of field workers; disposable baby changing sheets may prove useful.

### 7.6.2. Disinfecting Tools and Equipment

All equipment and work surfaces after contact with each desert tortoise, any equipment (e.g., scales, calipers, ruler, etc.) that comes in contact with a desert tortoise, including poles used to probe burrows or tap desert tortoises from burrows (Medica et al. 1986), must be disinfected. Disinfecting solutions shall be either 0.175 percent sodium hypochlorite (bleach) (Wendland et al. 2009) or *Nolvasan* (prepared according to the manufacturer's instructions). A 0.175 percent sodium hypochlorite bleach is a 1:10 dilution of 5 percent household bleach to water. Before disinfecting, first remove any organic debris (e.g., dirt, feces, etc.) by rinsing the area with water or brushing off the area with paper towels or a scrub brush. If using a bleach solution, the equipment and work surface shall be saturated with the solution and allowed to air dry. If using a *Nolvasan* solution, the equipment and work surface shall be submersed in the solution (bath) for a minimum of 10 minutes before being used on another animal. Equipment baths shall be changed regularly according to the label instructions. Measures should be taken to avoid transmission of pathogens between burrows when using a fiber-optic scope which may include covering the scope with a disposable plastic cover.

Between study sites, equipment, particularly buckets will be scrubbed using a dish soap and bleach solution. After rinsing, the bleach solution will be sprayed on the equipment and allowed to air dry. This will minimize the chance of cross-contamination between study sites.

Only metal or plastic rulers may be used; never use a wooden ruler, which is too porous and cannot be properly disinfected. If permitted to notch desert tortoises, files must be disinfected after each use.

Thoroughly clean field vehicles inside and out at a car wash before moving to another geographical location.

## **7.7. Capturing Desert Tortoises**

When encountering a desert tortoise outside its burrow, approach the animal slowly (e.g., if the desert tortoise is 15 feet (4.5 meters) away, pace your approach with pauses to contact the desert tortoise in 30 seconds). Put on a clean, unused pair of latex or rubber gloves and grasp the desert tortoise at its bridge (connection between the carapace and plastron) with both hands, holding it firmly with its plastron parallel to, and facing the ground. Slowly lift the desert tortoise to your waist height and slowly and smoothly walk to where the desert tortoise will be placed (e.g., remove from harm's way).

If a desert tortoise is collected at or near sunset and intended to be released the same day, hold the desert tortoise overnight in a clean, unused cardboard box or open disinfected plastic container, and release it the next morning at or near the capture site. Monitor the desert tortoise until it resumes normal behavior.

## 7.8. Processing Desert Tortoises

Before touching a desert tortoise, implement procedures described in Section 7.6. A desert tortoise shall only be processed (i.e., weighed, measured, or sexed) if authorized in a biological opinion or permit. An experienced biologist should be able to process a desert tortoise in 5 to 10 minutes. **Do not process a desert tortoise if the ambient temperature exceeds 95 degrees F (35 degrees C)** (Section 6.3 or 7.4.) or if there is a chance that a second desert tortoise could be in harm's way and requires timely action while processing the first one.

Inspect a desert tortoise and record data on size, sex, distinctive features, indications of health and disease (e.g., ectoparasites, shell lesions, signs of osteoporosis or osteomalacia, injuries, evidence of URTD, etc.). Ensure that the desert tortoise is maintained in a horizontal position at all times.

### 7.8.1. Measuring and Sexing

If authorized and required, measure the midline carapace length (MCL) of the desert tortoise from the nuchal to pygal scutes using calipers, which provide the most accurate measurement. Measurements should be taken in millimeters (mm). Before touching a desert tortoise, implement procedures described in Section 7.6.

The sex of desert tortoises less than 180 mm MCL cannot be accurately determined based on external characteristics. Generally, the following male characteristics differentiate them from females: a) concave plastron; b) longer, more curved gulars; c) larger, well-developed chin glands; d) longer, broader, more conical tail; and e) shorter, thicker toenails. Pay particular attention to the gular projection and the shape of the plastron, which are the two best features for differentiating the sexes. For very large desert tortoises, feel the concave (male) or flattened (female) plastron or see it by holding the desert tortoise at eye level without turning the desert tortoise on its back. When in doubt, record all other information and mark "sex unknown" on the data sheet.

### 7.8.2. Weighing

Handle desert tortoises carefully. Mishandling may result in injury or cause the tortoise to void its bladder. Before touching a desert tortoise, implement procedures described in Section 7.6. If using a digital scale, immobilize the desert tortoise as described in Section 7.8.3. If using a spring scale, place the desert tortoise inside a harness made of clean, unused cord that will avoid the spread of pathogens. It will also minimize gross contamination to the desert tortoise and to field equipment from urination or defecation. The harness shall consist of a double loop with one loop crossing the plastron posterior to the forelimbs and the other anterior to the hind limbs. As the Authorized Biologist slowly begins to raise the tortoise, the tortoise shall remain positioned horizontally and care shall be taken to ensure that the tortoise does slip out of the harness or fall. Using the harness allows the Authorized Biologist to observe any stressful behavior exhibited by the desert tortoise (e.g., flailing of legs) and act quickly to correct this situation. Suspend the harness from the scale, ensuring the desert tortoise is securely and safely positioned, a few inches above sand or soil substrate. Keep weighing time to a minimum; and

take every precaution to prevent the desert tortoise from falling or voiding. Once the desert tortoise has been weighed, dispose of the harness.

The following spring scale sizes are recommended: a) 0 to 100 gram scale with a 1.0 gram precision for small desert tortoises; b) 1 kilogram scale with a 10 gram precision for moderate-sized desert tortoises; and c) 5 kilogram scale with a 50 gram precision for large desert tortoises. It is best to use the smallest scale that will accommodate the weight of a desert tortoise. Occasionally a desert tortoise will weigh more than 5 kilograms; in this case you may use two 5-kilogram scales simultaneously on the harness and add the weights. Keep scales clean and calibrated.

Experts recommend weighing a desert tortoise immediately after capture. This provides a true weight. Should the desert tortoise void its bladder, weigh it afterwards to determine how much fluid has been lost. Another reason for weighing a desert tortoise is to determine if it is underweight for its size. Low weight may be the result of disease, drought conditions, recent egg-laying, or other factors.

### 7.8.3. Restricting Mobility

*Using cylinders* - Before touching a desert tortoise, implement procedures described in Section 7.6. A desert tortoise may be placed on the top of a cylindrical holding stand such as a coffee can or other large can to facilitate processing. The stand should be large enough to support the desert tortoise and small enough to prevent any waving appendages from touching the stand, and tall enough to prevent desert tortoise from touching a solid surface below. Given that desert tortoises come in all sizes, a range of stand sizes will be needed. Note that coffee cans and other types of stands come in several sizes and can be "nested" in one another for ease of transport thereby accommodating different-sized desert tortoises. Freedom to move its appendages may encourage a desert tortoise to extend its head, which allows observation of the eyes, nares, chin glands, and beak where most signs of URTD are observed. The stand must be disinfected before using it with another desert tortoise, or place waterproof plastic on top of the stand prior to each use, then position the desert tortoise on top of the plastic, and discard the plastic afterwards.

### 7.8.4. Assessing Desert Tortoise Health

A section 7 biological opinion or section 10 permit may require a health assessment for encountered desert tortoises. Before initiating this assessment, contact the appropriate USFWS office to determine the information to be included in the health assessment. This will determine the qualifications needed by the person conducting the health assessment. You will need the approval of the person conducting the health assessment from the USFWS.

### 7.8.5. Marking Desert Tortoises

You must contact the DTRO and appropriate State wildlife agency before marking desert tortoises. Before touching a desert tortoise, implement procedures described in Section 7.6. If authorized, first restrict movement of the desert tortoise (Section 7.8.3.). Next, use a clean, disinfected toothbrush to remove dirt from the left fourth costal scute, where the desert tortoise will be marked. If this scute is damaged, use the right fourth costal scute. Next, place a small

dot (i.e., no larger than 1/4 inch (0.64 centimeter) in diameter) of correction fluid (i.e., white out) or acrylic paint on the scute. The number is likely to last longer if placed on a rough, off-centered surface where shell-wear is less common, which is one reason only the fourth costal scutes are used for marking. Once the spot is dry, write the identifying mark on the spot using a waterproof, permanent black ink pen. Some biologists recommend using a capillary type technical pen (e.g., fine-tip Sharpie).

Allow the number to dry before applying 5-minute epoxy. Mix the epoxy on a file card or piece of paper, then transfer the mixed epoxy to the dot on the shell using a toothpick, wooden coffee stirrer, or tongue depressor. Wait several seconds until the epoxy starts to thicken but is still liquid enough to spread over the numbered spot with ease. Cover the paint spot overlapping its edges just enough to seal the paint. **Never allow the epoxy to spill over onto the growth area, which occurs at the border between two scutes.** Anticipate this when applying the paint so there will be space for the epoxy to overlap the paint without entering the seams. It may be helpful to cover the margins of the scute with 1/2-inch wide masking tape before applying the epoxy, to ensure that the epoxy does not touch the growth area, especially on smaller desert tortoises. Record the identifying mark on the data sheet. Dispose of used materials appropriately after use on each desert tortoise.

#### 7.8.6. Photographing Desert Tortoises

Before touching a desert tortoise for photographing, implement procedures described in Section 7.6. If permitted, photograph processed desert tortoises as follows: a) dorsal view of the carapace; b) the numbered scute; and c) frontal view of the desert tortoise's face and forelegs. Photograph any recent or previously healed injuries or unusual anomalies. Unless specifically required, do not photograph the plastron which would require unnecessary handling and risk to the tortoise. It is important that each object fills 80 to 90 percent of the frame and that the object be clearly focused. Digital photographs are preferred. Two types of labels are recommended: a) hold a small card adjacent to the desert tortoise so that the above information is clearly visible on the photograph without blocking the part of the desert tortoise being photographed; or, b) attach a 1/2 inch x 1/2 inch, adhesive label to the desert tortoise to allow for closer, more detailed photographs of the subject. Dispose of label appropriately following use on each desert tortoise.

Keep a log of the photographs in your field notes (e.g., "photo number 453, carapace of desert tortoise 4"). You must be familiar with the features of the camera. Label photographs with the following information: date, biologist's name, project name, desert tortoise number, UTM or lat/long, county, and state.

Supplies and equipment:

- 3 inch x 5 inch file cards (for identifying photographs)
- 1/2 inch x 1/2 inch labels or other stickers (to attach to desert tortoise to identify photograph)
- Camera

## **7.9. Desert Tortoise Urination and Hydration**

Desert tortoises may void their bladder: 1) when first encountered, picked up, or carried; 2) the longer you handle them; and (3) during drought conditions, which is also when water availability is at its lowest. Since desert tortoises store water in their bladders, any loss of this fluid may result in death (Averill-Murray 2002). Discourage bladder voiding by gently and slowly moving the desert tortoise. If the tortoise does void, record on the data sheet the quantity, color, and viscosity of the urine. If the desert tortoise has already been weighed, weigh it again to estimate the amount of lost fluid. Avoid all unnecessary actions that may result in stress to the animal.

If the desert tortoise urinates, it should be rehydrated. To rehydrate, soak the desert tortoise at the release location in a tub with a clean unused plastic disposable liner for a minimum of 10 to 20 minutes in a quiet protected area. Water level shall not be higher than the lower jaw of the animal; the water temperature should be tepid. Desert tortoises must be soaked individually. Weigh the desert tortoise before and after placing in water. Even if desert tortoises do not drink, they can absorb water through their cloaca. Weighing the desert tortoise before and after placing it in water will determine if the tortoise took in water (James Jarchow, veterinarian, pers. comm.).

On warm days, transport the desert tortoise in the shade. Remember to roll up your sleeves and wear protective clothing to avoid transmitting disease or parasites to other desert tortoises that may come in contact with your clothing. When handling is complete, remove and properly dispose of your gloves and protective clothing.

## **7.10. Moving and Releasing Desert Tortoises**

In this Manual, relocating desert tortoises is defined as moving them from harm's way but allowing them to remain within their home ranges. To relocate, move the desert tortoise the distance directed in the permit or biological opinion once the desert tortoise has been processed. The minimum distance from the edge of the project footprint that a desert tortoise can be relocated will be determined by its age and sex (different home range sizes), the presence or absence of desert tortoise-proof fencing around the perimeter of the project footprint, and the duration of the project activity. Desert tortoises may attempt to return to their point of capture. A desert tortoise should not be placed on private land without the written permission of the landowner.

In this Manual, translocating desert tortoises is defined as moving them from harm's way to a location outside their home range (e.g., more than 1,000 feet (305 meters)). Translocating tortoises should only occur when authorized by the permitting agencies and in accordance with an approved, project-specific translocation plan. Translocation not only affects the desert tortoise being moved but also may impact resident desert tortoises in the translocation area. The effectiveness of translocation of desert tortoises as a conservation or recovery tool has not been proven. Until its effectiveness is determined, it should be implemented only on an experimental basis and in close coordination with the USFWS and State wildlife agency.

For temperature considerations, refer to Section 7.3. To discourage urination or if the tortoise voided during handling, refer to Section 7.9.

After processing is completed, release the desert tortoise as soon as possible while considering its well-being. Desert tortoises shall be released individually and not in groups. The biological opinion or permit may require that desert tortoises be removed from the project site and placed in the shade of a shrub, in a natural unoccupied burrow, or in an artificial burrow. Desert tortoises shall be released at a safe location as near to the point of capture as possible. If a desert tortoise is found aboveground, release it aboveground if environmental conditions are suitable (Sections 7.4 and 7.5), or hold it until conditions are suitable, then release it. When releasing the desert tortoise, slowly lower the animal to the ground, release it, and slowly walk away. Following release, monitor the desert tortoise until it exhibits and maintains normal behavior. Further, we recommend that desert tortoises **not** be put into existing burrows to avoid exposing the desert tortoise to diseases.

If a desert tortoise and its burrow are not in harm's way but adjacent to project activities, as an alternative to moving, construct a temporary restraining pen around the desert tortoise and its burrow to protect it during project activities (See Section 6.9.).

#### 7.10.1. Temporarily Holding Desert Tortoises

There may be a situation where a desert tortoise needs to be removed from the field, held overnight or longer, and then released at its point of capture. While held, each desert tortoise shall remain in a clean, unused or disinfected container that is covered or closed. Newspaper placed in the bottom will absorb any urine that is voided. The box shall be ventilated in such a way that a desert tortoise's leg or head cannot be caught in the ventilation hole. Never put more than one desert tortoise in a container, and avoid placing anything in a container occupied by a tortoise that previously came in contact with another tortoise without following disinfection procedures (Section 7.6.).

#### 7.10.2. Transporting by Vehicle

Do not allow desert tortoises to roam freely in the vehicle. Do not transport desert tortoises in shopping or grocery bags or other containers less sturdy than a new cardboard box. Discard the box immediately after use to ensure that it is not used for another desert tortoise.

Never place desert tortoises over the catalytic converter or other area in a vehicle that becomes hot. Pad truck beds or floorboards and travel at speeds that minimize vibrations or shifting of the box. Never leave a desert tortoise unattended in a vehicle. During summer months, transport desert tortoises in an air-conditioned vehicle, placing them in a covered, unused cardboard box while maintaining the vehicle interior temperature between 75 degrees F and 80 degrees F (23.9 degrees C and 26.7 degrees C). If a desert tortoise is captured during the winter, maintain the desert tortoise at its current body temperature, which will be less stressful to it than much warmer temperatures, and may allow it to remain in a physiological state of brumation. When transporting an adult female desert tortoise, assume it may be gravid (i.e., April through July) and take special care to avoid jolting and jostling to ensure that the eggs are not ruptured which may result in her death from egg yolk peritonitis.

## **7.11. Injured or Dead Desert Tortoises**

If an injured desert tortoise is encountered that may have been the result of project activities, follow the instructions of the biological opinion/permit, which typically requires immediate transport to a qualified veterinarian. Contact the USFWS and appropriate State wildlife agency. Document the injury with photographs and a written description of the injury; circumstances and probable cause; and recommendations to avoid future injuries. Submit this information to the USFWS and other appropriate agencies.

If a dying or dead desert tortoise is encountered, you may not salvage or collect it unless authorized to do so under a biological opinion, section 10 permit, or under 50 *Code of Federal Regulations* 17.31.

## LITERATURE CITED

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ATTACHMENT 4A, 4B  
Habitat Management Lands Checklist; PLFAF Form

DEPARTMENT OF FISH AND GAME  
HABITAT MANAGEMENT LAND ACQUISITION PACKAGE CHECKLIST  
FOR PROJECT APPLICANTS

The following checklist is provided to inform you of what documents are necessary to expedite Department processing of your Habitat Management Land acquisition proposal. Any land acquisition processing requests which are incomplete when received, will be returned. The Region contact will review and approve the document package and forward it to the Habitat Conservation Branch, Senior Land Agent with a request to process the land acquisition for formal acceptance.

To: \_\_\_\_\_  
Regional Manager, Region Name

From: \_\_\_\_\_  
Project Applicant

Phone: \_\_\_\_\_

Tracking #: \_\_\_\_\_  
CDFG assigned permit or agreement #

Project Name: \_\_\_\_\_

Enclosed is the complete package for the  Conservation Easement OR  Grant Deed

Documents in this package include:

Fully executed, approved as to form Conservation Easement Deed or Grant Deed.

Date executed: \_\_\_\_\_

Proposed Lands for Acquisition Form (PLFAF)

Phase I Environmental Site Assessment Report Date on report: \_\_\_\_\_  
(An existing report may be used, but it must be less than two years old.)

Preliminary Title Report(s) for subject property is enclosed and has been reviewed for encumbrances and other easements. The title report must be less than six months old when final processing is conducted. Included are additional documents:

Copies of document(s) to title exceptions identified in Schedule B of the Preliminary Title Report.

Williamson Act Contract, if any.

A plot or map of easements/encumbrances on the property

County Assessor Parcel Map(s) for subject property

Site Location Map (Site location with property boundaries outline on a USGS 1:24,000 scale topo)

Final Permit or Agreement (or other appropriate instrument)

Type of agreement:  Bank Agreement  Mitigation Agreement

Permit \_\_\_\_\_ Other: \_\_\_\_\_  
(write in type of permit)

Biological Resources Survey (may be an attachment to Permit or Agreement or separate document)

Final Management Plan (if required prior to finalizing permit or agreement or if this package is for a Grant Deed)

Draft Summary of Transactions  hard copy  electronic copy (both are required)

# Proposed Land for Acquisition Form ("PLFAF")

Date: \_\_\_\_\_

TO:

Facsimile:

FROM:

Applicant proposes that the following parcel(s) of land be considered for approval by the Department as suitable for purposes of habitat management lands to compensate for the adverse environmental impacts of the Project:

<u>Section(s)</u>	<u>Township</u>	<u>Range</u>	<u>County</u>	<u>Acres</u>

Current Legal Owner(s), include Parcel Number(s):

General Description of Location of Parcel(s):

Land value: \$

For Region Use Only

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APPROVED  By: \_\_\_\_\_ Date: \_\_\_\_\_

REJECTED  Region: \_\_\_\_\_

Explanation:

ATTACHMENT 5  
Letter of Credit Form

IRREVOCABLE STANDBY LETTER OF CREDIT NO. [number]

Issue Date: [date]

Beneficiary:

Department of Fish and Game  
1416 Ninth Street, 12<sup>th</sup> Floor  
Sacramento, CA 95814  
Attn: Office of the General Counsel

Amount: U.S. \$[dollar number] [(dollar amount)]

Expiry: [Date] at our counters

Dear Sirs:

1. At the request and on the instruction of our customer, [name of applicant] ("Applicant"), we, [name of bank] ("Issuer"), hereby establish in favor of the beneficiary, the California Department of Fish and Game ("Department"), this irrevocable standby letter of credit ("Credit") in the principal sum of U.S. \$[dollar number] [(dollar amount)] ("Principal Sum").
2. We are informed this Credit is and has been established for the benefit of the Department pursuant to the terms of the incidental take permit for the [name of project] issued by the Department to the Applicant on [date] (No. [number]) ("Permit").
3. We are further informed that pursuant to the Permit, the Applicant has agreed to complete certain mitigation requirements, as set forth in Conditions [numbers] in the Permit ("Mitigation Requirements").
4. We are finally informed that this Credit is intended by the Department and the Applicant to serve as a security device for the performance by the Applicant of the Mitigation Requirements.
5. The Department shall be entitled to draw upon this Credit only by presentation of a duly executed Certificate for Drawing ("Certificate") in the same form as Attachment A, which is attached hereto, at our office located at [name and address of bank].
6. The Certificate shall be completed and signed by an "Authorized Representative" of the Department as defined in paragraph 12 below. Presentation by the Department of a completed Certificate may be made in person or by registered mail, return receipt requested, or by overnight courier.

7. Upon presentation of a duly executed Certificate as above provided, payment shall be made to the Department, or to the account of the Department, in immediately available funds, as the Department shall specify.
8. If a demand for payment does not conform to the terms and conditions of this Credit, we shall give the Department prompt notice that the demand for payment was not effected in accordance with the terms and conditions of this Credit, state the reasons therefore, and await further instruction.
9. Upon being notified that the demand for payment was not effected in conformity with the Credit, the Department may correct any such non-conforming demand for payment under the terms and conditions stated herein.
10. All drawings under this Credit shall be paid with our funds. Each drawing honored by us hereunder shall reduce, *pro tanto*, the Principal Sum. By paying to the Department an amount demanded in accordance herewith, we make no representations as to the correctness of the amount demanded.
11. This Credit will be cancelled upon receipt by us of Certificate of Cancellation, which: (i) shall be in the form of Attachment B, which is attached hereto, and (ii) shall be completed and signed by an Authorized Representative of the Department, as defined in paragraph 12 below.
12. An "Authorized Representative" shall mean either the Director of the Department of Fish and Game, the General Counsel of the Department of Fish and Game, or a Regional Manager of the Department of Fish and Game.
13. This Credit shall be automatically extended without amendment for additional periods of one year from the present or any future expiration date hereof, unless at least sixty (60) days prior to any such date, we notify the Department in writing by registered mail, return receipt requested, or by overnight courier that we elect not to consider this Credit extended for any such period.
14. Communications with respect to this Credit shall be in writing and addressed to us at **[name and address of bank]**, specifically referring upon such writing to this credit by number. The address for notices with respect to this Credit shall be: (i) for the Department: Department of Fish and Game, Habitat Conservation Planning Branch, 1416 Ninth Street, 12th Floor, Sacramento, California 95814-2090 Attn: HCPB Mitigation Account Coordinator; and (ii) for the Applicant: **[name and address of Applicant]**.
15. This Credit may not be transferred.

16. This Credit is subject to the International Standby Practices 1998 ("ISP 98"). As to matters not covered by the ISP 98 and to the extent not inconsistent with the ISP 98, this credit shall be governed by and construed in accordance with the Uniform Commercial Code, Article 5 of the State of California.

17. This Credit shall, if not cancelled, expire on [**expiration date**], or any extended expiration date.

18. We hereby agree with the Department that documents presented in compliance with the terms of this Credit will be duly honored upon presentation, as specified herein.

19. This Credit sets forth in full the terms of our undertaking. Such undertaking shall not in any way be modified, amended or amplified by reference to any document or instrument referred to herein or in which this Credit is referred to or to which this Credit relates and any such reference shall not be deemed to incorporate herein by reference any document or instrument.

[**Name of bank**]

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

ATTACHMENT A

IRREVOCABLE STANDBY LETTER OF CREDIT NO. [*number*]  
CERTIFICATE FOR DRAWING

To:

**[Name and address of bank]**

Re: Incidental Take Permit No. [*permit number*]

The undersigned, a duly Authorized Representative of the Department of Fish and Game ("Department"), as defined in paragraph 12 in the above-referenced Irrevocable Standby Letter of Credit ("Credit"), hereby certifies to the Issuer that:

1. **[Insert one of the following statements:** "In the opinion of the Department, the Applicant has failed to complete the Mitigation Requirements referenced in paragraph 3 of the Credit." **or** "As set forth in paragraph 13, the Issuer has informed the Department that the Credit will not be extended and the Applicant has not provided the Department with an equivalent security approved by the Department to replace the Credit."]
2. The undersigned is authorized under the terms of the Credit to present this Certificate as the sole means of demanding payment on the Credit.
3. The Department is therefore making a drawing under the Credit in amount of U.S. \$\_\_\_\_\_.
4. The amount demanded does not exceed the Principal Sum of the Credit.

Therefore, the Department has executed and delivered this Certificate as of the \_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

CALIFORNIA DEPARTMENT OF FISH AND GAME

BY: \_\_\_\_\_

**[Insert one of the following: "DIRECTOR" or "GENERAL COUNSEL" or "REGIONAL MANAGER, [NAME OF REGIONAL OFFICE]"]**



ATTACHMENT B

IRREVOCABLE LETTER OF CREDIT NO. [*number*]  
CERTIFICATE FOR CANCELLATION

To:

[*Name of bank and address*]

Re: Incidental Take Permit No. [*permit number*]

The undersigned, a duly Authorized Representative of the California Department of Fish and Game ("Department"), as defined in the paragraph 12 in the above-referenced Irrevocable Standby Letter of Credit ("Credit"), hereby certifies to the Issuer that:

1. [*Insert one of the following statements:* "The Applicant has presented documentary evidence of full compliance with the Mitigation Requirements referenced in paragraph 3 of the Credit." **or** "The natural expiration of this Credit has occurred."]
2. The Department therefore requests the cancellation of the Credit.

Therefore, the Department has executed and delivered this Certificate for Cancellation as of the \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

CALIFORNIA DEPARTMENT OF FISH AND GAME

BY: \_\_\_\_\_  
[*Insert one of the following:* "DIRECTOR" **or** "GENERAL COUNSEL" **or** "REGIONAL MANAGER, [*NAME OF REGIONAL OFFICE*"]]

ATTACHMENT 6  
Mitigation Payment Transmittal Form



**APPENDIX Q**  
**Streambed Alteration Agreement**

**CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE**  
REGION 4 - CENTRAL REGION  
1234 EAST SHAW AVENUE  
FRESNO, CALIFORNIA 93710



**STREAMBED ALTERATION AGREEMENT**  
NOTIFICATION NO. 1600-2012-0088-R4  
PINE TREE CREEK AND UNNAMED EPHEMERAL DRY WASH - KERN COUNTY

**BEACON PHOTOVOLTAIC PROJECT (PROJECT)**

CHARLES C. HOLLOWAY  
**LOS ANGELES DEPARTMENT OF WATER AND POWER**  
**111 NORTH HOPE STREET**  
LOS ANGELES, CALIFORNIA 90012-2607

This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Wildlife (CDFW) and Charles C. Holloway, representing Los Angeles Department of Water and Power (referred to as "Permittee").

**RECITALS**

WHEREAS, pursuant to Fish and Game Code (FGC) Section 1602, Permittee notified CDFW on April 27, 2012 that Permittee intends to complete the Project described herein.

WHEREAS, pursuant to FGC Section 1603, CDFW has determined that the Project could substantially adversely affect existing fish or wildlife resources and has included measures in the Agreement necessary to protect those resources.

WHEREAS, Permittee has reviewed the Agreement and accepts its terms and conditions, including the measures to protect fish and wildlife resources.

NOW THEREFORE, Permittee agrees to complete the Project in accordance with the Agreement.

**PROJECT LOCATION**

The Project site is located in Kern County approximately 4 miles from the northern boundary of California City, 15 miles from the town of Mojave, and 24 miles northeast of the City of Tehachapi (Exhibits 1 and 2). State Route 14 (SR- 14) runs near the western border of the Project plant site, and an existing Union Pacific rail line runs through the Project area. The Project is located in Sections 3, 4, 7, 8, 9, and 18 in Township 31 South, Range 37 East within the U.S. Geological Survey Cinco, Mojave NE, and Cantil California, 7.5-minute topographic quadrangles at Latitude 35.2498981 N and Longitude -118.0125318 W.

## PROJECT DESCRIPTION

The proposed Project is the construction of three (3) Arizona-style crossings, improvements to one (1) existing Arizona-style crossing, and installation of a combination desert tortoise (DT)-proof/security fencing at three (3) locations (Exhibit 3) in Pine Tree Creek and an unnamed ephemeral dry wash as part of a 250-megawatt net (MW) alternating current (AC) solar power generating facility (Exhibit 4). The Project also includes new road construction and fence installation connecting to the above mentioned Project components. All other components and activities associated with overall facility construction will maintain a minimum 50-foot no-disturbance buffer around Pine Tree Creek and the dry wash extent. Impacts to Mojave desert wash scrub habitat or specifically to scale broom (*Lepidospartum squamatum*), which is found in that habitat, will be avoided to the extent feasible, but minor encroachment and related impacts including scale broom removal may occur. The Notification materials, including Form FG2023 and engineered plans, are made part of the Project Description. No operation and maintenance activities are included in this Agreement.

- Minor grading will be required for road and Arizona-style crossing installation and improvement.
- Arizona-style crossings will be installed at-grade.
- Roads and crossings will be paved or aggregate.
- The total estimated area of disturbance from all Arizona-style crossings to Pine Tree Creek and the unnamed desert dry wash is 0.03 acre over 111 linear feet.
- The combination desert-tortoise/security fence will be a minimum of 8 feet tall with 1-foot of barbwire mounted on top.
- The bottom of the fence will be buried at least 6-inches below ground level.
- Each pane of fence between posts as part of a crossing that is installed in Pine Tree Creek or the unnamed desert dry wash will be 35 feet or less. The widest fence crossing across Pine Tree Creek or the desert dry wash will be 100 feet or less.

Anticipated work will include the use of excavators, trenchers, scrapers, compactors, graders, dump trucks, cranes, cement trucks, forklifts and end loaders, in addition to support pickups, flatbed trucks, and water trucks.

## PROJECT IMPACTS

Existing fish or wildlife resources the Project could substantially adversely affect include washes that are potential habitat for the State and Federally threatened desert tortoise (*Gopherus agassizii*), the State threatened Mohave ground squirrel (*Spermophilus mohavensis*), the State fully protected golden eagle (*Aquila chrysaetos*), desert kit fox

(*Vulpes macrotis arsipus*), and the California species of special concern burrowing owl (*Athene cunicularia*) and American badger (*Taxidea taxus*).

Absent implementation of the protective measures required by this Agreement, the species listed above as well as other birds, mammals, fish, reptiles, amphibians, invertebrates, and plants that compose the local ecosystem could potentially be impacted within the area covered by this Agreement. The adverse effects the Project could have on the fish or wildlife resources include permanent isolation of 20.62 acres of ephemeral washes that provide potential habitat for the species listed above. Direct impacts to CDFW jurisdictional area is 111 feet (0.03 acres) from the construction and improvement of Arizona-style crossings and fence installation at the Project perimeter. Adverse effects also include mortality from collisions with vehicles or heavy equipment, crushing burrows or dens, fugitive dust, noise disturbance, nest abandonment, and increased predation. Exclusion fencing could entrap animals or impede their movement. Potential impacts to plant species include destruction of individuals from construction activities or erosions, fugitive dust, and increased competition from noxious weeds. Indirect impacts to downstream areas could include increased erosion and/or sedimentation as a result of channel de-stabilization. This could affect wildlife habitat functions and values, including forage production and burrowing substrate.

## **MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES**

### **1. Administrative Measures**

Permittee shall meet each administrative requirement described below.

- 1.1. Documentation at Project Site. Permittee shall make the Agreement, any extensions and amendments to the Agreement, and all related notification materials and California Environmental Quality Act (CEQA) documents, readily available at the Project site at all times and shall be presented to CDFW personnel, or personnel from another State, Federal, or local agency upon request.
- 1.2. Providing Agreement to Persons at Project Site. Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement to all persons who will be working on the Project at the Project site on behalf of Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.
- 1.3. Notification of Conflicting Measures. Permittee shall notify CDFW if Permittee determines or learns that a Measure in the Agreement might conflict with a Measure imposed on the Project by another local, State, or Federal agency. In that event, CDFW shall contact Permittee to resolve any conflict.
- 1.4. Project Site Entry. Permittee agrees that CDFW personnel may arrange to enter the Project site to verify compliance with the Agreement. CDFW will provide a minimum two (2) days advanced notice of its intent to inspect the Project. Law Enforcement personnel; however, operate independently of this Agreement and

any inspections by such staff relating to this Project or any other matter on the property would be consistent with their legal authority.

- 1.5. Legal Obligations. This Agreement does not exempt the Permittee from complying with all other applicable local, State, and Federal law, or other legal obligations.
- 1.6. Unauthorized Take. This Agreement does not authorize the "take" (defined in Fish and Game Code Section 86 as to hunt, pursue, catch, capture, or kill; or attempt to hunt, pursue, catch, capture, or kill) of State- or Federally-listed threatened or endangered species. Any such "take" shall require separate permitting as may be required.
- 1.7. Water Diversion. To the extent that the Measures of this Agreement provide for the diversion of water, they are agreed to with the understanding that the Permittee possesses the legal right to so divert such water.
- 1.8. Trespass. To the extent that the Measures of this Agreement provide for activities that require the Permittee to trespass on another owner's property, they are agreed to with the understanding that the Permittee possesses the legal right to so trespass.
- 1.9. Construction/Work Schedule. The Permittee shall submit a construction/work schedule to CDFW (mail, or fax to (559) 243-4020, with reference to Agreement 2012-0088-R4) prior to beginning any activities covered by this Agreement. The Permittee shall also notify CDFW upon the completion of the activities covered by this Agreement.
- 1.10. Training. Prior to starting any activity within the stream, all employees, contractors, and visitors who will be present during Project activities shall receive training from a qualified individual on the contents of this Agreement, the resources at stake, and the legal consequences of non-compliance.

## **2. Avoidance and Minimization Measures**

To avoid or minimize adverse impacts to fish and wildlife resources identified above, Permittee shall implement each measure listed below.

- 2.1 Construction/Work Hours. All non-emergency work activities during the construction phase will be confined to daylight hours. For purposes of this Agreement, "daylight hours" are defined as that daytime period between sunrise and sunset.
- 2.2 Flagging/Fencing. Prior to any activity within the stream, the Permittee shall identify the limits of the required access routes and encroachment into the stream and ponded areas. These "work area" limits shall be identified with brightly-colored flagging/fencing. Work completed under this Agreement shall be limited to this defined area only. Flagging/fencing shall be maintained in good repair for the



duration of the Project. All areas beyond the identified work area limits shall be considered Environmentally Sensitive Areas (ESA) and shall not be disturbed.

### 2.3 Listed, Fully-Protected, and Special Status Species.

- (a) This Agreement does not allow for the "take," or "incidental take," of any State- or Federally-listed threatened or endangered species. Liability for any "take," or "incidental take," of such listed species remains the separate responsibility of the Permittee for the duration of the Project. Any unauthorized "take" of such listed species may result in prosecution and nullification of the Agreement.
- (b) The Permittee affirms that no "take" of listed species beyond those described in Incidental Take Permit No. 2081-2012-039-04 shall occur as a result of this Project and that Permittee shall take prudent measures to ensure that all unpermitted "take" is avoided.

The Permittee acknowledges that they fully understand that they are not granted State "incidental take" authority via this Agreement. If any State- or Federally-listed threatened or endangered species occur within the proposed work area or could be impacted by the work proposed, and thus "taken" as a result of Project activities, the Permittee is responsible for obtaining and complying with required State and Federally threatened and endangered species permits or other written authorization before proceeding with this Project.

- (c) The Permittee shall immediately notify CDFW of the discovery of any such rare, threatened, or endangered species prior to and/or during Project implementation.
- (d) Pre-activity Surveys for potential rare, listed, or other sensitive species (with emphasis but not limited to the species listed above) shall be conducted by a qualified biologist within 30 days prior to commencement of Project activities or as specified in species-specific Measures below. Surveys must be conducted within all work areas and access routes to avoid and minimize "incidental take," confirm previous observations, identify any areas occupied by listed or sensitive species, and clearly mark all resources to be avoided by Project activities. If any State- or Federally-listed threatened or endangered animal species are found or could be impacted by the work proposed, the Permittee shall notify CDFW of the discovery prior to commencement of construction. A new Agreement and/or a 2081(b) State Incidental Take Permit may be necessary and a new CEQA analysis may need to be conducted, before work can begin. All fully protected species shall be completely avoided.
- (e) Desert Tortoise and Mohave Ground Squirrel: Desert tortoise and Mohave ground squirrel may be impacted by Project activities. The Permittee shall

comply with all applicable State and Federal laws, including the California and Federal Endangered Species Acts, and all conditions described in State Incidental Take Permit No. 2081-2012-039-04.

- (f) Desert Kit Fox: The California Code of Regulations (CCR) Chapter 5 § 460 states that, "Fisher, marten, river otter, desert kit fox and red fox may not be "taken" at any time" (emphasis added). Prior to installing exclusion fencing, a qualified biologist shall survey the Project sites for desert kit fox and their sign. If desert kit fox individuals or potential dens are observed during surveys, the Permittee shall contact CDFW for guidance on "take" avoidance measures for the desert kit fox. A qualified biologist shall also be present during fencing of Project areas, to help ensure that no desert kit foxes are trapped within the fenced area. If desert kit foxes are detected within the Project site at any time during Project implementation, all Project activity shall cease and CDFW shall be contacted immediately. Project activity shall only continue after CDFW has provided authorization in writing.
- (g) Burrowing Owl: Burrowing owl is known to occur on the Project site. No more than 30 days before the onset of any ground-disturbing activities, a qualified biologist shall conduct a Burrowing Owl Survey following the survey methods described in Appendix D of the Staff Report on Burrowing Owl Mitigation (Exhibit 5) to establish the status of burrowing owl on the Project site. These surveys shall include the Project site and all access routes. All potential burrows within the Project area shall be flagged to alert biological and work crews to their presence. A report documenting the results of the pre-construction surveys shall be submitted to CDFW within 30 days after performing them. If burrowing owls occupy the site, Permittee shall implement the avoidance, minimization, and mitigation measures listed in the above referenced Staff Report on Burrowing Owl Mitigation. Alternative avoidance, minimization, and mitigation measures may be developed in coordination with CDFW and with CDFW written approval.

#### 2.4 Wildlife.

- (a) If any general wildlife is encountered during the course of Project-related activities, said wildlife shall be allowed to leave the construction area unharmed.
- (b) Pursuant to FGC Sections 3503 and 3503.5, it is unlawful to "take," possess, or needlessly destroy the nest or eggs of any bird or bird-of-prey. To protect nesting birds, no construction shall be completed from March 1 through August 31 unless the following surveys are completed by a qualified biologist within 30 days prior to Project initiation.

Golden Eagle: Permittee shall identify potential golden eagle nest locations and survey for nesting activity of raptors within a 0.5-mile radius of the construction site. Surveys shall be conducted at

appropriate nesting times. If any active nests of golden eagle are observed, these nests shall be designated an ESA and protected by a minimum 0.5-mile radius until the young have fledged and are no longer reliant on the nest tree or parental care.

Non-Listed Raptors: Survey for nesting activity of raptors within a 500-foot radius of the construction site. Surveys shall be conducted at appropriate nesting times and concentrate on mature trees. If any active nests are observed, these nests and nest trees shall be designated an ESA and protected by a 500-foot radius until the young have fledged and are no longer reliant on the nest tree or parental care.

Other Avian Species: Survey for nesting activity within a 250-foot radius of all Project boundaries. If any active nests are observed, these nests and nest trees shall be designated an ESA and protected with a minimum 250-foot buffer until the young have fledged and are no longer reliant on the nest tree or parental care.

CDFW may consider variances from these construction buffers when there is compelling biological or ecological reason to do so, such as when the construction area would be concealed from a nest site by topography. Any variance from these buffers must be supported by a qualified biologist and approved in advance by CDFW in writing.

## 2.5 Vegetation.

- (a) The disturbance or removal of vegetation shall not exceed the minimum necessary to complete operations and shall only occur within the defined work area. Precautions shall be taken to avoid other damage to vegetation by people or equipment. Temporarily disturbed portions of the streambed, banks, or channel shall be restored to as near their original condition as possible (see 3.1 Revegetation and Restoration below).
- (b) Vegetation or material removed from the streambed shall not be stockpiled in the streambed or on its banks without measures to ensure its stability, preventing accidental discharge into the stream.
- (c) The Permittee may remove non-native, invasive vegetation, including stumps and roots from all Project boundaries. The non-native vegetation shall be removed in a manner so that it does not promulgate or propagate. These areas may be revegetated with native species for erosion control and to replace riparian vegetation removed elsewhere within the Project boundary.

## 2.6 Vehicles.

- (a) Vehicles shall not be operated in areas where surface water is present.

- (b) Construction vehicles access to the stream's banks and bed shall be limited to predetermined ingress and egress corridors on existing or proposed roads identified in the Project Description. All other areas adjacent to the work site shall be considered an ESA and shall remain off-limits to construction equipment. Vehicle corridors and the ESA shall be identified by the Permittee's resident engineer in consultation with the CDFW representative.
- (c) Vehicles shall not be driven where wetland vegetation, riparian vegetation, or aquatic organisms may be destroyed, except as otherwise provided for in the Agreement, and as necessary to complete the authorized work.
- (d) Any equipment or vehicles driven and/or operated within or adjacent to the stream shall be checked and maintained daily to prevent leaks of materials that, if introduced to water, could be deleterious to aquatic and terrestrial life.
- (e) Staging and storage areas for equipment, materials, fuels, lubricants, and solvents shall be located outside of the stream channel and banks. Vehicles shall be moved away from the stream prior to refueling and lubrication.

2.7 Structures. The Permittee confirms that any and all structures and constructed features shall be properly aligned and otherwise engineered, installed, and maintained to assure resistance to washout and erosion of the stream bed, stream banks, and/or fill, and that they will not cause long-term changes in water flows that adversely modify the existing upstream or downstream stream bed/bank contours or increase sediment deposition.

2.8 Fill/Spoil.

- (a) Spoil storage sites shall not be located within the stream or where spoil will be washed into the stream. Rock, gravel, broken concrete, and/or other materials shall not be imported into or moved within the bed or banks of the stream, except as otherwise addressed in this Agreement.
- (b) Fill shall be limited to the minimal amount necessary to accomplish the agreed activities. Excess fill material shall be moved off-site at Project completion.

2.9 Erosion.

- (a) No work within the banks of the stream will be conducted during or immediately following large rainfall events. Spoil storage sites shall not be located within the stream or where spoil will be washed into the stream. Rock, gravel, broken concrete, and/or other materials shall not be imported into or moved within the bed or banks of the stream, except as otherwise addressed in this Agreement. Fill shall be limited to the minimal amount necessary to accomplish the agreed activities. Excess fill material shall be moved off-site at Project completion.

- (b) To minimize the risk of ensnaring and strangling wildlife, all coir rolls, erosion control mats or blankets, straw or fiber wattles, or similar erosion control products shall be comprised entirely of natural-fiber, biodegradable materials. No "photodegradable" or other plastic erosion control materials shall be used.
- (c) Silty water shall not be discharged into the stream, or created within the stream. The Permittee's ability to minimize siltation shall be the subject of preconstruction planning and feature implementation. Precautions to minimize siltation may require that the work site be isolated so that silt or other deleterious materials are not allowed to pass to downstream reaches. The placement of any structure or materials in the stream for this purpose, not included in the original Project description, shall be coordinated with CDFW. If it is determined that silt levels resulting from Project-related activities constitute a threat to aquatic life, activities associated with the siltation shall be halted until effective CDFW-approved control devices are installed, or abatement procedures are initiated.

#### 2.10 Pollution.

- (a) During construction, the Permittee shall not dump any litter or construction debris within the stream zone. All such debris and waste shall be picked up daily and properly disposed of at an appropriate off-site location.
- (b) Staging and storage areas for equipment, materials, fuels, lubricants, and solvents shall be located outside of the stream/lake channel and banks. Stationary equipment such as motors, pumps, generators, compressors, and welders, located within or adjacent to the stream/lake, shall be positioned over drip-pans.
- (c) Raw cement, concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to fish or wildlife resulting from Project-related activities, shall be prevented from contaminating the soil and/or entering the "Waters of the State".
- (d) The Permittee and all contractors shall be subject to the water pollution regulations found in the FGC Sections 5650 and 12015.

2.11 Voids in Energy Dissipaters and Rip-Rap. Voids in rock energy dissipaters, rip-rap, or any other feature constructed with rock exceeding 4-inches in diameter, and placed in the bottom of the streambed, shall be filled to the surface with maximum 2-inch diameter rock or native streambed material to establish a passable surface for juvenile and adult desert tortoises and other wildlife.

2.12 Construction Activities. All construction activities shall be a minimum of 50 feet from jurisdictional desert dry wash except for the features and activities identified in the Project description.

### **3. Compensatory Measures**

To compensate for adverse impacts to fish and wildlife resources identified above that cannot be avoided or minimized, Permittee shall implement each measure listed below.

#### **3.1 Revegetation and Restoration.**

- (a) Exposed slopes or other bare areas created within the creek bed or banks that result from temporary disturbance shall be seeded (with weed-free straw or mulch) with a blend of a minimum of three (3) locally native grass, wildflower, and/or shrub species. One (1) or two (2) sterile non-native perennial grass species may be added to the seed mix provided that amount does not exceed 25 percent of the total seed mix by count. The seeding shall be completed as soon as possible, but no later than November 15 of the year construction ends, or as otherwise agreed to in writing by CDFW. A seed mixture shall be submitted within the Revegetation Plan. At the discretion of CDFW, all exposed areas where seeding is considered unsuccessful after 90 days shall receive appropriate soil preparation and a second application of seeding, straw, or mulch as soon as is practical on a date mutually agreed upon.
- (b) Where suitable vegetation cannot be reasonably expected to become established, non-erodible materials shall be used for such stabilization. Any installation of non-erodible materials not described in the original Project description shall be coordinated with CDFW. Coordination may include the negotiation of additional Agreement Measures for this activity.

**3.2 Mojave Desert Wash Scrub Compensation.** If Project activities will result in removal of scale broom vegetation, Permittee shall prepare a Mojave Desert Wash Scrub Replacement Plan that describes the planting, maintenance, and monitoring methods and durations of replacement habitat, and submit it to CDFW for approval at least 30 days in advance of Project activities that would result in disturbance to or removal of Mojave desert wash scrub or scale broom. The Plan shall include details describing the replacement of Mojave desert wash scrub and/or scale broom acreage at a 3:1 (mitigation : impact) ratio. Mojave desert wash scrub compensation may occur within the Pine Tree Creek Wash or the off-site mitigation lands associated with State Incidental Take Permit No. 2081-2012-039-04. The Plan shall include maps, habitat descriptions, and representative photographs of the proposed Mojave desert wash scrub establishment areas.

### **4. Reporting Measures**

Permittee shall meet each reporting requirement described below.

#### **4.1 Obligations of the Permittee.**

- (a) The Permittee shall have primary responsibility for monitoring compliance with all protective measures included as "Measures" in this Agreement.

Protective measures must be implemented within the time periods indicated in the Agreement and the program described below.

- (b) The Permittee (or the Permittee's designee) shall ensure the implementation of the Measures of the Agreement, and shall monitor the effectiveness of these Measures.

**4.2 Reports.** The Permittee shall submit the following Reports to CDFW:

- Construction/work schedule, submitted to CDFW prior to Project commencement (Administrative Measure 1.9).
- Results of the Pre-activity Surveys for special status species, submitted to CDFW at least five (5) days prior to Project initiation (Avoidance and Minimization Measure 2.3(d)).
- Results of desert kit fox surveys, submitted to CDFW at least five (5) days prior to Project commencement (Avoidance and Minimization Measure 2.3(f)).
- Results of Burrowing Owl Surveys, submitted to CDFW prior to Project commencement and within 30 days following survey completion (Avoidance and Minimization Measure 2.3(g)).
- Results of surveys for nesting birds, if Project activities will be conducted during the avian nesting season, submitted to CDFW at least five (5) days prior to Project initiation (Avoidance and Minimization Measure 2.4(b)).
- A seed mixture, submitted to CDFW for approval prior to application (Compensatory Measure 3.1(a)).
- Mojave Desert Wash Scrub Replacement Plan, submitted for CDFW approval at least 30 days prior to Project activities that will disturb or remove Mojave desert wash scrub habitat or scale broom (Compensatory Measure 3.2).
- A Final Project Report to be submitted within 30 days after the Project is completed. The final report shall summarize the Project, including any problems relating to the protective measures of this Agreement. "Before and after" photo documentation of the Project site shall be required.

**CONTACT INFORMATION**

Any communication that Permittee or CDFW submits to the other shall be in writing and any communication or documentation shall be delivered to the address below by U.S. mail, fax, or email, or to such other address as Permittee or CDFW specifies by written notice to the other.

To Permittee:

Charles C. Holloway  
Los Angeles Department of Water and Power  
Box 51111  
Los Angeles, California 90051-5700  
telephone: (213) 367-4211  
e-mail: Charles.Holloway@ladwp.com

To CDFW:

Department of Fish and Wildlife  
Central Region (4)  
1234 East Shaw Avenue  
Fresno, California 93710  
Attn: Lake and Streambed Alteration Program – Craig Bailey  
Notification #1600-2012-0088-R4  
fax (559) 243-4022  
e-mail: [cbailey@wildlife.ca.gov](mailto:cbailey@wildlife.ca.gov)

**LIABILITY**

Permittee shall be solely liable for any violations of the Agreement, whether committed by Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents or contractors and subcontractors, to complete the Project or any activity related to it that the Agreement authorizes.

This Agreement does not constitute CDFW's endorsement of, or require Permittee to proceed with the Project. The decision to proceed with the Project is Permittee's alone.

**SUSPENSION AND REVOCATION**

CDFW may suspend or revoke in its entirety the Agreement if it determines that the Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, is not in compliance with the Agreement.

Before CDFW suspends or revokes the Agreement, it shall provide Permittee written notice by certified or registered mail that it intends to suspend or revoke. The notice shall state the reason(s) for the proposed suspension or revocation, provide Permittee an opportunity to correct any deficiency before CDFW suspends or revokes the Agreement, and include instructions to Permittee, if necessary, including but not limited to a directive to immediately cease the specific activity or activities that caused CDFW to issue the notice.



## **ENFORCEMENT**

Nothing in the Agreement precludes CDFW from pursuing an enforcement action against Permittee instead of, or in addition to, suspending or revoking the Agreement.

Nothing in the Agreement limits or otherwise affects CDFW's enforcement authority or that of its enforcement personnel.

## **OTHER LEGAL OBLIGATIONS**

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from obtaining any other permits or authorizations that might be required under other Federal, State, or local laws or regulations before beginning the Project or an activity related to it.

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with other applicable statutes in the FGC including, but not limited to, FGC Sections 2050 et seq. (threatened and endangered species), 3503 (bird nests and eggs), 3503.5 (birds of prey), 5050 (fully-protected reptiles), 5650 (water pollution), 5652 (refuse disposal into water), 5901 (fish passage), 5937 (sufficient water for fish), and 5948 (obstruction of stream).

Nothing in the Agreement authorizes Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, to trespass.

## **AMENDMENT**

CDFW may amend the Agreement at any time during its term if CDFW determines the amendment is necessary to protect an existing fish or wildlife resource.

Permittee may amend the Agreement at any time during its term, provided the amendment is mutually agreed to in writing by CDFW and the Permittee. To request an amendment, Permittee shall submit to CDFW a completed CDFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the corresponding amendment fee identified in CDFW's current fee schedule (see California Code of Regulations, Title 14, Section 699.5).

## **TRANSFER AND ASSIGNMENT**

This Agreement may not be transferred or assigned to another entity, and any purported transfer or assignment of the Agreement to another entity shall not be valid or effective, unless the transfer or assignment is requested by Permittee in writing, as specified below, and thereafter CDFW approves the transfer or assignment in writing.

The transfer or assignment of the Agreement to another entity shall constitute a minor amendment; and therefore, to request a transfer or assignment, Permittee shall submit to CDFW a completed CDFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the minor amendment fee identified in CDFW's current fee schedule (see California Code of Regulations, Title 14, Section 699.5).

## **EXTENSIONS**

In accordance with FGC Section 1605(b), Permittee may request one (1) extension of the Agreement, provided the request is made prior to the expiration of the Agreement's term. To request an extension, Permittee shall submit to CDFW a completed CDFW "Request to Extend Lake or Streambed Alteration" form and include with the completed form payment of the extension fee identified in CDFW's current fee schedule (see California Code of Regulations, Title 14, Section 699.5). CDFW shall process the extension request in accordance with FGC Section 1605(b) through (e).

If Permittee fails to submit a request to extend the Agreement prior to its expiration, Permittee must submit a new notification and notification fee before beginning or continuing the Project the Agreement covers (FGC Section 1605, Subdivision (f)).

## **EFFECTIVE DATE**

The Agreement becomes effective on the date of CDFW's signature, which shall be: 1) after Permittee's signature; 2) after CDFW complies with all applicable requirements under the California Environmental Quality Act (CEQA); and 3) after payment of the applicable FGC Section 711.4 filing fee listed at [http://www.dfg.ca.gov/habcon/ceqa/ceqa\\_changes.html](http://www.dfg.ca.gov/habcon/ceqa/ceqa_changes.html).

## **TERM**

This Agreement shall remain in effect for five (5) years beginning on the date signed by CDFW, unless it is terminated or extended before then. All Measures in the Agreement shall remain in force throughout its term. Permittee shall remain responsible for implementing any Measures specified herein to protect fish and wildlife resources after the Agreement expires or is terminated, as FGC Section 1605(a)(2) requires.

## **CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) COMPLIANCE**

In approving this Agreement, CDFW is independently required to assess the applicability of CEQA. The features of this Agreement shall be considered as part of the overall Project description.

The Permittee's concurrence signature on this Agreement serves as confirmation to CDFW that the activities conducted under the terms of this Agreement are consistent with the Project as described in the Environmental Impact Report (State Clearinghouse No. 2012011029) prepared by Kern County. An Environmental Impact Report (EIR) for

the Project was approved by Kern County, with a Notice of Determination filed on November 8, 2012. A copy of the EIR was provided to CDFW by the Permittee.

CDFW, as a CEQA Responsible Agency, shall make findings and submit a Notice of Determination to the State Clearinghouse upon signing this Agreement.

## **EXHIBITS**

The documents listed below are included as exhibits to the Agreement and incorporated herein by reference.

- Exhibit 1. Figure 1 of the Notification (Regional Map);
- Exhibit 2. Figure 2 of the Notification (Vicinity Map);
- Exhibit 3. Figure 4 of the Notification (Impacts to Waters of the State);
- Exhibit 4. Figure 3 of the Notification (Conceptual Plan);
- Exhibit 5. Staff Report on Burrowing Owl Mitigation (CDFW 2012).

## **AUTHORITY**

If the person signing the Agreement (signatory) is doing so as a representative of Permittee, the signatory hereby acknowledges that he or she is doing so on Permittee's behalf and represents and warrants that he or she has the authority to legally bind Permittee to the Measures herein.

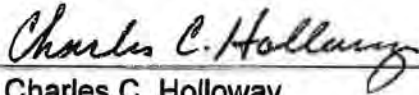
**AUTHORIZATION**

This Agreement authorizes only the Project described herein. If Permittee begins or completes a Project different from the Project the Agreement authorizes, Permittee may be subject to civil or criminal prosecution for failing to notify CDFW in accordance with FGC Section 1602.

**CONCURRENCE**

The undersigned accepts and agrees to comply with all Measures contained herein.

**FOR PERMITTEE**

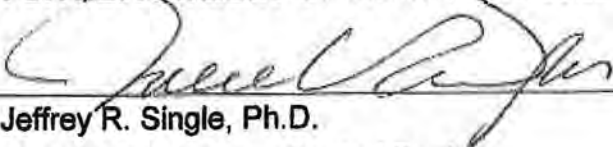


Charles C. Holloway  
Los Angeles Department of Water and Power

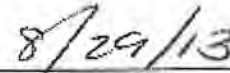


Date

**FOR DEPARTMENT OF FISH AND WILDLIFE**



Jeffrey R. Single, Ph.D.  
Regional Manager – Central Region

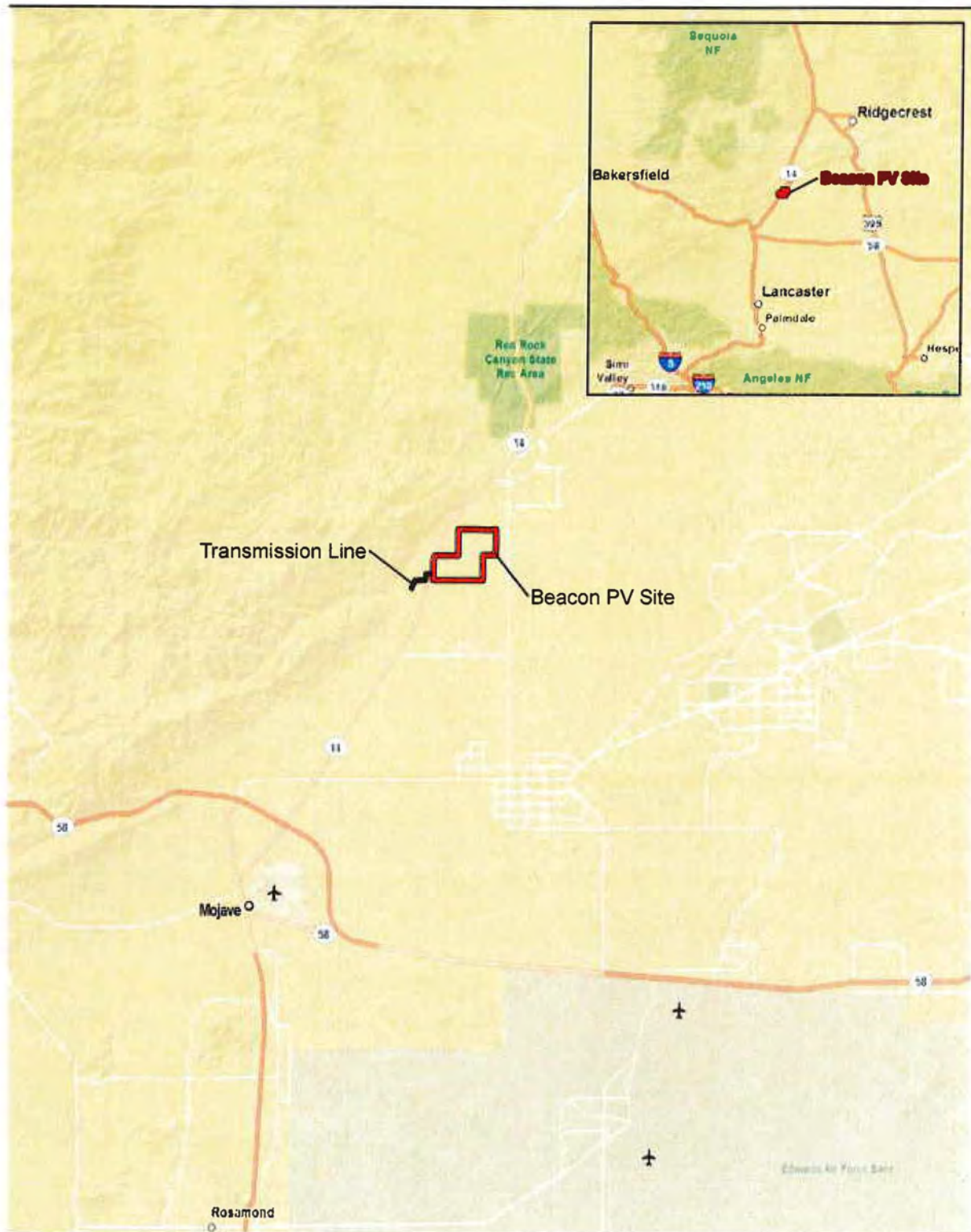


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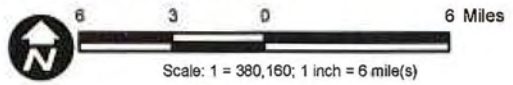
Prepared by: Craig Bailey  
Staff Environmental Scientist

# Figure 1 (Regional Map)

Exhibit 1



Source: Worley Parsons 2011; ESRI 2011



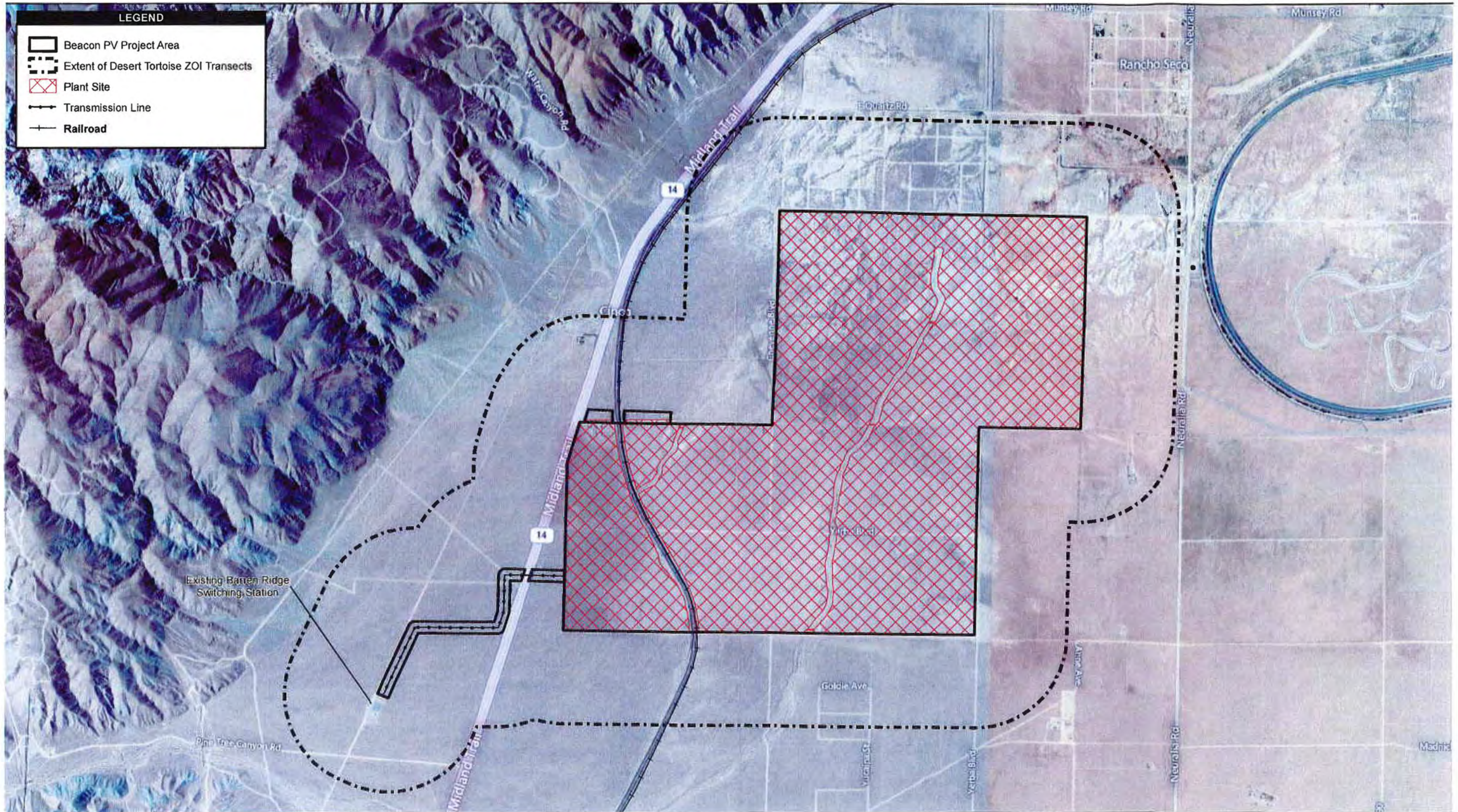
**Figure 1**  
**Regional Map**

Beacon PV Project - Streambed Alteration Agreement

Path: P:\2011\11280119\_01\_Beacon\_PP\06GIS\6.3\_Layout\SAA\Regional Map.mxd, 3/19/2012, irelandm

# Figure 2 (Vicinity Map)

Exhibit 2



Source: AECOM 2011, Microsoft 2010, Worley Parsons 2011

2,500 1,250 0 2,500 Feet

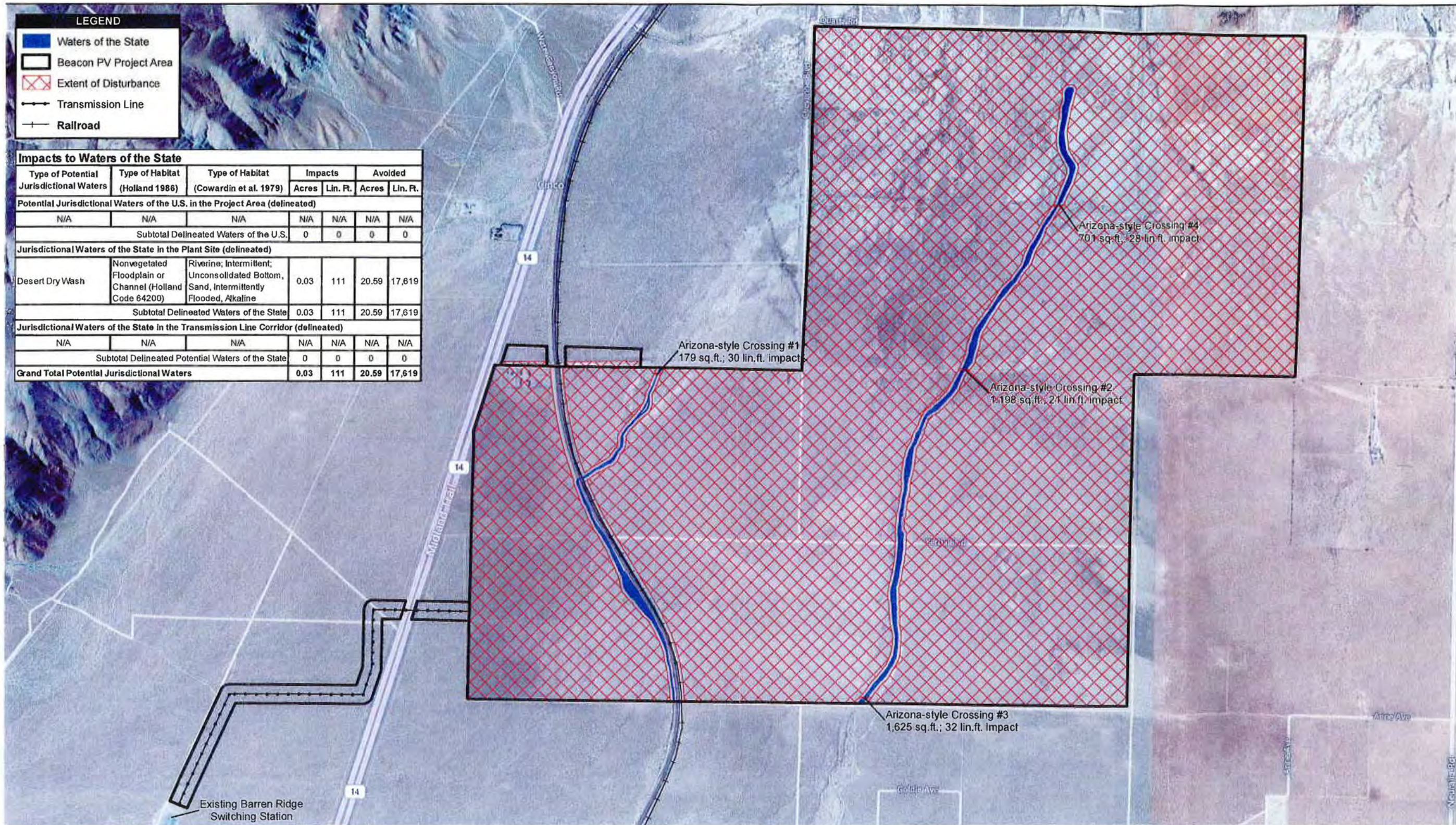
Scale: 1 = 30,000; 1 inch = 2,500 feet

**Figure 2**  
Vicinity Map



**Figure 4  
(Impacts to Water of  
the State)**

**Exhibit 3**

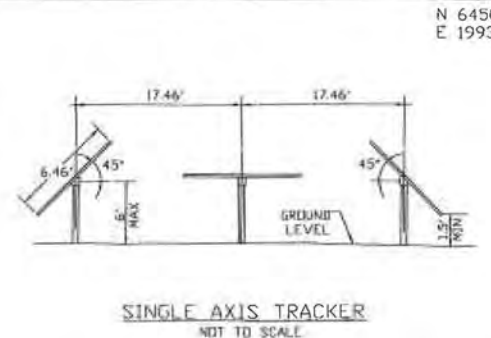
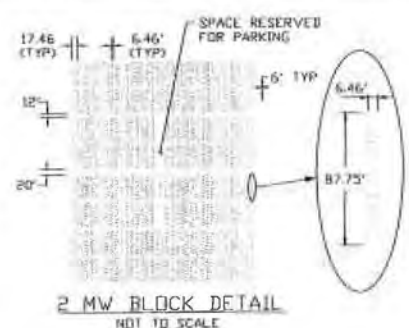


**Figure 4**  
Impacts to Waters of the State

**Figure 3  
(Conceptual Plan)**

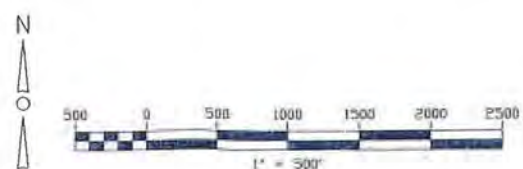
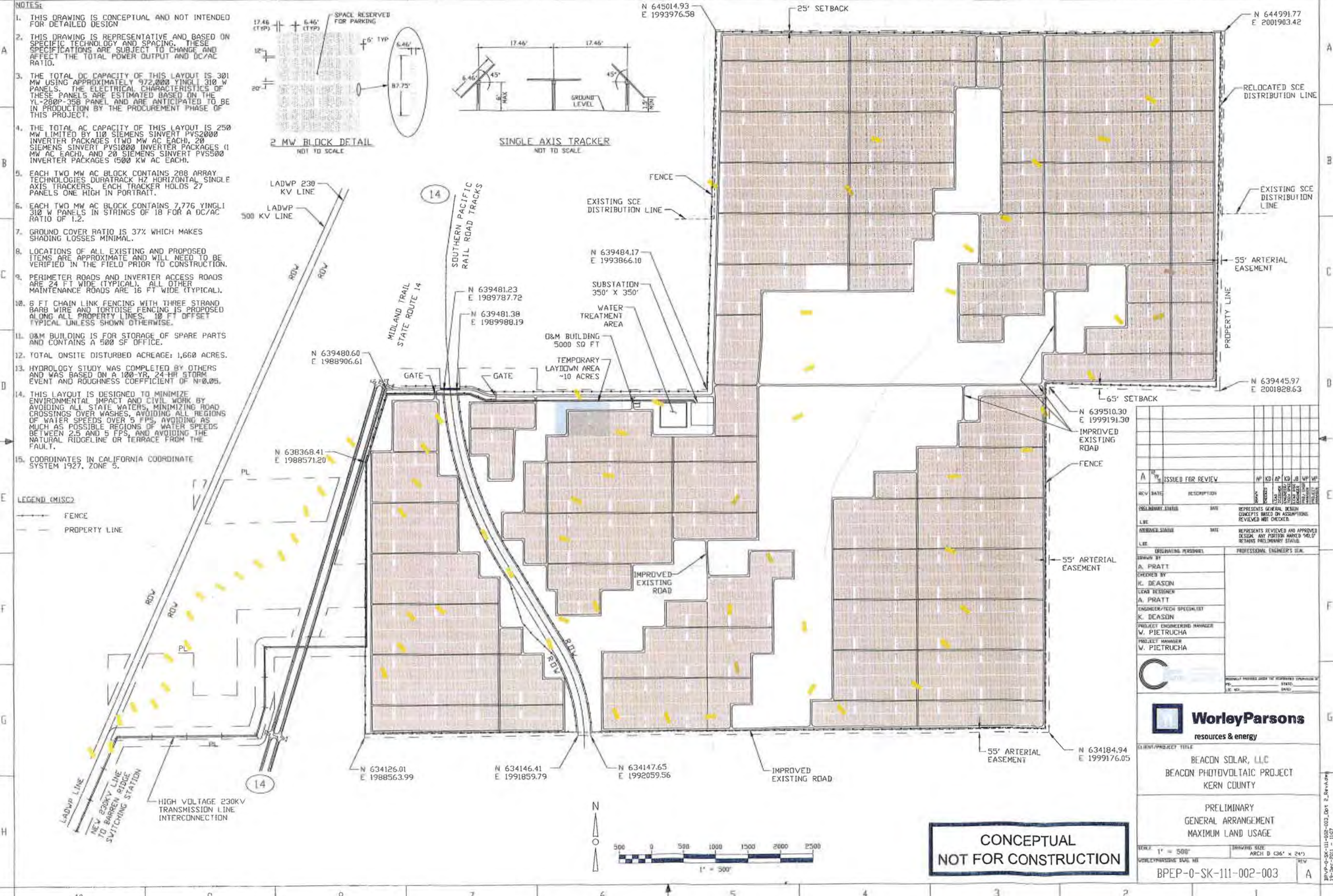
**Exhibit 4**

- NOTES:**
- THIS DRAWING IS CONCEPTUAL AND NOT INTENDED FOR DETAILED DESIGN.
  - THIS DRAWING IS REPRESENTATIVE AND BASED ON SPECIFIC TECHNOLOGY AND SPACING. THESE SPECIFICATIONS ARE SUBJECT TO CHANGE AND AFFECT THE TOTAL POWER OUTPUT AND DC/AC RATIO.
  - THE TOTAL DC CAPACITY OF THIS LAYOUT IS 301 MW USING APPROXIMATELY 972,000 YINGLI 310 W PANELS. THE ELECTRICAL CHARACTERISTICS OF THESE PANELS ARE ESTIMATED BASED ON THE YL-280P-358 PANEL AND ARE ANTICIPATED TO BE IN PRODUCTION BY THE PROCUREMENT PHASE OF THIS PROJECT.
  - THE TOTAL AC CAPACITY OF THIS LAYOUT IS 250 MW LIMITED BY 110 SIEMENS SINVERT PVS2000 INVERTER PACKAGES (110 MW AC EACH), 20 SIEMENS SINVERT PVS1000 INVERTER PACKAGES (1 MW AC EACH), AND 20 SIEMENS SINVERT PVS500 INVERTER PACKAGES (500 KW AC EACH).
  - EACH TWO MW AC BLOCK CONTAINS 208 ARRAY TECHNOLOGIES DURATRACK HZ HORIZONTAL SINGLE AXIS TRACKERS. EACH TRACKER HOLDS 27 PANELS ONE HIGH IN PORTRAIT.
  - EACH TWO MW AC BLOCK CONTAINS 7,776 YINGLI 310 W PANELS IN STRINGS OF 18 FOR A DC/AC RATIO OF 1.2.
  - GROUND COVER RATIO IS 37% WHICH MAKES SHADING LOSSES MINIMAL.
  - LOCATIONS OF ALL EXISTING AND PROPOSED ITEMS ARE APPROXIMATE AND WILL NEED TO BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION.
  - PERIMETER ROADS AND INVERTER ACCESS ROADS ARE 24 FT WIDE (TYPICAL). ALL OTHER MAINTENANCE ROADS ARE 16 FT WIDE (TYPICAL).
  - 6 FT CHAIN LINK FENCING WITH THREE STRAND BARB WIRE AND TORTOISE FENCING IS PROPOSED ALONG ALL PROPERTY LINES. 10 FT OFFSET TYPICAL UNLESS SHOWN OTHERWISE.
  - O&M BUILDING IS FOR STORAGE OF SPARE PARTS AND CONTAINS A 500 SF OFFICE.
  - TOTAL ONSITE DISTURBED ACREAGE: 1,660 ACRES.
  - HYDROLOGY STUDY WAS COMPLETED BY OTHERS AND WAS BASED ON A 100-YR, 24-HR STORM EVENT AND ROUGHNESS COEFFICIENT OF N=0.05.
  - THIS LAYOUT IS DESIGNED TO MINIMIZE ENVIRONMENTAL IMPACT AND CIVIL WORK BY AVOIDING ALL STATE WATERS, MINIMIZING ROAD CROSSINGS OVER WASHES, AVOIDING ALL REGIONS OF WATER SPEEDS OVER 5 FPS, AVOIDING AS MUCH AS POSSIBLE REGIONS OF WATER SPEEDS BETWEEN 2.5 AND 5 FPS, AND AVOIDING THE NATURAL RIDGELINE OR TERRACE FROM THE FAULT.
  - COORDINATES IN CALIFORNIA COORDINATE SYSTEM 1927, ZONE 5.



**LEGEND (MISC)**

- FENCE
- PROPERTY LINE



**CONCEPTUAL  
NOT FOR CONSTRUCTION**

REV	DATE	DESCRIPTION	BY	CHKD	APP'D	DATE

DATE	STATUS	DESCRIPTION

DESIGNED BY	CHECKED BY	ENGINEER/TECH SPECIALIST	PROJECT ENGINEERING MANAGER	PROJECT MANAGER
A. PRATT	K. DEASON	A. PRATT	W. PIETRUCHA	W. PIETRUCHA

**WorleyParsons**  
resources & energy

CLIENT/PROJECT TITLE  
BEACON SOLAR, LLC  
BEACON PHOTOVOLTAIC PROJECT  
KERN COUNTY

PRELIMINARY  
GENERAL ARRANGEMENT  
MAXIMUM LAND USAGE

SCALE: 1" = 500'  
DRAWING SIZE: ARCH D (36" x 24")  
WORLDWIDE DATE: 19-JAN-2011

BPEP-0-SK-111-002-003

BPEP-0-SK-111-002-003\_Draft\_Rev 1

# **Staff Report on Burrowing Owl Mitigation**

**Exhibit 5**

# **Staff Report on Burrowing Owl Mitigation**

State of California

Natural Resources Agency

**Department of Fish and Game**

March 7, 2012<sup>1</sup>

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<sup>1</sup> This document replaces the Department of Fish and Game 1995 Staff Report On Burrowing Owl Mitigation.

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## INTRODUCTION AND PURPOSE

Maintaining California's rich biological diversity is dependent on the conservation of species and their habitats. The California Department of Fish and Game (Department) has designated certain species as "species of special concern" when their population viability and survival is adversely affected by risk factors such as precipitous declines or other vulnerability factors (Shuford and Gardali 2008). Preliminary analyses of regional patterns for breeding populations of burrowing owls (*Athene cunicularia*) have detected declines both locally in their central and southern coastal breeding areas, and statewide where the species has experienced modest breeding range retraction (Gervais et al. 2008). In California, threat factors affecting burrowing owl populations include habitat loss, degradation and modification, and eradication of ground squirrels resulting in a loss of suitable burrows required by burrowing owls for nesting, protection from predators, and shelter (See Appendix A).

The Department recognized the need for a comprehensive conservation and mitigation strategy for burrowing owls, and in 1995 directed staff to prepare a report describing mitigation and survey recommendations. This report, "1995 Staff Report on Burrowing Owl Mitigation," (Staff Report) (CDFG 1995), contained Department-recommended burrowing owl and burrow survey techniques and mitigation measures intended to offset the loss of habitat and slow or reverse further decline of this species. Notwithstanding these measures, over the past 15+ years, burrowing owls have continued to decline in portions of their range (DeSante et al. 2007, Wilkerson and Siegel, 2010). The Department has determined that reversing declining population and range trends for burrowing owls will require implementation of more effective conservation actions, and evaluating the efficacy of the Department's existing recommended avoidance, minimization and mitigation approaches for burrowing owls.

The Department has identified three main actions that together will facilitate a more viable, coordinated, and concerted approach to conservation and mitigation for burrowing owls in California. These include:

1. Incorporating burrowing owl comprehensive conservation strategies into landscape-based planning efforts such as Natural Community Conservation Plans (NCCPs) and multi-species Habitat Conservation Plans (HCPs) that specifically address burrowing owls.
2. Developing and implementing a statewide conservation strategy (Burkett and Johnson, 2007) and local or regional conservation strategies for burrowing owls, including the development and implementation of a statewide burrowing owl survey and monitoring plan.
3. Developing more rigorous burrowing owl survey methods, working to improve the adequacy of impacts assessments; developing clear and effective avoidance and minimization measures; and developing mitigation measures to ensure impacts to the species are effectively addressed at the project, local, and/or regional level (the focus of this document).

This Report sets forth the Department's recommendations for implementing the third approach identified above by revising the 1995 Staff Report, drawing from the most relevant and current knowledge and expertise, and incorporating the best scientific information



available pertaining to the species. It is designed to provide a compilation of the best available science for Department staff, biologists, planners, land managers, California Environmental Quality Act (CEQA) lead agencies, and the public to consider when assessing impacts of projects or other activities on burrowing owls.

This revised Staff Report takes into account the California Burrowing Owl Consortium's Survey Protocol and Mitigation Guidelines (CBOC 1993, 1997) and supersedes the survey, avoidance, minimization and mitigation recommendations in the 1995 Staff Report. Based on experiences gained from implementing the 1995 Staff Report, the Department believes revising that report is warranted. This document also includes general conservation goals and principles for developing mitigation measures for burrowing owls.

## **DEPARTMENT ROLE AND LEGAL AUTHORITIES**

The mission of the Department is to manage California's diverse fish, wildlife and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. The Department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitats necessary to maintain biologically sustainable populations of those species (Fish and Game Code (FGC) §1802). The Department, as trustee agency pursuant to CEQA (See CEQA Guidelines, §15386), has jurisdiction by law over natural resources, including fish and wildlife, affected by a project, as that term is defined in Section 21065 of the Public Resources Code. The Department exercises this authority by reviewing and commenting on environmental documents and making recommendations to avoid, minimize, and mitigate potential negative impacts to those resources held in trust for the people of California.

Field surveys designed to detect the presence of a particular species, habitat element, or natural community are one of the tools that can assist biologists in determining whether a species or habitat may be significantly impacted by land use changes or disturbance. The Department reviews field survey data as well as site-specific and regional information to evaluate whether a project's impacts may be significant. This document compiles the best available science for conducting habitat assessments and surveys, and includes considerations for developing measures to avoid impacts or mitigate unavoidable impacts.

### **CEQA**

CEQA requires public agencies in California to analyze and disclose potential environmental impacts associated with a project that the agency will carry out, fund, or approve. Any potentially significant impact must be mitigated to the extent feasible. Project-specific CEQA mitigation is important for burrowing owls because most populations exist on privately owned parcels that, when proposed for development or other types of modification, may be subject to the environmental review requirements of CEQA.

### **Take**

Take of individual burrowing owls and their nests is defined by FGC section 86, and prohibited by sections 3503, 3503.5 and 3513. Take is defined in FGC Section 86 as "hunt, pursue, catch, capture or kill, or attempt to hunt, pursue, catch, capture or kill."

## **Migratory Bird Treaty Act**

The Migratory Bird Treaty Act (MBTA) implements various treaties and conventions between the United States and Canada, Japan, Mexico, and Russia for the protection of migratory birds, including the burrowing owl (50 C.F.R. § 10). The MBTA protects migratory bird nests from possession, sale, purchase, barter, transport, import and export, and collection. The other prohibitions of the MBTA - capture, pursue, hunt, and kill - are inapplicable to nests. The regulatory definition of take, as defined in Title 50 C.F.R. part 10.12, means to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to hunt, shoot, wound, kill, trap, capture, or collect. Only the verb "collect" applies to nests. It is illegal to collect, possess, and by any means transfer possession of any migratory bird nest. The MBTA prohibits the destruction of a nest when it contains birds or eggs, and no possession shall occur during the destruction (see Fish and Wildlife Service, Migratory Bird Permit Memorandum, April 15, 2003). Certain exceptions to this prohibition are included in 50 C.F.R. section 21. Pursuant to Fish & Game Code section 3513, the Department enforces the Migratory Bird Treaty Act consistent with rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Treaty Act.

## **Regional Conservation Plans**

Regional multiple species conservation plans offer long-term assurances for conservation of covered species at a landscape scale, in exchange for biologically appropriate levels of incidental take and/or habitat loss as defined in the approved plan. California's NCCP Act (FGC §2800 et seq.) governs such plans at the state level, and was designed to conserve species, natural communities, ecosystems, and ecological processes across a jurisdiction or a collection of jurisdictions. Complementary federal HCPs are governed by the Endangered Species Act (7 U.S.C. § 136, 16 U.S.C. § 1531 et seq.) (ESA). Regional conservation plans (and certain other landscape-level conservation and management plans), may provide conservation for unlisted as well as listed species. Because the geographic scope of NCCPs and HCPs may span many hundreds of thousands of acres, these planning tools have the potential to play a significant role in conservation of burrowing owls, and grasslands and other habitats.

## **Fish and Game Commission Policies**

There are a number of Fish and Game Commission policies (see FGC §2008) that can be applied to burrowing owl conservation. These include policies on: Raptors, Cooperation, Endangered and Threatened Species, Land Use Planning, Management and Utilization of Fish and Wildlife on Federal Lands, Management and Utilization of Fish and Wildlife on Private Lands, and Research.

## **GUIDING PRINCIPLES FOR CONSERVATION**

Unless otherwise provided in a statewide, local, or regional conservation strategy, surveying and evaluating impacts to burrowing owls, as well as developing and implementing avoidance, minimization, and mitigation and conservation measures incorporate the following principles. These principles are a summary of Department staff expert opinion and were used to guide the preparation of this document.

1. Use the Precautionary Principle (Noss et al.1997), by which the alternative of increased conservation is deliberately chosen in order to buffer against incomplete knowledge of burrowing owl ecology and uncertainty about the consequences to burrowing owls of potential impacts, including those that are cumulative.
2. Employ basic conservation biology tenets and population-level approaches when determining what constitutes appropriate avoidance, minimization, and mitigation for impacts. Include mitigation effectiveness monitoring and reporting, and use an adaptive management loop to modify measures based on results.
3. Protect and conserve owls in wild, semi-natural, and agricultural habitats (conserve is defined at FGC §1802).
4. Protect and conserve natural nest burrows (or burrow surrogates) previously used by burrowing owls and sufficient foraging habitat and protect auxiliary "satellite" burrows that contribute to burrowing owl survivorship and natural behavior of owls.

### **CONSERVATION GOALS FOR THE BURROWING OWL IN CALIFORNIA**

It is Department staff expert opinion that the following goals guide and contribute to the short and long-term conservation of burrowing owls in California:

1. Maintain size and distribution of extant burrowing owl populations (allowing for natural population fluctuations).
2. Increase geographic distribution of burrowing owls into formerly occupied historical range where burrowing owl habitat still exists, or where it can be created or enhanced, and where the reason for its local disappearance is no longer of concern.
3. Increase size of existing populations where possible and appropriate (for example, considering basic ecological principles such as carrying capacity, predator-prey relationships, and inter-specific relationships with other species at risk).
4. Protect and restore self-sustaining ecosystems or natural communities which can support burrowing owls at a landscape scale, and which will require minimal long-term management.
5. Minimize or prevent unnatural causes of burrowing owl population declines (e.g., nest burrow destruction, chemical control of rodent hosts and prey).
6. Augment/restore natural dynamics of burrowing owl populations including movement and genetic exchange among populations, such that the species does not require future listing and protection under the California Endangered Species Act (CESA) and/or the federal Endangered Species Act (ESA).
7. Engage stakeholders, including ranchers; farmers; military; tribes; local, state, and federal agencies; non-governmental organizations; and scientific research and education communities involved in burrowing owl protection and habitat management.

### **ACTIVITIES WITH THE POTENTIAL TO TAKE OR IMPACT BURROWING OWLS**

The following activities are examples of activities that have the potential to take burrowing owls, their nests or eggs, or destroy or degrade burrowing owl habitat: grading, diking, cultivation, earthmoving, burrow blockage, heavy equipment compacting and crushing burrow tunnels, levee maintenance, flooding, burning and mowing (if burrows are impacted), and operating wind turbine collisions (collectively hereafter referred to as "projects" or "activities")

whether carried out pursuant to CEQA or not). In addition, the following activities may have impacts to burrowing owl populations: eradication of host burrowers; changes in vegetation management (i.e. grazing); use of pesticides and rodenticides; destruction, conversion or degradation of nesting, foraging, over-wintering or other habitats; destruction of natural burrows and burrow surrogates; and disturbance which may result in harassment of owls at occupied burrows.

## **PROJECT IMPACT EVALUATIONS**

The following three progressive steps are effective in evaluating whether projects will result in impacts to burrowing owls. The information gained from these steps will inform any subsequent avoidance, minimization and mitigation measures. The steps for project impact evaluations are: 1) habitat assessment, 2) surveys, and 3) impact assessment. Habitat assessments are conducted to evaluate the likelihood that a site supports burrowing owl. Burrowing owl surveys provide information needed to determine the potential effects of proposed projects and activities on burrowing owls, and to avoid take in accordance with FGC sections 86, 3503, and 3503.5. Impact assessments evaluate the extent to which burrowing owls and their habitat may be impacted, directly or indirectly, on and within a reasonable distance of a proposed CEQA project activity or non-CEQA project. These three site evaluation steps are discussed in detail below.

### **Biologist Qualifications**

The current scientific literature indicates that only individuals meeting the following minimum qualifications should perform burrowing owl habitat assessments, surveys, and impact assessments:

1. Familiarity with the species and its local ecology;
2. Experience conducting habitat assessments and non-breeding and breeding season surveys, or experience with these surveys conducted under the direction of an experienced surveyor;
3. Familiarity with the appropriate state and federal statutes related to burrowing owls, scientific research, and conservation;
4. Experience with analyzing impacts of development on burrowing owls and their habitat.

### **Habitat Assessment Data Collection and Reporting**

A habitat assessment is the first step in the evaluation process and will assist investigators in determining whether or not occupancy surveys are needed. Refer to Appendix B for a definition of burrowing owl habitat. Compile the detailed information described in Appendix C when conducting project scoping, conducting a habitat assessment site visit and preparing a habitat assessment report.

### **Surveys**

Burrowing owl surveys are the second step of the evaluation process and the best available scientific literature recommends that they be conducted whenever burrowing owl habitat or sign (see Appendix B) is encountered on or adjacent to (within 150 meters) a project site

(Thomsen 1971, Martin 1973). Occupancy of burrowing owl habitat is confirmed at a site when at least one burrowing owl, or its sign at or near a burrow entrance, is observed within the last three years (Rich 1984). Burrowing owls are more detectable during the breeding season with detection probabilities being highest during the nestling stage (Conway et al. 2008). In California, the burrowing owl breeding season extends from 1 February to 31 August (Haug et al. 1993, Thompson 1971) with some variances by geographic location and climatic conditions. Several researchers suggest three or more survey visits during daylight hours (Haug and Diduik 1993, CBOC 1997, Conway and Simon 2003) and recommend each visit occur at least three weeks apart during the peak of the breeding season, commonly accepted in California as between 15 April and 15 July (CBOC 1997). Conway and Simon (2003) and Conway et al. (2008) recommended conducting surveys during the day when most burrowing owls in a local area are in the laying and incubation period (so as not to miss early breeding attempts), during the nesting period, and in the late nestling period when most owls are spending time above ground.

Non-breeding season (1 September to 31 January) surveys may provide information on burrowing owl occupancy, but do not substitute for breeding season surveys because results are typically inconclusive. Burrowing owls are more difficult to detect during the non-breeding season and their seasonal residency status is difficult to ascertain. Burrowing owls detected during non-breeding season surveys may be year-round residents, young from the previous breeding season, pre-breeding territorial adults, winter residents, dispersing juveniles, migrants, transients or new colonizers. In addition, the numbers of owls and their pattern of distribution may differ during winter and breeding seasons. However, on rare occasions, non-breeding season surveys may be warranted (i.e., if the site is believed to be a wintering site only based on negative breeding season results). Refer to Appendix D for information on breeding season and non-breeding season survey methodologies.

## **Survey Reports**

Adequate information about burrowing owls present in and adjacent to an area that will be disturbed by a project or activity will enable the Department, reviewing agencies and the public to effectively assess potential impacts and will guide the development of avoidance, minimization, and mitigation measures. The survey report includes but is not limited to a description of the proposed project or proposed activity, including the proposed project start and end dates, as well as a description of disturbances or other activities occurring on-site or nearby. Refer to Appendix D for details included in a survey report.

## **Impact Assessment**

The third step in the evaluation process is the impact assessment. When surveys confirm occupied burrowing owl habitat in or adjoining the project area, there are a number of ways to assess a project's potential significant impacts to burrowing owls and their habitat. Richardson and Miller (1997) recommended monitoring raptor behavior prior to developing management recommendations and buffers to determine the extent to which individuals have been sensitized to human disturbance. Monitoring results will also provide detail necessary for developing site-specific measures. Postovit and Postovit (1987) recommended an analytical approach to mitigation planning: define the problem (impact), set goals (to guide mitigation development), evaluate and select mitigation methods, and monitor the results.

*Define the problem.* The impact assessment evaluates all factors that could affect burrowing owls. Postovit and Postovit (1987) recommend evaluating the following in assessing impacts to raptors and planning mitigation: type and extent of disturbance, duration and timing of disturbance, visibility of disturbance, sensitivity and ability to habituate, and influence of environmental factors. They suggest identifying and addressing all potential direct and indirect impacts to burrowing owls, regardless of whether or not the impacts will occur during the breeding season. Several examples are given for each impact category below; however, examples are not intended to be used exclusively.

*Type and extent of the disturbance.* The impact assessment describes the nature (source) and extent (scale) of potential project impacts on occupied, satellite and unoccupied burrows including acreage to be lost (temporary or permanent), fragmentation/edge being created, increased distance to other nesting and foraging habitat, and habitat degradation. Discuss any project activities that impact either breeding and/or non-breeding habitat which could affect owl home range size and spatial configuration, negatively affect onsite and offsite burrowing owl presence, increase energetic costs, lower reproductive success, increase vulnerability to predation, and/or decrease the chance of procuring a mate.

*Duration and timing of the impact.* The impact assessment describes the amount of time the burrowing owl habitat will be unavailable to burrowing owls (temporary or permanent) on the site and the effect of that loss on essential behaviors or life history requirements of burrowing owls, the overlap of project activities with breeding and/or non-breeding seasons (timing of nesting and/or non-breeding activities may vary with latitude and climatic conditions, which should be considered with the timeline of the project or activity), and any variance of the project activities in intensity, scale and proximity relative to burrowing owl occurrences.

*Visibility and sensitivity.* Some individual burrowing owls or pairs are more sensitive than others to specific stimuli and may habituate to ongoing visual or audible disturbance. Site-specific monitoring may provide clues to the burrowing owl's sensitivities. This type of assessment addresses the sensitivity of burrowing owls within their nesting area to humans on foot, and vehicular traffic. Other variables are whether the site is primarily in a rural versus urban setting, and whether any prior disturbance (e.g., human development or recreation) is known at the site.

*Environmental factors.* The impact assessment discusses any environmental factors that could be influenced or changed by the proposed activities including nest site availability, predators, prey availability, burrowing mammal presence and abundance, and threats from other extrinsic factors such as human disturbance, urban interface, feral animals, invasive species, disease or pesticides.

*Significance of impacts.* The impact assessment evaluates the potential loss of nesting burrows, satellite burrows, foraging habitat, dispersal and migration habitat, wintering habitat, and habitat linkages, including habitat supporting prey and host burrowers and other essential habitat attributes. This assessment determines if impacts to the species will result in significant impacts to the species locally, regionally and range-wide per CEQA Guidelines §15382 and Appendix G. The significance of the impact to habitat depends on the extent of habitat disturbed and length of time the habitat is unavailable (for example: minor – several days, medium – several weeks to months, high - breeding season affecting juvenile survival,

or over winter affecting adult survival).

*Cumulative effects.* The cumulative effects assessment evaluates two consequences: 1) the project's proportional share of reasonably foreseeable impacts on burrowing owls and habitat caused by the project or in combination with other projects and local influences having impacts on burrowing owls and habitat, and 2) the effects on the regional owl population resulting from the project's impacts to burrowing owls and habitat.

*Mitigation goals.* Establishing goals will assist in planning mitigation and selecting measures that function at a desired level. Goals also provide a standard by which to measure mitigation success. Unless specifically provided for through other FGC Sections or through specific regulations, take, possession or destruction of individual burrowing owls, their nests and eggs is prohibited under FGC sections 3503, 3503.5 and 3513. Therefore, a required goal for all project activities is to avoid take of burrowing owls. Under CEQA, goals would consist of measures that would avoid, minimize and mitigate impacts to a less than significant level. For individual projects, mitigation must be roughly proportional to the level of impacts, including cumulative impacts, in accordance with the provisions of CEQA (CEQA Guidelines, §§ 15126.4(a)(4)(B), 15064, 15065, and 16355). In order for mitigation measures to be effective, they must be specific, enforceable, and feasible actions that will improve environmental conditions. As set forth in more detail in Appendix A, the current scientific literature supports the conclusion that mitigation for permanent habitat loss necessitates replacement with an equivalent or greater habitat area for breeding, foraging, wintering, dispersal, presence of burrows, burrow surrogates, presence of fossorial mammal dens, well drained soils, and abundant and available prey within close proximity to the burrow.

## MITIGATION METHODS

The current scientific literature indicates that any site-specific avoidance or mitigation measures developed should incorporate the best practices presented below or other practices confirmed by experts and the Department. The Department is available to assist in the development of site-specific avoidance and mitigation measures.

*Avoiding.* A primary goal is to design and implement projects to seasonally and spatially avoid negative impacts and disturbances that could result in take of burrowing owls, nests, or eggs. Other avoidance measures may include but not be limited to:

- Avoid disturbing occupied burrows during the nesting period, from 1 February through 31 August.
- Avoid impacting burrows occupied during the non-breeding season by migratory or non-migratory resident burrowing owls.
- Avoid direct destruction of burrows through chaining (dragging a heavy chain over an area to remove shrubs), disking, cultivation, and urban, industrial, or agricultural development.
- Develop and implement a worker awareness program to increase the on-site worker's recognition of and commitment to burrowing owl protection.
- Place visible markers near burrows to ensure that farm equipment and other machinery does not collapse burrows.
- Do not fumigate, use treated bait or other means of poisoning nuisance animals in areas where burrowing owls are known or suspected to occur (e.g., sites observed with nesting

- owls, designated use areas).
- Restrict the use of treated grain to poison mammals to the months of January and February.

*Take avoidance (pre-construction) surveys.* Take avoidance surveys are intended to detect the presence of burrowing owls on a project site at a fixed period in time and inform necessary take avoidance actions. Take avoidance surveys may detect changes in owl presence such as colonizing owls that have recently moved onto the site, migrating owls, resident burrowing owls changing burrow use, or young of the year that are still present and have not dispersed. Refer to Appendix D for take avoidance survey methodology.

*Site surveillance.* Burrowing owls may attempt to colonize or re-colonize an area that will be impacted; thus, the current scientific literature indicates a need for ongoing surveillance at the project site during project activities is recommended. The surveillance frequency/effort should be sufficient to detect burrowing owls if they return. Subsequent to their new occupancy or return to the site, take avoidance measures should assure with a high degree of certainty that take of owls will not occur.

*Minimizing.* If burrowing owls and their habitat can be protected in place on or adjacent to a project site, the use of buffer zones, visual screens or other measures while project activities are occurring can minimize disturbance impacts. Conduct site-specific monitoring to inform development of buffers (see Visibility and sensitivity above). The following general guidelines for implementing buffers should be adjusted to address site-specific conditions using the impact assessment approach described above. The CEQA lead agency and/or project proponent is encouraged to consult with the Department and other burrowing owl experts for assistance in developing site-specific buffer zones and visual screens.

*Buffers.* Holroyd et al. (2001) identified a need to standardize management and disturbance mitigation guidelines. For instance, guidelines for mitigating impacts by petroleum industries on burrowing owls and other prairie species (Scobie and Faminow, 2000) may be used as a template for future mitigation guidelines (Holroyd et al. 2001). Scobie and Faminow (2000) developed guidelines for activities around occupied burrowing owl nests recommending buffers around low, medium, and high disturbance activities, respectively (see below).

Recommended restricted activity dates and setback distances by level of disturbance for burrowing owls (Scobie and Faminow 2000).

Location	Time of Year	Level of Disturbance		
		Low	Med	High
Nesting sites	April 1-Aug 15	200 m*	500 m	500 m
Nesting sites	Aug 16-Oct 15	200 m	200 m	500 m
Nesting sites	Oct 16-Mar 31	50 m	100 m	500 m

\* meters (m)

Based on existing vegetation, human development, and land uses in an area, resource managers may decide to allow human development or resource extraction closer to these area/sites than recommended above. However, if it is decided to allow activities closer than



the setback distances recommended, a broad-scale, long-term, scientifically-rigorous monitoring program ensures that burrowing owls are not detrimentally affected by alternative approaches.

Other minimization measures include eliminating actions that reduce burrowing owl forage and burrowing surrogates (e.g. ground squirrel), or introduce/facilitate burrowing owl predators. Actions that could influence these factors include reducing livestock grazing rates and/or changing the timing or duration of grazing or vegetation management that could result in less suitable habitat.

*Burrow exclusion and closure.* Burrow exclusion is a technique of installing one-way doors in burrow openings during the non-breeding season to temporarily exclude burrowing owls, or permanently exclude burrowing owls and close burrows after verifying burrows are empty by site monitoring and scoping. Exclusion in and of itself is not a take avoidance, minimization or mitigation method. Eviction of burrowing owls is a potentially significant impact under CEQA.

The long-term demographic consequences of these techniques have not been thoroughly evaluated, and the fate of evicted or excluded burrowing owls has not been systematically studied. Because burrowing owls are dependent on burrows at all times of the year for survival and/or reproduction, evicting them from nesting, roosting, and satellite burrows may lead to indirect impacts or take. Temporary or permanent closure of burrows may result in significant loss of burrows and habitat for reproduction and other life history requirements. Depending on the proximity and availability of alternate habitat, loss of access to burrows will likely result in varying levels of increased stress on burrowing owls and could depress reproduction, increase predation, increase energetic costs, and introduce risks posed by having to find and compete for available burrows. Therefore, exclusion and burrow closure are not recommended where they can be avoided. The current scientific literature indicates consideration of all possible avoidance and minimization measures before temporary or permanent exclusion and closure of burrows is implemented, in order to avoid take.

The results of a study by Trulio (1995) in California showed that burrowing owls passively displaced from their burrows were quickly attracted to adjacent artificial burrows at five of six passive relocation sites. The successful sites were all within 75 meters (m) of the destroyed burrow, a distance generally within a pair's territory. This researcher discouraged using passive relocation to artificial burrows as a mitigation measure for lost burrows without protection of adjacent foraging habitat. The study results indicated artificial burrows were used by evicted burrowing owls when they were approximately 50-100 m from the natural burrow (Thomsen 1971, Haug and Oliphant 1990). Locating artificial or natural burrows more than 100 m from the eviction burrow may greatly reduce the chances that new burrows will be used. Ideally, exclusion and burrow closure is employed only where there are adjacent natural burrows and non-impacted, sufficient habitat for burrowing owls to occupy with permanent protection mechanisms in place. Any new burrowing owl colonizing the project site after the CEQA document has been adopted may constitute changed circumstances that should be addressed in a re-circulated CEQA document.

The current scientific literature indicates that burrow exclusion should only be conducted by qualified biologists (meeting the Biologist's Qualifications above) during the non-breeding

season, before breeding behavior is exhibited and after the burrow is confirmed empty by site surveillance and/or scoping. The literature also indicates that when temporary or permanent burrow exclusion and/or burrow closure is implemented, burrowing owls should not be excluded from burrows unless or until:

- A Burrowing Owl Exclusion Plan (see Appendix E) is developed and approved by the applicable local DFG office;
- Permanent loss of occupied burrow(s) and habitat is mitigated in accordance with the Mitigating Impacts sections below. Temporary exclusion is mitigated in accordance with the item #1 under Mitigating Impacts below.
- Site monitoring is conducted prior to, during, and after exclusion of burrowing owls from their burrows sufficient to ensure take is avoided. Conduct daily monitoring for one week to confirm young of the year have fledged if the exclusion will occur immediately after the end of the breeding season.
- Excluded burrowing owls are documented using artificial or natural burrows on an adjoining mitigation site (if able to confirm by band re-sight).

*Translocation (Active relocation offsite >100 meters).* At this time, there is little published information regarding the efficacy of translocating burrowing owls, and additional research is needed to determine subsequent survival and breeding success (Klute et al. 2003, Holroyd et al. 2001). Study results for translocation in Florida implied that hatching success may be decreased for populations of burrowing owls that undergo translocation (Nixon 2006). At this time, the Department is unable to authorize the capture and relocation of burrowing owls except within the context of scientific research (FGC §1002) or a NCCP conservation strategy.

*Mitigating impacts.* Habitat loss and degradation from rapid urbanization of farmland in the core areas of the Central and Imperial valleys is the greatest of many threats to burrowing owls in California (Shuford and Gardali, 2008). At a minimum, if burrowing owls have been documented to occupy burrows (see Definitions, Appendix B) at the project site in recent years, the current scientific literature supports the conclusion that the site should be considered occupied and mitigation should be required by the CEQA lead agency to address project-specific significant and cumulative impacts. Other site-specific and regionally significant and cumulative impacts may warrant mitigation. The current scientific literature indicates the following to be best practices. If these best practices cannot be implemented, the lead agency or lead investigator may consult with the Department to develop effective mitigation alternatives. The Department is also available to assist in the identification of suitable mitigation lands.

1. Where habitat will be temporarily disturbed, restore the disturbed area to pre-project condition including decompacting soil and revegetating. Permanent habitat protection may be warranted if there is the potential that the temporary impacts may render a nesting site (nesting burrow and satellite burrows) unsustainable or unavailable depending on the time frame, resulting in reduced survival or abandonment. For the latter potential impact, see the permanent impact measures below.
2. Mitigate for permanent impacts to nesting, occupied and satellite burrows and/or burrowing owl habitat such that the habitat acreage, number of burrows and burrowing owls impacted are replaced based on the information provided in Appendix A. Note: A

minimum habitat replacement recommendation is not provided here as it has been shown to serve as a default, replacing any site-specific analysis and discounting the wide variation in natal area, home range, foraging area, and other factors influencing burrowing owls and burrowing owl population persistence in a particular area.

3. Mitigate for permanent impacts to nesting, occupied and satellite burrows and burrowing owl habitat with (a) permanent conservation of similar vegetation communities (grassland, scrublands, desert, urban, and agriculture) to provide for burrowing owl nesting, foraging, wintering, and dispersal (i.e., during breeding and non-breeding seasons) comparable to or better than that of the impact area, and (b) sufficiently large acreage, and presence of fossorial mammals. The mitigation lands may require habitat enhancements including enhancement or expansion of burrows for breeding, shelter and dispersal opportunity, and removal or control of population stressors. If the mitigation lands are located adjacent to the impacted burrow site, ensure the nearest neighbor artificial or natural burrow clusters are at least within 210 meters (Fisher et al. 2007).
4. Permanently protect mitigation land through a conservation easement deeded to a non-profit conservation organization or public agency with a conservation mission, for the purpose of conserving burrowing owl habitat and prohibiting activities incompatible with burrowing owl use. If the project is located within the service area of a Department-approved burrowing owl conservation bank, the project proponent may purchase available burrowing owl conservation bank credits.
5. Develop and implement a mitigation land management plan to address long-term ecological sustainability and maintenance of the site for burrowing owls (see Management Plan and Artificial Burrow sections below, if applicable).
6. Fund the maintenance and management of mitigation land through the establishment of a long-term funding mechanism such as an endowment.
7. Habitat should not be altered or destroyed, and burrowing owls should not be excluded from burrows, until mitigation lands have been legally secured, are managed for the benefit of burrowing owls according to Department-approved management, monitoring and reporting plans, and the endowment or other long-term funding mechanism is in place or security is provided until these measures are completed.
8. Mitigation lands should be on, adjacent or proximate to the impact site where possible and where habitat is sufficient to support burrowing owls present.
9. Where there is insufficient habitat on, adjacent to, or near project sites where burrowing owls will be excluded, acquire mitigation lands with burrowing owl habitat away from the project site. The selection of mitigation lands should then focus on consolidating and enlarging conservation areas located outside of urban and planned growth areas, within foraging distance of other conserved lands. If mitigation lands are not available adjacent to other conserved lands, increase the mitigation land acreage requirement to ensure a selected site is of sufficient size. Offsite mitigation may not adequately offset the biological and habitat values impacted on a one to one basis. Consult with the Department when determining offsite mitigation acreages.
10. Evaluate and select suitable mitigation lands based on a comparison of the habitat attributes of the impacted and conserved lands, including but not limited to: type and structure of habitat being impacted or conserved; density of burrowing owls in impacted and conserved habitat; and significance of impacted or conserved habitat to the species range-wide. Mitigate for the highest quality burrowing owl habitat impacted first and foremost when identifying mitigation lands, even if a mitigation site is located outside of

a lead agency's jurisdictional boundary, particularly if the lead agency is a city or special district.

11. Select mitigation lands taking into account the potential human and wildlife conflicts or incompatibility, including but not limited to, human foot and vehicle traffic, and predation by cats, loose dogs and urban-adapted wildlife, and incompatible species management (i.e., snowy plover).
12. Where a burrowing owl population appears to be highly adapted to heavily altered habitats such as golf courses, airports, athletic fields, and business complexes, permanently protecting the land, augmenting the site with artificial burrows, and enhancing and maintaining those areas may enhance sustainability of the burrowing owl population onsite. Maintenance includes keeping lands grazed or mowed with weed-eaters or push mowers, free from trees and shrubs, and preventing excessive human and human-related disturbance (e.g., walking, jogging, off-road activity, dog-walking) and loose and feral pets (chasing and, presumably, preying upon owls) that make the environment uninhabitable for burrowing owls (Wesemann and Rowe 1985, Millsap and Bear 2000, Lincer and Bloom 2007). Items 4, 5 and 6 also still apply to this mitigation approach.
13. If there are no other feasible mitigation options available and a lead agency is willing to establish and oversee a Burrowing Owl Mitigation and Conservation Fund that funds on a competitive basis acquisition and permanent habitat conservation, the project proponent may participate in the lead agency's program.

*Artificial burrows.* Artificial burrows have been used to replace natural burrows either temporarily or long-term and their long-term success is unclear. Artificial burrows may be an effective addition to in-perpetuity habitat mitigation if they are augmenting natural burrows, the burrows are regularly maintained (i.e., no less than annual, with biennial maintenance recommended), and surrounding habitat patches are carefully maintained. There may be some circumstances, for example at airports, where squirrels will not be allowed to persist and create a dynamic burrow system, where artificial burrows may provide some support to an owl population.

Many variables may contribute to the successful use of artificial burrows by burrowing owls, including pre-existence of burrowing owls in the area, availability of food, predators, surrounding vegetation and proximity, number of natural burrows in proximity, type of materials used to build the burrow, size of the burrow and entrance, direction in which the burrow entrance is facing, slope of the entrance, number of burrow entrances per burrow, depth of the burrow, type and height of perches, and annual maintenance needs (Belthoff and King 2002, Smith et al. 2005, Barclay et al. 2011). Refer to Barclay (2008) and (2011) and to Johnson et al. 2010 (unpublished report) for guidance on installing artificial burrows including recommendations for placement, installation and maintenance.

Any long-term reliance on artificial burrows as natural burrow replacements must include semi-annual to annual cleaning and maintenance and/or replacement (Barclay et al. 2011, Smith and Conway 2005, Alexander et al. 2005) as an ongoing management practice. Alexander et al. (2005), in a study of the use of artificial burrows found that all of 20 artificial burrows needed some annual cleaning and maintenance. Burrows were either excavated by predators, blocked by soil or vegetation, or experienced substrate erosion forming a space beneath the tubing that prevented nestlings from re-entering the burrow.

*Mitigation lands management plan.* Develop a Mitigation Lands Management Plan for projects that require off-site or on-site mitigation habitat protection to ensure compliance with and effectiveness of identified management actions for the mitigation lands. A suggested outline and related vegetation management goals and monitoring success criteria can be found in Appendix E.

### **Mitigation Monitoring and Reporting**

Verify the compliance with required mitigation measures, the accuracy of predictions, and ensure the effectiveness of all mitigation measures for burrowing owls by conducting follow-up monitoring, and implementing midcourse corrections, if necessary, to protect burrowing owls. Refer to CEQA Guidelines Section 15097 and the CEQA Guidelines for additional guidance on mitigation, monitoring and reporting. Monitoring is qualitatively different from site surveillance; monitoring normally has a specific purpose and its outputs and outcomes will usually allow a comparison with some baseline condition of the site before the mitigation (including avoidance and minimization) was undertaken. Ideally, monitoring should be based on the Before-After Control-Impact (BACI) principle (McDonald et al. 2000) that requires knowledge of the pre-mitigation state to provide a reference point for the state and change in state after the project and mitigation have been implemented.

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## **Appendix A. Burrowing Owl Natural History and Threats**

### **Diet**

Burrowing owl diet includes arthropods, small rodents, birds, amphibians, reptiles, and carrion (Haug et al. 1993).

### **Breeding**

In California, the breeding season for the burrowing owl typically occurs between 1 February and 31 August although breeding in December has been documented (Thompson 1971, Gervais et al. 2008); breeding behavior includes nest site selection by the male, pair formation, copulation, egg laying, hatching, fledging, and post-fledging care of young by the parents. The peak of the breeding season occurs between 15 April and 15 July and is the period when most burrowing owls have active nests (eggs or young). The incubation period lasts 29 days (Coulombe 1971) and young fledge after 44 days (Haug et al. 1993). Note that the timing of nesting activities may vary with latitude and climatic conditions. Burrowing owls may change burrows several times during the breeding season, starting when nestlings are about three weeks old (Haug et al. 1993).

### **Dispersal**

The following discussion is an excerpt from Gervais et al (2008):

"The burrowing owl is often considered a sedentary species (e.g., Thomsen 1971). A large proportion of adults show strong fidelity to their nest site from year to year, especially where resident, as in Florida (74% for females, 83% for males; Millsap and Bear 1997). In California, nest-site fidelity rates were 32%–50% in a large grassland and 57% in an agricultural environment (Ronan 2002, Catlin 2004, Catlin et al. 2005). Differences in these rates among sites may reflect differences in nest predation rates (Catlin 2004, Catlin et al. 2005). Despite the high nest fidelity rates, dispersal distances may be considerable for both juveniles (natal dispersal) and adults (postbreeding dispersal), but this also varied with location (Catlin 2004, Rosier et al. 2006). Distances of 53 km to roughly 150 km have been observed in California for adult and natal dispersal, respectively (D. K. Rosenberg and J. A. Gervais, unpublished data), despite the difficulty in detecting movements beyond the immediate study area (Koenig et al. 1996)."

### **Habitat**

The burrowing owl is a small, long-legged, ground-dwelling bird species, well-adapted to open, relatively flat expanses. In California, preferred habitat is generally typified by short, sparse vegetation with few shrubs, level to gentle topography and well-drained soils (Haug et al. 1993). Grassland, shrub steppe, and desert are naturally occurring habitat types used by the species. In addition, burrowing owls may occur in some agricultural areas, ruderal grassy fields, vacant lots and pastures if the vegetation structure is suitable and there are useable burrows and foraging habitat in proximity (Gervais et al 2008). Unique amongst North

American raptors, the burrowing owl requires underground burrows or other cavities for nesting during the breeding season and for roosting and cover, year round. Burrows used by the owls are usually dug by other species termed host burrowers. In California, California ground squirrel (*Spermophilus beecheyi*) and round-tailed ground squirrel (*Citellus tereticaudus*) burrows are frequently used by burrowing owls but they may use dens or holes dug by other fossorial species including badger (*Taxidea taxus*), coyote (*Canis latrans*), and fox (e.g., San Joaquin kit fox, *Vulpes macrotis mutica*; Ronan 2002). In some instances, owls have been known to excavate their own burrows (Thompson 1971, Barclay 2007). Natural rock cavities, debris piles, culverts, and pipes also are used for nesting and roosting (Rosenberg et al. 1998). Burrowing owls have been documented using artificial burrows for nesting and cover (Smith and Belthoff, 2003).

*Foraging habitat.* Foraging habitat is essential to burrowing owls. The following discussion is an excerpt from Gervais et al. (2008):

"Useful as a rough guide to evaluating project impacts and appropriate mitigation for burrowing owls, adult male burrowing owl home ranges have been documented (calculated by minimum convex polygon) to comprise anywhere from 280 acres in intensively irrigated agroecosystems in Imperial Valley (Rosenberg and Haley 2004) to 450 acres in mixed agricultural lands at Lemoore Naval Air Station, CA (Gervais et al. 2003), to 600 acres in pasture in Saskatchewan, Canada (Haug and Oliphant 1990). But owl home ranges may be much larger, perhaps by an order of magnitude, in non-irrigated grasslands such as at Carrizo Plain, California (Gervais et al. 2008), based on telemetry studies and distribution of nests. Foraging occurs primarily within 600 m of their nests (within approximately 300 acres, based on a circle with a 600 m radius) during the breeding season."

*Importance of burrows and adjacent habitat.* Burrows and the associated surrounding habitat are essential ecological requisites for burrowing owls throughout the year and especially during the breeding season. During the non-breeding season, burrowing owls remain closely associated with burrows, as they continue to use them as refuge from predators, shelter from weather and roost sites. Resident populations will remain near the previous season's nest burrow at least some of the time (Coulombe 1971, Thomsen 1971, Botelho 1996, LaFever et al. 2008).

In a study by Lutz and Plumpton (1999) adult males and females nested in formerly used sites at similar rates (75% and 63%, respectively) (Lutz and Plumpton 1999). Burrow fidelity has been reported in some areas; however, more frequently, burrowing owls reuse traditional nesting areas without necessarily using the same burrow (Haug et al. 1993, Dechant et al. 1999). Burrow and nest sites are re-used at a higher rate if the burrowing owl has reproduced successfully during the previous year (Haug et al. 1993) and if the number of burrows isn't limiting nesting opportunity.

Burrowing owls may use "satellite" or non-nesting burrows, moving young at 10-14 days, presumably to reduce risk of predation (Desmond and Savidge 1998) and possibly to avoid nest parasites (Dechant et al. 1999). Successful nests in Nebraska had more active satellite burrows within 75 m of the nest burrow than unsuccessful nests (Desmond and Savidge

1999). Several studies have documented the number of satellite burrows used by young and adult burrowing owls during the breeding season as between one and 11 burrows with an average use of approximately five burrows (Thompson 1984, Haug 1985, Haug and Oliphant 1990). Supporting the notion of selecting for nest sites near potential satellite burrows, Ronan (2002) found burrowing owl families would move away from a nest site if their satellite burrows were experimentally removed through blocking their entrance.

Habitat adjacent to burrows has been documented to be important to burrowing owls. Gervais et al. (2003) found that home range sizes of male burrowing owls during the nesting season were highly variable within but not between years. Their results also suggested that owls concentrate foraging efforts within 600 meters of the nest burrow, as was observed in Canada (Haug and Oliphant 1990) and southern California (Rosenberg and Haley 2004). James et al. (1997), reported habitat modification factors causing local burrowing owl declines included habitat fragmentation and loss of connectivity.

In conclusion, the best available science indicates that essential habitat for the burrowing owl in California must include suitable year-round habitat, primarily for breeding, foraging, wintering and dispersal habitat consisting of short or sparse vegetation (at least at some time of year), presence of burrows, burrow surrogates or presence of fossorial mammal dens, well-drained soils, and abundant and available prey within close proximity to the burrow.

### **Threats to Burrowing Owls in California**

*Habitat loss.* Habitat loss, degradation, and fragmentation are the greatest threats to burrowing owls in California. According to DeSante et al. (2007), "the vast majority of burrowing owls [now] occur in the wide, flat lowland valleys and basins of the Imperial Valley and Great Central Valley [where] for the most part,...the highest rates of residential and commercial development in California are occurring." Habitat loss from the State's long history of urbanization in coastal counties has already resulted in either extirpation or drastic reduction of burrowing owl populations there (Gervais et al. 2008). Further, loss of agricultural and other open lands (such as grazed landscapes) also negatively affect owl populations. Because of their need for open habitat with low vegetation, burrowing owls are unlikely to persist in agricultural lands dominated by vineyards and orchards (Gervais et al. 2008).

*Control of burrowing rodents.* According to Klute et al. (2003), the elimination of burrowing rodents through control programs is a primary factor in the recent and historical decline of burrowing owl populations nationwide. In California, ground squirrel burrows are most often used by burrowing owls for nesting and cover; thus, ground squirrel control programs may affect owl numbers in local areas by eliminating a necessary resource.

*Direct mortality.* Burrowing owls suffer direct losses from a number of sources. Vehicle collisions are a significant source of mortality especially in the urban interface and where owls nest alongside roads (Haug et al. 1993, Gervais et al. 2008). Road and ditch maintenance, modification of water conveyance structures (Imperial Valley) and discing to control weeds in fallow fields may destroy burrows (Rosenberg and Haley 2004, Catlin and Rosenberg 2006) which may trap or crush owls. Wind turbines at Altamont Pass Wind Resource Area are known to cause direct burrowing owl mortality (Thelander et al. 2003). Exposure to

pesticides may pose a threat to the species but is poorly understood (Klute et al. 2003, Gervais et al. 2008).

## Appendix B. Definitions

Some key terms that appear in this document are defined below.

**Adjacent habitat** means burrowing owl habitat that abuts the area where habitat and burrows will be impacted and rendered non-suitable for occupancy.

**Breeding (nesting) season** begins as early as 1 February and continues through 31 August (Thomsen 1971, Zarn 1974). The timing of breeding activities may vary with latitude and climatic conditions. The breeding season includes pairing, egg-laying and incubation, and nestling and fledging stages.

**Burrow exclusion** is a technique of installing one-way doors in burrow openings during the non-breeding season to temporarily exclude burrowing owls or permanently exclude burrowing owls and excavate and close burrows after confirming burrows are empty.

**Burrowing owl habitat** generally includes, but is not limited to, short or sparse vegetation (at least at some time of year), presence of burrows, burrow surrogates or presence of fossorial mammal dens, well-drained soils, and abundant and available prey.

**Burrow surrogates** include culverts, piles of concrete rubble, piles of soil, burrows created along soft banks of ditches and canals, pipes, and similar structures.

**Civil twilight** - Morning civil twilight begins when the geometric center of the sun is 6 degrees below the horizon (civil dawn) and ends at sunrise. Evening civil twilight begins at sunset and ends when the geometric center of the sun reaches 6 degrees below the horizon (civil dusk). During this period there is enough light from the sun that artificial sources of light may not be needed to carry on outdoor activities. This concept is sometimes enshrined in laws, for example, when drivers of automobiles must turn on their headlights (called lighting-up time in the UK); when pilots may exercise the rights to fly aircraft. Civil twilight can also be described as the limit at which twilight illumination is sufficient, under clear weather conditions, for terrestrial objects to be clearly distinguished; at the beginning of morning civil twilight, or end of evening civil twilight, the horizon is clearly defined and the brightest stars are visible under clear atmospheric conditions.

**Conservation** for burrowing owls may include but may not be limited to protecting remaining breeding pairs or providing for population expansion, protecting and enhancing breeding and essential habitat, and amending or augmenting land use plans to stabilize populations and other specific actions to avoid the need to list the species pursuant to California or federal Endangered Species Acts.

**Contiguous** means connected together so as to form an uninterrupted expanse in space.

**Essential habitat** includes nesting, foraging, wintering, and dispersal habitat.

**Foraging habitat** is habitat within the estimated home range of an occupied burrow, supports suitable prey base, and allows for effective hunting.

**Host burrowers** include ground squirrels, badgers, foxes, coyotes, gophers etc.

**Locally significant species** is a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA §15125 (c)) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). Examples include a species at the outer limits of its known range or occurring in a unique habitat type.

**Non-breeding season** is the period of time when nesting activity is not occurring, generally September 1 through January 31, but may vary with latitude and climatic conditions.

**Occupied site or occupancy** means a site that is assumed occupied if at least one burrowing owl has been observed occupying a burrow within the last three years (Rich 1984). Occupancy of suitable burrowing owl habitat may also be indicated by owl sign including its molted feathers, cast pellets, prey remains, eggshell fragments, or excrement at or near a burrow entrance or perch site.

**Other impacting activities** may include but may not be limited to agricultural practices, vegetation management and fire control, pest management, conversion of habitat from rangeland or natural lands to more intensive agricultural uses that could result in "take". These impacting activities may not meet the definition of a project under CEQA.

**Passive relocation** is a technique of installing one-way doors in burrow openings to temporarily or permanently evict burrowing owls and prevent burrow re-occupation.

**Peak of the breeding season** is between 15 April and 15 July.

**Sign** includes its tracks, molted feathers, cast pellets (defined as 1-2" long brown to black regurgitated pellets consisting of non-digestible portions of the owls' diet, such as fur, bones, claws, beetle elytra, or feathers), prey remains, egg shell fragments, owl white wash, nest burrow decoration materials (e.g., paper, foil, plastic items, livestock or other animal manure, etc.), possible owl perches, or other items.



## Appendix C. Habitat Assessment and Reporting Details

### Habitat Assessment Data Collection and Reporting

Current scientific literature indicates that it would be most effective to gather the data in the manner described below when conducting project scoping, conducting a habitat assessment site visit and preparing a habitat assessment report:

1. Conduct at least one visit covering the entire potential project/activity area including areas that will be directly or indirectly impacted by the project. Survey adjoining areas within 150 m (Thomsen 1971, Martin 1973), or more where direct or indirect effects could potentially extend offsite. If lawful access cannot be achieved to adjacent areas, surveys can be performed with a spotting scope or other methods.
2. Prior to the site visit, compile relevant biological information for the site and surrounding area to provide a local and regional context.
3. Check all available sources for burrowing owl occurrence information regionally prior to a field inspection. The CNDDDB and BIOS (see References cited) may be consulted for known occurrences of burrowing owls. Other sources of information include, but are not limited to, the Proceedings of the California Burrowing Owl Symposium (Barclay et al. 2007), county bird atlas projects, Breeding Bird Survey records, eBIRD (<http://ebird.org>), Gervais et al. (2008), local reports or experts, museum records, and other site-specific relevant information.
4. Identify vegetation and habitat types potentially supporting burrowing owls in the project area and vicinity.
5. Record and report on the following information:
  - a. A full description of the proposed project, including but not limited to, expected work periods, daily work schedules, equipment used, activities performed (such as drilling, construction, excavation, etc.) and whether the expected activities will vary in location or intensity over the project's timeline;
  - b. A regional setting map, showing the general project location relative to major roads and other recognizable features;
  - c. A detailed map (preferably a USGS topo 7.5' quad base map) of the site and proposed project, including the footprint of proposed land and/or vegetation-altering activities, base map source, identifying topography, landscape features, a north arrow, bar scale, and legend;
  - d. A written description of the biological setting, including location (Section, Township, Range, baseline and meridian), acreage, topography, soils, geographic and hydrologic characteristics, land use and management history on and adjoining the site (i.e., whether it is urban, semi-urban or rural; whether there is any evidence of past or current livestock grazing, mowing, disking, or other vegetation management activities);
  - e. An analysis of any relevant, historical information concerning burrowing owl use or occupancy (breeding, foraging, over-wintering) on site or in the assessment area;
  - f. Vegetation type and structure (using Sawyer et al. 2009), vegetation height, habitat types and features in the surrounding area plus a reasonably sized (as supported with logical justification) assessment area; (Note: use caution in discounting habitat based on grass height as it can be a temporary condition variable by season and conditions (such as current grazing regime) or may be distributed as a mosaic).

- g. The presence of burrowing owl individuals or pairs or sign (see Appendix B);
- h. The presence of suitable burrows and/or burrow surrogates (>11 cm in diameter (height and width) and >150 cm in depth) (Johnson et al. 2010), regardless of a lack of any burrowing owl sign and/or burrow surrogates; and burrowing owls and/or their sign that have recently or historically (within the last 3 years) been identified on or adjacent to the site.

## Appendix D. Breeding and Non-breeding Season Surveys and Reports

Current scientific literature indicates that it is most effective to conduct breeding and non-breeding season surveys and report in the manner that follows:

### Breeding Season Surveys

*Number of visits and timing.* Conduct 4 survey visits: 1) at least one site visit between 15 February and 15 April, and 2) a minimum of three survey visits, at least three weeks apart, between 15 April and 15 July, with at least one visit after 15 June. Note: many burrowing owl migrants are still present in southwestern California during mid-March, therefore, exercise caution in assuming breeding occupancy early in the breeding season.

*Survey method.* Rosenberg et al. (2007) confirmed walking line transects were most effective in smaller habitat patches. Conduct surveys in all portions of the project site that were identified in the Habitat Assessment and fit the description of habitat in Appendix A. Conduct surveys by walking straight-line transects spaced 7 m to 20 m apart, adjusting for vegetation height and density (Rosenberg et al. 2007). At the start of each transect and, at least, every 100 m, scan the entire visible project area for burrowing owls using binoculars. During walking surveys, record all potential burrows used by burrowing owls as determined by the presence of one or more burrowing owls, pellets, prey remains, whitewash, or decoration. Some burrowing owls may be detected by their calls, so observers should also listen for burrowing owls while conducting the survey.

Care should be taken to minimize disturbance near occupied burrows during all seasons and not to "flush" burrowing owls especially if predators are present to reduce any potential for needless energy expenditure or burrowing owl mortality. Burrowing owls may flush if approached by pedestrians within 50 m (Conway et al. 2003). If raptors or other predators are present that may suppress burrowing owl activity, return at another time or later date for a follow-up survey.

Check all burrowing owls detected for bands and/or color bands and report band combinations to the Bird Banding Laboratory (BBL). Some site-specific variations to survey methods discussed below may be developed in coordination with species experts and Department staff.

*Weather conditions.* Poor weather may affect the surveyor's ability to detect burrowing owls, therefore, avoid conducting surveys when wind speed is >20 km/hr, and there is precipitation or dense fog. Surveys have greater detection probability if conducted when ambient temperatures are >20° C, <12 km/hr winds, and cloud cover is <75% (Conway et al. 2008).

*Time of day.* Daily timing of surveys varies according to the literature, latitude, and survey method. However, surveys between morning civil twilight and 10:00 AM and two hours before sunset until evening civil twilight provide the highest detection probabilities (Barclay pers. comm. 2012, Conway et al. 2008).

*Alternate methods.* If the project site is large enough to warrant an alternate method, consult current literature for generally accepted survey methods and consult with the Department on the proposed survey approach.

*Additional breeding season site visits.* Additional breeding season site visits may be necessary, especially if non-breeding season exclusion methods are contemplated. Detailed information, such as approximate home ranges of each individual or of family units, as well as foraging areas as related to the proposed project, will be important to document for evaluating impacts, planning avoidance measure implementation and for mitigation measure performance monitoring.

Adverse conditions may prevent investigators from determining presence or occupancy. Disease, predation, drought, high rainfall or site disturbance may preclude presence of burrowing owls in any given year. Any such conditions should be identified and discussed in the survey report. Visits to the site in more than one year may increase the likelihood of detection. Also, visits to adjacent known occupied habitat may help determine appropriate survey timing.

Given the high site fidelity shown by burrowing owls (see Appendix A, Importance of burrows), conducting surveys over several years may be necessary when project activities are ongoing, occur annually, or start and stop seasonally. (See Negative surveys).

### **Non-breeding Season Surveys**

If conducting non-breeding season surveys, follow the methods described above for breeding season surveys, but conduct at least four (4) visits, spread evenly, throughout the non-breeding season. Burrowing owl experts and local Department staff are available to assist with interpreting results.

### **Negative Surveys**

Adverse conditions may prevent investigators from documenting presence or occupancy. Disease, predation, drought, high rainfall or site disturbance may preclude presence of burrowing owl in any given year. Discuss such conditions in the Survey Report. Visits to the site in more than one year increase the likelihood of detection and failure to locate burrowing owls during one field season does not constitute evidence that the site is no longer occupied, particularly if adverse conditions influenced the survey results. Visits to other nearby known occupied sites can affirm whether the survey timing is appropriate.

### **Take Avoidance Surveys**

Field experience from 1995 to present supports the conclusion that it would be effective to complete an initial take avoidance survey no less than 14 days prior to initiating ground disturbance activities using the recommended methods described in the Detection Surveys section above. Implementation of avoidance and minimization measures would be triggered by positive owl presence on the site where project activities will occur. The development of avoidance and minimization approaches would be informed by monitoring the burrowing owls.

Burrowing owls may re-colonize a site after only a few days. Time lapses between project activities trigger subsequent take avoidance surveys including but not limited to a final survey conducted within 24 hours prior to ground disturbance.

## **Survey Reports**

Report on the survey methods used and results including the information described in the Summary Report and include the reports within the CEQA documentation:

1. Date, start and end time of surveys including weather conditions (ambient temperature, wind speed, percent cloud cover, precipitation and visibility);
2. Name(s) of surveyor(s) and qualifications;
3. A discussion of how the timing of the survey affected the comprehensiveness and detection probability;
4. A description of survey methods used including transect spacing, point count dispersal and duration, and any calls used;
5. A description and justification of the area surveyed relative to the project area;
6. A description that includes: number of owls or nesting pairs at each location (by nestlings, juveniles, adults, and those of an unknown age), number of burrows being used by owls, and burrowing owl sign at burrows. Include a description of individual markers, such as bands (numbers and colors), transmitters, or unique natural identifying features. If any owls are banded, request documentation from the BBL and bander to report on the details regarding the known history of the banded burrowing owl(s) (age, sex, origins, whether it was previously relocated) and provide with the report if available;
7. A description of the behavior of burrowing owls during the surveys, including feeding, resting, courtship, alarm, territorial defense, and those indicative of parents or juveniles;
8. A list of possible burrowing owl predators present and documentation of any evidence of predation of owls;
9. A detailed map (1:24,000 or closer to show details) showing locations of all burrowing owls, potential burrows, occupied burrows, areas of concentrated burrows, and burrowing owl sign. Locations documented by use of global positioning system (GPS) coordinates must include the datum in which they were collected. The map should include a title, north arrow, bar scale and legend;
10. Signed field forms, photos, etc., as appendices to the field survey report;
11. Recent color photographs of the proposed project or activity site; and
12. Original CNDDDB Field Survey Forms should be sent directly to the Department's CNDDDB office, and copies should be included in the environmental document as an appendix. (<http://www.dfg.ca.gov/bdb/html/cnddb.html> ).

## **Appendix E. Example Components for Burrowing Owl Artificial Burrow and Exclusion Plans**

Whereas the Department does not recommend exclusion and burrow closure, current scientific literature and experience from 1995 to present, indicate that the following example components for burrowing owl artificial burrow and exclusion plans, combined with consultation with the Department to further develop these plans, would be effective.

### **Artificial Burrow Location**

If a burrow is confirmed occupied on-site, artificial burrow locations should be appropriately located and their use should be documented taking into consideration:

1. A brief description of the project and project site pre-construction;
2. The mitigation measures that will be implemented;
3. Potential conflicting site uses or encumbrances;
4. A comparison of the occupied burrow site(s) and the artificial burrow site(s) (e.g., vegetation, habitat types, fossorial species use in the area, and other features);
5. Artificial burrow(s) proximity to the project activities, roads and drainages;
6. Artificial burrow(s) proximity to other burrows and entrance exposure;
7. Photographs of the site of the occupied burrow(s) and the artificial burrows;
8. Map of the project area that identifies the burrow(s) to be excluded as well as the proposed sites for the artificial burrows;
9. A brief description of the artificial burrow design;
10. Description of the monitoring that will take place during and after project implementation including information that will be provided in a monitoring report.
11. A description of the frequency and type of burrow maintenance.

### **Exclusion Plan**

An Exclusion Plan addresses the following including but not limited to:

1. Confirm by site surveillance that the burrow(s) is empty of burrowing owls and other species preceding burrow scoping;
2. Type of scope and appropriate timing of scoping to avoid impacts;
3. Occupancy factors to look for and what will guide determination of vacancy and excavation timing (one-way doors should be left in place 48 hours to ensure burrowing owls have left the burrow before excavation, visited twice daily and monitored for evidence that owls are inside and can't escape i.e., look for sign immediately inside the door).
4. How the burrow(s) will be excavated. Excavation using hand tools with refilling to prevent reoccupation is preferable whenever possible (may include using piping to stabilize the burrow to prevent collapsing until the entire burrow has been excavated and it can be determined that no owls reside inside the burrow);
5. Removal of other potential owl burrow surrogates or refugia on site;
6. Photographing the excavation and closure of the burrow to demonstrate success and sufficiency;

7. Monitoring of the site to evaluate success and, if needed, to implement remedial measures to prevent subsequent owl use to avoid take;
8. How the impacted site will continually be made inhospitable to burrowing owls and fossorial mammals (e.g., by allowing vegetation to grow tall, heavy disking, or immediate and continuous grading) until development is complete.

- Vegetation reduction or ground disturbance timing, extent, and configuration should avoid take. While local ordinances may require fire prevention through vegetation management, activities like disking, mowing, and grading during the breeding season can result in take of burrowing owls and collapse of burrows, causing nest destruction. Consult the take avoidance surveys section above for pre-management avoidance survey recommendations;
- Promote natural prey distribution and abundance, especially in proximity to occupied burrows; and
- Promote self-sustaining populations of host burrowers by limiting or prohibiting lethal rodent control measures and by ensuring food availability for host burrowers through vegetation management.

Refer to Rosenberg et al. (2009) for a good discussion of managing grasslands for burrowing owls.

### **Mitigation Site Success Criteria**

In order to evaluate the success of mitigation and management strategies for burrowing owls, monitoring is required that is specific to the burrowing owl management plan. Given limited resources, Barclay et al. (2011) suggests managers focus on accurately estimating annual adult owl populations rather than devoting time to estimating reproduction, which shows high annual variation and is difficult to accurately estimate. Therefore, the key objective will be to determine accurately the number of adult burrowing owls and pairs, and if the numbers are maintained. A frequency of 5-10 years for surveys to estimate population size may suffice if there are no changes in the management of the nesting and foraging habitat of the owls.

Effective monitoring and evaluation of off-site and on-site mitigation management success for burrowing owls includes (Barclay, pers. comm.):

- Site tenacity;
- Number of adult owls present and reproducing;
- Colonization by burrowing owls from elsewhere (by band re-sight);
- Evidence and causes of mortality;
- Changes in distribution; and
- Trends in stressors.



**APPENDIX R**  
**CEQA/CUP Permit of Responsibilities Table**

## Appendix R

### Beacon Mitigation Measures Responsibilities

Seller agrees that Seller shall, at Seller's expense, comply with the obligations listed as the responsibility of the "Developer" in the following table. Furthermore, Seller agrees that Seller shall, at Seller's expense, comply with all terms and conditions of the CUP (Appendix O), unless DWP is specifically listed below as having responsibility for any particular item in the CUP. For items listed below where the responsibility is listed as "joint" or "both", responsibility and payment obligations shall be as listed in the "comments" field for the particular item. [NOTE: This table is not finalized and is subject to change by DWP]

#	Requirements	Responsibility	Comments
<b>Aesthetics</b>			
1	Clear debris from site at least 2x per year and as requested by residents.	Developer	Annual reporting to Kern County
2	Install metal fence slats on perimeter fencing adjacent to residential uses.	Developer	
3	<ul style="list-style-type: none"> <li>• Drought-tolerant plants along fence line where adjacent to residential uses.</li> <li>• Landscape re-vegetation and restoration plan for project site.</li> </ul>	Developer	Annual monitoring and report submittal to Kern County for 3 years.
4	Lighting kept to a minimum	Developer	
5	Non-reflective materials on buildings	Developer	
6	Solar panels and hardware to minimize glare.	Developer	
<b>Air Quality</b>			
7	Dust control measures	Developer	
8	Equipment requirements	Developer	
9	Engine requirements	Developer	
10	Road stabilization and speed limits including signage at site entrances and at egress points from central maintenance complex.	Developer	Main access road to be paved by DWP. Speed limit signs on this road at main entrance will be installed by DWP.
11	Worker education program regarding pollutants and Valley Fever.	Developer	
<b>Biological Resources</b>			
12	Incidental Take Permit for Desert Tortoise and Mohave Ground Squirrel.	DWP	Developers must comply with all permit conditions.
13	Retain a lead biologist to oversee compliance with protection measures. Must be on-site <u>during all fencing and ground disturbance activities throughout the construction phase.</u>	DWP	Lead biologist also required by the Take permit, which we are getting.
14	Construction Worker Environmental Awareness training developed and presented by the lead biologist.	Both	DWP will develop and give the training, but developers will need to arrange for the training for their workers.
15	<ul style="list-style-type: none"> <li>• Requirements of the training.</li> <li>• Construction crews and contractors are responsible for unauthorized impacts outside the</li> </ul>	Both	DWP will do the training.

#	Requirements	Responsibility	Comments
	areas defined.		
16	Anticipated impact zones will be delineated with stakes and flagging prior to construction.	Developer	
17	New and existing roads will be within the planned impact area.	Developer	
18	Stockpiles in disturbed areas. Standard BMPs to prevent erosion.	Developer	
19	Fueling of equipment on paved roads. Equipment checked for leaks.	Developer	
20	Construction monitored by the lead biologist or biological monitors under their supervision.	Joint	DWP will provide the lead biologist, but each developer will provide their own qualified biological monitors. DWP will have the lead biologist onsite during the entire construction. Developers may also need to provide their own qualified biologist.
21	Prevent introduction of exotic plant species.	DWP	Measures include Track-clean or other method of vehicle cleaning coming and going from the site.
22	Transmission line corridor requirements.	DWP	We are installing the line.
23	As required by the Incidental Take Permit: <ul style="list-style-type: none"> <li>• Entire site to be fenced with a permanent desert tortoise exclusion fence.</li> <li>• Fence inspected monthly.</li> <li>• Clearance surveys after installation of the fence.</li> <li>• Requirements if a tortoise is found onsite after fencing.</li> <li>• Requirements for outside the fencing.</li> <li>• On-going monitoring required.</li> <li>• Reporting requirements.</li> <li>• Common Raven Management Plan.</li> </ul>	Joint	DWP will provide lead biologist. Developers will have their own monitors. DWP will develop the Raven Plan, with which the developers must comply.
24	Desert tortoise requirements for O & M	Developer	
25	Desert tortoise requirements for decommissioning	Developer	
26	Western Burrowing Owl requirements. <ul style="list-style-type: none"> <li>• Lead biologist to be onsite during all activities in potential habitat.</li> <li>• Preconstruction surveys.</li> <li>• If owls are detected, a Burrowing Owl Exclusion Plan is needed by the lead biologist.</li> </ul>	Joint	DWP will provide the lead biologist, who will prepare the Burrowing Owl Exclusion Plan if needed. Developers will need to have their own biologist for surveys.
27	Compensatory mitigation for burrowing owls.	DWP	20 acres of burrowing owl habitat will be provided.
28	Compensatory mitigation for desert tortoise and Mohave ground squirrel.	DWP	9.9 acres for impacts west of SR14 and 100 acres for take of 2 squirrels east of SR14
29	Preconstruction nesting bird survey and	Developer	

#	Requirements	Responsibility	Comments
	avoidance of active nests.		
30	Preconstruction surveys for American badger or desert kit fox dens prior to installation of desert tortoise exclusion fencing.	Developer	
31	Raven Management Plan <ul style="list-style-type: none"> <li>ID all nests</li> <li>Weekly inspection under all nests for evidence of tortoise predation</li> <li>Trash management so ravens won't be attracted to site</li> <li>Possible compensation through fees not to exceed \$150 per disturbed acre</li> </ul>	Joint	DWP will prepare the Raven Management Plan, but the developer will need to comply with it including performing the monitoring.  If fees are necessary, DWP will pay them.
32	Streambed Alteration Agreement	DWP	We will obtain the SAA, but developers will need to comply with all conditions.
33	<ul style="list-style-type: none"> <li>Measures to minimize impact to riparian habitat and jurisdictional waters</li> <li>Work within the washes to avoid periods of flowing water</li> <li>Compensatory mitigation for the Arizona crossings onsite or offsite</li> <li>If onsite, Habitat Mitigation and Monitoring Plan</li> </ul>	Joint	DWP will provide compensatory mitigation and if needed, Habitat Mitigation and Monitoring Plan.
34	Measures for construction and installation of power lines. Must comply with the 2006 Avian Power Line Interaction Committee Guidelines.	DWP	
<b>Cultural Resources</b>			
35	Retain a qualified archaeologist to carry out all mitigation measures. Archaeo monitor and Native American monitor also needed.	Developer	DWP will provide the reports to them.
36	CA-KER-8156 Avoidance within 50 feet or data recovery and curation	Developer	This site is in Site 2. All reports and documentation will be provided to DWP.
37	CA-KER-7853 Avoidance within 50 feet or data recovery and curation	Developer	This site is in Site 2. All reports and documentation will be provided to DWP.
38	CA-KER-7854 Avoidance within 50 feet or data recovery and curation	Developer	This site is in Site 2. All reports and documentation will be provided to DWP.
39	CA-KER-7855 Avoidance within 50 feet or data recovery and curation	Developer	This site is in Site 2. All reports and documentation will be provided to DWP.
40	CA-KER-7848 Avoidance within 50 feet or data recovery and curation	Developer	This site is in Site 1. All reports and documentation will be provided to DWP.
41	CA-KER-3366H Avoidance within 50 feet or data recovery and curation	Developer	This site is the railroad, which divides Sites 4 and 5. All reports and documentation will be

#	Requirements	Responsibility	Comments
			provided to DWP.
42	CA-KER-7852/H Avoidance within 50 feet or data recovery and curation	DWP	This site is west of SR 14. All reports and documentation will be provided to DWP.
43	CA-KER-8286 Avoidance within 50 feet or data recovery and curation	Developer	This site is believed to be in Site 1. All reports and documentation will be provided to DWP.
44	Construction Worker Environmental and Cultural Awareness Training Program prepared and presented by a qualified archaeologist	Developer	DWP will share its plan, but each developer is responsible for training their workers.
45	Monitoring within 100 feet of above resources except the railroad and within landforms Hf1, Hf1d, Hf2, and Hf4.	Developer	Landforms are in Sites 1, 2, 3, and 4.
46	Measures if cultural resources are encountered	Developer	
47	Qualified paleontologist to monitor all ground-disturbing activity 5 feet or deeper below ground surface. Preparation of report.	Developer	Reports will be provided to DWP.
48	Measures if human remains are uncovered.	Developer	DWP, as landowner, would need to confer with most likely descendent if Native American remains.
<b>Geology and Soils</b>			
49	Project will be designed by a geotechnical engineer to withstand earthquakes.	Developer	
50	Grading will be minimized and grading plan will be reviewed by a CA registered engineer.	Developer	
51	Soil Erosion and Sedimentation Control Plan	Developer	
52	Comply with Kern County Grading Ordinance	Developer	
53	Get permits for septic system and leach fields associated with the O & M building	Developer	
<b>Hazards and Hazardous Materials</b>			
54	Hazardous Materials Business Plan	Developer	
55	Requirements regarding herbicide use	Developer	
56	Requirements regarding asbestos if found	Developer	
<b>Hydrology and Water Quality</b>			
57	Stormwater Pollution Prevention Plan and applicable permits from the Lahontan Regional Board	Joint	DWP will get the WDR permit, but each developer must develop their own SWPPP based on a template provided by DWP.
58	Drainage plan requirements	Developer	
<b>Land Use and Planning</b>			
59	Decommission Plan	Developer	
60	Coordinate with Department of Defense Frequency Management Office regarding use of telemetry to avoid potential frequency conflicts with military operations	Developer	
<b>Mineral Resources</b>			

#	Requirements	Responsibility	Comments
61	Procedures if a mineral rights holder submits documentation of their legal right of surface entry to Kern County prior to issuance of building permits	DWP	
<b>Noise</b>			
62	Procedures to reduce noise for construction that occurs within .5 miles of a residence.	Developer	
63	Construction hours will comply with the Kern County Noise Ordinance	Developer	
<b>Public Services</b>			
64	Fees for impacts to countywide public services (fire and police) to be paid annually	Developer	
65	Fire safety plan for construction and operation	Developer	
<b>Traffic and Transportation</b>			
66	<ul style="list-style-type: none"> <li>• Construction Traffic Control Plan requirements</li> <li>• Obtain permits for work in the ROW or for oversized vehicles</li> <li>• Enter into a secure agreement with Kern County to ensure any damaged roads are repaired</li> <li>• Pre-construction video log and inspection log of road conditions</li> <li>• Post-construction video log and inspection log of road conditions</li> </ul>	DWP	DWP will do the pre- and post-construction video and inspection logs and ensure any damage to the roads is repaired.
67	Consult with Caltrans to construct a southbound acceleration lane on SR 14	DWP	
68	Obtain necessary permits and approvals from Union Pacific Railroad	DWP	
<b>Utilities and Service Systems</b>			
69	<ul style="list-style-type: none"> <li>• Submit a revised site plan illustrating the location of all water wells and a 10-foot no-build area around each well</li> <li>• Obtain reactivated well permits for the wells to be used to monitor GW and provide water</li> </ul>	DWP	
70	Recycle to the extent possible and have a recycling coordinator	Developer	

**APPENDIX S**  
**Incidental Take Permit Responsibilities List**

## Appendix S

### Beacon Incidental Take Permit Responsibilities

Seller agrees that Seller shall, at Seller's expense, comply with the obligations listed as the responsibility of the "Developer" in the following table. Furthermore, Seller agrees that Seller shall, at Seller's expense, comply with all terms and conditions of the Incidental Take Permit (ITP) No. 2081-2012-039-04 (Appendix P), unless DWP is specifically listed below as having responsibility for any particular item in the ITP. For items listed below where the responsibility is listed as "joint" or "both", responsibility and payment obligations shall be as listed in the "comments" field for the particular item. [NOTE: This table is not finalized and is subject to change by DWP]

#		<i>Responsibility</i>	<i>Comments</i>
1	Legal Compliance	Joint	
2	CEQA Compliance	Joint	
3	LSA Agreement Compliance	Joint	
4	ITP Time Frame Compliance	Joint	
<b>5. General Provisions</b>			
5.1	Designated Representative	DWP	
5.2	Designated Biologist	DWP	
5.3	Designated Biologist Authority	DWP	
5.4	Education Program	DWP	
5.5	Construction Monitoring Notebook	DWP	
5.6	Trash Abatement	Joint	Developers to comply
5.7	Dust Control	Joint	Developers to comply
5.8	Erosion Control Materials	Joint	Developers to comply
5.9	Delineation of Property Boundaries	Joint	
5.10	Delineation of Habitat	Joint	
5.11	Project Access	Joint	
5.11	Staging Areas	Joint	
5.13	Hazardous Waste	Joint	
5.14	CDFW Access	DWP	
5.15	Refuse Material	Joint	
<b>6. Monitoring, Notification and Reporting Provisions</b>			
6.1	Notification Before Commencement	DWP	
6.2	Notification of Non-compliance	DWP	
6.3	Compliance Monitoring	Joint	Developer's biologist to coordinate with DWP's lead biologist
6.4	Quarterly Compliance Report	Joint	Developer's biologist to coordinate with DWP's lead biologist
6.5	Annual Status Report	DWP	
6.6	CNDDDB Observations	Joint	Developer's biologist to provide information to DWP's lead biologist
6.7	Final Mitigation Report	Joint	Developer's biologist to provide information to DWP's lead biologist
6.8	Notification of Take or Injury	Joint	Developer's biologist to provide information to DWP's lead biologist
<b>7. Take Minimization Activities</b>			
7.1	Construction Activities	Joint	
7.2	Road Construction	Joint	



#		<i>Responsibility</i>	<i>Comments</i>
7.3	Transmission Line Construction	Joint	
7.4	Conductor Stringing	Joint	
7.5	Covered Species Inspections	Joint	
7.6	Translocation Plan	Joint	DWP will provide the Translocation Plan. Developer will need to comply with Plan.
7.7	Desert Tortoise Translocation Plan Guidelines	Joint	DWP currently applying for the Federal Take Permit of the Desert Tortoise and Mohave Ground Squirrel. Developer will need to comply
7.8	Desert Tortoise Handling Procedures	Joint	DWP's lead biologist will be the Designated Biologist. Developer's biologist will need to coordinate with DWP's lead biologist.
7.9	Desert Tortoise Handling Records	Joint	DWP's lead biologist will be the Designated Biologist. Developer's biologist will need to coordinate with DWP's lead biologist.
7.10	Pre-construction Surveys	Joint	Developer's biologist will need to coordinate with DWP's lead biologist.
7.11	Temporary Exclusion Fencing	Joint	
7.12	Exclusion Fencing Installation	Joint	
7.13	Permanent Exclusion Fencing	Developer	
7.14	Clearance Surveys	Joint	Developer's biologist will need to coordinate with DWP's lead biologist.
7.15	Excavate Burrows	Joint	Developer's biologist will need to coordinate with DWP's lead biologist.
7.16	DFG Notification for Desert Tortoise Nests	Joint	Developer's biologist will need to coordinate with DWP's lead biologist.
7.17	Mohave Ground Squirrel Handling Records	Joint	Developer's biologist will need to coordinate with DWP's lead biologist.
7.18	Covered Species Avoidance	Joint	Developer's biologist will need to coordinate with DWP's lead biologist.
7.19	Daily Entrapment Inspections	Joint	Developer's biologist will need to coordinate with DWP's lead biologist.
7.20	Covered Species Injury	Joint	Developer's biologist will need to coordinate with DWP's lead biologist.
7.21	As-built Plans	Joint	
7.22	Contribution to the Raven Management Plan	DWP	
7.23	O&M Personnel Requirements	Joint	Developer to coordinate with DWP
7.24	O&M Vehicle Access	Joint	
7.25	O&M Activity Location	Joint	
7.26	O&M Activity Requirements	Joint	
7.27	O&M Pre-Activity Surveys	Joint	Developer's biologist will need to coordinate with DWP's lead biologist.
7.28	O&M Activity Covered Species Avoidance	Joint	
7.29	O&M Activity Daily Entrapment Inspections	Joint	
7.30	O&M Activity Covered	Joint	
7.31	O&M Buffer	Joint	

#		<i>Responsibility</i>	<i>Comments</i>
7.32	Road Repair	Joint	
7.33	Reconditioning	Joint	
7.34	Herbicide Use	Joint	
7.35	Rodenticides	Joint	
7.36	Decommissioning Plan	Joint	
7.37	Decommissioning Activity Location	Joint	
<b>8. Habitat Management Land Acquisition</b>			
8.1	Cost Estimates	DWP	
8.2	Covered Species Credits	DWP	
8.3	Habitat Acquisition and Protection	DWP	
8.4	Endowment Fund	DWP	
8.5	Reimburse CDFW	DWP	
<b>9. Performance Security</b>			
9.1	Security Amount	DWP	
9.2	Security Form	DWP	
9.3	Security Timeline	DWP	
9.4	Security Holder	DWP	
9.5	Security Transmittal	DWP	
9.6	Security Drawing	DWP	
9.7	Security Release	DWP	

**APPENDIX T**  
**Streambed Permit Responsibilities List**

## Appendix T

### Beacon Streambed Alteration Agreement Responsibilities

Seller agrees that Seller shall, at Seller's expense, comply with the obligations listed as the responsibility of the "Developer" in the following table. Furthermore, Seller agrees that Seller shall, at Seller's expense, comply with all terms and conditions of the Streambed Alteration Agreement Notification No. 1600-2012-0088-R4 (Appendix Q), unless DWP is specifically listed below as having responsibility for any particular item in the Streambed Agreement. For items listed below where the responsibility is listed as "joint" or "both", responsibility and payment obligations shall be as listed in the "comments" field for the particular item. [NOTE: This table is not finalized and is subject to change by DWP]

#	<i>Measures to Protect Fish and Wildlife</i>	<i>Responsibility</i>	<i>Comments</i>
<b>1. Administrative Measures</b>			
1.1	Documentation at Project Site	DWP	
1.2	Providing Agreement to Persons at Project Site	DWP	DWP to provide to Developer
1.3	Notification of Conflicting Measures	DWP	
1.4	Project Site Entry	DWP	
1.5	Legal Obligations	DWP	
1.6	Unauthorized Take	Joint	
1.7	Water Diversion	Joint	
1.8	Trespass	DWP	
1.9	Construction/Work Schedule	DWP	Developer to provide DWP construction and work schedule. DWP to submit to CDFW.
1.10	Training	DWP	DWP will develop a program and the developer's biologist will implement DWP's program. Developer must keep records of training and provide to DWP.
<b>2. Avoidance and Minimization Measures</b>			
2.1	Construction/Work Hours	Joint	
2.2	Flagging/Fencing	Developer	
2.3 (a)	Listed, Fully-Protected, and Special Status Species	Joint	
2.3 (b)	Listed, Fully-Protected, and Special Status Species	Joint	
2.3 (c)	Listed, Fully-Protected, and Special Status Species	Joint	Developer's biologist shall notify DWP's Lead Biologist. Developer's biologist must go through DWP for all inquires with CDFW and other agencies.
2.3 (d)	Listed, Fully-Protected, and Special Status Species – Pre-activity Surveys	Developer	
2.3 (e)	Listed, Fully-Protected, and Special Status Species – Desert Tortoise and Mohave Ground Squirrel	Joint	DWP holds the agreement but Developer will need to comply. Developer's biologist to coordinate with DWP's Lead Biologist.
2.3 (f)	Listed, Fully-Protected, and Special Status Species – Desert Kit Fox	Joint	DWP holds the agreement but Developer will need to comply.

#	Measures to Protect Fish and Wildlife	Responsibility	Comments
			Developer's biologist to coordinate with DWP's Lead Biologist.
2.3 (g)	Listed, Fully-Protected, and Special Status Species – Burrowing Owl	Joint	DWP holds the agreement but Developer will need to comply. Developer's biologist to coordinate with DWP's Lead Biologist. Developer's biologist will do a Burrowing Owl Survey.
2.4 wildlife (a)	Exit construction area	Joint	
2.4 wildlife (b)	Golden Eagle, non-listed Raptors, Other Avian Species	Joint	This provision will require coordination between DWP and Developer for overlapping areas of responsibility
2.5 (a)	Vegetation	Developer	
2.5 (b)	Vegetation	Developer	
2.5 (c)	Vegetation	Developer	
2.6 (a)	Vehicles	Joint	
2.6 (b)	Vehicles	Joint	
2.6 (c)	Vehicles	Joint	
2.6 (d)	Vehicles	Joint	
2.6 (e)	Vehicles	Joint	
2.7	Structures	Joint	
2.8 (a)	Fill/Spoil	Joint	
2.8 (b)	Fill/Spoil	Joint	
2.9 (a)	Erosion	Joint	
2.9 (b)	Erosion	Joint	
2.9 (c)	Erosion	Joint	
2.10 (a)	Pollution	Joint	
2.10 (b)	Pollution	Joint	
2.10 (c)	Pollution	Joint	
2.10 (d)	Pollution	Joint	
2.11	Voids in Energy Dissipaters and Rip-Rap	Joint	
2.12	Construction Activities	Joint	
<b>3. Compensatory Measures</b>			
3.1	Revegetation and Restoration	Joint	DWP will prepare the Revegetation Plan and the Developer is responsible for implementing the plan.
3.2	Mojave Desert Wash Scrub Compensation	Joint	DWP will prepare a Mojave Desert Wash Scrub Replacement Plan and the Developer is responsible for implementing the plan.
<b>4. Reporting Measures</b>			
4.1 (a)	Obligations of the Permittee	DWP	
4.1 (b)	Implementation and Monitoring of Measures	Developer	Developer's biologist shall ensure implementation of the Measures of the Agreement and shall monitor the

#	<i>Measures to Protect Fish and Wildlife</i>	<i>Responsibility</i>	<i>Comments</i>
			effectiveness of these Measures. The Developer's biologist shall coordinate these efforts with DWP's Lead Biologist.
4.2	Reports	Joint	DWP will submit Reports to CDFW. Developer's biologist to provide information to DWP.

**APPENDIX U**  
**Guaranteed Generation**

	<b>Expected Generation</b>	<b>Guaranteed Generation</b>
Year 1	143,503.7	121,978.2
Year 2	142,786.2	121,368.3
Year 3	142,072.3	120,761.4
Year 4	141,361.9	120,157.6
Year 5	140,655.1	119,556.8
Year 6	139,951.8	118,959.0
Year 7	139,252.1	118,364.3
Year 8	138,555.8	117,772.4
Year 9	137,863.0	117,183.6
Year 10	137,173.7	116,597.7
Year 11	136,487.8	116,014.7
Year 12	135,805.4	115,434.6
Year 13	135,126.4	114,857.4
Year 14	134,450.7	114,283.1
Year 15	133,778.5	113,711.7
Year 16	133,109.6	113,143.2
Year 17	132,444.0	112,577.4
Year 18	131,781.8	112,014.6
Year 19	131,122.9	111,454.5
Year 20	130,467.3	110,897.2
Year 21	129,815.0	110,342.7
Year 22	129,165.9	109,791.0
Year 23	128,520.1	109,242.1
Year 24	127,877.5	108,695.8
Year 25	127,238.1	108,152.4

**APPENDIX V**

**34.5 kV Collection System Design for the Beacon Solar Project and Transmission Design**



**Beacon Solar Generation Collection System**  
**34.5kV Distribution Circuit Design Material**  
**And Equipment Specifications**

**Electrical**

**1. Grounding**

LADWP shall provide and install grounding for the collector system in maintenance holes, riser poles, and LADWP-maintained pad mounted equipment.

In all riser poles: LADWP will connect all CLP cable shield wires together at the terminations point to the mounting bracket and bond together with the ground terminals with #2 AWG 600 Volt copper cable.

In all maintenance holes, LADWP will connect all Cross-Linked Polyethylene (CLP) cable shield wires together at joints and connect to the maintenance hole ground rod using 2/0 AWG copper wires.

In all switch pads: LADWP will connect all CLP cable shield wires together to the ground terminals with 2/0 AWG copper wires.

In all grounding transformer pads: LADWP will connect all CLP cable shield wires together at the terminations and connect to 4/0 AWG Neutral wire and to ground terminals using 2/0 AWG copper wires.

All LADWP installed grounding shall be designed for a maximum resistance to ground of 2 ohms and conform to the National Electrical Code (NEC).

**2. Collection System**

Los Angeles Department of Water and Power (LADWP) shall design, procure, supply, install and construct the electrical infrastructure necessary for the transmission of the electrical energy from each solar array block (up to 25-30MW per circuit) to the substation, including 34.5kV underground cables and overhead lines, complete with maintenance holes, splices and other hardware as necessary, from each of the solar array block locations as shown in the site plan and additional requirements.

The Project's electrical collection system voltage system shall be 34.5kV. The electrical collection system shall be installed underground at the end points of each collector circuit and installed overhead throughout the project site.

The 34.5kV collection system shall be designed and constructed according to LADWP Distribution Constructions Standards. This will ensure that the system is designed for long life, ease and economical operation and maintenance. The entire collection system

shall be accessible by LADWP trucks for operations and maintenance. All system components shall be replaceable, including: cables, splices, poles, wires, transformers, and pad mounted equipment. The final design of the collection system shall be reviewed and approved by LADWP.

The electrical collection system shall consist of approximately ten (10) main circuits that terminate at the Point Of Interconnection (POI). The POI of each circuit is the 34.5kV pad mounted SF6 vista switchgear located near each solar array block. Each circuit shall be loaded no more than 30 MW per circuit. The LADWP is responsible for installing and testing the entire electrical collection system from the power circuit breaker in the substation to the POI.

The underground portion of the collector system will feed two 34.5kV circuits, two 4/0 bare copper wires, and a fiber optic communication cable to each solar block POI.

All terminations shall use 600A bushings (dead-break), no 200A (load-break) to be used. The standard-issue pad mounted vista switchgear contains a visible open window on all 600A bushings to be able to test dead and attach grounds in accordance with applicable Department safety rules.

LADWP shall design, engineer, procure, and construct the underground portion of the collection system with the following standard cable sizes of aluminum compressed conductor and strand-filled (3-1C)

- 1000 KCMIL
- 500 KCMIL
- 1/0 AWG

LADWP shall use standard splices (cold-shrink, pre molded, heat-shrink, disconnectables/vault stretchers). Splices shall be installed in underground maintenance holes or under SF6 switchgear, if needed.

The majority of the collection system shall consist of an overhead system and be designed in accordance with the G.O. 95 requirements and the National Electrical Safety Code.

The Beacon Solar area is approximately between 2,000 feet to 2,400 feet above sea-level and the maximum wind speed is approximately 100 mph. The poles shall be wooden, be seventy (70) feet high and have storm guying. The storm guying will be installed on each pole and consists of anchors perpendicular to the pole line with a twenty-five (25) foot lead in each direction with bollards surrounding the guy wires to protect them from vehicular traffic. The impact created by one pole line will require a minimum right-of-way of fifty (50) feet.

The LADWP wire size of all Aluminum Conductor shall be:

- 795 KCMIL AAC

Each pole line will carry a maximum of two (34.5kV) circuits of 795 KCMIL AAC, two 4/0 bare copper grounding wire, spacing for Southern California Edison (SCE) 12kV temporary and permanent services as may be provided for construction, and fiber optics cables.

SCE shall install their distribution line onto the LADWP collection system to provide temporary power to all five solar parcels and the collector station. It will be up to each solar parcel to contact and apply for temporary power to SCE.

Permanent power shall be determined by the needs of each solar parcel. Each solar parcel shall apply to SCE for permanent service if desired.

The overhead portion of the collector system will contain LADWP standard gang operated line switches to isolate the overhead from the underground and lightning surge arresters at each end of each 34.5kV circuit for protection of equipment and ease of operation and maintenance.

The fiber optic system will gain control of the output of the solar generation system via the collector substation and to the Energy Control Center (ECC). It will also provide the means for communicating vital operating information between the substation and each solar block.

### **3. Pad Mounted SF6 Vista Switches**

LADWP will procure, supply, install, and maintain two 34.5kV pad mounted SF6 vista switchgears model type 550 for each PPA and will be located at the POI. Each vista switchgear is rated to carry 25-30MW. At each switch, LADWP will furnish the 34.5kV cable and terminate at the outer-positions of the SF6 switchgear; one position will be for the collector circuit that leads to the substation and the other position will connect the grounding transformer.

The contractor shall be responsible to furnish up to three (3) 34.5kV cables as necessary to each SF6 switchgear from the solar arrays and make the terminations and LADWP shall land the cables onto the pad mounted switchgear. The terminations shall adhere to the vista switchgear specifications and this will mark the point of demarcation of ownership and operations and maintenance.

### **4. Pad Mounted Grounding Transformers**

LADWP will procure, supply, install, and maintain each 34.5kV grounding transformer as required to prevent voltages on unfaulted phases from rising to unacceptable levels when there is a line-to-ground fault on the collection system. A grounding transformer will be located adjacent to each pad mounted SF6 vista switch.

The grounding transformer shall be liquid-filled, copper-wound, pad mounted, compartmentalized grounding transformers. The grounding transformers shall be

designed to be approximately equivalent of a solidly-grounded two-winding transformer at 1500 kVA at 5.75% or 1000 kVA at 2.87%. The grounding transformer shall be resistively-grounded (or solidly grounded) wye on the primary and single point grounded delta on the secondary (600 V or less).

## **Civil**

### **1. Conduit**

LADWP will procure, supply, install, and maintain the electrical conduit and necessary equipment for the 34.5kV collection system. The conduit shall range between inside diameters of 4", 5", and 6". The 4" conduit shall be used for communications (fiber optic cable) and the 5" and 6" conduit shall be used for 34.5kV cables.

The LADWP collection system shall use conduit of type DB120.

Conduit shall be entirely encased in concrete at all field bends and five feet outside maintenance holes to a minimum depth of 30" below grade. Unless otherwise noted, conduits shall be direct-buried. Conduit trench shall be 95% compacted native backfill unless otherwise noted.

### **2. Maintenance Holes**

LADWP will procure, supply, install, and maintain the maintenance holes required for pulling 34.5kV cables.

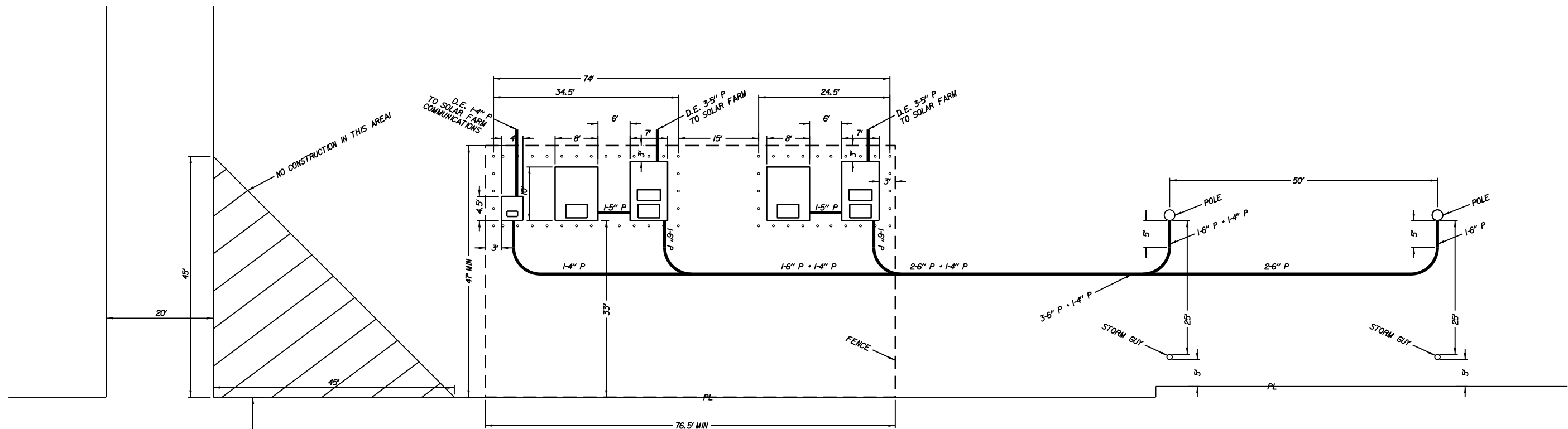
### **3. Switch, Transformer, & Communication Pads**

LADWP will procure, supply, install, and maintain the switch and transformer pads that will support the electrical equipment to properly operate the 34.5kV collection system. The switch pads that shall support the vista switchgear shall be 10 ft. x 10 ft. and the transformer pads that shall support the grounding transformer shall be 8 ft. x 10 ft. Each 50MW solar parcel will be provided a 4 ft. x 4.5 ft. communications pad to terminate fiber optics.

The switch, transformer, and communication pads shall be placed and distanced per LADWP setbacks. LADWP requires unobstructed access at all times for proper operations and maintenance. Each Power Purchase Agreement customer shall provide sufficient space and access for LADWP to place the necessary equipment to provide solar energy. The general layout of the switch and transformer pads, as well as placement and access is shown in the attached exhibit.

PRELIMINARY ONLY. SUBJECT TO CHANGE  
 EXCAVATION PERMIT NEEDED BEFORE  
 STARTING CONSTRUCTION.  
 DOES NOT CONTAIN REQUIREMENTS  
 OF OTHER JOINT TRENCH USERS.

# SPACE REQUIRED FOR POINT OF INTERCONNECTION (POI) 50 FT. X 80 FT. (UP TO 50MW)



FOR LOCATION OF EXISTING UNDERGROUND SUBSTRUCTURES, NOTIFY  
 THE UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA  
 TELEPHONE 1-(800)-227-2600  
 TWO (2) NORMAL WORKING DAYS IN ADVANCE OF EXCAVATING.

CH SUB MAP: \_\_\_\_\_  
 PERMIT LOG #: \_\_\_\_\_ PERMIT \_\_\_\_\_  
 ISSUED \_\_\_\_\_ EXPIRES \_\_\_\_\_

	SERVICE CENTER JOB LOCATION	SERVICE CENTER CONSTRUCTION	WR #:	CONST #:	PROJECT #:	NON-CONST #:
	<b>CITY OF LOS ANGELES</b> <b>DEPARTMENT OF WATER AND POWER</b> DISTRIBUTION ENGINEERING SECTION		<b>BEACON SOLAR</b> <b>POINT OF INTERCONNECTION</b> <b>UBS/PPA</b>			
	DESIGN	DRAFTING	SCALE 20':1"			
	OK	CHECKER				
APPROVED	DATE					SHEET / OF /

No.	DATE	INIT'L	REVISION	APP'V'D

**APPENDIX W**  
**Fugitive Dust Mitigation Plan (draft)**



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# Eastern Kern

Air Pollution Control District

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Glen E. Stephens, P.E.  
Air Pollution Control Officer

October 30, 2013

Mr. Eric C Hartman  
Power Engineering Manager  
Los Angeles Department of Water and Power  
111 North Hope Street, Room 1255  
Los Angeles, CA 90012

SUBJECT: Review of Proposed Fugitive Dust Emissions Control Plan for Beacon Solar Project

Dear Mr. Hartman:

Thank you for submittal of your Fugitive Dust Emission Control Plan. Pursuant to Rule 402.V.D.3, District staff has made the following findings upon review of your plan:

Yes	No	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	You have submitted name(s), address(es), and telephone number(s) of responsible person(s) for the preparation, submission and implementation of the plan;
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Description and location of operation is included in the plan;
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Large operation fugitive dust emissions sources have been listed; and
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Detailed descriptions of Reasonable Available Control Measures applied to each source and utilized during active operation have been submitted.

**NOTE:** If any item is checked "NO," the plan requires additional information for approval.

Based on our findings your fugitive dust plan has been:

Approved  
 Conditionally Approved with Attached Conditions  
 Disapproved

Sincerely,

Glen E. Stephens, P.E.  
Air Pollution Control Officer

GES:JC:tf

bc w/enc: Eric C. Hartman  
Jack R. Waizenegger  
Roberto M. Sarmiento  
Hou Yin (Joshua) Fong  
Edgar A. Perez

Mark J. Sedlacek  
Dat M. Quach  
Stephen B. Gallie  
FileNet ES13-0490

October 7, 2013

Mr. Glen Stephens, P.E.  
Air Pollution Control Officer  
Eastern Kern Air Pollution Control District  
2700 "M" Street, Suite 302  
Bakersfield, CA 93301-2370

Dear Mr. Stephens:

Subject: Los Angeles Department of Water and Power (LADWP)  
Resubmittal of Fugitive Dust Control Plan (Dust Plan) for the  
Beacon Solar Photovoltaic Project

Since the initial submittal of the Dust Plan, dated June 25, 2013, and in response to your letter, dated August 8, 2013 (Enclosure 1), the scope of LADWP's involvement in the Beacon Photovoltaic Project has significantly decreased. The area affected by LADWP's work has been reduced from 2,298 to 103 acres.

Based upon our telephone conversation on August 26, 2013, LADWP is resubmitting a revised Dust Plan (Enclosure 2) that reflects the new scope of the project, along with proposed dust mitigation control measures. If you have any questions or require additional information regarding this request, please call me at (213) 367-4697.

Sincerely,

ORIGINAL SIGNED  
DAT M. QUACH

Dat M. Quach  
Air Quality Manager

SBG:mt

Enclosures

cw/enc: Jeremiah Cravens - Eastern Kern Air Pollution Control District





ERIC GARCETTI  
*Mayor*

Commission  
THOMAS S. SAYLES, *President*  
ERIC HOLOMAN, *Vice President*  
RICHARD F. MOSS  
CHRISTINA E. NOONAN  
JONATHAN PARFREY  
BARBARA E. MOSCHOS, *Secretary*

RONALD O. NICHOLS  
*General Manager*

October 7, 2013

Mr. Glen Stephens, P.E.  
Air Pollution Control Officer  
Eastern Kern Air Pollution Control District  
2700 "M" Street, Suite 302  
Bakersfield, CA 93301-2370

Dear Mr. Stephens:

Subject: Los Angeles Department of Water and Power (LADWP)  
Resubmittal of Fugitive Dust Control Plan (Dust Plan) for the  
Beacon Solar Photovoltaic Project

Since the initial submittal of the Dust Plan, dated June 25, 2013, and in response to your letter, dated August 8, 2013 (Enclosure 1), the scope of LADWP's involvement in the Beacon Photovoltaic Project has significantly decreased. The area affected by LADWP's work has been reduced from 2,298 to 103 acres.

Based upon our telephone conversation on August 26, 2013, LADWP is resubmitting a revised Dust Plan (Enclosure 2) that reflects the new scope of the project, along with proposed dust mitigation control measures. If you have any questions or require additional information regarding this request, please call me at (213) 367-4697.

Sincerely,

A handwritten signature in black ink that reads "Dat M. Quach".

Dat M. Quach  
Air Quality Manager

SBG:mt  
Enclosures  
cw/enc: Jeremiah Cravens - Eastern Kern Air Pollution Control District

**Water and Power Conservation ... a way of life**

111 North Hope Street, Los Angeles, California 90012-2607 Mailing address: Box 51111, Los Angeles 90051-5700  
Telephone: (213) 367-4211 Cable address: DEWAPOLA





Eastern Kern  
Air Pollution Control District

Glen E. Stephens, P.E.  
Air Pollution Control Officer

August 8, 2013

Eric C. Hartman  
Power Engineering Manager  
Los Angeles Department of Water and Power  
111 North Hope Street Room 1255  
Los Angeles, CA 90012

SUBJECT: Fugitive Dust Emissions Control Plan for Los Angeles Department of Water Power  
Beacon Solar Energy Project

Dear Mr. Hartman:

The Eastern Kern Air Pollution Control District (District) is in receipt of your Fugitive Dust Emission Control Plan for the Los Angeles Department of Water Power (LADWP) Beacon Solar Energy Project. Pursuant to District Rule 402.V.D.3, your Fugitive Dust Control plan is insufficient as proposed and requires revisions.

Areas within the District's jurisdiction have been experiencing extreme drought and wind events over the past few years. Similar construction projects have resulted in major blowing sand/dust problems. The traditional land preparation process of scarifying and grading the entire construction site followed by an attempt to control blowing sand/dust with use of water trucks and fencing has proven to be ineffective and detrimental to the adjacent residences.

The District would like to see an alternative approach for controlling blowing sand/dust addressed in your revised dust control plan. An approvable plan would limit soil/vegetation disruption to possibly 5 acres of construction at a time with application of a soil binder, such as hydro mulch, as the site progresses. Any innovative ideas that would substantially reduce blowing sand/dust resulting from construction are welcome.

Should you have any questions please contact Jeremiah Cravens, Air Quality Specialist II at (661) 862-5250 or Cravensj@co.kern.ca.us.

Sincerely,

A handwritten signature in black ink, appearing to read "Glen Stephens", is written over a faint, illegible typed name.

Glen E. Stephens, P.E.  
Air Pollution Control Officer

GES:JC:tf


**EASTERN KERN AIR POLLUTION CONTROL DISTRICT**

2700 "M" STREET SUITE 302, BAKERSFIELD, CA 93301-2370

 PHONE: (661) 862-5250 • FAX: (661) 862-5251 • [www.kernair.org](http://www.kernair.org)
**FUGITIVE DUST CONTROL PLAN (Rule 402)**
**Qualifying Criteria (Check All That Apply)**

Project involves an activity capable of generating fugitive dust, including any open storage pile, earth-moving activity, construction/demolition activity, disturbed surface area, and non-emergency movement of motor vehicles on unpaved roadways and any parking lot served by an unpaved road.

A Fugitive Dust Plan was required to be submitted by A CEQA document, eg Negative Declaration, Mitigated Negative Declaration or Environmental Impact Report.

 Name of Document: N/A

 Name of Current Project: N/A

Project contains more than 100 contiguous acres of disturbed surface area.

Project involves any earth-moving activity exceeding a daily volume of 10,000 cubic yards three times during the most recent 365-day period?

**Project Name and Location**

 Project Name: Beacon Solar Project

 Project Address: Along SR-14, four miles north-northwest of California City, 15 miles north of Mojave.

 City: Kern - Los Angeles

 Section: 4, 7, 8, and 9

 Township: 31 South

 Range: 37 East

 Expected Start Date: January 1, 2014

 End Date: July 1, 2016
**Project Description (Not Required if Previously Submitted with ATC Application)**

The Beacon Solar Project will generate up to 250 Megawatts (MW) of electricity from solar photovoltaic (PV) panels on approximately 2,301-acre site (2,298 acres for the solar facility and 3.3 acres for the transmission line footprint. The Los Angeles Department of Water and Power (LADWP) will only be responsible for the following phases of construction. The total affected area is 103 acres.

Establish a new asphalt road (9.5 acres), clear area for offices and parking (9 acres), clear area for fueling area (2.1 acres), clear and establish staging and laydown area for So Cal Edison (30 acres),

Build a collector station (7 acres), spread excess soil from access road on the spreading grounds (20 acres), install 25 transmission power poles from Beacon Solar Collector to Barren Ridge Switching Station, including an access road (15 acres), install 2.5 miles of distribution power poles from the five solar sites to the collector station (10 acres).

**EASTERN KERN AIR POLLUTION CONTROL DISTRICT  
FUGITIVE DUST CONTROL PLAN (Rule 402)**

**Contacts**

Please list the persons responsible for the preparation, submission and implementation of plan

Who will have the primary responsibility for implementing this Dust Control Plan?

Primary Project Contact: Eric C. Hartman

Title: Power Engineering Manager

Company Name: Los Angeles Department of Water and Power

Address: 111 North Hope Street, Room 1255

City: Kern - Los Angeles

State: CA

Zip: 90012

Phone: 213-367-5098

Fax:

Cell: 213-792-4780

Contact Name:

Title:

Company Name:

Address:

City:

State:

Zip:

Phone:

Fax:

Cell:

This Dust Control Plan was prepared by:

Contact Name: Stephen B. Gallie

Title: Environmental Specialist

Company Name: Los Angeles Department of Water and Power

Address: 111 N. Hope St., Room 1050

City: Los Angeles

State: CA

Zip: 90012

Phone: 213-367-0471

Fax:

Cell:

**EASTERN KERN AIR POLLUTION CONTROL DISTRICT  
FUGITIVE DUST CONTROL PLAN (Rule 402)**

<b>Sources of Fugitive Dust and Reasonably Available Control Measures (RACM)</b>		
ATC No. (if applicable)	Description and Location of Fugitive Dust Source	List RACM for each Source
	*Please see attached RACM for more details*	
	Access Road (Main and Spur)	Water, crushed rock, and finally asphalt.
	ISS Office and Parking Fenced Area	Water, crushed rock.
	ISS Fueling Fenced Area	Water, crushed rock.
	DC&M and Edison Staging/Laydown Fenced Area	Water, crushed rock.
	DC&M and Edison Staging/Laydown Non-fenced Area	Water, soil binder.
	Collector Station	Water, crushed rock, asphalt on roads, concrete.
	Soil Spreading Grounds	Compaction and soil binder.
	Transmission Power Poles	Compaction and soil binder.
	Distribution Power Poles	Water and soil binder.

**EASTERN KERN AIR POLLUTION CONTROL DISTRICT  
FUGITIVE DUST CONTROL PLAN (Rule 402)**

**Draw Plot Plan**

Plot plan is attached or previously submitted with ATC application

Please see the attached map.

# ATTACHMENT TO ENCLOSURE 2

## Los Angeles Department of Water and Power Beacon Solar Photovoltaic Project Sources of Fugitive Dust and Reasonably Available Control Measures

Item	Description	Acreage	Dust Mitigation		
			Reasonably Available Control Measures	Duration	
			Start	Finish	
Access Road (Main and Spurs)	The new road will be 6 inches of asphalt pavement on top of 12 inches of crushed rock aggregate. The asphalt road will be 24 feet wide with 3 feet of crushed rock aggregate shoulders. Approximately 23,000 cubic yards of soil will be removed. 6,000 cubic yards will be used for the collector station, and 4,000 cubic yards will be exported. The remaining 13,000 cubic yards will be spread on the designated spreading grounds and compacted with water.	9.5	Water will be applied during compaction of the subgrade. Crushed rock material will be placed on the roads and compacted using water. Asphalt concrete will be placed on top of the crushed rock aggregate providing a non-erodible surface.	10/24/2013	6/6/2014
ISS Offices and Parking Fenced Area	The office and parking area will be cleared of the vegetation and 4 inches of crushed rock aggregate will be placed and compacted.	9.0	Water will be applied during compaction of the subgrade and crushed rock aggregate. The compacted crushed rock aggregate material will cover the soil. The crushed rock aggregate will be recompacted or replaced as needed.	12/4/2013	1/24/2014
ISS Fueling Fenced Area	The fueling area will be cleared of the vegetation and 4 inches of crushed rock aggregate will be placed and compacted.	2.1	Water will be applied during compaction of the subgrade and crushed rock aggregate. The compacted crushed rock aggregate material will cover the soil. The crushed rock aggregate will be recompacted or replaced as needed.	11/8/2013	11/29/2014
DC&M and Edison Staging/Laydown Fenced Area	The fenced area of the DC&M and Edison Staging/Laydown will be cleared of the vegetation and 4 inches of crushed rock aggregate will be placed and compacted.	4.0	Water will be applied during compaction of the subgrade and crushed rock aggregate. The compacted crushed rock aggregate material will cover the soil. The crushed rock aggregate will be recompacted or replaced as needed.	10/24/2013	3/7/2014
DC&M and Edison Staging/Laydown Non-Fenced Area	The non-fenced area will be used to store power poles and other material for the power collection system from the five solar power producing sites to the collector station. Vegetation in this area will be crushed as needed to accommodate material storage and power pole construction.	26.0	Water will be applied for control dust during active use of this area. Application of a soil binder will be utilized during inactive period.	10/24/2013	3/7/2014
Collector Station	The construction will be continuous for the collector station once construction starts. During grading operations, water will be used for soil compaction. 6,000 cubic yards of soil from the Access Road will be added for site grading. Approximately 80% of the site will be covered with either asphalt, concrete, or rock material.	7.0	Water will be applied during compaction of the subgrade and crushed rock aggregate. Asphalt pavement will be used on the roads. Aggregate rock will be used in the energized rack area. Concrete pavement will be used in the vicinity of the control house. All exposed soil areas will be compacted with water to a minimum of 85% relative compaction.	3/2/2014	10/17/2014
Soil Spreading Grounds	Spread and compact 13,000 cubic yards of soil from Access Road.	20.0	The soil will be compacted and soil binder will be applied.	10/24/2013	5/9/2014
Transmission Power Poles	Install 25 transmission power poles from Beacon Solar Collector Station to Barren Ridge Switching Station. The poles will be either directly imbedded in the soil or concrete foundations will be constructed to support the poles. Approximately 2.5 miles of 14 feet wide access road will be constructed for access. The roads will be cleared of vegetation and the roadbed will be compacted with water to provide a firm driving surface.	15.0	The road bed will be compacted and soil binder will be applied.	10/1/2014	9/10/2015
Distribution Power Poles	Install approximately 2.5 miles of distribution power poles from the five solar power producing sites to the Collector Station. The poles will be directly imbedded in the soil.	10.0	Water will be utilized to control dust and soil binder will be applied.	12/18/2013	3/7/2014
<b>Total Acreage</b>		<b>102.6</b>			

# ATTACHMENT TO ENCLOSURE 2



VERSION: 4-20-2010

DUST MITIGATION EXHIBIT  
BEACON SOLAR PROJECT

POWER SYSTEM AND POWER  
DEPARTMENT OF WATER AND POWER  
CITY OF LOS ANGELES

DATE: 4-20-10  
DRAWN BY: J. FINE  
CHECKED BY: J. FINE



089-2369-  
J.FINE  
E.MALACON  
DATE: 4-20-10  
DRAWN BY: J. FINE



**APPENDIX X**  
**Solar Design Criteria for the Beacon Solar Project**

## Appendix II – Solar Design Criteria

1. Solar panel racking shall be ground mount and meet local codes and standards, however, shall not be less than Category 2. Ballasted systems shall not be used.
2. Three - phase switches shall be gang operated and shall provide adequate clearance to/from adjacent apparatus in accordance with DWP standards for the voltage class of the apparatus.
3. Each solar facility shall be equipped with a distributed control system (DCS) that will be able to throttle, ramp, turn-on, turn-off, and telemeter the total MW output. The DCS will use the Distributed Network Protocol (DNP) 3.0 and International Electrotechnical Commission (IEC) 61850 communication protocols to interface with DWP's Supervisory Control and Data Acquisition (SCADA) Remote Terminal Unit (RTU). All control, metering, and relay systems shall be provided with DNP 3.0 and IEC 61850.
4. Developer shall provide the owner complete SCADA points listing no later than 180 days after award of Power Purchase Agreement.
5. Developer shall provide weather stations including data storage with automatic archiving of data files necessary to validate irradiance calculations at the site. Data storage capacity shall be sufficient to store 360 days of weather data.
6. Duct bank and substructure back-fill shall be in compliance with National Electrical Code (NEC). Native materials shall not be used.
7. Ratings of electrical apparatus and systems supplied in the contract shall meet or exceed the ratings of the equipment detailed in the contractors bid. Transformers and cables shall be tested per the Institute of Electrical and Electronics Engineers (IEEE) standards, at the Developer's expense, and copies of the test reports shall be provided to the DWP Project Manager.
8. Developer shall provide a written, comprehensive, over-arching system description/guide for the total solar installation furnished and delivered in the contract. System description shall be organized to include: Description of major apparatus organized per the one-line diagrams, actual one-line diagram, detailed safety procedures , warnings and considerations, description of procedures for normal start-up/shut-down of the installation, operating procedures to isolate, shut-down, start-up and diagnose problems with inverters, table listing inverter error codes.
9. Developer shall provide a wire or cable management system.
10. Developer shall furnish and deliver comprehensive, hands-on, inverter training for up to six DWP operating staff/personnel.

**APPENDIX Y**  
**34.5 kV Interconnection Agreement for the Beacon Solar Project**

***LADWP***  
***34.5 KV***  
INTERCONNECTION AGREEMENT

BETWEEN

HECATE ENERGY BEACON #1 LLC

(SELLER)

AND

CITY OF LOS ANGELES ACTING BY AND THROUGH THE  
DEPARTMENT OF WATER AND POWER

**34.5kV CUSTOMER GENERATION  
INTERCONNECTION AGREEMENT**

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**34.5kV CUSTOMER GENERATION  
INTERCONNECTION AGREEMENT**

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Point of Delivery (POD) specified in the PPA. This Agreement does not entitle the Seller to transmission service from LADWP.

1.5 Each Party shall perform all of its obligations under this Interconnection Agreement in accordance with Applicable Laws and Regulations, Applicable Reliability Standards, and Good Utility Practice, and to the extent a Party is required or prevented or limited in taking any action by such regulations and standards (an "Excused Action"), such Party shall not be deemed to be in Breach of this Interconnection Agreement for its compliance therewith. Any Party taking an Excused Action must inform the other Party of such Excused Action as soon as practicable.

2. DEFINITIONS: The definitions, terms, conditions and requirements provided in the Electric Service Requirements, the Rules and the Power Purchase Agreement between the Parties entered into in connection with this Agreement are incorporated in and made a part of this Agreement by reference. The following additional terms, when initially capitalized, whether in the singular or plural tense, shall mean:

2.1 Agreement: This LADWP 34.5 kV Interconnection Agreement and the Exhibits and Attachments hereto.

2.2 Applicable Laws and Regulations shall mean all duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

2.3 Applicable Reliability Council shall mean the reliability council applicable to the LADWP electrical system, currently the Western Electricity Coordinating Council (WECC) as of the date hereof, and its successors.

2.4 Applicable Reliability Standards shall mean the applicable registration requirements, standards, requirements, criteria, guidelines, and directives of the



Federal Energy Regulatory Commission (FERC), the North American Electric Reliability Corporation (NERC), the Applicable Reliability Council, the Reliability Coordinator, Balancing Authority and LADWP, and their successors.

2.5 Authorized Representatives: The representative or designated alternate of a Party appointed in accordance with Section 14 of this Agreement.

2.6 Balancing Authority: The responsible entity that integrates resource plans ahead of time, maintains load-interchange-generation balance within the Balancing Authority Area in which the Facilities are metered, and supports Interconnection frequency in real time.

2.7 Balancing Authority Area: The collection of generation, transmission, and loads within the metered boundaries of the Balancing Authority. The Balancing Authority maintains load-resource balance within this area.

2.8 Breach: The failure of a Party to perform or observe any material term or condition of the Interconnection Agreement.

2.9 Effective Date: As defined in Section 27 of this Agreement.

2.10 Electric Service Requirements: Applicable requirements prescribed in writing by LADWP in effect at the time this Agreement is executed, and all revisions thereto or replacements thereof, which are necessary and proper for the regulation of any Electric Service installed, operated, and maintained by the City of Los Angeles. The Electric Service Requirements shall be in conformance with the Charter of the City of Los Angeles and the applicable Rules.

2.11 Facilities: Either of the LADWP Interconnection Facility, the Seller Generation Facility or Seller Interconnection Facilities.

2.12 Good Utility Practice: Any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time

period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region. For purposes of clarification, the term “Good Utility Practice” shall include compliance with Applicable Reliability Standards.

2.13 In-Service Date: The date of initial interconnection of the Seller Interconnection Facilities and Seller Generation Facility to LADWP’s electric system.

2.14 Interconnection Agreement: This 34.5kV Interconnection Agreement and Exhibits and Attachments hereto.

2.15 Interconnection Costs: All reasonable costs, as determined by Seller and LADWP in accordance with Good Utility Practice, including, but not limited to, planning, engineering, design, supervision, material procurement, construction, quality assurance and inspection, testing, metering, maintenance, negotiation, contract administration, protection, expediting, accounting, budgeting, and other activities reasonably necessary for the interconnection and safe parallel operation of the Seller Generation Facility to LADWP’s electric system.

2.16 LADWP Facility: Electrical and mechanical equipment required and installed, owned, operated and maintained by LADWP for the safe parallel operation of the Seller Interconnection Facilities and Seller Generation Facility. This equipment, including the LADWP Interconnection Facilities set forth in Exhibit B, is deemed by LADWP to be appurtenant and/or incidental to the Seller Generation Facility.

2.17 Point of Interconnection (POI) shall mean the point, as defined in the PPA and shown on Exhibit B, where the Seller Generation Facility connects to the LADWP Interconnection Facilities.

2.18 Power Purchase Agreement (PPA). The Power Purchase Agreement between the LADWP and Seller, as may be amended, supplemented or otherwise modified from time to time, related to Seller Generation Facility.

2.19 Rules: The Rules Governing Electric Service in the City of Los Angeles adopted by the Board of Water and Power Commissioners of the City of Los Angeles (Board) under Resolution No. 56, dated September 8, 1983 applicable to Seller, Seller Interconnection Facilities or Seller Generation Facility, and all applicable amendments, revisions, and replacements thereof.

2.20 Seller: The Party identified as “Seller” in the Preamble to this Agreement.

2.21 Seller Generation Facility: All of Seller’s electrical and mechanical equipment associated with the generation of electricity at the Seller’s location, as described in Exhibits hereto, relating to the project located:

Near the town of Cantil, CA, and approximately 75 miles north of Los Angeles, and approximately 9 miles east of the Pine Tree Wind Farm.

2.22 Seller Interconnection Facilities: All facilities and equipment, as identified in Exhibits hereto, located between the Seller Generating Facility and the Point of Interconnection, including any modification, addition, or upgrades to such facilities and equipment necessary to physically and electrically interconnect the Seller Generating Facility to LADWP’s electrical system. Seller's Interconnection Facilities are sole use facilities.

3. INTERCONNECTION COSTS:

- 3.1 Seller shall bear its own costs associated with the interconnection and safe parallel operation of the Seller Interconnection Facilities and Seller Generation Facility in accordance with the terms and conditions contained herein.
- 3.2 LADWP shall pay for all costs associated with the interconnection and safe parallel operation of the LADWP Interconnection Facilities in accordance with the terms and conditions contained herein.

4. RESPONSIBILITIES OF SELLER:

- 4.1 Seller shall own the Seller Interconnection Facilities and Seller Generation Facility, at its sole risk and expense, in compliance with all applicable codes, laws, Electric Service Requirements, Rules, and Good Utility Practices. A person or entity acting on Seller's behalf may operate and maintain the Seller Interconnection Facilities or Seller Generation Facility in compliance with all applicable codes, laws, Electric Service Requirements, Rules, and Good Utility Practices, and any requirements set forth in the Power Purchase Agreement. Meeting this requirement shall not relieve Seller of its obligations pursuant to the terms and conditions of this Agreement.
- 4.2 When Seller submits the signed Agreement to LADWP for execution, Seller shall also submit the following information for incorporation in the Exhibits attached hereto:
  - 4.2.1 Electrical plans including load schedules and single-line diagrams.
  - 4.2.2 Plot and site development plans showing generator, disconnect, and metering equipment locations and LADWP access to generator, disconnect and meter equipment locations.
  - 4.2.3 Energy Source Information:
    - (1) Maximum kilowatt rating
    - (2) Nominal voltage output
    - (3) Voltage regulation

- (4) Maximum fault current contribution
- 4.2.4 Protective system information:
  - (1) Protective system plan
  - (2) Manufacturer's data sheets and maintenance requirements for protective equipment
  - (3) Any additional information required by LADWP
- 4.3 Review by LADWP of Seller's specifications shall not be construed as confirming or endorsing the design, or any warranty of safety or durability of the Seller Interconnection Facilities or Seller Generation Facility.
- 4.4 LADWP shall not, by reason of review or failure to review, be responsible for the strength, details of design, adequacy or capacity of the Seller Interconnection Facilities or Seller Generating Facility or any of its component equipment, nor shall LADWP's acceptance be deemed to be an endorsement of the Seller Interconnection Facilities or Seller Generation Facility or any of its component equipment.
- 4.5 Within thirty (30) calendar days following the In-Service Date or at a date mutually agreed upon by the Authorized Representatives, Seller shall submit in writing to LADWP's Authorized Representative that the Seller Interconnection Facilities and Seller Generation Facility meets the standards set forth in the applicable Electric Service Requirements and other requirements set forth herein.
- 4.6 Seller shall operate and maintain the Seller Interconnection Facilities and Seller Generation Facility in accordance with the applicable Electric Service Requirements, Good Utility Practice, and the requirements of this Agreement.
- 4.7 Seller shall not energize, at any time, a de-energized portion of LADWP's electric system without express permission from LADWP's Authorized Representative.
- 4.8 Seller shall obtain and maintain in full force and effect appropriate insurance coverages for the Seller Interconnection Facilities and Seller Generation Facility with limits not less than those set forth in Section 12 of this Agreement.

- 4.9 The Parties recognize that, from time to time, certain improvements, additions, or other changes in the interconnection and protection equipment at the Seller Interconnection Facilities or Seller Generation Facility may be required for the safe parallel operation of the Facility with LADWP's electric system. Such improvements, additions, or other changes shall be in accordance with Good Utility Practices. LADWP shall have the right to require Seller to make those changes to the Seller Interconnection Facilities or Seller Generation Facility upon reasonable advance written notice from LADWP's Authorized Representative.
- 4.10 Failure of Seller to comply with Section 4.9 within a reasonable period of time after receipt of such written notice may result in the Seller Interconnection Facilities or Seller Generation Facility being disconnected from LADWP's electric system pursuant to Section 7.
- 4.11 LADWP will provide Seller with sufficient on-site construction power at no cost to construct the Seller Generation Facility which LADWP will purchase from the local service provider. On or before the date Commercial Operation Date is achieved, Seller will have the responsibility to arrange and pay for station service from the local service provider (Southern California Edison). If Seller incurs any study or infrastructure upgrade costs from the local service provider in order to receive such service, such costs will be reimbursed by LADWP.
- 4.12 To integrate the Seller Generation Facility to LADWP's Balancing Authority Area, Seller shall seek to minimize inadvertent energy use to the extent feasible, and such inadvertent power shall be provided by LADWP at no cost. Should any law, rule, regulation or order prohibit LADWP from providing such energy, Seller is responsible for arranging an alternative arrangement in conformance with applicable laws, rules, regulations or orders.
- 4.13 Seller will comply with the additional interconnection requirements in Exhibit E hereto.

5. RESPONSIBILITIES OF LADWP:

- 5.1 LADWP shall be the sole provider of 34.5kV interconnection required by Seller at the location of the Seller Generation Facility.
- 5.2 If it is deemed necessary by LADWP to do so after evaluating the Seller's plans, LADWP at its own expense will design, construct, own, operate, and maintain LADWP Interconnection Facilities and make any necessary modifications to LADWP's electric system for the safe operation of the Seller Interconnection Facilities and Seller Generation Facility in parallel with LADWP's electric system.
- 5.3 LADWP reserves the right to make measurements or other tests on the Seller Interconnection Facilities or Seller Generation Facility, from time to time, as specified in the Electric Service Requirements. If the measurements or tests determine that the Seller Interconnection Facilities or Seller Generation Facility does not meet LADWP's specifications, LADWP will require Seller to disconnect the Seller Interconnection Facilities or Seller Generation Facility from LADWP's electric system pursuant to Subsection 7.1. Seller shall make the appropriate changes to the Seller Interconnection Facilities or Seller Generation Facility before reconnection to LADWP's electric system.
- 5.4 The Parties recognize that, from time to time, certain improvements, additions, or other changes in LADWP's electric system may be required for the safe parallel operation of the Seller Interconnection Facilities and Seller Generation Facility. Such improvements, additions, or other changes will be in accordance with Good Utility Practices. LADWP shall have the right to make those changes upon reasonable advance written notice from LADWP's Authorized Representative to Seller.
- 5.5 LADWP shall have the right of ingress to and egress from Seller's premises pursuant to Section 11 of this Agreement.
- 5.6 LADWP shall bill Seller for Seller's costs under this Agreement pursuant to Section 8 of this Agreement.

6. METERING:

- 6.1 LADWP shall install dual channel metering equipment and recorders at the appropriate LADWP-owned substation, to measure electric energy and other electric parameters deemed appropriate by LADWP.
- 6.2 Seller shall provide LADWP with the capability to remotely monitor the Seller Generation Facility. LADWP shall install telemetering equipment to monitor the electrical generation output of the Seller Generation Facility at LADWP's Energy Control Center.
- 6.3 LADWP meters shall be sealed with LADWP seals only. The seals shall not be broken except when the meters are inspected, tested, or adjusted by LADWP. LADWP shall test the meters, at its own expense, in accordance with its routine practice and the Rules. Seller may request testing of meters prior to their normally scheduled test dates, and LADWP shall test the meters upon request within a reasonable time. Seller shall be given reasonable notice to have a representative present at the time of meter testing. Seller shall pay for the cost of the requested meter testing if the meters are found to be within the tolerances specified within the Rules.
- 6.4 Disputes concerning alleged meter discrepancies shall be resolved in accordance with the Rules.

7. DISCONNECTION OF THE SELLER INTERCONNECTION FACILITIES OR GENERATION FACILITY:

- 7.1 LADWP shall require Seller to disconnect the Seller Interconnection Facilities or Seller Generation Facility from LADWP's electric system if Seller does not comply with the covenants of this Agreement, the Electric Rate Schedules, the applicable Electric Service Requirements, the Rules, or the PPA. Unless otherwise permitted by Good Utility Practice or the Electric Service Requirements, LADWP's Authorized Representative shall provide the Seller with thirty (30) calendar days written notice of such intent. In the event the Seller takes prompt action to comply, and pursues such action to completion, then LADWP will take no further action under this



Agreement. Any costs of such disconnection, loss of revenue or other effects under the PPA will be borne by the Seller.

- 7.2 In accordance with procedures established in the Electric Service Requirements, LADWP shall require Seller to disconnect the Seller Generation Facility immediately from LADWP's electric system if LADWP determines in good faith that an emergency and hazardous condition exists and such action is necessary to protect persons, LADWP's electric system, or other customer facilities from damage or interference caused by Seller's electrical equipment, or to allow LADWP to repair, replace, or maintain any equipment associated with LADWP's distribution system.
- 7.3 Each Party shall endeavor to correct the condition on its electric system that resulted in the separation and shall coordinate reconnection of the Seller Interconnection Facilities or Seller Generation Facility for parallel operation.
- 7.4 LADWP shall provide for reconnection of the Seller Interconnection Facilities or Seller Generation Facility to LADWP's electric system when reasonable to do so.
- 7.5 LADWP shall not be liable to Seller or any person or entity acting on Seller's behalf including, but not limited to, any agent, designee, contractor, or lessee for damages of any type or nature whatsoever resulting from the connection or disconnection of the Seller Interconnection Facilities or Seller Generation Facility from LADWP's electric system.

8. INTERCONNECTION BILLING DETERMINANTS:

- 8.1 If LADWP determines after review of the Seller's plans for Seller Interconnection Facilities and Seller Generation Facility that an LADWP Interconnection Facility must be constructed or modifications made to LADWP's electric system for the safe operation of the Seller Generation Facility in parallel with LADWP's electric system, LADWP will bear cost responsibility for the LADWP Interconnection Facilities and modifications to LADWP's electric system.

- 8.2 To the extent that LADWP incurs any costs that are the responsibility of Seller under this Agreement, LADWP shall bill Seller for such costs in accordance with Section 10.
- 8.3 Reserved.
- 8.4 Reserved.
- 8.5 If after the effective date of this Agreement, LADWP determines that LADWP must make improvements, additions, or other changes to either the LADWP Interconnection Facilities or to LADWP's electric system that are required for the safe operation of the Seller Generation Facility in parallel with LADWP's electric system, and such changes are caused by modifications or changes to Seller's Interconnection Facilities or Seller's Generation Facility, LADWP will bill Seller for all costs incurred for such improvements, additions, or other changes.

9. OTHER BILLING DETERMINATIONS:

- 9.1 Reserved.
- 9.2 The terms of the PPA shall govern all energy purchases by LADWP from Seller Generating Facility.

10. BILLINGS AND PAYMENTS:

- 10.1 Billings and payments pursuant to Section 8, Interconnection Billing Determinants, and pursuant to Section 9, Other Billing Determinations, shall be transmitted to the following addresses:

10.1.1 If to LADWP:  
Department of Water and Power  
of the City of Los Angeles  
P. O. Box 30870, Room 434  
Los Angeles, California 90030-0870  
Attention: General Accounting

10.1.2 If to Seller:  
Hecate Energy Beacon #1 LLC  
c/o Hecate Energy LLC  
115 Rosa Parks Blvd.  
Nashville, TN 37203  
Attention: CEO

10.2 Reserved.

10.3 Either Party may change, by written notice to the other Party, the name or address of the person to receive invoices or payments pursuant to this Agreement.

10.4 All bills, except as provided otherwise in this Agreement, are due and payable upon presentation. Payment shall be made in accordance with the Rules.

10.5 Solely for charges or billing arising under this Agreement (and not the PPA or any other agreement between LADWP and Seller), if the correctness of any bill, or any part thereof, or if the correctness of other charges or practices of LADWP is disputed by Seller, LADWP shall conduct an investigation in accordance with the Rules.

11. INGRESS AND EGRESS:

11.1 LADWP shall have, at all times, the right of ingress to and egress from Seller's premises for the following reasons:

11.1.1 Any purpose related to receiving electric energy under this Agreement.

11.1.2 In order to exercise any and all rights secured to LADWP by law, this Agreement, or the Rules.

11.2 While on Seller's premises, LADWP shall abide by Seller's safety rules and regulations.

12. INSURANCE: Ninety (90) days prior to the anticipated date of the meter installation of a Seller Generation Facility, Seller must provide evidence of insurance that conforms to the insurance requirements of the Agreement. Insurance requirements are explained in detail in the following language and in the "Contract Insurance Requirements" sheet (EXHIBIT C), which specifically outlines the types and amounts of coverage required for this Agreement. For Seller's information and use, "Special Endorsement Forms", "Guidance for Submitting Evidence of Insurance" and information on LADWP's insurance program are available on LADWP's website.

Such insurance must then be maintained current throughout the term of the Agreement. Approved evidence of insurance must be on file with the Risk Management Section in order for the Seller's system to be interconnected to LADWP's electric system.

For further information regarding these insurance requirements, please contact:

Los Angeles Department of Water and Power  
Risk Management Section  
Phone: (213) 367-4674  
Fax: (213) 367-0214  
Website: [www.ladwp.com/riskmanagement](http://www.ladwp.com/riskmanagement)

13. INDEMNIFICATION AND LIMITATION OF LIABILITY:
13. 1 INDEMNIFICATION: To the fullest extent permitted by applicable law, except for the sole negligence or willful misconduct of LADWP, Seller undertakes and agrees to defend, indemnify and hold harmless LADWP, the City of Los Angeles, and each of their respective boards, commissioners, officers, agents, employees, assigns and successors in interest, as applicable (hereinafter, collectively,

“Indemnitees”) from and against any and all suits and causes of action (including proceedings before FERC), claims, losses, demands, penalties, judgments, costs, expenses, damages (including indirect, consequential, or incidental), disbursements of any kind or nature whatsoever, including but not limited to attorney’s fees (including allocated costs of internal counsel), other monetary remedies, and costs of litigation, damages, obligation or liability of any kind or nature whatsoever, in any manner arising by reason of, incident to, or connected in any manner with the performance, non-performance or breach of this Agreement, or any other act, error or omission or willful misconduct by or of the Seller or Seller’s officers, employees, agents, contractors, sub-contractors of any tier, including but not limited to any such performance, non-performance, breach, act, error or omission or willful misconduct that results in intellectual property infringement or leads to death or injury to any person, including but not limited to Seller, Seller’s officers, employees, agents, contractors or sub-contractors of any tier, or damage or destruction to property of any kind or nature whatsoever, of either Party hereto, or of third parties, or loss of use (hereinafter, collectively, “Indemnified Liabilities”). The provisions of this paragraph shall be in addition to, and not exclusive of, any other rights or remedies which Indemnitees have at law, in equity, under this Agreement, the PPA, or otherwise. To the extent that the undertakings to defend, indemnify, pay and hold harmless set forth in this subsection may be unenforceable in whole or in part because they are violative of any law or public policy, Seller shall contribute the maximum portion that it is permitted to pay and satisfy under applicable law to the payment and satisfaction of all Indemnified Liabilities incurred by Indemnitees or any of them. The provisions of this paragraph shall survive the expiration or termination of this Agreement.

13.2 Limitation of Liability. Except to the extent included in the indemnification obligations or other specific charges expressly provided for herein, neither Party hereunder shall be liable for special, incidental, exemplary, indirect, punitive or consequential damages arising out of a Party’s performance or non-performance under this Agreement, whether based on or claimed under contract, tort (including

such Party's own negligence) or any other theory at law or in equity. Further, in signing this Agreement, Seller understands and agrees that:

IN NO EVENT SHALL LADWP, THE CITY OF LOS ANGELES, OR ANY OF THEIR RESPECTIVE BOARDS, COMMISSIONERS, OFFICERS, AGENTS, EMPLOYEES, ASSIGNS AND SUCCESSORS IN INTEREST, AS APPLICABLE, BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL, PUNITIVE, EXEMPLARY OR INDIRECT DAMAGES, LOST PROFITS, LOSS OF USE OR OTHER COSTS OF BUSINESS INTERRUPTION RELATED TO THIS AGREEMENT, WHETHER BASED ON STATUTE, TORT, CONTRACT, OR UNDER ANY OTHER THEORY OF LIABILITY. SELLER FURTHER UNDERSTANDS THAT THIS LIMITATION IS WITHOUT REGARD TO THE CAUSE OR CAUSES OF SUCH DAMAGES OR COSTS, INCLUDING NEGLIGENCE, BE IT SOLE, JOINT, CONTRIBUTORY, OR CONCURRENT, ACTIVE OR PASSIVE.

14. ADMINISTRATION:

- 14.1 Within thirty (30) calendar days after the effective date of this Agreement, Seller and LADWP's Director of Power System Engineering Division or designee shall each designate, by written notice to the other, a representative who is authorized to act in each Party's behalf with respect to those matters delegated to the Authorized Representatives. Each Party may delegate an authorized alternate with full authority to act in the absence of the Authorized Representative. Each Party shall have the right to change its Authorized Representative or authorized alternate by written notice to the other Party.
- 14.2 The Authorized Representatives shall provide liaison between the Parties and a means of securing effective cooperation, interchange of information, and consultation on a prompt and orderly basis concerning the various matters that may arise, from time to time, in connection with this Agreement.
- 14.3 The Authorized Representatives shall review and attempt to resolve any disputes between the Parties under this Agreement. Should the Authorized Representatives be unable to resolve a dispute, the matter shall be referred

to Seller and LADWP's Director of Power System Engineering Division who shall use their best efforts for resolution. The Authorized Representatives shall follow the timelines for dispute resolution set forth in Section 14.3 of the PPA.

- 14.4 Prior to the In-Service Date, the Authorized Representatives shall agree on written procedures pertaining to the synchronization, operation, maintenance, administration, and other activities that may require coordination between the Parties.
- 14.5 All actions, agreements, resolutions, determinations, or reports made by the Authorized Representatives shall be made in writing and shall become effective when signed by the Authorized Representatives.
- 14.6 Any expenses incurred by an Authorized Representative or authorized alternate in connection with their duties, shall be paid by the Party they represent unless otherwise agreed to in writing by Seller and LADWP's Director of Power System Engineering Division. This provision does not alter or diminish other payment obligations of the Parties as may be set forth elsewhere in this Agreement.
- 14.7 The Authorized Representatives shall have no authority to modify this Agreement.

15. DEFAULT:

- 15.1 Default by Seller: The occurrence of any of the following shall constitute a material breach and default of this Agreement by Seller:
  - 15.1.1 Failure by Seller to make payment to LADWP of uncontested amounts within the time set forth in Section 10 herein; or
  - 15.1.2 Failure by Seller to comply with requirements pertaining to the safety of persons or property set forth herein, in the Rules, or in the applicable Electric Service Requirements; or
  - 15.1.3 Failure by Seller to substantially observe and perform any other material provision of this Agreement where such failure continues for thirty (30) calendar days after receipt by Seller of written notice from LADWP. Provided, however, that if the

nature of such default is curable, but that the same cannot with due diligence be cured within the thirty (30) calendar day period Seller shall not be deemed to be in default if it shall within the thirty (30) calendar day period commence to cure the default and, thereafter, diligently prosecute the same to completion;

15.1.4 Default by Seller under the PPA or any Ancillary Document (as defined in the PPA).

15.2 Default by LADWP: Failure by LADWP to substantially observe and perform any material provision required by this Agreement, where such failure continues for 180 calendar days after receipt of written notice from Seller, shall constitute a material breach and default by LADWP of this Agreement. Provided, however, that if the nature of such default is curable, but that the same cannot with due diligence be cured within the 180 calendar day period LADWP shall not be deemed to be in default if it shall within the 180 calendar day period commence to cure the default and, thereafter, diligently prosecute the same to completion.

16. REMEDIES UPON DEFAULT: The non-defaulting Party shall be entitled to money damages according to proof of actual damages resulting from default of the other Party and, in addition, the non-defaulting Party shall have the right to terminate this Agreement upon the occurrence of any of the events of default described in Section 15. In no event shall incidental or consequential damages be payable.

17. FORCE MAJEURE: Neither Party shall be considered to be in default in the performance of any of its obligations under this Agreement (other than obligations of said Party to make payments due) if failure of performance shall be due to a Force Majeure. The term "Force Majeure" means any event or circumstance, including any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, wildland fire or firestorm, storm or flood, or any order, regulation or restriction imposed by governmental, military or lawfully established civilian



authorities (i) which prevents one Party from performing any of its obligations under this Agreement, (ii) which could not reasonably be anticipated as of the date of this Agreement, (iii) which is not within the reasonable control of, or the result of negligence, willful misconduct, breach of contract, intentional act or omission or wrongdoing on the part of the affected Party, and (iv) which despite the exercise of commercially reasonable efforts the affected Party is unable to overcome or avoid or cause to be avoided. Nothing contained herein shall be construed so as to require a Party to settle any strike or labor dispute in which it may be involved. Either Party rendered unable to fulfill any obligation under this agreement by reason of uncontrollable force shall promptly provide a written detailed notice of such fact to the other Party and shall exercise due diligence to remove any inability with all reasonable dispatch.

18. AUTHORIZATIONS AND APPROVALS:

18.1 Each Party shall obtain all the necessary authorizations, licenses, approvals, and permits from Federal, State, or local agencies having jurisdiction.

18.2 This Agreement and all operations hereunder are subject to the applicable laws, ordinances, orders, rules, and regulations of local, State, and Federal governmental authority having jurisdiction.

19. EFFECT OF SECTION HEADINGS: Section headings appearing in this Agreement are inserted for convenience only and shall not be construed as interpretations of text.

20. NONWAIVER: None of the provisions of this Agreement shall be deemed waived unless expressly waived in writing upon mutual agreement of the Parties. Any omission or failure of either Party to demand or enforce strict performance of provisions of the Agreement shall not be construed as a waiver or as a relinquishment of any rights. All provisions and rights shall continue and remain in full force and effect as if such omission or failure had not occurred.

21. NONDEDICATION OF FACILITIES: This Agreement shall not be construed as a dedication of any properties or facilities, or any portion thereon, by either Party to each other or the public.
22. NO THIRD-PARTY BENEFICIARIES: This Agreement shall not be construed to create rights in, or to grant remedies to, any third party as a beneficiary of this Agreement or any duty, obligation or undertaking established herein. The provisions of this Agreement are solely for the benefit of the Parties hereto. Nothing in this Agreement, whether express or implied, shall be construed to give to, or be deemed to create in, any other Person, whether as a third party beneficiary of this Agreement or otherwise, any legal or equitable right, remedy or claim in respect of this Agreement or any covenant, condition, provision, duty, obligation or undertaking contained or established herein. This Agreement shall not be construed in any respect to be a contract in whole or in part for the benefit of any Person not a party hereto.
23. NOTICES:
- 23.1 Any written notice under this Agreement shall be deemed properly given if delivered in person or sent by registered or certified mail, postage prepaid, to the person specified below unless otherwise provided for in this Agreement:
- 23.1.1 If to LADWP:
- Department of Water and Power  
of the City of Los Angeles  
P. O. Box 51111, Room 951  
Los Angeles, California 90051-5700  
Attention: Director of Power System  
Engineering Division

23.1.2 If to Seller:  
Hecate Energy Beacon #1 LLC  
c/o Hecate Energy LLC  
115 Rosa Parks Blvd.  
Nashville, TN 37203  
Attention: CEO

23.2 Either Party may, by written notice to the other Party, change the name or address of the person to receive notices pursuant to this Agreement.

24. ASSIGNMENT; CHANGE IN CONTROL: Seller may not assign or transfer this Agreement unless the relevant proposed assignment or transfer is also permitted under the PPA following the procedures set forth in the PPA. The provisions of Section 14.7 of the PPA (“Assignment of Agreement; Change in Control”) are incorporated herein in their entirety, *mutatis mutandis*.

25. SEVERAL OBLIGATIONS: The duties, obligations, and liabilities of the Parties are several and not joint or collective. Nothing contained in this Agreement shall be construed to create an association, trust, partnership, or joint venture or to impose a trust, partnership duty, obligation, or liability on or with regard to either Party. Each Party shall be individually and severally liable for its own obligations under this Agreement.

26. SEVERANCE: If any paragraph, sentence, clause, phrase, or word is held by a court of competent jurisdiction to be void or unenforceable, the balance of this Agreement shall remain in full force and effect provided that the purposes of this Agreement can still be fulfilled.

27. EFFECTIVE DATE AND TERM:

27.1 This Agreement shall become effective upon the date of execution by the Parties.

27.2 This Agreement shall be coterminous with the “Agreement Term” as defined in the PPA.

- 27.3 Upon the date of termination of this Agreement, all rights to services provided hereunder shall cease and neither Party shall claim or assert any continuing right to such services hereunder. However, such termination shall not affect the rights and obligations to pay money for transactions occurring prior to termination. Such termination shall not end indemnification, pursuant to Section 13, provided to LADWP by Seller for periods where Seller operates or has operated a generation source electrically connected to LADWP's electric system, or for the limitation of liability in Section 13.
28. GOVERNING LAW AND VENUE: This Agreement shall be governed by and interpreted and enforced in accordance with the laws of the State of California and the City of Los Angeles, without regard to conflict of law principles. All litigation arising out of or relating to this Agreement shall be brought in a State or Federal court in the County of Los Angeles in the State of California. The parties irrevocably agree to submit to the exclusive jurisdiction of such courts in the State of California and waive any defense of forum non conveniens.
29. ENTIRE UNDERSTANDING: This Agreement contains the entire understanding between the Parties with respect to the subject matter hereof; and there are no other promises, terms, conditions, obligations, understandings, or agreements between the Parties with respect thereto. This Agreement supersedes all previous communications, representations, understandings, and agreements, either oral or written, between the Parties with respect to the subject matter hereof.
30. REPRESENTATION: Each Party has been represented by legal counsel in the negotiation and execution of this Agreement.
31. WORK PROGRESS: The Parties shall keep each other advised periodically as to the progress of their respective design, procurement and construction efforts. Either Party may, at any time but not more frequently than every three (3) months, request a progress report from the other Party.

32. INFORMATION EXCHANGE. As soon as reasonably practicable after the Effective Date, the Parties shall exchange information regarding the design and compatibility of the Seller generation facility and LADWP Facilities, and shall work diligently to make any necessary design changes to ensure compatibility.
33. EXHIBITS: Exhibits A through E attached hereto are incorporated herein by this reference.

34. EXECUTION: IN WITNESS WHEREOF, the signatories hereto represent that they have been appropriately authorized to enter into this Agreement on behalf of the Party for whom they sign. This Agreement is hereby executed on the day and year written below.

HECATE ENERGY BEACON #1 LLC

By:

Name (Signature): Chris Bullinger

Name (Print): CHRIS BULLINGER

Title: CEO

Date: MAY 1, 2014

APPROVED AS TO FORM AND LEGALITY  
MICHAEL N. FEUER, CITY ATTORNEY

MAY 30 2014

BY

Jean-Claude Bertet  
JEAN-CLAUDE BERTET  
DEPUTY CITY ATTORNEY

CITY OF LOS ANGELES ACTING BY AND THROUGH THE  
DEPARTMENT OF WATER AND POWER

By:

Name (Signature): \_\_\_\_\_

Name (Print): Marcie L. Edwards

Title: General Manager

Date: \_\_\_\_\_







ANNUAL PLAN PRODUCTION/USE CHARACTERISTICS

OUTPUT: \_\_143,503,700\_\_ (Year 1 output)\_\_\_\_\_ kWh

ECONOMIC CHARACTERISTICS

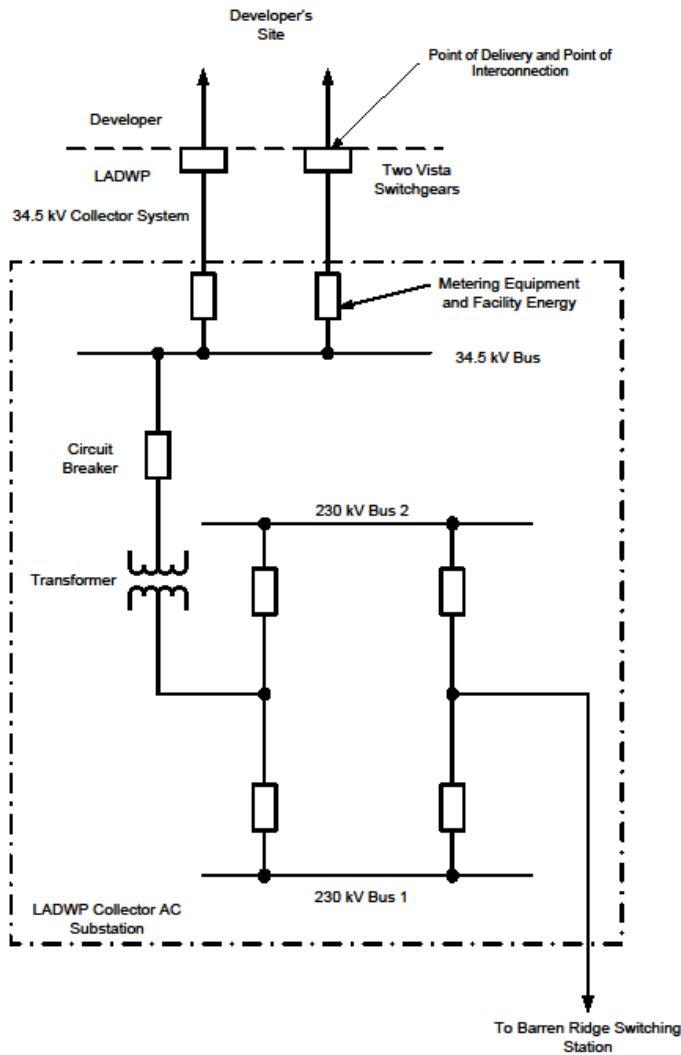
Capital Costs \_\_\$110 million (approximate)\_\_\_\_\_ O&M Costs \_\$850,000 (approximate)\_\_\_\_\_ \$/year

Cost of Generated Electricity \_\_ \$0.0526\_\_\_\_\_ cents/kWh

**EXHIBIT B**  
SINGLE-LINE DIAGRAM AND EQUIPMENT LIST  
FOR THE FACILITY  
INCLUDING  
LADWP INTERCONNECTION FACILITIES  
AND  
SELLER INTERCONNECTION FACILITIES

If the Facility is constructed, single-line diagrams and equipment list for the Facility, including the LADWP Interconnection Facilities and Seller Interconnection Facilities will be attached to this Exhibit after the Facility has been designed.

1. LADWP Interconnection Facilities:



2. Seller Interconnection Facilities:

The Seller Interconnection Facilities consist of the 34.5kV lines connecting to LADWP's vista switches.

**EXHIBIT C**  
**CONTRACT INSURANCE REQUIREMENTS**

**Insurance – Applicable Terms and Conditions**

**A. Additional Insured Status Required**

Seller shall procure at its own expense, and keep in effect at all times during the term of this Interconnection Agreement, the types and amounts of insurance specified on the attached Contract Insurance Requirements page. The specified insurance shall also, either by provisions in the policies, by LADWP's own endorsement form or by other endorsement attached to such policies, include and insure the City of Los Angeles, LADWP, its Board of Commissioners (hereinafter referred to as "Board"), and all of its officers, employees and agents, their successors and assigns, as Additional Insureds (except for Workers' Compensation), against the area of risk described herein as respects Seller's acts or omissions in its performance of the agreement, hereunder or other related functions performed by or on behalf of Seller. Such insurance shall not limit or qualify the liabilities and obligations of the Seller assumed under the contract.

**B. Severability of Interests and Cross Liability Required**

Each specified insurance policy (other than Workers' Compensation and Employers' Liability and Property coverages) shall contain a Severability of Interest and Cross Liability clause which states, "It is agreed that the insurance afforded by this policy shall apply separately to each insured against whom claim is made or suit is brought except with respect to the limits of the company's liability," and a Contractual Liability Endorsement which shall state, "Such insurance as is afforded by this policy shall also apply to liability assumed by the insured under this Agreement with the City of Los Angeles."

**C. Primary and Non-Contributory Insurance Required**

All such insurance shall be Primary and Noncontributing with any other insurance held by LADWP where liability arises out of or results from the acts or omissions of Seller, its agents, employees, officers, assigns, or any person or entity acting for or on behalf of Seller. Any insurance carried by LADWP which may be applicable shall be deemed to be excess insurance and the Seller's insurance is primary for all purposes despite any conflicting provision in the Seller's policies to the contrary.

**D. Deductibles Subject to LADWP's Discretion**

Deductibles and/or self-insured retentions shall be at the sole discretion of the Risk Manager of LADWP (hereinafter referred to as "Risk Manager"). LADWP shall have no liability for any premiums charged for such coverage(s). The inclusion of the LADWP, its Board, and all of its officers, employees and agents, and their agents and assigns, as additional insureds, is not intended to, and shall not, make them, or any of them a partner or joint venturer with Seller in its operations.

**E. Proof of Insurance for Renewal or Extension Required**

At least ten (10) days prior to the expiration date of any of the policies required on the attached Contract Requirement page, documentation showing that the insurance coverage has been renewed or extended shall be filed with the LADWP. If such coverage is canceled or reduced in coverage, Seller shall, within fifteen (15) days of such cancellation or reduction of coverage, file with LADWP evidence that the required insurance has been reinstated or provided through another insurance company or companies.

**F. Submission of Acceptable Proof of Insurance and Notice of Cancellation**

Seller shall provide proof to the Risk Manager of all specified insurance and related requirements either by production of the actual insurance policy(ies), by use of LADWP's own endorsement form(s), by other written evidence of insurance acceptable to the Risk Manager, but always in a form acceptable to the Risk Manager and the Office of the City Attorney. The documents evidencing all specified coverages shall be filed with LADWP prior to Seller beginning operations hereunder. Said proof shall contain at a minimum, the applicable policy number, the inclusive dates of policy coverages, the date the protection begins for LADWP, and the insurance carrier's name. It shall bear an original signature of an authorized representative of said carrier, and shall provide that such insurance shall not be subject to cancellation, material reduction in coverage or non-renewal except after written notice by certified mail, return receipt requested, to the City Attorney of the City of Los Angeles at least thirty (30) calendar days prior to the effective date thereof. The notification shall be sent by registered mail to: Risk Management Section, L.A. Water and Power, Post Office Box 51111, JFB Room 465, Los Angeles, California 90051-0100.

**G. Claims-Made Insurance Conditions**

Should any portion of the required insurance be on a "Claims Made" policy, the Seller shall, at the policy expiration date following completion of work, provide evidence that the "Claims Made" policy has been renewed or replaced with the same limits, terms and conditions of the expiring policy, or that an extended three (3) years discovery period has been purchased on the expiring policy at least for the contract under which the work was performed.

**H. Failure to Maintain and Provide as Cause for Termination**

Failure to maintain and provide acceptable evidence of the required insurance for the required period of coverage shall constitute a breach of contract, upon which LADWP may immediately terminate or suspend the agreement.

**I. Periodic Right to Review/Update Insurance Requirements**

The LADWP and Seller agree that the insurance policy limits specified on the attached Contract Insurance Requirements page may be reviewed for adequacy annually throughout the term of this Agreement by the Risk Manager/City Attorney, who may thereafter require Seller to adjust the amounts and types of insurance coverage however the Risk Manager/City Attorney deems to be adequate and necessary. LADWP reserves the right to have submitted to it, upon request, all pertinent information about the agent and carrier providing such insurance, including applicable license and ratings.

**J. Specific Insurance Requirements**

See Exhibit C-1 "Contract Insurance Requirements"

**K. Release**

LADWP SHALL NOT BE LIABLE TO SELLER UNDER ANY CIRCUMSTANCES, UNDER ANY THEORY OF LIABILITY AT LAW OR IN EQUITY, WHETHER SUCH LIABILITY IS KNOWN OR UNKNOWN AT THE TIME OF SIGNING THIS AGREEMENT, OR ANY TIME THEREAFTER, FOR ANY DEATH, BODILY INJURY, AND LOSS OF USE OR DAMAGE OR DESTRUCTION OF ANY PROPERTY OR ANY BUSINESS INTERRUPTION, TO A THIRD PARTY OR TO SELLER.

SELLER DOES SO HEREBY ACKNOWLEDGE THAT IT HAS READ AND COMPREHENDED THE FOLLOWING PROVISIONS OF CALIFORNIA CIVIL CODE SECTION 1542 (OR ITS SUCCESSOR STATUTE) WHICH PROVIDES:

“A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM OR HER MUST HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR.”

BEING AWARE OF SAID CODE SECTION, SELLER HEREBY EXPRESSLY WAIVES ANY RIGHTS IT MAY HAVE THEREUNDER, AS WELL AS UNDER ANY OTHER STATUTES OR COMMON LAW PRINCIPLES OF SIMILAR EFFECT.

**L. Reporting**

The Parties agree to report to each other in writing as soon as practical all accidents or occurrences resulting in injuries to any person, including death, and any property damage arising out of this 34.5kV Interconnection Agreement.

## **EXHIBIT D**

### **Security Arrangement Details**

Infrastructure security of LADWP's electrical system equipment and operations and control hardware and software is essential to ensure day-to-day LADWP reliability and operational security. Seller agrees to comply with the best practices utilized in the electric reliability authority. The Seller will be expected to meet basic standards for system infrastructure and operational security, including physical, operational, and cyber-security practices.



## EXHIBIT E

### ADDITIONAL INTERCONNECTION REQUIREMENTS

#### A. Technical Standards Applicable to the Seller Generation Facility:

##### i. Supervisory Control and Data Acquisition (SCADA) Capability

The Seller Generation Facility shall provide SCADA capability to transmit data and receive instructions from the LADWP to protect system reliability. The LADWP and the Seller shall determine what SCADA information is essential for the proposed Seller Generation Facility, taking into account the capacity of the Seller Generation Facility and its characteristics, location, and importance in maintaining generation resource adequacy and LADWP's electrical system reliability in its area.

##### ii. Conformance with NERC and WECC Reliability Requirements.

The Seller must abide by all Applicable Reliability Standards including, but not limited to:

1. Coordination of joint studies of new facilities and their impacts on the interconnected LADWP's electrical systems.
2. Notification of new or modified facilities to others (those responsible for the reliability of the interconnected LADWP's electrical systems) as soon as feasible.
3. Voltage level and MW and MVAR capacity or demand at point of connection.
4. Breaker duty and surge protection.
5. System protection and coordination.
6. Metering and telecommunications.
7. Grounding and safety issues.
8. Insulation and insulation coordination.
9. Voltage, Reactive Power, and power factor control.
10. Power quality impacts.
11. Equipment Ratings.
12. Synchronizing of facilities.
13. Maintenance coordination.
14. Operational issues (abnormal frequency and voltages).
15. Inspection requirements for existing or new facilities.
16. Communications and procedures during normal and emergency operating conditions.

Additional general requirements are identified within various articles of this 34.5KV Interconnection Agreement.

#### B. Testing and Inspection

- i. Post-Commercial Operation Date Testing and Modifications.** Each Party shall at its own expense perform routine inspection and testing of its facilities and equipment in accordance with Good Utility Practice as may be necessary to ensure the continued interconnection of the Seller Generating Facility with the LADWP's electrical system in a safe and reliable manner. Each Party shall have the right, upon advance written notice, to require reasonable additional testing of the other Party's facilities, at the requesting Party's expense, in accordance with Good Utility Practice.
- ii. Right to Observe Testing.** Each Party shall notify the other Party in advance of its performance of tests of the Facilities. The other Party has the right, at its own expense, to observe such testing.
- iii. Right to Inspect.** Each Party shall have the right, but shall have no obligation to: (i) observe the other Party's tests and/or inspection of any of its Facilities including protective equipment; (ii) review the protective settings of the other Party's Facilities; and (iii) review the other Party's relevant maintenance records. A Party may exercise these rights from time to time as it deems necessary upon reasonable notice to the other Party. The exercise or non-exercise by a Party of any such rights shall not be construed as an endorsement or confirmation of any element or condition of any equipment or the operation thereof, or as a warranty or representation as to the merchantability, fitness for a particular purpose, safety, desirability, durability or reliability of same.

## **C. Communications**

- i. Seller Obligations.** Seller shall maintain satisfactory operating communications with LADWP's dispatcher or representative. Seller shall provide standard voice line, dedicated voice line and facsimile communications at its Seller Generation Facility control room or central dispatch facility through use of either the public telephone system, or a voice communications system that does not rely on the public telephone system. Seller shall also provide the dedicated data circuit(s) necessary to provide Seller data to LADWP as set forth in Exhibit D, Security Arrangements Details. The data circuit(s) shall extend from the Seller Generation Facility to the location(s) specified by LADWP. Any required maintenance of such communications equipment shall be performed by Seller. Operational communications shall be activated and maintained under, but not be limited to, the following events: system paralleling or separation, scheduled and unscheduled shutdowns, equipment clearances, and hourly and daily load data.
- ii. Remote Terminal Unit.** Prior to the Initial Synchronization Date of the Seller Generating Facility, a Remote Terminal Unit, or equivalent data

collection and transfer equipment acceptable to the Parties, shall be installed by Seller, or by LADWP at Seller's expense, to gather accumulated and instantaneous data to be telemetered to the location(s) designated by LADWP through use of a dedicated point-to-point data circuit(s). The communication protocol for the data circuit(s) shall be specified by LADWP and Seller shall supply data in accordance with this communication protocol, including but not limited to: (1) real-time analog data which must be telemetered directly to the location(s) specified by LADWP; (2) status points; (3) accumulators; (4) control points; and (5) any other operating data requested by LADWP.

Each Party will promptly advise the other Party if it detects or otherwise learns of any metering, telemetry or communications equipment errors or malfunctions that require the attention and/or correction by the other Party. The Party owning such equipment shall correct such error or malfunction as soon as reasonably feasible.

**iii. No Annexation.** Any and all equipment placed on the premises of a Party shall be and remain the property of the Party providing such equipment regardless of the mode and manner of annexation or attachment to real property, unless otherwise mutually agreed in writing by the Parties.

**D. Voltage Schedules.** Once Seller has synchronized the Seller Generating Facility with LADWP's electrical system, LADWP shall require Seller to operate the Seller Generating Facility to produce or absorb reactive power within the design limitations of the Seller Generating Facility. LADWP voltage schedules, which may be modified in real time as necessary, shall treat all sources of reactive power in the Balancing Authority Area in an equitable and not unduly discriminatory manner. "Voltage schedule" is the target voltage to be maintained within a tolerance band during a specified period.

LADWP shall exercise Reasonable Efforts to provide Seller with such schedules at least one (1) day in advance, and may make changes to such schedules as necessary to maintain the reliability of its electrical system. Seller shall operate the Seller Generating Facility to maintain the specified output voltage or reactive power at the Point of Interconnection within the design limitations of the Seller Generating Facility. If Seller is unable to maintain the specified voltage or reactive power, it shall promptly notify the Transmission Operator.

**i. Regulators.** Whenever the Seller Generating Facility is operated in parallel with the LADWP's electrical system and the voltage regulators are capable of operation, Seller shall operate the Seller Generating Facility with its voltage regulators in automatic operation. If the Seller Generating Facility's voltage regulators are not capable of such automatic operation, Seller shall immediately notify LADWP and ensure that such Seller Generating Facility's reactive power production or absorption (measured in MVARs) are

within the design capability of the Seller Generating Facility's generating unit(s) and steady state stability limits. Seller shall not cause its Seller Generating Facility to disconnect automatically or instantaneously from the LADWP's electrical system or trip any generating unit comprising the Seller Generating Facility for an under or over frequency condition unless the abnormal frequency condition persists for a time period beyond the limits set forth in ANSI/IEEE Standard C37.106, or such other standard as applied to other generators in the Balancing Authority Area on a comparable basis.

**ii. Off-Nominal Frequency and Under-frequency Load Shedding Criteria**

Seller acknowledges that LADWP has obligations to comply with Applicable Reliability Standards addressing load shedding, and Seller agrees to cooperate with any request made by LADWP that may be necessary to ensure compliance with such requirements.

**E. Performance Obligation**

**i. Seller Interconnection Facilities.** Seller shall design, procure, construct, install, own and/or control Seller Interconnection Facilities described in Exhibit B, at its sole expense.

**ii. LADWP Interconnection Facilities.** LADWP shall design, procure, construct, install, own and/or control the LADWP Interconnection Facilities described in Exhibit B, at its sole expense.

**iii. Reserved.**

**F. System Protection and Other Control Requirements.**

**i. Under-Frequency and Over Frequency Conditions.** LADWP's electrical system is designed to automatically activate a load-shed program as required by the Applicable Reliability Council in the event of an under-frequency system disturbance. Seller shall implement under-frequency and over-frequency relay set points for the Seller Generating Facility as required by the Applicable Reliability Council to ensure "ride through" capability of the LADWP's electrical system. Seller Generating Facility response to frequency deviations of pre-determined magnitudes, both under-frequency and over-frequency deviations, shall be studied and coordinated with LADWP in accordance with Good Utility Practice. The term "ride through" as used herein shall mean the ability of Seller Generating Facility to stay connected to and synchronized with the LADWP's electrical system during system disturbances within a range of

under-frequency and over-frequency conditions, in accordance with Good Utility Practice.

- ii. **System Protection Facilities.** Seller shall, at its expense, install, operate and maintain System Protection Facilities as a part of the Seller Generating Facility and/or Seller Interconnection Facilities. LADWP shall install at LADWP's expense any System Protection Facilities that may be required on LADWP's electrical system as a result of the interconnection of the Seller Generating Facility and Seller Interconnection Facilities.

Each Party's protection facilities shall be designed and coordinated with other systems in accordance with Good Utility Practice.

Each Party shall be responsible for protection of its facilities consistent with Good Utility Practice.

Each Party will test, operate and maintain System Protection Facilities in accordance with Good Utility Practice and WECC Criteria.

Prior to the In-Service Date, and again prior to the Commercial Operation Date, each Party or its agent shall perform a complete calibration test and functional trip test of the System Protection Facilities. At intervals suggested by Good Utility Practice and following any apparent malfunction of the System Protection Facilities, each Party shall perform both calibration and functional trip tests of its System Protection Facilities. These tests do not require the tripping of any in-service generation unit. These tests do, however, require that all protective relays and lockout contacts be activated.

- iii. **Requirements for Protection.** In compliance with Good Utility Practice, Applicable Reliability Standards, and WECC Criteria, Seller shall provide, install, own, and maintain relays, circuit breakers and all other devices necessary to remove any fault contribution of the Seller Generating Facility to any short circuit occurring on the LADWP's electrical system not otherwise isolated by LADWP's equipment, such that the removal of the fault contribution shall be coordinated with the protective requirements of the LADWP's electrical system. Such protective equipment shall include, without limitation, a disconnecting device or switch with load-interrupting capability located between the Seller Generating Facility and the LADWP's electrical system at a site selected upon mutual agreement (not to be unreasonably withheld, conditioned or delayed) of the Parties. Seller shall be responsible for protection of the Seller Generating Facility and Seller's other equipment from such conditions as negative sequence currents, over- or under-frequency, sudden load rejection, over- or under-voltage, and generator loss-of-field. Seller shall be solely responsible to disconnect the Seller Generating Facility and Seller Interconnection Facilities and Seller's other equipment if conditions on the LADWP's electrical system could adversely affect the Seller Generating Facility.

- iv. **Power Quality.** Neither Party's facilities shall cause excessive voltage flicker nor introduce excessive distortion to the sinusoidal voltage or current waves as defined by ANSI Standard C84.1-1989, in accordance with IEEE Standard 519, or any applicable superseding electric industry standard. In the event of a conflict between ANSI Standard C84.1-1989, or any applicable superseding electric industry standard, ANSI Standard C84.1-1989, or the applicable superseding electric industry standard, shall control.

## **G Information Access and Audit Rights**

i. **Information Access.** Each Party (the "disclosing Party") shall make available to the other Party information that is in the exclusive possession of the disclosing Party and is necessary in order for the other Party to: (i) verify the costs incurred by the disclosing Party for which the other Party is responsible under this 34.5kV Interconnection Agreement; and (ii) carry out its obligations and responsibilities under this 34.5kV Interconnection Agreement. The Parties shall not use such information for purposes other than those set forth in this Article and to enforce their rights under this 34.5kV Interconnection Agreement; further, Section 14.21 of the PPA will govern the rights of the parties in all respects with respect to information access.

ii. **Reporting of Non-Force Majeure Events.** Each Party (the "notifying Party") shall notify the other Party when the notifying Party becomes aware of its inability to comply with the provisions of this 34.5kV Interconnection Agreement for a reason other than a Force Majeure event. The Parties agree to cooperate with each other and provide necessary information regarding such inability to comply, including the date, duration, reason for the inability to comply, and corrective actions taken or planned to be taken with respect to such inability to comply. Notwithstanding the foregoing, notification, cooperation or information provided under this article shall not entitle the Party receiving such notification to allege a cause for anticipatory breach of this Agreement.

iii. **Audit Rights.** Each Party shall have the right, during normal business hours, and upon prior reasonable notice to the other Party, to audit at its own expense the other Party's accounts and records pertaining to either Party's performance or either Party's satisfaction of obligations under this Agreement. Such audit rights shall include audits of the other Party's costs, calculation of invoiced amounts, LADWP's efforts to allocate responsibility for the provision of reactive support to LADWP's electrical system, LADWP's efforts to allocate responsibility for interruption or reduction of generation on LADWP's electrical system, and each Party's actions in an Emergency Condition. Any audit authorized by this article shall be performed at the offices where such accounts and records are maintained and shall be limited to those portions of such accounts and records that relate to each Party's performance and satisfaction of obligations under this 34.5kV Interconnection Agreement.

## **Audit Rights Periods.**

- a) **Audit Rights Period for Construction-Related Accounts and Records.** Accounts and records related to any design, engineering, procurement, and construction invoices shall be subject to audit for a period of twenty-four months following LADWP's issuance of a final invoice.
- b) **Audit Rights Period for All Other Accounts and Records.** Accounts and records related to either Party's performance or satisfaction of all obligations under this Agreement shall be subject to audit as follows: (i) for an audit relating to cost obligations, the applicable audit rights period shall transpire within twenty-four months after the auditing Party's receipt of an invoice giving rise to such cost obligations; and (ii) for an audit relating to all other obligations, the applicable audit rights period shall transpire within twenty-four months after the event for which the audit is sought.

iv. **Audit Results.** If an audit by a Party determines that an overpayment or an underpayment has occurred, a notice of such overpayment or underpayment shall be given to the other Party together with those records from the audit which support such determination.

## **H. Subcontractors**

i. **General.** Nothing in this Agreement shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.

ii. **Responsibility of Principal.** The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall LADWP be liable for the actions or inactions of Seller or its subcontractors. Any applicable obligation imposed by this Agreement upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

iii. **No Limitation by Insurance.** The obligations under this Article will not be limited in any way by any limitation of subcontractor's insurance.

**APPENDIX Z**  
**Reserved**



**APPENDIX AA**  
**Inverter Performance Criteria for the Beacon Solar Project**

## Appendix MM

### Beacon Inverter/DCS Performance Criteria

- A. Distributed Control System – Each solar site must have one master distributed control system (DCS) at the 34.5 kV level controlling the inverters. The master DCS shall provide the capability of controlling the entire solar generation site's output, and shall provide to the operators the ability to control the active power output of the entire site through a single setpoint. The DCS shall allow DWP's Energy Control Center (ECC) to issue commands (single setpoint) for the options listed below.
- B. Normal Startup – The master DCS shall provide the capability of starting the entire solar generation site to partial or full output, and shall provide to the operators the ability to control Normal Startup of the entire site through a single command.
- C. Normal Shutdown – The master DCS shall provide the capability of stopping the entire solar generation site from partial or full output, and shall provide to the operators the ability to control Normal Shutdown of the entire site through a single command.
- D. Emergency Stop – The system shall be capable of operating in two Emergency Stop modes, as necessary; automatic Emergency Stop and directed Emergency Stop.

In automatic Emergency Stop mode, the system supplied under this contract shall meet the shutdown requirements specified in Proposed NERC PRC-024, and shall be capable of shutting down in full compliance with UL1741, and with NERC PRC-024, in either mode as necessary for DWP operations.

In directed Emergency Stop mode, the master DCS shall provide the capability of stopping the entire solar

generation facility from partial or full output through a single command.

- E. Black Start – The master DCS' capability of starting the entire solar generation from a Black Start condition, even when sufficient solar irradiance is available to the solar collectors, is NOT required.

However, the facility shall maintain communication and control power and capability with DWP's ECC whether solar irradiance is available or not.

- F. Solar Curtailment – The master DCS shall provide the capability to curtail solar photovoltaic power generation to a specified percentage of the nominal power rating. Such curtailment shall be effected by the control of the solar photovoltaic inverters.
- G. Voltage Ride Through – All systems supplied shall meet the Low Voltage Fault Ride Through (LVRT) requirements and any over or under voltage capabilities specified in Proposed NERC PRC-024, and shall be capable of operating in full compliance with UL1741, and with NERC PRC-024, in either mode as necessary for DWP operations.
- H. Fault Ride Through  
All systems supplied under this contract shall meet the requirements specified in Proposed NERC PRC-024, and shall be capable of operating in full compliance with UL1741, and with NERC PRC-024, in either mode as necessary for DWP operations.
- I. Frequency Ride Through - All systems supplied shall meet the over and under frequency capabilities specified in Proposed NERC PRC-024, and shall be capable of operating in full compliance with UL1741, and with NERC PRC-024, in either mode as necessary for DWP operations.
- J. Reactive Power - The inverter shall have the capability to supply and absorb reactive power over the complete range

of the solar site's active power production, that is, from zero to maximum active power production.

The DCS shall be able to control inverter reactive power dispatch through a single set point in each of the following three modes: Power Factor Control Mode, Voltage Control Mode, and Reactive Power Control Mode.

In Power Factor Control Mode, the DCS shall provide the operators the ability to control the solar site's reactive power dispatch within the power factor range of 0.95 lead/lag at the Point of Interconnection.

In Reactive Power Control mode, the DCS shall provide the operators the ability to control the solar site's reactive power dispatch at the Point of Interconnection independently of active power production subject to the reactive power constraints listed below.

In Voltage Control Mode, the DCS shall provide the operators the ability to control the voltage at the Beacon 230kV switch rack within a specified range by automatically controlling reactive power dispatch independent of active power production, subject to the reactive power constraints listed below.

Site Reactive Power Constraints, Qmin and Qmax, in MVAR

Site	Qmin	Qmax
1	-18	+18
2	-16	+16
3	-18	+18
4	-16	+16
5	-13	+13

## K. Points List

### K.1. Required Data Points – Analog Inputs

Description	Units	BAGC	Notes
Plant MW	MW	Yes	
Plant MVAR	MVAR	Yes	
Plant power factor	pf	Yes	

Plant aux load kW	kW	Yes	
Plant aux load kVAR	kVAR	No	
Number of inverters operating	Count	Yes	
Number of inverters available to operate	Count	Yes	
Station frequency	Hz	Yes	
Solar irradiance	W/m <sup>2</sup>	Yes	1
Plant confirmed max MW setpoint	MW	Yes	2
Plant confirmed kV setpoint	kV	Yes	2
Plant confirmed power factor setpoint	pf	Yes	2
Plant confirmed MVAR setpoint	MVAR	Yes	2
Plant max MW capability	MW	Yes	
Plant min kV capability	kV	Yes	
Plant max kV capability	kV	Yes	
Plant max leading power factor capability	pf	Yes	
Plant max lagging power factor capability	pf	Yes	
Plant low MVAR capability	MVAR	Yes	
Plant high MVAR capability	MVAR	Yes	
Plant confirmed MW ramp rate up setpoint	MW/min	Yes	
Plant confirmed MW ramp rate down setpoint	MW/min	Yes	
Plant confirmed MVAR ramp rate setpoint	MVAR/min	Yes	
Plant confirmed power factor ramp rate setpoint	pf/sec	Yes	
Plant confirmed kV ramp rate setpoint	kV/sec	Yes	
Plant confirmed reactive power control mode	Mode	Yes	3
<b>Notes:</b>			
<ol style="list-style-type: none"> <li>1. One point per monitoring location.</li> <li>2. The confirmed setpoints are setpoint feedback solely for confirmation of control success.</li> <li>3. Modes are Off, kV, MVAR, and power factor. Control may be through multi-state digital input and output in lieu of analog input and output.</li> </ol>			

### K.2 Required Data Points – Analog Outputs

Description	Units	BAGC	Notes
Plant max MW setpoint	MW	Yes	1
Plant kV setpoint	kV	Yes	
Plant power factor setpoint	pf	Yes	
Plant MVAR setpoint	MVAR	Yes	
Plant MW ramp rate up setpoint	MW/min	Yes	
Plant MW ramp rate down setpoint	MW/min	Yes	
Plant MVAR ramp rate setpoint	MVAR/min	Yes	
Plant power factor ramp rate setpoint	pf/sec	Yes	
Plant kV ramp rate setpoint	kV/sec	Yes	
Plant reactive power control mode select	Mode	Yes	2
<p><b>Notes:</b></p> <ol style="list-style-type: none"> <li>Normally set greater than plant max MW capability.</li> <li>Modes are Off, kV, MVAR, and power factor. Control may be through multi-state digital input and output in lieu of analog input and output.</li> </ol>			

### K.3. Required Data Points – Digital Inputs

Description	State	BAGC	Notes
Plant max MW control enable/disable	1 = Enabled	Yes	

### K.4. Required Data Points – Digital Outputs

Description	State	BAGC	Notes
Plant max MW control enable/disable	1 = Enable	Yes	

### K.5. Required Data Points – Accumulator Inputs

Description	Units	BAGC	Notes
Plant aux load kWh in	kWh	No	
Plant aux load kVARh in	kVARh	No	
Insolation	W/m <sup>2</sup> /hr	No	

**APPENDIX BB**  
**Pre-Approved Qualified Operators**  
**RESERVED**

**APPENDIX CC**  
**Perimeter Fence Requirement**



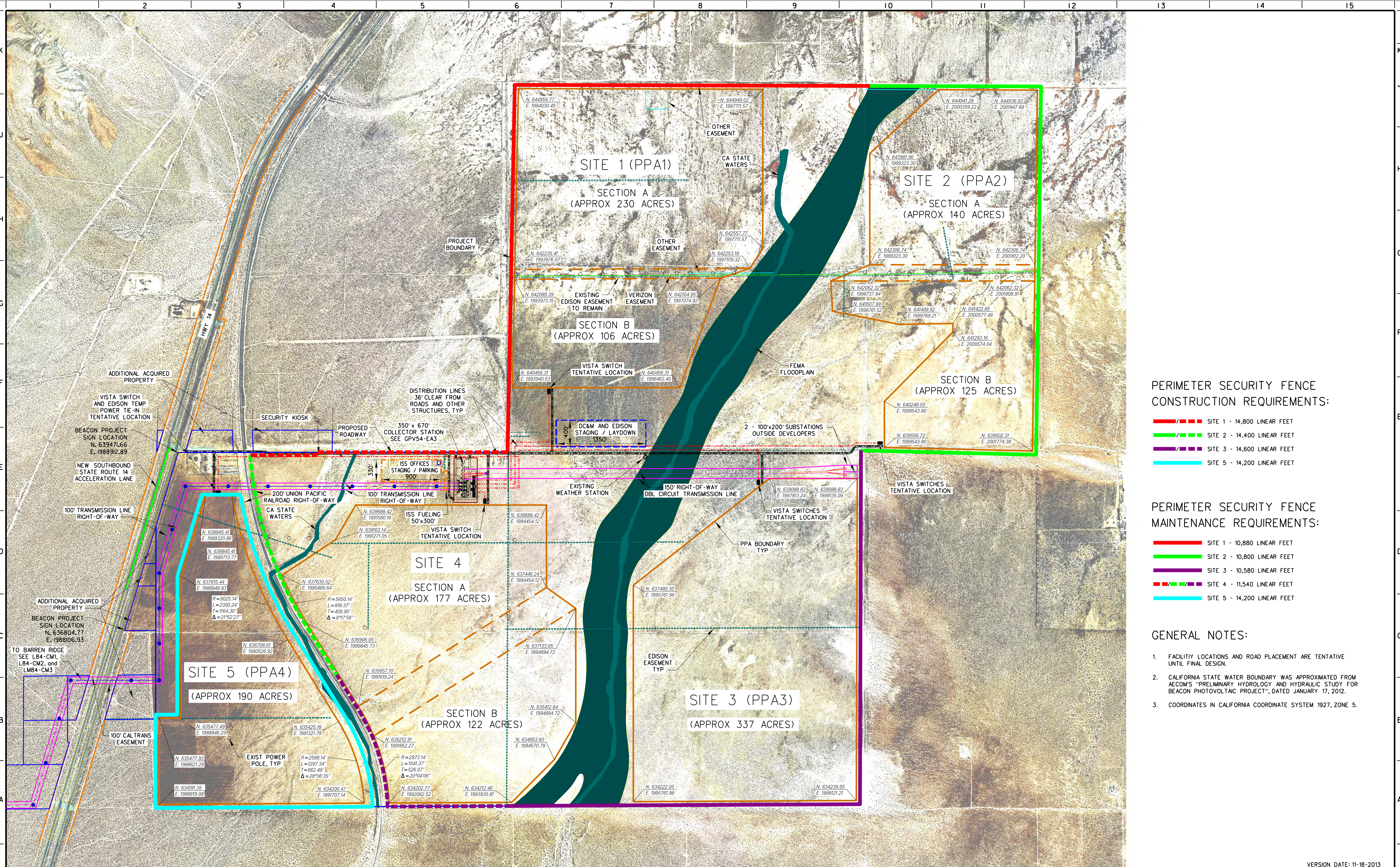
## Appendix CC

### Fence Requirements

#### Table of Contents

- 1) Desert Tortoise Field Manual: Recommended design.
- 2) DWP Grounding of Chain Link Fences:
- 3) Perimeter Fence Detail: Recommended perimeter fence design
- 4) Beacon Wash Fence: Conceptual Design of the fence at waters of the State.
- 5) Beacon Solar Zoning Map: Certain sections of the perimeter fence may need slats.
- 6) Kern County Zoning information: Related to Item 5.

Note: All fencing that crosses the transmission line or the adjoining overhead transmission line right of way shall be non-conductive and non-flammable material. This section of the fence shall be insulated for 25-ft on either side of the outer most conductor drip line. Metal fencing maybe used provided step and touch potential study is performed for a line-to ground fault at the fence crossing. All metallic structures/fencing within or adjoining the overhead transmission line shall be properly grounded, and shall be insulated as described above from any fencing or other conductive materials located outside of the right of way. For safety of personnel, all structures shall be grounded in accordance with State of California Code of Regulations, Title 8 Section 2941 and National Electric Code, Article 250. See section "DWP Grounding of Chain Link Fence" in this Appendix CC for reference.



**PERIMETER SECURITY FENCE CONSTRUCTION REQUIREMENTS:**

- SITE 1 - 14,800 LINEAR FEET
- SITE 2 - 14,400 LINEAR FEET
- SITE 3 - 14,600 LINEAR FEET
- SITE 5 - 14,200 LINEAR FEET

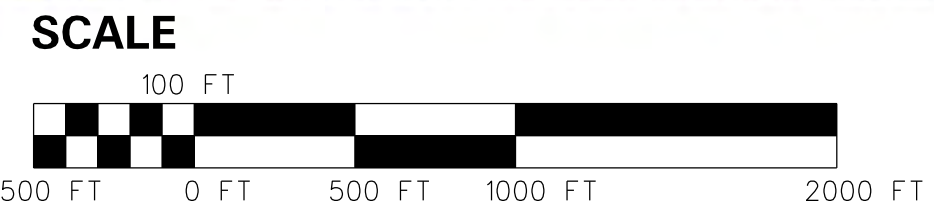
**PERIMETER SECURITY FENCE MAINTENANCE REQUIREMENTS:**

- SITE 1 - 10,880 LINEAR FEET
- SITE 2 - 10,800 LINEAR FEET
- SITE 3 - 10,580 LINEAR FEET
- — — — SITE 4 - 11,540 LINEAR FEET
- SITE 5 - 14,200 LINEAR FEET

**GENERAL NOTES:**

1. FACILITY LOCATIONS AND ROAD PLACEMENT ARE TENTATIVE UNTIL FINAL DESIGN.
2. CALIFORNIA STATE WATER BOUNDARY WAS APPROXIMATED FROM ACCOM'S "PRELIMINARY HYDROLOGY AND HYDRAULIC STUDY FOR BEACON PHOTOVOLTAIC PROJECT", DATED JANUARY 17, 2012.
3. COORDINATES IN CALIFORNIA COORDINATE SYSTEM 1927, ZONE 5.

REF: GPV54-CA1 - SITE PLAN



SCALE: 1" = 600'  
(UNLESS NOTED)  
DRAFTING RELEASE  
DRAWN BY: M. VIERNES  
CHECKED BY: J. FONG

**DWP**  
POWER SYSTEM  
DEPARTMENT OF WATER AND POWER  
CITY OF LOS ANGELES

**SITE DEVELOPMENT**  
BEACON SOLAR PROJECT

**DESERT TORTOISE (MOJAVE POPULATION)  
FIELD MANUAL  
(*Gopherus agassizii*)**

[December 2009]

**prepared by:**

U.S. Fish and Wildlife Service

***Warning: This Manual does not authorize individuals to handle desert tortoises. Such authorization comes from both Federal and State wildlife resource agencies, including, at least, those listed above. This document supersedes what was previously titled Guidelines for Handling Desert Tortoises during Construction Projects (Desert Tortoise Council 1994, revised 1999).***

Cite as: U.S. Fish and Wildlife Service. 2009. Desert Tortoise (Mojave Population) Field Manual: (*Gopherus agassizii*). Region 8, Sacramento, California.

## ACKNOWLEDGEMENTS

The Desert Tortoise Council provided desert tortoise handling guidelines in 1994. Edward L. LaRue, Jr. assembled the information and drafted these guidelines on behalf of the Council with input from the U.S. Fish and Wildlife Service (USFWS) field offices in California, Arizona, Nevada, and Utah. Mr. LaRue initiated review of these guidelines in April 1996 and revised them in July 1999. Information was provided by the Desert Tortoise Council, the USFWS, California Department of Fish and Game (CDFG), Utah Division of Wildlife Resources (UDWR), Nevada Department of Wildlife (NDOW), Arizona Game and Fish Department (AGFD), U.S. Bureau of Land Management (BLM), U.S. Geological Survey (USGS), private consultants, universities, Tortoise Group, and other individuals and organizations. The latest document, the Desert Tortoise Field Manual, is a revision of the handling guidelines and assembly/revision of other documents that provide regulatory guidance and requirements for the desert tortoise. The Desert Tortoise Field Manual is a compilation of efforts by many offices of the USFWS with input and review by the CDFG, NDOW, AGFD, UDWR, and consultants. We appreciate the efforts of all involved in this evolving document from the first version in 1994 to the current version.

## AGENCY/ORGANIZATION CONTACT INFORMATION

### U.S. Fish and Wildlife Service

Desert Tortoise Recovery Office  
Nevada Fish and Wildlife Office  
1340 Financial Boulevard  
Reno, Nevada 89502  
(775) 861-6300

Nevada Fish and Wildlife Office-Las Vegas  
4701 North Torrey Pines Drive  
Las Vegas, Nevada 89130  
(702) 515-5230

In California, for Inyo, Kern, Los Angeles, and San Bernardino Counties:

U.S. Fish and Wildlife Service  
Ventura Fish and Wildlife Office  
2493 Portola Road, Ste. B  
Ventura, California 93003  
(805) 644-1766

In California, for Imperial and Riverside Counties, and Joshua Tree National Park and the San Bernardino National Forest in San Bernardino Co:

Carlsbad Fish and Wildlife Office  
6010 Hidden Valley Road  
Carlsbad, California 92009  
(760) 431-9440

Utah Fish and Wildlife Office  
2369 West Orton Circle  
West Valley City, Utah 84119  
(801) 975-3330

Arizona Fish and Wildlife Office- Flagstaff  
323 North Leoux Street, Suite 101  
Flagstaff, Arizona 86001  
(928) 226-0614

Nevada Department of Wildlife

Southern Region  
4747 Vegas Drive  
Las Vegas, Nevada 89108  
(702) 486-5127

California Department of Fish and Game

Region 4 (Kern County)  
1234 East Shaw Avenue  
Fresno, California 993710  
(559) 243-4005

Region 5 (Los Angeles and  
San Diego Counties)  
4949 Viewridge Avenue  
San Diego, California 92123  
(858) 467-4201

Region 6 (Imperial, Inyo, Riverside,  
and San Bernardino Counties)  
3602 Inland Empire Boulevard  
Suite C-220  
Ontario, California 91764  
(909) 484-0167

Utah Division of Wildlife Resources

Southern Region  
1470 N Airport Rd  
Cedar City, Utah 84720  
(435) 865-6100

Washington County Field Office  
344 East Sunland Drive, Suite #8  
St. George, Utah 84790  
(435) 688-1426

Arizona Game and Fish Department

State Headquarters--Nongame  
Branch  
5000 W. Carefree Highway  
Phoenix, Arizona 85086  
(623) 236-7767

Bureau of Land Management- Nevada

Southern Nevada District Office  
4701 North Torrey Pines Drive  
Las Vegas, Nevada 89130  
(702) 515-5000

Ely District Office  
702 N. Industrial Way  
HC 33 Box 33500  
Ely, Nevada 89301  
(775) 289-1800

Caliente Field Office  
U.S. Highway 93  
P.O. Box 237  
Caliente, Nevada 89008  
(775) 726-8100

Tonopah Field Office  
1553 South Main Street  
PO Box 911  
Tonopah, Nevada 89049  
(775) 482-7800

Bureau of Land Management - California

California Desert District Office  
22835 Calle San Juan de Los Lagos  
Moreno Valley, California 92553  
(951) 697- 5200

Ridgecrest Field Office  
300 South Richmond Road  
Ridgecrest, California 93555  
(760) 384-5400

Barstow Field Office  
2601 Barstow Road  
Barstow, California 92311  
(760) 252-6000

Palm Springs Field Office  
1201 Bird Center Drive  
Palm Springs, California 92262  
(760) 833-7100

BLM- Utah

St. George Field Office  
345 East Riverside Drive  
St. George, Utah 84790  
(435) 688-3200

Needles Field Office  
1303 South Hwy 95  
Needles, California 92363  
(760) 326-7000

El Centro Field Office  
1661 South 4<sup>th</sup> Street  
El Centro, California 92243  
(760) 337-4400

BLM- Arizona

Arizona Strip Field Office  
345 East Riverside Drive  
St. George, Utah 84790  
(435) 688-3200

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Agency/Organization Contact Information

Chapter 1 Purpose

Chapter 2 Procedures for Federal Endangered Species Act Compliance for the Desert Tortoise

Chapter 3 Federal and State Authorizations for Implementing Desert Tortoise Measures Required Under Sections 7 or 10 of the ESA

Chapter 4 Preparing For Any Action That May Occur Within the Range of the Mojave Desert Tortoise

USFWS Desert Tortoise Pre-Project Survey Guidance (Excel Table)

Chapter 5 Preliminary Consideration Before Going to the Field

Chapter 6 Desert Tortoise Clearance Survey Protocol

Chapter 7 Guidelines for Handling Desert Tortoises and Their Eggs

Chapter 8 Desert Tortoise Exclusion Fence

## CHAPTER 1. PURPOSE

The purpose of the Desert Tortoise Field Manual (Manual) is to update and consolidate existing survey and handling protocols, procedures, and applicable Federal regulations related to the federally-threatened desert tortoise – Mojave population (*Gopherus agassizii*) into one document. This Manual supersedes all previous handling guidelines and procedures documents for the Mojave population of the desert tortoise. This Manual was developed specifically for the Mojave population of the desert tortoise. Additional information on the desert tortoise, including its biology, ecology, and Federal status, can be downloaded at [http://www.fws.gov/nevada/desert\\_tortoise/](http://www.fws.gov/nevada/desert_tortoise/)

This Manual is a consolidation and revision of the following documents:

- Procedures for Endangered Species Act Compliance for the Mojave Desert Tortoise (USFWS 1992a)
- Field Survey Protocol for Any Federal Action that May Occur Within the Range of the Desert Tortoise (USFWS 1992b)
- Field Survey Protocol for Any Non-Federal Action that May Occur Within the Range of the Desert Tortoise (USFWS 1992c)
- Guidelines for Handling Desert Tortoises during Construction Projects, previously prepared by the Desert Tortoise Council (July 1994, revised July 1999)
- Desert Tortoise Exclusion Fence Specifications, prepared by the USFWS (Chapter 8).

This Manual provides guidance for pre-project survey methods to determine the status of the desert tortoise for projects occurring within the species' range on Federal and non-Federal lands. The purpose of this guidance is to provide technical assistance to entities to determine whether a biological opinion or incidental take permit may be needed prior to project implementation. This Manual is also intended for use by Authorized Biologists and desert tortoise Monitors (section 3.1) conducting activities under an Endangered Species Act (ESA) section 7 biological opinion or section 10 incidental take permit and provides guidance on handling desert tortoises that need to be moved out of harm's way or prevented from re-entering a project site.

This Manual does not authorize desert tortoise handling/capturing or any other form of take (See Chapter 2 for definition of "take") without appropriate Federal and State authorizations. The responsible Federal and State agencies will review the qualifications statement for each potential desert tortoise biologist and authorize him/her to serve as an Authorized desert tortoise Biologist for a given project. The Manual includes methods that are effectively used by professional desert tortoise researchers; as field protocols evolve, they will be updated with new information as it becomes available and posted on-line.

We encourage comments on this Manual; please submit problems encountered and recommendations for improvement to the USFWS (see AGENCY/ORGANIZATION CONTACT INFORMATION section above). In subsequent years, the USFWS will use your input to revise and incorporate new information and methods.



## **Literature Cited**

Desert Tortoise Council. 1994. Guidelines for handling desert tortoises during construction projects. Edward L. LaRue, Jr., editor. San Bernardino, California. Revised 1999.

U.S. Fish and Wildlife Service. 1992a. Procedures for Endangered Species Act compliance for the Mojave desert tortoise. Regions 1, 2, and 6. October 1992. 18 pages plus appendices.

U.S. Fish and Wildlife Service. 1992b. Field survey protocol for any federal action that may occur within the range of the desert tortoise. January 1992. 16 pages.

U.S. Fish and Wildlife Service. 1992c. Field survey protocol for any non-federal action that may occur within the range of the desert tortoise. January 1992. 22 pages.

## **CHAPTER 2. PROCEDURES FOR FEDERAL ENDANGERED SPECIES ACT COMPLIANCE FOR THE DESERT TORTOISE**

On August 4, 1989, the USFWS published an emergency rule listing the Mojave population of the desert tortoise as endangered (54 FR 42270). On April 2, 1990, the USFWS determined the Mojave population of the desert tortoise to be threatened (55 FR 12178). Section 9 of the ESA prohibits the "take" of any federally listed threatened or endangered species without first obtaining the necessary take exemption from the USFWS and state permits where applicable. Take is defined as: "harming, harassing, pursuing, hunting, shooting, wounding, killing, capturing, collecting, or attempting to engage in any such conduct" (Section 3(18), ESA). Harm is defined as: "significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavior patterns, including breeding, feeding, or shelter" (50 CFR § 17.3(c)). Take also includes modification of habitat that would result in harm to the desert tortoise. There are two ways to legally take a threatened or endangered species; one is through an incidental take statement in a USFWS biological opinion under section 7 of the ESA and the other is through a permit issued by the USFWS under section 10 (refer to Section 2.1.1 for more information on biological opinions and section 2.2 and Chapter 3 for section 10 permits).

For purposes of the ESA, desert tortoise habitat is defined as 1) areas with presence of desert tortoises or desert tortoise sign (*e.g.*, shells, bones, scutes, scats, sheltersites, tracks, egg shell fragments, courtship rings, drinking sites, etc.) that are likely to be part or all of a lifetime home range, 2) dispersal areas (*i.e.*, habitat corridors), or 3) areas suitable for desert tortoises as identified by the USFWS or in the most recent recovery plan for the Mojave population of the desert tortoise ([http://www.fws.gov/nevada/desert\\_tortoise/](http://www.fws.gov/nevada/desert_tortoise/)).

Pre-project surveys for the desert tortoise following the USFWS guidance in Chapter 4 are not expected to result in take and therefore do not require surveyors to first obtain a recovery permit. However, to ensure quality control and reduce the likelihood of USFWS non-concurrence with survey results, we recommend that each potential surveyor complete and sign the Desert Tortoise Authorized Biologist Request Form ([http://www.fws.gov/ventura/speciesinfo/protocols\\_guidelines/](http://www.fws.gov/ventura/speciesinfo/protocols_guidelines/)) and submit it to USFWS and the appropriate State agency for review prior to initiating any survey. Upon receiving the survey results, if the USFWS determines that the methods implemented or qualifications of the surveyors were inadequate, the USFWS may not accept the survey results. In such cases, surveys would need to be repeated using approved methods and qualified surveyors.

### **2.1. Federal Actions**

#### **2.1.1. Consultation under Section 7 of the ESA**

Section 7(a)(1) of the ESA requires all Federal agencies, in consultation with the Secretary of the Interior (delegated to the USFWS), to utilize their authorities in furtherance of recovering federally listed species by carrying out programs for the conservation of endangered and threatened species.

Section 7(a)(2) of the ESA and implementing regulations (50 CFR § 402) require all Federal agencies to consult with the USFWS for certain actions. There are two types of consultations, informal and formal. Informal consultation with the USFWS occurs when the Federal agency determines that an action they propose to authorize, fund, or carry out “may affect” a federally endangered or threatened species or critical habitat. Through the informal consultation process, the Federal agency, in coordination with the USFWS, may develop changes to the proposed action that result in no effect to the listed species, only beneficial effects to the listed species, or may affect but is not likely to adversely affect the listed species. In the first two situations, the consultation process is documented and terminated. In the last situation, the informal consultation process is completed with the USFWS issuing a letter of concurrence.

Section 7(a) regulations of the ESA require each Federal agency to review its actions at the earliest possible time to determine whether any action they propose to authorize, fund, or carry out may adversely affect listed species or adversely modify designated critical habitat. If such a determination is made, formal consultation is required with the USFWS; please contact the USFWS to determine the type of consultation required.

Through completion of the formal section 7 process, the USFWS may issue a biological opinion to the Federal agency stating “no jeopardy/adverse modification” is expected as a result of the proposed action for listed plants and animals, and exempting incidental take of listed animals. A no jeopardy/adverse modification biological opinion concludes that the proposed action will not jeopardize the continued existence of the species or result in adverse modification of designated critical habitat. Without this exemption, the Federal agency would violate section 9 of the ESA if the proposed project were implemented and resulted in take of a listed species.

Federal actions that are nondiscretionary, entirely beneficial to the listed species, or have no adverse effects on listed species are not subject to formal consultation. All actions which require approval by the Federal action agency are considered discretionary. The “may affect” standard applies to those activities that occur in suitable habitat, or habitat considered necessary for the conservation of a listed species. It is the responsibility of the Federal action agency to determine which actions may affect threatened or endangered species or critical habitat, and to initiate consultation accordingly with the USFWS.

Once a Federal agency has determined that its action may adversely affect a listed species or critical habitat, the Federal agency should submit a written request to the USFWS for formal consultation. This request should be accompanied by a biological assessment/evaluation of the action and its impacts (Section 2.3).

The Federal agency requesting formal consultation is responsible for providing the USFWS with the best scientific and commercial data available and relevant to the consultation. The “best data” mean data that are available and/or can be obtained during consultation, and are needed for an adequate review of the effects that an action may have on listed species or critical habitat (50 CFR § 402.14(d)).

Should the Federal action agency determine that the effect to the desert tortoise is entirely beneficial, then formal consultation may not be required. In this case, the action agency may

request concurrence from the USFWS that the action is not likely to adversely affect the desert tortoise through informal consultation. Beneficial actions that are part of a larger action which has not undergone section 7 consultation cannot be considered under informal consultation if the larger action includes adverse effects to the desert tortoise (*e.g.*, construction of a pasture fence within an allotment in desert tortoise habitat which has not yet undergone section 7 consultation). In such instances, grazing within the allotment is considered to be an “interrelated” and “interdependent” action of the proposed fence. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Both interrelated and interdependent actions are considered “effects of the action” (50 CFR § 402.02).

Formal consultation results in a biological opinion issued by the USFWS to the action agency. The biological opinion makes a determination on whether or not the proposed action subject to consultation is likely to jeopardize the continued existence of the listed species or result in destruction or adverse modification of critical habitat. The finding takes into account the: 1) rangewide status of the species, 2) the environmental baseline condition of the listed species in the action area; 3) the direct, indirect, interrelated, and interdependent effects attributable to the Federal action at hand; and 4) the cumulative effects of State and private actions reasonably certain to occur in the area of the Federal action.

Biological opinions issued by the USFWS will contain the following information:

1. An assessment of the status of the species, both rangewide and within the action area.
2. An analysis of the direct and indirect effects, as well as the effects of interrelated and interdependent activities (50 CFR § 402) and cumulative effects of future non-Federal activities that are reasonably certain to occur in the action area.
3. A determination whether the action is likely or not likely to jeopardize the continued existence of the species, or will result in the destruction or adverse modification of critical habitat. Reasonable and prudent alternatives will be provided, if at all possible, if the biological opinion indicates that the proposed action is likely to jeopardize the continued existence of the species (jeopardy opinion) or result in the destruction or adverse modification of critical habitat (adverse modification opinion).
4. An incidental take statement that identifies the anticipated level of incidental take that is expected to occur and provides mandatory reasonable and prudent measures and mandatory terms and conditions for minimizing any incidental take exempted in the biological opinion. This includes monitoring and reporting requirements.
5. Conservation recommendations that, if implemented, would minimize impacts and promote the conservation of the species. Conservation recommendations are not mandatory but are intended to provide an opportunity for the agency to further

the conservation of the desert tortoise as mandated under section 7(a)(1) of the ESA.

Confusion often arises concerning the difference between reasonable and prudent alternatives and reasonable and prudent measures. “Reasonable and prudent alternatives,” part of a jeopardy or adverse modification opinion, are modifications to the proposed action that will avoid jeopardizing the continued existence of a listed species and/or destroying or adversely modifying the listed species’ critical habitat. The Federal agency decides whether or not to implement reasonable and prudent alternatives. Failure to implement these alternatives, however, can lead to a violation of section 7(a)(2), if the action at any point in time causes a listed species to become jeopardized or results in the destruction or adverse modification of critical habitat. A Federal agency must notify the USFWS of its final decision regarding implementation of reasonable and prudent alternatives. The Federal agency can apply for an ESA exemption if it determines that it cannot comply with the requirements of section 7(a)(2) after consultation with the USFWS.

“Reasonable and prudent measures,” along with terms and conditions that implement them, are mandatory elements that minimize incidental take. Reasonable and prudent measures cannot alter the basic design, location, scope, duration, or timing of the action and may involve only minor changes (50 CFR § 402.14(i)(2)). They include monitoring and reporting requirements. The Federal action agency must comply with the terms and conditions that implement the reasonable and prudent measures, which the USFWS considers necessary to minimize incidental take, to be in compliance with the ESA.

It is not possible to determine an exact point at which the continued existence of a species would be jeopardized or adverse modification of critical habitat would occur without fully analyzing proposed actions in relation to the existing environmental baseline. Therefore, the USFWS will analyze each Federal action submitted for formal consultation on a case-by-case basis.

Formal consultation is initiated on the date the Federal agency’s request is received by the USFWS if the Federal agency provides all relevant data required by 50 CFR § 402.14(c). Within 10 working days, the USFWS will acknowledge receipt of the consultation request in writing. Upon reviewing the biological assessment provided by the Federal action agency, the USFWS will advise the Federal agency if insufficient information has been provided, and request additional information needed to complete the formal consultation process.

Formal consultation concludes within 90 days after its initiation unless suspended because of insufficient information or extended in accordance with 50 CFR § 402.14(e). The USFWS may use an additional 45-day period (total of 135 days) to issue the biological opinion to the Federal agency. The USFWS is responsible for ensuring that biological opinions are prepared and delivered within 135 days of initiation of consultation. The USFWS may request an extension of the consultation period.

When the Federal agency asks to review the draft biological opinion, the above time frames continue to apply. However, no final opinion will be issued before 135 days while the agency is reviewing the draft. Once comments on the draft are received by the USFWS, the biological

opinion is finalized and delivered to the Federal agency. If comments on the draft opinion result in major changes or clarifications, a time extension can be sought by the USFWS from the Federal agency.

If relevant data are known to be available to the Federal agency or will be available as a result of ongoing or imminent studies, the USFWS may request the data and any other analyses in accordance with 50 CFR § 402.14(c) or suggest that consultation be postponed until those data or analyses are available. The USFWS has the responsibility to alert the Federal agency (and any applicant) of areas where additional data would provide a better information base from which to formulate a biological opinion. The advice from the USFWS is intended to help the Federal agency to better satisfy its duty to ensure that its proposed action is not likely to jeopardize listed species or adversely modify/destroy critical habitat.

If the Federal agency insists that consultation be completed without the requested data or analyses, the USFWS will document in the biological opinion that certain analyses or data were not provided and why the information would have been helpful in conducting the consultation. In cases where gaps occur in the data base, the USFWS will evaluate the worst-case scenario and provide the benefit of the doubt to the species concerned.

#### 2.1.2. Incidental Take under Section 7 of the ESA

In cases where the USFWS concludes through consultation procedures that an action and the resultant take of listed species is not likely to jeopardize the continued existence of the listed species, the USFWS must provide an incidental take statement that specifies the anticipated level (amount or extent) of such taking and those reasonable and prudent measures considered necessary or appropriate to minimize such impact (50 CFR § 402.14(i)). There are two types of take under the ESA, incidental and intentional. An incidental take situation would exist if an otherwise lawful activity would result in the direct loss of a individual desert tortoise, or a sheltersite with a desert tortoise inside. An example would be the unintentional crushing of a desert tortoise by heavy equipment used for the otherwise lawful purpose of constructing a house. The take of the desert tortoise would be “incidental” to construction of the house. Conversely, intentional take is the purposeful take of a listed species, such as hunting, or capturing a listed species. Because the definition of “fish and wildlife” in the ESA includes eggs, the USFWS must also consider incidental take of desert tortoise eggs in a biological opinion, if such take may occur.

In a biological opinion, the USFWS estimates the amount of incidental take for individual desert tortoises and the amount of habitat that may be modified, and provides reasonable and prudent measures and terms and conditions that minimize adverse effects to the listed species. Under section 7(o)(2) of the ESA, a biological opinion with an incidental take statement operates as an exemption to the section 9 prohibitions against take.

Incidental take may also occur when federally listed wildlife are harmed or harassed by activities within their home range. For desert tortoises, harm may include destruction or degradation of habitat components (*e.g.*, soil, vegetation) necessary for the desert tortoise’s existence.

However, habitat cannot be “taken” in the context of the ESA. Harassment may occur when a desert tortoise is moved out of the action area to avoid harm. In these situations, the USFWS recommends that the project proponent initiate a dialogue with the USFWS to discuss the likelihood of incidental take.

Any unauthorized take of desert tortoises that results from activities carried out in a manner not consistent with, or not authorized under, the provisions of section 7 of the ESA may be subject to investigation by the USFWS pursuant to section 9 of the ESA. Criminal penalties for illegal take of a threatened species include up to \$25,000 in fines and 6 months in prison. Civil penalties may also be imposed as the ESA has a provision for citizen lawsuits.

## **2.2. Non-Federal Actions**

### **2.2.1. Conservation Planning under Section 10 of the ESA**

A permit from the USFWS pursuant to section 10(a)(1)(B) of the ESA authorizes incidental take for a non-Federal entity much as a section 7 consultation does through an incidental take statement in a biological opinion for a Federal action. Individuals, corporations, non-Federal government entities, State and local governments, Tribes, and other parties can apply for an incidental take permit by submitting an application and a habitat conservation plan (HCP) to the USFWS. “Habitat conservation planning” is the term often used to refer to this process.

Section 10(a)(1)(B) of the ESA requires that the Secretary of the Interior may not issue a permit for incidental take unless the applicant submits a conservation plan. Section 3 of the ESA defines conservation as using all methods and procedures necessary to bring an endangered or threatened species to the point at which measures provided in the ESA are no longer necessary (i.e., recovery). Congress intended that the conservation planning process be used to reduce conflicts between listed species and non-Federal development, and to provide a framework that would encourage creative partnerships between the private sector and local, State, Tribal, and Federal agencies in the interests of listed species and habitat conservation. The existing laws and regulations provide for, and encourage, flexibility and ingenuity in the development of an HCP that will reduce pertinent conflicts under the ESA. The USFWS recommends maximizing efficiency of effort by developing regional HCPs which include incidental take requests from a number of entities through the appropriate local regulatory agency.

The issuance of an incidental take permit by the USFWS is contingent upon the applicant’s development of a USFWS-approved HCP for the listed species affected by the project or action. Unlisted species may be included in the process and become covered under the permit if they are listed during the term of the permit. A more detailed document, “Habitat Conservation Planning and Incidental Take Permit Processing Handbook” is available from the USFWS’s Sacramento, Albuquerque, and Denver Regional Offices, or any field office, and on the internet at: <http://www.fws.gov/endangered/hcp/hcpbktoc.pdf>.

Upon receipt of the application and HCP, the USFWS may issue an incidental take permit if it determines that the following conditions have been met:

1. The taking will be incidental to an otherwise lawful action;

2. The applicant will, to the maximum extent practicable, minimize and mitigate the impacts of taking;
3. The applicant will ensure that adequate funding will be provided for the conservation plan and changed circumstances;
4. The applicant will provide procedures to deal with unforeseen circumstances;
5. The taking will not appreciably reduce the likelihood of the survival and recovery of the subject species in the wild;
6. The applicant will ensure that other measures required by the USFWS will be provided (e.g., Implementing Agreement); and
7. The plan will be implemented.

The third item above, regarding funding, generally requires development of an implementing agreement. This agreement is a legal document binding all implementing parties to the proposed HCP and their specific responsibilities.

Issuance of an incidental take permit by the USFWS is a Federal action requiring National Environmental Policy Act (NEPA) compliance through preparation of a categorical exclusion, an environmental assessment, or an environmental impact statement. To expedite this process, the USFWS will often delegate the development of information necessary for NEPA documentation to the applicant. Generally, if the incidental take permit will result in a significant net loss of individuals and/or habitat, an environmental impact statement likely will be required. This process often requires 2 years to complete. Conversely, if the permit will result in a net gain or insignificant net loss of individuals and/or habitat, an environmental assessment leading to a finding of no significant impact likely will be sufficient for NEPA compliance. In such a scenario, a permit could be considered for issuance within 1 year. Preparation times for HCP and NEPA documents vary according to the specific circumstances of each proposed action and are therefore difficult to predict.

When the HCP is approved by the USFWS, the section 7 consultation process is initiated on the proposed issuance of an incidental take permit to the applicant. The USFWS prepares and issues a biological opinion on the proposed Federal action to issue a Federal incidental take permit. When issued, the permit would authorize incidental take of listed, or future listed species covered under the permit, provided that the applicant institutes appropriate conservation measures for habitat maintenance, enhancement, and protection, coincident with development, which are detailed in the HCP.

The USFWS recognizes that completion of measures proposed in an HCP often takes a considerable amount of time. To provide incentives for all parties to participate in the conservation planning process, assurances exist that the terms and conditions of the incidental take permit will be available for the life of the HCP. Permits of 30 years or more duration may be appropriate to provide assurances to the private sector and non-Federal governments that long-term commitments to funding, land use restrictions, and habitat conservation will be maintained. Funding, land use restrictions, and habitat conservation are usually required to continue in perpetuity. Ensuring adequate funding for management of conserved habitat may require establishment of a trust fund.



The USFWS will evaluate all requests for incidental take permits under section 10(a)(1)(B) of the ESA. Permit applicants must submit an official application form (Form 3-200) to the appropriate Regional Director of the USFWS. ESA permits are issued in accordance with 50 CFR § 13.21.

### 2.3. Recommended Format for Biological Evaluations/Biological Assessment

The following is provided as a recommended guideline, although information should be presented in the order identified below. As projects vary in complexity, the biological evaluation/biological assessment (BE/BA) may also vary. Development of the BE/BA may not occur in the format order. Rather, as additional information becomes available during the crafting of the BE/BA, the appropriate sections will be modified. Federally funded or permitted exploratory activities that may affect listed species and occur prior to project implementation must also undergo section 7 consultation.

**Cover Page:** Name of project, location (city, county, etc.), and date.

**Table of Contents** (all pages must be numbered)

#### A. Executive Summary

1. Brief summary of project (2 or 3 sentences)
2. In tabular format, identify the species, critical habitat, status, and effects determinations. If “no effect”, include a brief paragraph for each species (these will not be addressed again.) For example:

SPECIES	LISTING STATUS	DETERMINATION
Mojave desert tortoise	Threatened	Likely to adversely affect
Mojave desert tortoise, critical habitat	Designated	Likely to adversely affect
Southwestern willow flycatcher	Endangered	Not likely to adversely affect

#### B. Project Description

**1. Location:** Describe construction boundary: mileposts, State, county, and GPS coordinates ). Include vicinity map (all maps and photographs must be first generation copies, legible and at a scale to be meaningful to the description of the activity).

**2. Definition of Action Area:** All areas affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. Include all off-site use areas (e.g., access roads, new utility lines, materials sources, waste sites, mitigation sites,

stockpiling areas, staging) and locations. A map is helpful, overlaying the entire action area with species and habitat occurrences. Please see Chapter 4 of the USFWS's section 7 handbook for a complete description and examples of the Action Area (<http://www.fws.gov/endangered/consultations/s7hndbk/s7hndbk.htm>).

### **3. Proposed Action:**

- a. Describe the anticipated steps involved in the action in their expected or logical order of implementation and include diagrams that are useful. The intent of the proposed action section is to describe what will be built, how it will be built, and when. Include description of actions for the entire action area (including interrelated and interdependent actions (see section 2.1.1)). Describe how the project will be accessed and if ongoing operations and maintenance is anticipated to occur following completion of the construction phase of the project. If the contractor proposes an alternative construction method other than that described in the BE/BA, concurrence from the Services is required.
- b. Identify Best Management Practices (BMPs), weed-control, habitat restoration, and other measures (i.e., work windows, construction techniques, avoidance) designed to minimize adverse effects in this section.
- c. Describe monitoring and reporting plans, as well as conservation bank credits or mitigation sites if applicable.

### **C. Description of the species and their habitat**

Identify each species and each critical habitat. Include the following (repeat for each listed species and listed habitat):

1. Consultation with State wildlife agency and/or Natural Heritage database;
2. Literature reviews;
3. Consultation with experts on species, as necessary;
4. Descriptions of the species and general habitat requirements;
5. Relationship of habitat in the project area to local populations;
6. Map of the project area at an appropriate scale to show vegetation types and important biological features, such as habitat for sensitive species, wetlands or unique plant assemblages;
7. Photographs keyed to locations labeled on the project map;
8. Species information in Action Area including survey protocol used, by whom, etc. Include names of surveyors and a statement of their qualifications or authorizations to conduct the survey; and
9. Identify designated or proposed critical habitat as separate listed entities. List the primary constituent elements and address the extent to which they are found in the

action area. These can be introduced in table format and elaborated in subsequent text.

**D. Environmental Baseline**

Describe the past and present effects of human actions on the species or critical habitat in the action area. Describe existing habitat conditions and species trends in detail. Use watershed analysis from the BLM or Forest Service where available, State wildlife agency, or any other available scientific or commercial databases or information. Include information on climate change (e.g., changes to the species' range, distribution, habitat, etc.).

**E. Effects of the Action:** Include a discussion of direct and indirect effects relative to the species:

1. Direct Effects - Those effects caused directly by the proposed action (include those based on sideboards). Provide the rationale for each determination;
2. Indirect Effects - Caused by or will result from the proposed action and are later in time, but are still reasonably certain to occur; and
3. Cumulative Effects - Those effects of future State or private activities, not Federal activities, that are reasonably certain to occur within the action area.

**F. Determination of Effect**

This section must include a clear statement of effect for each species. Example: "We conclude that the Fiber-Optic Line Project may affect, but will not likely adversely affect the Mojave desert tortoise because..."

**G. References and Personal Communications Cited**

*Example of Literature Cited:*

Smith, D. M. 2001. Genetic subdivision and speciation in the western North American spotted snake complex, *Thamnophis punctatus*. *Evolution* 4:29-35.

*Example of Personal Communications (must be documented):*

Leslie Brown, Research Biologist  
Smith Nature Center  
4125 Willowtree Drive  
Greenville, Oregon 85194  
January 8, 2009 telephone communication (or email, site visit, etc.)

## **CHAPTER 3. FEDERAL AND STATE AUTHORIZATIONS FOR IMPLEMENTING DESERT TORTOISE MEASURES REQUIRED UNDER SECTIONS 7 OR 10 OF THE ESA**

When a project will be implemented under the purview of a section 7 biological opinion or a section 10 permit for the Mojave population of the desert tortoise, the USFWS requires each desert tortoise survey be conducted by a desert tortoise Authorized Biologist approved by the USFWS. In addition, the appropriate State wildlife agency should be contacted for their permitting requirements. Within the States of Nevada, California, Utah, and Arizona, individuals must obtain the appropriate permits or authorizations from the respective State wildlife agency to be authorized to handle desert tortoises. Authorized individuals must comply with any section 7 biological opinion and Federal and State permits for the project. In California, CDFG must approve the all individuals involved in handling desert tortoises including Monitors and Authorized Biologists. Contact the appropriate agencies for clarification if there are questions about or conflicting conditions between a section 7 biological opinion/section 10 incidental take permit and a State permit.

As a general rule, an Authorized Biologist has a bachelors or graduate degree in biology, ecology, wildlife biology, herpetology, or related discipline with prior field experience using accepted resource agency techniques to survey for desert tortoises. The proposed Authorized Biologist shall submit to the USFWS a completed and signed “Desert Tortoise - Authorized Biologist and Monitor Responsibilities and Qualifications Form” (Qualifications Form) provided below. USFWS is developing a training and certification program for persons who want to be Authorized Biologists. Until this program is in place, Authorized Biologists will be reviewed based on the information submitted on the Qualifications Form.

Submit the Qualifications Form to the appropriate USFWS field office (See AGENCY/ORGANIZATION CONTACT INFORMATION preceding Chapter 1) **at least 30 days prior to initiation of activities**. If required, submit the Qualifications Form to the Federal action agency with whom the USFWS has consulted under section 7 of the ESA. Submit an updated Qualifications Form for each project even if you have been approved previously, unless you have been instructed otherwise by the USFWS or State wildlife agency. If you seek approval to attach/remove/insert any devices or equipment to/into desert tortoises, withdraw blood, or conduct other procedures on desert tortoises, a recovery permit (section 10(a)(1)(A) permit) or similar authorization may be required. The application for a recovery permit requires completion of Form 3-200-55, which can be downloaded at <http://www.fws.gov/forms/3-200-55.pdf>. Submit the completed form to the appropriate USFWS regional office (<http://www.fws.gov/endangered/permits/permitscontact.html>).

### **3.1. Desert Tortoise - Authorized Biologist and Monitor Responsibilities and Qualifications Form**

**AUTHORIZED BIOLOGIST** – Authorized Biologists must keep current with the latest USFWS protocols, guidelines, and regulations pertaining to the desert tortoise. Some of these are available at [http://www.fws.gov/ventura/speciesinfo/protocols\\_guidelines/](http://www.fws.gov/ventura/speciesinfo/protocols_guidelines/).

Authorized Biologists will serve as mentors to train Desert Tortoise Monitors and should approve Monitors to conduct specific activities based on the Monitor’s demonstrated skills, knowledge and qualifications. Direct supervision is always required for field and clearance surveys; direct supervision means that the Authorized Biologist has direct voice and sight contact

with the desert Tortoise Monitor. An Authorized Biologist is responsible for the outcome of all desert tortoise related activities for which the project is approved, including errors committed by Desert Tortoise Monitors.

The Authorized Biologist must have thorough and current knowledge of desert tortoise identification, behavior, natural history, ecology, and physiology, and demonstrate substantial field experience and training to safely and successfully conduct their required duties. Authorized Biologists are approved to monitor project activities within desert tortoise habitat and are responsible for locating desert tortoises and their sign (*i.e.*, conduct field and clearance surveys). Authorized Biologists must ensure proper implementation of protective measures, and make certain that the effects of the project on the desert tortoise and its habitat are minimized in accordance with a biological opinion or incidental take permit. All incidents of noncompliance in accordance with the biological opinion or permit must be recorded and reported.

To be authorized, the applicant must have the knowledge and experience to conduct any or all of the following, as needed:

- Locate, identify, and report all forms of desert tortoise sign in accordance with approved protocols;
- Handle and temporarily hold desert tortoises;
- Relocate/translocate desert tortoises prior to implementation of projects;
- Excavate burrows to locate desert tortoises or eggs;
- Reconstruct desert tortoise burrows;
- Unearth and relocate desert tortoise eggs;
- Review and approve individual Desert Tortoise Monitors and their activities based on qualifications of the Monitors;
- Directly supervise Desert Tortoise Monitors during clearance surveys and train Monitors in all aspects of protecting desert tortoises during implementation of projects;
- Be familiar with the project biological assessment and biological opinion or incidental take permit (copy in hand);
- Ensure proper implementation of protective measures;
- Record and report incidents of noncompliance in accordance with a biological opinion or permit; and
- Halt project activities per provisions of the biological opinion or permit.

**DESERT TORTOISE MONITOR** – Desert Tortoise Monitors will be approved by the Authorized Biologist(s) or USFWS (if an Authorized Biologist is not required) for a project. Desert Tortoise Monitors will assist the Authorized Biologist on project activities within desert tortoise habitat, ensure proper implementation of protective measures, and record and report desert tortoise and sign observations in accordance with approved protocol. They will report incidents of noncompliance in accordance with a biological opinion or permit, move desert tortoises from harm's way when desert tortoises enter project sites and place these animals in designated safe areas or maintain the desert tortoises in their immediate possession until an Authorized Biologist assumes care of the animal. Monitors assist Authorized Biologists during surveys and serve as apprentices to acquire experience. Monitors may not conduct field or clearance surveys or other specialized duties of the Authorized Biologist unless directly supervised by an Authorized Biologist; "directly supervised" means the Authorized Biologist has direct voice and sight contact with the Monitor.

### 3.2. DESERT TORTOISE AUTHORIZED BIOLOGIST QUALIFICATIONS FORM

This form should be used to provide your qualifications to agency officials if you wish to undertake the duties of an authorized biologist with regard to desert tortoises during construction or other projects authorized under Sections 7 (Biological Opinions) or 10(a)(1)(B) (i.e. Habitat Conservation Plans) of the Endangered Species Act.

(If you seek approval to attach/remove/insert any devices or equipment to/into desert tortoises, withdraw blood, or conduct other procedures on desert tortoises, a recovery permit or similar authorization may be required. Application for a recovery permit requires completion of Form 3-200-55, which can be downloaded at <http://www.fws.gov/forms/3-200-55.pdf>.)

#### 1. Contact Information:

<b>Name</b>	
<b>Address</b>	
<b>City, State, Zip Code</b>	
<b>Phone Number(s)</b>	
<b>Email Address</b>	

#### 2. Date:

#### 3. Areas in which authorization is requested (check all that apply):

- San Bernardino, Kern, Inyo and Los Angeles Counties, California (Ventura office)
- Riverside, San Diego, and Imperial Counties, California (Carlsbad office)
- Nevada     Utah     Arizona

#### 4. Please provide information on the project:

<b>USFWS Biological Opinion or HCP No.</b> <b>When Applicable</b>		<b>Date:</b>
<b>Project Name</b>		
<b>Federal Agency (If Applicable)</b>		
<b>Proponent or Contractor</b>		

5. If you hold, or have held, any relevant state or federal wildlife permits provide the following:

<b>Species</b>	<b>Dates</b>	<b>State (specify) or Federal Permit Number</b>	<b>Authorized Activities</b>

6. **Education:** Provide up to three schools, listing most recent first:

Institution	Dates attended	Major/Minor	Degree received

**7. Desert Tortoise Training.**

Name/Type of Training	Dates (From/To)	Location	Instructor/Sponsor
1. Classes			
2. Field Training			
3. Translocation			
4.			

**8. Experience** – Include only those positions relevant to the requested work with desert tortoises. Distinguish between wild Mojave desert tortoise and other experience. Include only your experience, not information for the project you worked on (e.g., if 100 tortoises were handled on a project and you handled 5 of those tortoises, include only those 5. List most recent experience first. Handling a Mojave desert tortoise must be authorized by a Biological Opinion or other permit and reported to the USFWS. Information provided in this section will be used by the USFWS to track the numbers of tortoises affected by previous projects (baseline). **Be sure to include a project supervisor or other contact that can verify your skills and experience in relation to your job performance.** Attach additional sheets as necessary. Please use numbers in each column; do not use “X’s” to indicate participation in the activity. If your experience is limited to **less than three desert tortoise positions**, please include additional job experience and references in the section below.



**Experience by project and activity:**

<b>Project Name:</b> <b>Job Title:</b> <b>Dates of Employment:</b>	<b>Supervisor / Project Contact Name:</b> <b>Phone:</b> <b>Email Address:</b>		<b>Conduct Clearance Surveys (Hrs/Days)</b>	<b>Excavate DT burrows (No.)</b>	<b>Locate DT No. &lt; 100mm ≥ 100mm</b>	<b>Handled for Relocation DTs (No.)</b>	<b>Excavate, and relocate DT nests (No.)</b>
1.					/		
2.					/		
3.					/		
4.					/		
5.					/		
6.					/		
7.					/		

**Experience by project and activity (continued):** Each project number should correspond with the project listed on the previous page

<b>Project Name</b> (Number should correspond to previous page)	<b>Construct Artificial Burrows (No.)</b>	<b>Monitor project equipment and activities (Hrs/Days)</b>	<b>Oversee project compliance (Hrs/Days)</b>	<b>Supervise DT field staff (Hrs/Days) and No. staff supervised</b>	<b>DT fence Installation and inspection (Hrs/Days)</b>	<b>Present DT Awareness Training (No.)</b>
1.						
2.						
3.						
4.						
5.						
6.						
7.						

**Summary of experience:**

Total time spent for all desert tortoise-related field activities (referenced above):

Specify total number of hours:

OR total number of 8-hour days: \_\_\_\_\_

Total number of miles/kilometers walked conducting survey transects:

Total number of wild, free-ranging desert tortoises you personally handled:

<100 mm: \_\_\_\_\_

≥100 mm: \_\_\_\_\_

Additional supervisory experience other than with desert tortoise work:

Project	Hours	Staff (No.)

Additional references for individuals who have held **less than three** positions working with desert tortoise

<p><b>Project Name:</b></p> <p><b>Job Title:</b></p> <p><b>Dates of employment:</b></p>	<p><b>Supervisor / Project Contact:</b></p> <p><b>Name:</b></p> <p><b>Phone:</b></p> <p><b>Email address:</b></p>
<p><b>Project Name:</b></p> <p><b>Job Title:</b></p> <p><b>Dates of employment:</b></p>	<p><b>Supervisor / Project Contact:</b></p> <p><b>Name:</b></p> <p><b>Phone:</b></p> <p><b>Email address:</b></p>

<b>Project Name:</b>	<b>Supervisor / Project Contact:</b>
<b>Job Title:</b>	<b>Name:</b>
<b>Dates of employment:</b>	<b>Phone:</b>
	<b>Email address:</b>

I certify that the information submitted in this form is complete and accurate to the best of my knowledge and belief.

I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. Ch.47, Sec. 1001.

**Signed:** \_\_\_\_\_ **Date:** \_\_\_\_\_

<b>Table 3. USFWS Desert Tortoise Pre-Project Survey Guidance</b>		
<b>What is the estimated number of tortoises and associated 95% confidence interval for the action area?</b>		
<b>INSTRUCTIONS</b> Use this tab when your transects were of unequal length.		
Enter the appropriate values from the survey into the yellow cells below. The number of tortoises and associated 95% confidence interval for the action area will be calculated.		
	<b>N =</b>	<b>42.4</b>
	<b>Lower 95%CI =</b>	<b>19.41</b>
	<b>Upper 95%CI =</b>	<b>92.54</b>
<b>Total action area (acres)</b>		<b>3000</b>
<b>Prob that a tort is above ground given winter rainfall (Pa from Table 2) =</b>		<b>0.800</b>
<b>Total length of transects walked (km) =</b>		<b>1080</b>
<b>Number of transects walked =</b>		<b>108</b>
<b>Number of tortoises found during surveys (n) =</b>		<b>19</b>
<b><i>Transects of various lengths</i></b>		
<b>Transect</b>	<b>Length (km)</b>	<b>Tortoises within 5m of centerline</b>
1	10.0	0
2	10.0	0
3	10.0	0
4	10.0	0
5	10.0	2
6	10.0	0
7	10.0	0
8	10.0	0
9	10.0	0
10	10.0	2
11	10.0	0
12	10.0	0
13	10.0	2
14	10.0	1
15	10.0	1
16	10.0	1
17	10.0	1
18	10.0	0
19	10.0	0
20	10.0	0
21	10.0	2
22	10.0	0
23	10.0	0
24	10.0	0
25	10.0	0

26	10.0	0
27	10.0	0
28	10.0	0
29	10.0	0
30	10.0	0
31	10.0	0
32	10.0	0
33	10.0	0
34	10.0	0
35	10.0	0
36	10.0	1
37	10.0	0
38	10.0	0
39	10.0	0
40	10.0	1
41	10.0	0
42	10.0	0
43	10.0	0
44	10.0	0
45	10.0	0
46	10.0	0
47	10.0	1
48	10.0	0
49	10.0	1
50	10.0	0
51	10.0	0
52	10.0	0
53	10.0	0
54	10.0	0
55	10.0	0
56	10.0	0
57	10.0	0
58	10.0	0
59	10.0	0
60	10.0	0
61	10.0	0
62	10.0	0
63	10.0	0
64	10.0	0
65	10.0	0
66	10.0	0
67	10.0	0
68	10.0	0
69	10.0	0
70	10.0	0
71	10.0	0
72	10.0	0
73	10.0	0
74	10.0	0
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77	10.0	0
78	10.0	0
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81	10.0	0
82	10.0	0
83	10.0	1
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86	10.0	0
87	10.0	1
88	10.0	0
89	10.0	0
90	10.0	0
91	10.0	0
92	10.0	0
93	10.0	0
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95	10.0	0
96	10.0	0
97	10.0	0
98	10.0	0
99	10.0	0
100	10.0	0
101	10.0	1
102	10.0	0
103	10.0	0
104	10.0	0
105	10.0	0
106	10.0	0
107	10.0	0
108	10.0	0
109	5.0	0
110	5.0	0
111	5.0	0
112	5.0	0
113	5.0	0
114	5.0	0
115	5.0	0
116	5.0	0
117	5.0	0
118	5.0	0
119	5.0	0
120	5.0	0
121	5.0	0
122	5.0	0
123	5.0	1
124	5.0	0
125	5.0	0
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127	5.0	0

128	5.0	0
129	3.0	0
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137	3.0	0
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<b>Table 3. USFWS Desert Tortoise Pre-Project Survey Guidance</b>	
<b>What is the estimated number of tortoises and associated 95% confidence interval for the action area?</b>	
<b>INSTRUCTIONS</b> Use this tab when all your transects were of equal length. Enter the appropriate values from the survey into the yellow cells below. The number of tortoises and associated 95% confidence interval for the action area will be calculated.	
	<b>N = 42.4</b>
	<b>Lower 95%CI = 19.41</b>
	<b>Upper 95%CI = 92.52</b>
Total action area (acres)	3000
Prob that a tort is above ground given winter rainfall (Pa from Table 2) =	0.800
Total length of transects walked (L, km) =	1080
Transect length (km)	10
Number of transects walked (k) =	108
Number of tortoises found during surveys (n) =	19
<i>Transects all the same length</i>	
Number of tortoises (n <sub>i</sub> )	Number of transects on which (n <sub>i</sub> ) tortoises were
0	93
1	11
2	4
3	0
4	0
5	0
6	0
7	0
8	0
9	0

---

## CHAPTER 4. PREPARING FOR ANY ACTION THAT MAY OCCUR WITHIN THE RANGE OF THE MOJAVE POPULATION OF THE DESERT TORTOISE

### 4.1. General Information on the Ecology of the Desert Tortoise

Most habitat for the Mojave population of the desert tortoise is below 4,500 feet (1372 meters) elevation in the creosote bush-bursage series of the Mojave desert scrub biome; dominant plants are creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*). Desert tortoise habitat may also include various cacti species (*Opuntia* spp.), saltbush (*Atriplex* spp.) scrub, and Joshua tree (*Yucca brevifolia*) woodlands at elevations up to approximately 5,000 feet (1524 meters). The desert tortoise is a large, herbivorous reptile. Mojave desert tortoises are typically active during the day and when annual plants are most abundant during spring and early summer. However, they can also be active following rain events and unseasonably warm periods during fall and winter. If rain events occur at night, tortoises may emerge from their burrows to drink. Female desert tortoises construct nests during the late afternoon and evening, and any desert tortoise may emerge from its burrows at night during extreme heat (see section 7.3). Desert tortoises usually spend the remainder of the year in sheltersites, escaping the extreme weather conditions of the Mojave Desert. Location and type of sheltersites vary greatly in different geographic locations (see section 4.2). For detailed information on the ecology of the Mojave desert tortoise, please see [http://www.fws.gov/nevada/desert\\_tortoise](http://www.fws.gov/nevada/desert_tortoise).

### 4.2 Desert Tortoise Burrows

Desert tortoises use a variety of sheltersites including soil burrows, caliche caves, lava tubes, pallets, rock caves, rodent or other animal's burrows, and shrubs or man-made structures, such as vehicles and equipment. For this Manual, the term "burrow" means any structure that could be used by a desert tortoise for shelter.

#### 4.2.1. Determining if a Desert Tortoise is Present in a Burrow

If sufficient sunlight is available, use a mirror to direct light into the opening of the burrow to locate desert tortoise sign including a desert tortoise. Alternatives to a mirror are the use of a LED flashlight, fiber-optic scope, or miniature camera. Please refer to section 7.6 for disinfecting procedures for equipment. If the terminus of the burrow or any side chambers cannot be observed, or if the light is insufficient, use a fiber-optic scope or miniature camera to inspect all areas of the burrow.

#### 4.2.2. Describing Burrows

Desert tortoises typically excavate soil burrows that are flat on the bottom and domed on top to match the profile of the desert tortoise shell (half-moon shape). The condition class of a burrow (see below) does not necessarily exclude use or occupation by a desert tortoise. When aestivating in a burrow, desert tortoises may backfill the burrow giving the appearance of the terminus. Spider webs, litter, and other debris may accumulate in burrow openings overnight, and openings may collapse during winter rains. Do not assume that a burrow is inactive if it

looks unused or collapsed. Desert tortoises may use canid or mustelid excavations, and may be found in burrows of other animals, particularly kit foxes. Burrowing owls may use desert tortoise burrows, but do not assume that burrows occupied by owls are not also occupied by desert tortoises. Juvenile desert tortoises create their own burrows, which may resemble rodent burrows, or use rodent burrows. Therefore, consider all burrows to be occupied by desert tortoises until determined otherwise.

Record basic information on the data sheet for each burrow including its class, if occupied by a desert tortoise or other animals, other sign present, GPS location, and other distinguishing information (see below). We recommend photographing burrows and submitting the photographs to the USFWS with the data sheets. Record the information electronically or use permanent black ink and high rag content, acid-free paper when recording all data.

**Condition Class:**

1. currently active, with desert tortoise or recent desert tortoise sign
2. good condition, definitely desert tortoise; no evidence of recent use
3. deteriorated condition which includes collapsed burrows; definitely desert tortoise (please describe)
4. good condition; possibly desert tortoise (please describe)
5. deteriorated condition which includes collapsed burrows; possibly desert tortoise (please describe)

4.2.3. Mapping Burrows

Map desert tortoise burrows using a GPS unit with sufficient accuracy to easily navigate back to the location. Indicate the condition class of the burrow and whether it is occupied by a desert tortoise. There are several important reasons for mapping it: a) resource agencies can determine how many desert tortoises were encountered on the project compared with the number of burrows excavated, b) the information will be available for future projects in the same area, c) burrow locations may be important for organizing desert tortoise removals and determining desert tortoise hot spots versus areas where few, if any, desert tortoises are found, and d) the number and location of burrows found during initial desert tortoise surveys can be compared with the number and location of burrows found during monitoring or subsequent surveys; (i.e., the data may provide information to determine appropriate take limits based on the findings of initial surveys). Typically, the USFWS requires a report that includes the number of desert tortoises observed during the project. Some projects require that all desert tortoise sign be mapped. If an artificial burrow is used, map it accurately. If the burrow is blocked or temporarily penned (see section 7.10.3, Penning Desert Tortoises), map and mark it in the field to easily find it later.

4.2.4. Map Types

For reporting purposes, display burrow locations on maps of appropriate scale, preferably on aerial photography maps. If monitoring a linear right-of-way, number the burrows sequentially within a given portion (e.g., "B-23-2," for burrow #23 on reach 2). As an alternative, use United States Geological Survey (USGS) 7.5' topographical maps (scale 1" = 2,000'), paper or

electronic, or enlargements of them. Project maps at a scale of 1" = 100' or 1" = 200' are particularly useful when burrows are common and better resolution is necessary. The assigned numbers may be cross-referenced with data sheets, field notes, and photographs.

### 4.3. Presence/absence and abundance desert tortoise survey protocol

This protocol provides recommendations for survey methodology to determine presence/absence and abundance of desert tortoises for projects occurring within the species range on Federal and non-Federal lands, and to provide a standard method for reporting survey results. Information gathered from these procedures will: 1) help determine the appropriate level of consultation with USFWS and the appropriate State wildlife agency, 2) help determine the incidental take of desert tortoises resulting from proposed projects as defined by the ESA and California Endangered Species Act (CESA) and 3) help minimize and avoid take.

This guidance includes:

- Site Assessment
- Pre-project Field Survey Protocol for Potential Desert Tortoise Habitats
- USFWS Desert Tortoise Pre-project Survey Data Sheet

This guidance is subject to revision as new information becomes available. Before initiating the protocols described below, please check with your local USFWS and appropriate State wildlife agency to verify that you are implementing the most up-to-date methods. To ensure quality and reduce the likelihood of nonconcurrence with survey results, we recommend that the names and qualifications of the surveyors be provided to USFWS and appropriate State agency for review prior to initiating surveys.

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In Nevada:

U.S. Fish and Wildlife Service  
Nevada Fish and Wildlife Office  
4701 North Torrey Pines Drive  
Las Vegas, Nevada 89130  
(702) 515-5230

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In California:

Inyo, Kern, Los Angeles, and San Bernardino Counties:

U.S. Fish and Wildlife Service  
Ventura Fish and Wildlife Office  
2493 Portola Road, Suite B  
Ventura, California 93003  
(805) 644-1766

Imperial and Riverside Counties, and Joshua Tree National Park and the San Bernardino National Forest in San Bernardino Co:

U.S. Fish and Wildlife Service  
Carlsbad Fish and Wildlife Office  
6010 Hidden Valley Road  
Carlsbad, California 92009  
(760) 431-9440

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In Utah:

U.S. Fish and Wildlife Service  
Utah Ecological Services Field  
Office  
2369 West Orton Circle  
West Valley City, Utah 84119  
(801) 975-3330

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In Arizona:

U.S. Fish and Wildlife Service  
Arizona Fish and Wildlife  
Conservation Office -Flagstaff  
323 North Leroux Street, Suite 201  
Flagstaff, Arizona 86001  
(928) 226-0614

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**State Wildlife Agencies**

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Nevada: Department of Wildlife:

Southern Region  
4747 Vegas Drive  
Las Vegas, Nevada 89108  
(702) 486-5127

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California Department of Fish and Game (CDFG)

For Fresno, Kern, Kings, Madera, Mariposa, Merced, Monterey, San Benito, San Luis  
Obispo, Stanislaus, Tulare and Tuolumne Counties:

Central Region Headquarters Office  
1234 E. Shaw Avenue  
Fresno, California 93710  
(559) 243-4005 ext. 151

For Imperial, Inyo, Mono, Riverside and San Bernardino Counties:

Inland Deserts Regional Office  
3602 Inland Empire Boulevard, Suite C-220  
Ontario, California 91764  
(909) 484-0167

For Los Angeles, Orange, San Diego, Santa Barbara and Ventura Counties:

South Coast Regional Office  
4949 Viewridge Avenue  
San Diego, California 92123  
(858) 467-4201

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Utah Division of Wildlife Resources:

Southern Region  
1470 N Airport Road  
Cedar City, Utah 84720  
(435) 865-6100

Washington County Field Office  
344 East Sunland Drive, Suite #8  
St. George, Utah 84790  
(435) 688-1426

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Arizona Game & Fish Department  
State Headquarters--Nongame Branch  
5000 W. Carefree Highway  
Phoenix, Arizona 85086  
(623) 236-7767

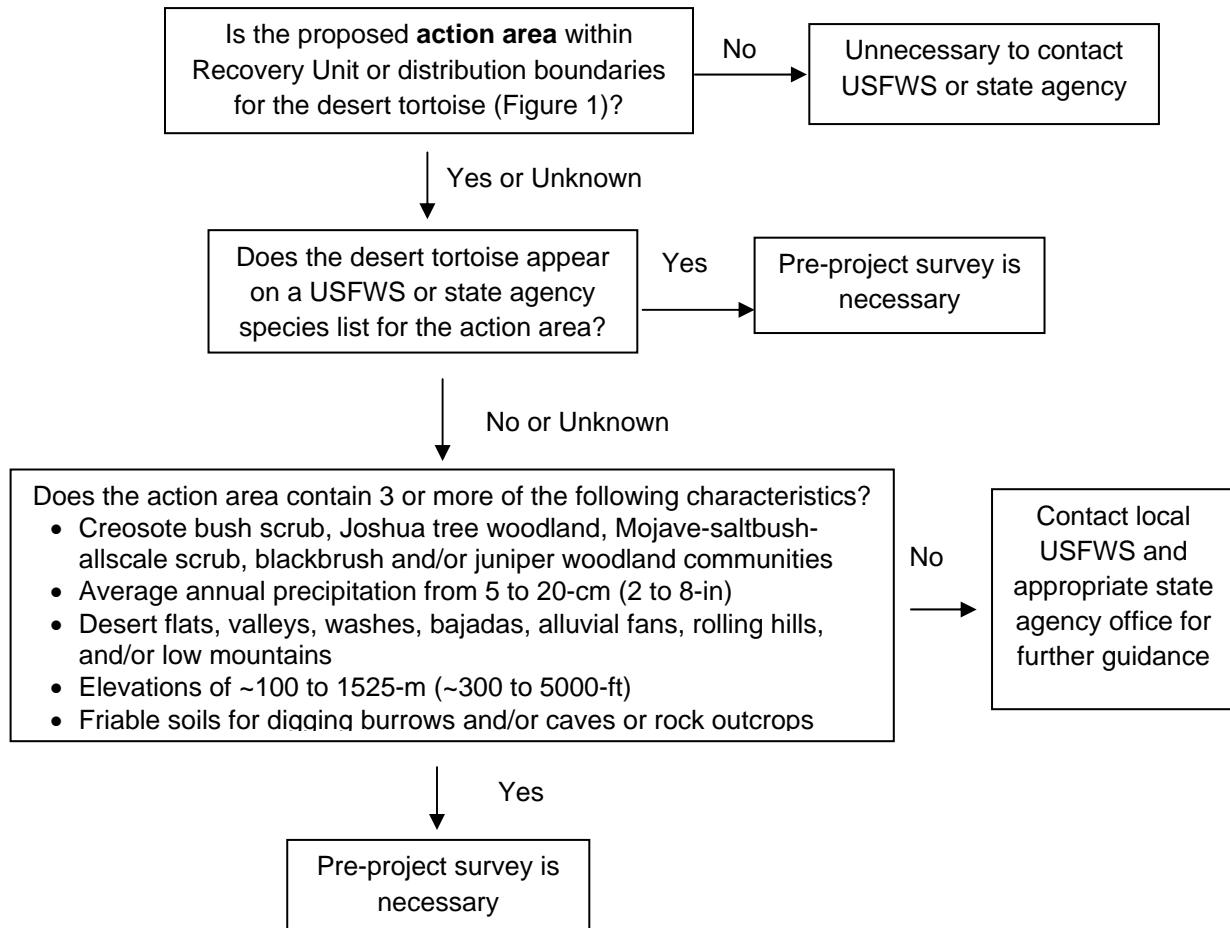
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## Site Assessment

Use the below key to assess if desert tortoises may be present within or near the action area and determine survey and consultation requirements<sup>1</sup>. The **action area** is defined by regulation as all areas to be affected directly or indirectly and not merely the immediate area involved in the action (50 CFR §402.02). The extent of the action area is not limited to the footprint of the action nor is it limited by the authority of the Federal, State, or local agency or any other entity proposing the project. The environmental baseline, the analysis of the effects of the action, and the amount or extent of incidental take are based upon the action area. If you cannot access the entire action area during your surveys for some reason (e.g., access to private property is unavailable), please note that in your survey report.



<sup>1</sup>If determined that the proposed project is not likely to adversely affect the desert tortoise and a tortoise or tortoise sign (shells, bones, scutes, limbs, burrows, pellets, scats, egg shell fragments, tracks, courtship rings, drinking sites, mineral licks, etc.) is found in the action area during implementation of the proposed project, the proposed action should *immediately* stop and then it must be determined whether further or formal consultation is necessary to comply with the ESA or CESA in California. It is recommended that the USFWS and CDFG in California be notified in writing within three days of the discovery. This short notification period will help ensure a prompt response by USFWS and CDFG to facilitate ESA and CESA compliance.

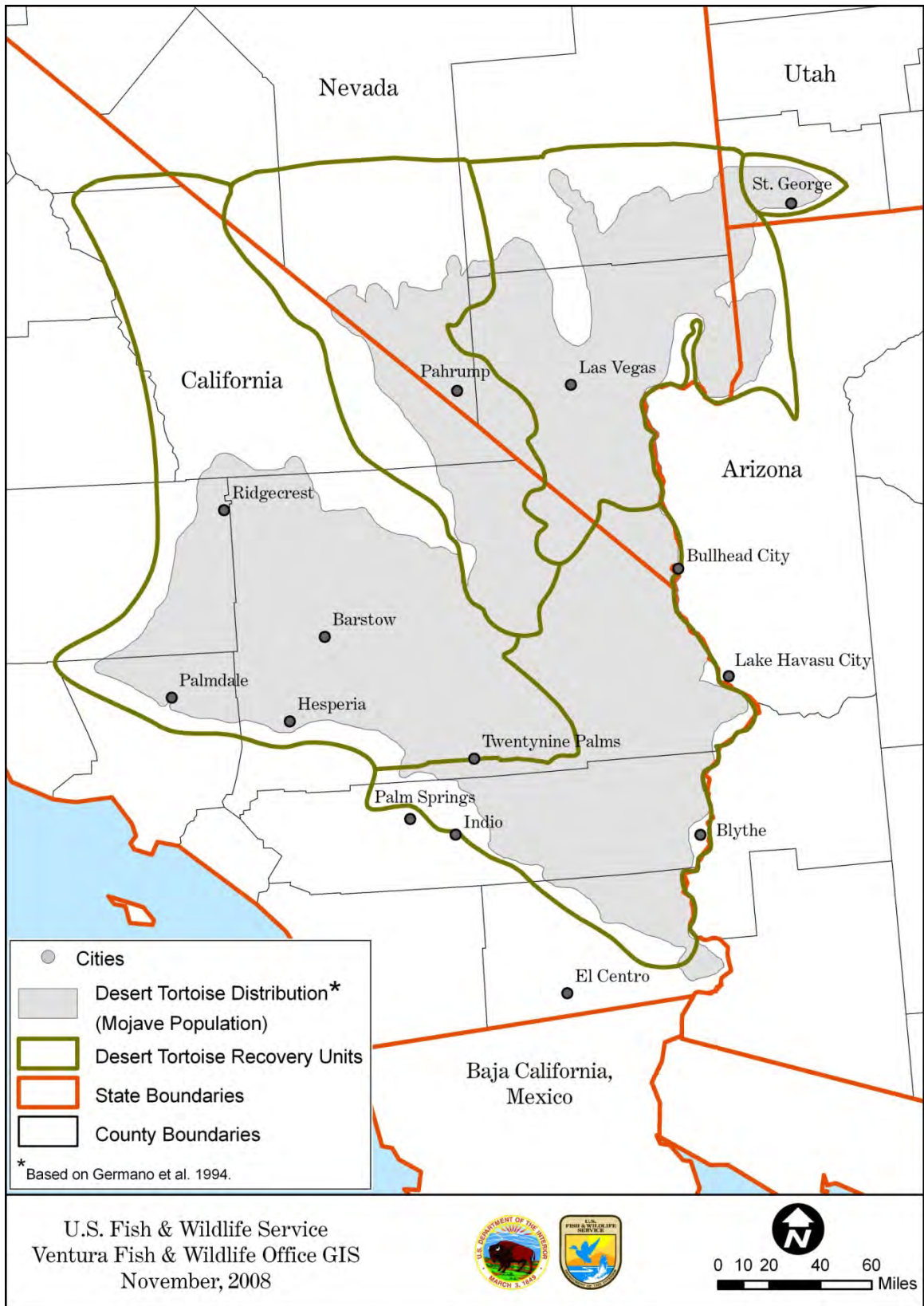


Figure 1: Known Range of the Desert Tortoise (Mojave Population)

## Pre-project Field Survey Protocol for Potential Desert Tortoise Habitats

### Objectives of survey

- Determine presence or absence of desert tortoises within the action area
- Estimate the number of desert tortoises (abundance) within the action area
- Assess the distribution of desert tortoises within the action area to inform take avoidance and minimization

The **action area** is defined by regulation as all areas to be affected directly or indirectly and not merely the immediate area involved in the action (50 CFR §402.02). The action area is not limited to the "footprint" of the action or jurisdiction. Rather, it is a biological determination of the reach of the proposed action on listed species.

### Field Methods

This protocol takes into account the fact that not all desert tortoises within the action area are seen by the surveyor. Provided is an equation which accounts for tortoises that are below ground at the time of surveys and for above-ground desert tortoises that are cryptic and may be missed.

$$\left( \begin{array}{c} \text{Estimated number of tortoises} \\ \text{within action area} \end{array} \right) = \frac{\left( \begin{array}{c} \text{Number of tortoises} \\ \text{observed above ground} \end{array} \right)}{\left( \begin{array}{c} \text{Probability that} \\ \text{a tortoise is} \\ \text{above ground (P}_a\text{)} \end{array} \right) \left( \begin{array}{c} \text{Probability of} \\ \text{detecting a tortoise,} \\ \text{if above ground (P}_d\text{)} \end{array} \right)} \left( \begin{array}{c} \text{Action area} \\ \text{Area surveyed} \end{array} \right)$$

Surveys of 100% coverage, or probabilistic sampling where appropriate, should utilize this equation to estimate the number of desert tortoises within the action area (see below; Table 1, P<sub>a</sub> and P<sub>d</sub>).

- Information to determine presence/absence *and* estimate number of desert tortoises within the action area is collected during the same survey effort. Surveyed objects include all desert tortoises that are above ground (both out of burrows and within burrows but still visible), as well as all desert tortoise sign (burrows, scats, carcasses, etc.). Record all locations of desert tortoises and sign encountered during the survey effort using the USFWS 2009 Desert Tortoise Pre-Project Survey Data Sheet (attached). Please submit a copy of the original datasheets with results of the survey to your local USFWS office.
- Surveys should be conducted during the desert tortoise's most active periods (April through May or September through October) (Nussear and Tracy 2007; Inman 2008; USFWS 2009). Surveys outside these time periods may be approved by USFWS, and CDFG in California (e.g., warm weather in March or rainfall in August stimulating increased desert tortoise activity).
- Desert tortoises utilize burrows to avoid daily and annual thermal extremes (Woodbury and Hardy 1948). Therefore, surveys should take place when air temperatures are below 40 degrees C (104 degrees F) (Zimmerman et al. 1994; Walde et al. 2003; Inman 2008). Air

temperature is measured ~5-cm from the soil surface in an area of full sun, but in the shade of the observer.

- Ten-meter (~30-ft) wide belt transects should be used during surveys. For all projects, surveys which cover the entire project area with the 10-m belt transects (100 percent coverage) are always an acceptable option. For very large action areas, probabilistic sampling may also be an option, such that the appropriate proportion of the action area is surveyed (Table 2). If probabilistic sampling is an option for the project site, each transect should be chosen either systematically or randomly ensuring that the entire action area has an equal probability of being included in the sample. Transects should be completed in a random order, oriented in a logistically convenient pattern (e.g., lines, squares, or triangles). Any sampling design other than simple systematic or random sampling must be approved by USFWS (e.g. stratification). See *Frequently Asked Questions* section for a discussion of 100 percent coverage and probabilistic sampling.
- USFWS considers the results of a pre-project survey to be valid for no more than one year. If survey results are older than one year, please contact the local USFWS office.

#### *Presence or absence of desert tortoises within the project vicinity*

- Occurrence of either live desert tortoises or desert tortoise sign (burrows, scats, and carcasses) in the action area indicates desert tortoise presence and therefore requires formal consultation with USFWS.
- If neither desert tortoises nor sign are encountered during the action area surveys and the project, or any portion of project, is  $\leq$  (less than or equal to) 0.8 km<sup>2</sup> (200 acres) or linear, three additional 10-m (~30-ft) belt transects at 200-m (~655-ft) intervals parallel to and/or encircling the project area perimeter (200-m, 400-m, and 600-m from the perimeter of the project site) should be surveyed. These transects are employed only as part of the presence/absence determination; they are not included in the estimation of desert tortoise abundance. See *Frequently Asked Questions* section below for an explanation of why additional surveys are needed.
- If neither desert tortoises nor sign are encountered during the action area surveys, as well as project perimeter surveys where appropriate, please contact your local USFWS office. Informal consultation with the USFWS may be required even though no desert tortoises or sign are found during surveys.

#### *Number of desert tortoises within the action area*

The attached Table 4.3 spreadsheet will estimate the number of adult desert tortoises (> (greater than) 160 mm MCL) within the action area using the “Number of desert tortoises within the action area” equation from above.

Enter the requested information into the Table 4.3 spreadsheet, as follows:

1. Enter the total project area.
2. Enter the appropriate value from Table 1 for the term “probability that a desert tortoise is above ground” ( $P_a$ ).
3. Enter the number of adult desert tortoises (>160-mm midline carapace length) found during the survey of the action area for the term “number of desert tortoises observed above ground” ( $n$ ).

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**Table 4.1.** Probability that a desert tortoise is above ground ( $P_a$ ) relative to the previous winter’s rainfall (October through March)

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*Use amount of rainfall from the winter preceding the pre-project survey to determine which value of  $P_a$  is appropriate for the project*

*To find this amount of rainfall, go to the Western Regional Climate Center site:*

*<http://www.wrcc.dri.edu/summary/Climsmsca.html>; click on your location and scroll down to “monthly totals”*

Previous Winter Rain	Probability ( $P_a$ )	Variance( $P_a$ )
<40 mm (~1.5 inches)	0.64	0.08
$\geq$ 40 mm (~1.5 inches)	0.80	0.05

---

The estimate for the term “probability of detecting a desert tortoise if above ground ( $P_d$ )” is already included in spreadsheet Table 3 ( $P_d = 0.63$ ; variance = 0.011). See *Frequently Asked Questions* section below for how  $P_a$  and  $P_d$  and their associated variances were estimated.

See *Appendix 1* for a detailed description of the method used to estimate desert tortoise abundance.

#### *100 percent Coverage or Probabilistic Sampling?*

100% coverage surveys are always an acceptable option, regardless of the size of the action area. For very large action areas, probabilistic sampling may be an additional option, such that the appropriate proportion of the action area is surveyed as detailed below.

**For the 2009 field season, probabilistic sampling is not an option for desert tortoise pre-project surveys in California due to the requirement of CESA to avoid, minimize, and fully mitigate (CDFG code section 2081). In addition, probabilistic sampling is not an option for desert tortoise pre-project surveys in the Upper Virgin River Recovery Unit due to its small size and its need to be intensively managed (USFWS 1994).**

**Table 4.2.** Is probabilistic sampling an appropriate option for the proposed action area?

*Is your action area smaller than the area given below for the recovery unit in which the project occurs?*

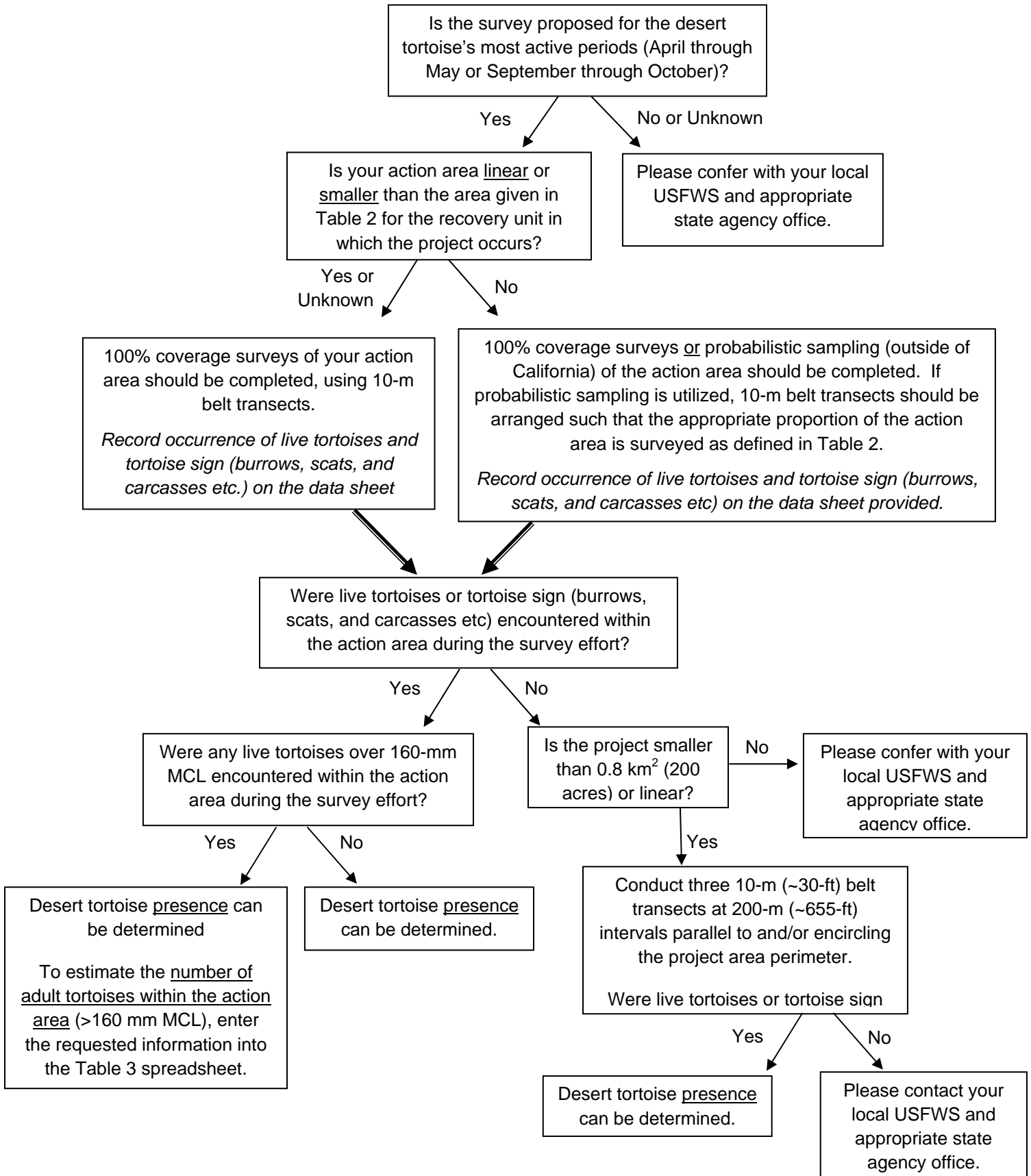
Recovery Unit	Threshold Action Area to Allow Sampling
Western Mojave	7.2 km <sup>2</sup> (1777 acres)
Eastern Mojave	10.8 km <sup>2</sup> (2676 acres)
Colorado Desert	6.4 km <sup>2</sup> (1573 acres)
Northeastern Mojave	23.3 km <sup>2</sup> (5764 acres)

*If yes: 100% coverage surveys of your action area must be completed.*

*If no, total transect lengths that must be surveyed are given below. 100% coverage surveys are also an option, regardless of the size of the project.*

Recovery Unit	Total Transect Length (km) to Sample
Western Mojave	719
Eastern Mojave	1083
Colorado Desert	637
Northeastern Mojave	2333

**Decision Tree for Pre-project Field Survey Protocol for Potential Desert Tortoise**



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## **Frequently Asked Questions: Desert Tortoise Pre-project Field Survey Protocol**

### ***Why did USFWS revise the 1992 USFWS Desert Tortoise Pre-project Survey Protocol?***

Desert tortoises occur at low densities across most of the Mojave Desert (USFWS 2006). They are cryptic and spend much of their time underground in burrows (Burge 1977; Nagy and Medica 1986; Bulova 1994) and therefore not all animals within an area will be seen by even the best trained surveyors. Tortoises underground in burrows, as well as individuals hidden above ground, need to be included in estimates.

The 1992 USFWS Desert Tortoise Pre-project Survey protocol was based on a BLM protocol from the mid-1970s, which utilized the best available information at the time, but did not take into account that some tortoises will be underground and missed during the survey effort. The data collected during the extensive USFWS range-wide monitoring program (currently <7,000-km of transects each year; USFWS 2006) have allowed us to improve pre-project survey methods. Data about the proportion of tortoises underground in burrows, as well as the probability that an above-ground tortoise will be observed by the surveyor are included in the estimate of the number of tortoises within the action area ( $P_a$  and  $P_d$ ).

This protocol also addresses the potential for using probabilistic sampling when the action area is above the size limits given in Table 2. One hundred percent coverage surveys are *always* an acceptable option, regardless of the size of the action area. For very large action areas, sampling may be an additional option, such that the abundance estimates can be calculated when an appropriate proportion of the action area is surveyed. Estimates of tortoise densities within recovery units from the range-wide monitoring program have been used to calculate how many km<sup>2</sup> of a project site must be surveyed to produce a statistically robust abundance estimate (Table 4.2).

### ***What happened to the zone of influence transects recommended in the 1992 protocol?***

This revised protocol requires that the entire action area, rather than just the project footprint, be included in the survey effort. The **action area** is defined by regulation as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action” (50 CFR §402.02). The action area is therefore not limited to the footprint of the project nor is it limited by the Federal agency's authority. Rather, the action area is a biological determination of the reach of the proposed action on listed species, which must, by definition, encompass the zone of influence of the project.

### ***How did USFWS determine the values for the “probability that a tortoise is above ground”?***

The USFWS range-wide monitoring program estimated the proportion of the desert tortoise population that is visible using telemetered animals from focal areas in spring 2001-2005 (USFWS 2006). This probability is related to the previous winter's rainfall, as illustrated in



Table 4.1. The range of fall above-ground activity is similar to spring numbers, but the variability is much higher (Nussear and Tracy 2007; Inman 2008). Until more robust estimates of fall above-ground activity are available, spring estimates based on the previous winter's rainfall (October through March) are used for surveys conducted in either active period.

***How did USFWS establish the value for the “probability of detecting a tortoise, if above ground”?***

For the past 5 years, surveyors in the USFWS range-wide monitoring program have undergone training on established transects with artificial tortoises. Trained surveyors detected an average of ~63% of model tortoises that were within 5-m of either side of the transect center-line (USFWS unpublished).

***Why are only tortoises over 160-mm MCL used to estimate the number of tortoises within the action area?***

The values of  $P_a$  and  $P_d$  used in the equation to estimate the number of tortoises within the action area are based on USFWS range-wide monitoring data collected for tortoises  $\geq 160$ -mm MCL.

***What is the purpose of 100% coverage surveys versus probabilistic sampling?***

The purpose of surveying is to determine presence/absence and estimate the abundance of desert tortoises within the action area. For 100% coverage surveys, transects are placed across the entire action area; thus, the entire area for which abundance is estimated is surveyed. A probabilistic sampling approach, on the other hand, uses data from randomly or systematically placed transects to draw inferences about locations where surveys are not conducted. All locations for which abundance will be estimated *must* have an equal probability of being included in the sample.

***How were the threshold project sizes calculated for determining whether 100% coverage or probabilistic sampling is appropriate?***

The validity of probabilistic sampling requires that all locations for which abundance will be estimated have an equal probability of being included in the sample, as well as the expected sample size. Estimating the number of tortoises within the project area using probabilistic sampling is limited by the number of tortoises encountered during the survey effort. Therefore, whether or not the project area must be surveyed using 100% coverage or can be probabilistically sampled is based on the area expected to yield a survey count of 20 tortoises (Krzysik 2002). Table 4.2 uses tortoise densities and detection probabilities estimated from 2001-2005 range-wide line-distance sampling efforts for each tortoise Recovery Unit (USFWS 2006) to calculate that area of a project site that must be surveyed to produce a statistically robust estimate. If the project area is large enough to allow the option of probabilistic sampling, Table 4.2 provides the minimum transect kilometers (10-m wide) that must be surveyed.

***What if the minimum length of 10-m wide transect kilometers are completed but 20 tortoises were not found in the action area?***

If probabilistic sampling is used and < 20 tortoises are found after surveying the total transect length prescribed by Table 4.2, number of tortoises within the action area may be estimated using number found.

***Do I keep surveying if 20 tortoises are found before the minimum transect kilometers that must be surveyed are completed?***

If probabilistic sampling was used and the transects have been completed in a random order, project area surveys may be considered complete when 20 tortoises have been found or the specified number of kilometers have been sampled, whichever happens first. It is okay if more than 20 tortoises are found, this will decrease the width of the 95% confidence interval for the abundance estimate.

***Why do small and linear projects where no tortoises were found have to do additional surveys at 150-m (~500-ft) intervals parallel to the project area perimeter?***

Even though neither tortoises nor tortoise sign were found within the action area at the time of the survey, the area may be part of an animal's home range. The home range of a female desert tortoise averages around 0.15 to 0.16 km<sup>2</sup> (35 to 40 acres), about one third the size of male home ranges, which are variable and can be > 2 km<sup>2</sup> (O'Conner et al. 1994; Duda et al. 1999; Harless et al. in press). Therefore, projects that are ≤ 0.8 km<sup>2</sup> (200 acres) or linear may overlap only part of a tortoise's home range and the possibility that a resident tortoise was outside the project area at the time surveys were conducted must be addressed. In these cases, USFWS recommends three additional 10-m (~30-ft) belt transects at 200-m (~655-ft) intervals parallel to and/or encircling the project area perimeter (200-m, 400-m (~1312 ft), and 600-m (~1968 ft) from the perimeter of the project site). Record any tortoises or sign encountered during these surveys. These transects are employed only as part of the presence/absence determination; they are not included in the estimation of tortoise abundance within the project area.

***What does the 95 percent confidence interval for the number of tortoises within the action area mean?***

Confidence intervals are used to indicate the reliability of an estimate. The interval gives an estimated range of values, calculated from a set of sample data, which is likely to include an unknown population parameter (in this case, the true number of tortoises within the action area). A wider confidence interval indicates that less certainty is associated with the estimate (see Appendix 2). The Table 4.3 spreadsheet calculates the abundance and associated 95 percent confidence interval for the estimated number of tortoises within the project area (Buckland et al. 2001).

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## Appendix 1. Detailed description of desert tortoise abundance and CI estimation

The estimated abundance of adult desert tortoises within the action area is given by:

$$\left( \begin{array}{c} \text{Estimated number of tortoises} \\ \text{within action area} \end{array} \right) = \frac{\left( \begin{array}{c} \text{Number of tortoises} \\ \text{observed above ground} \end{array} \right)}{\left( \begin{array}{c} \text{Probability that} \\ \text{a tortoise is} \\ \text{above ground} \end{array} \right) \left( \begin{array}{c} \text{Probability of} \\ \text{detecting a tortoise,} \\ \text{if above ground} \end{array} \right)} \left( \begin{array}{c} \text{Action area} \\ \text{Area surveyed} \end{array} \right),$$

which is equivalent to:

$$\hat{N} = \left[ \frac{(n)}{(Table2)(0.63)} \right] \left[ \frac{(A)}{(a)} \right],$$

where  $\hat{N}$  = estimated abundance within entire action area,  $n$  = number of tortoises observed above ground,  $A$  = total action area, and  $a$  = actual area surveyed (= total # km surveyed \* 0.01). For 100% coverage surveys,  $A/a = 1$ .

Table 3 uses the following equations to calculate the 95% confidence interval for the estimate of tortoise abundance within the action area (Buckland et al. 2001), assuming all replicate transect lines are the same length, 10-km.

$$\text{var}(\hat{n}) = L \sum_{i=1}^k l_i \left( \frac{n_i}{l_i} - \frac{n}{L} \right)^2 / (k-1)$$

where  $\text{var}(\hat{n})$  = the spatial variation in the number of tortoises detected through the total transect length  $L$ ,  $n_i$  = the number of tortoises seen on transect  $i$ ,  $l_i$  = the length of individual transect  $i$ , and  $k$  = total number of transects walked.

Putting the sources of variability together, the variance of density is:

$$\text{var} \hat{D} = \hat{D}^2 \left[ \frac{\text{var}(n)}{n^2} + \frac{\text{var}(\hat{P}_a)}{(\hat{P}_a)^2} + \frac{\text{var}(\hat{P}_d)}{(\hat{P}_d)^2} \right]$$

Because the tortoise density sampling distribution is positively skewed, the confidence interval is calculated using a log-distribution for density and built with division and multiplication, rather than addition and subtraction from the mean as with a symmetrical interval (Buckland et al. 2001).

Thus, the 95% confidence interval for  $\hat{N}$  is:

$$(\hat{N} / C_N, \hat{N} \cdot C_N),$$

$$\text{where } C_N = \exp\left[z_\alpha \sqrt{\text{var}(\log_e \hat{D})}\right] \text{ and } \text{var}(\log_e \hat{D}) = \log_e \left[1 + \frac{\text{var}(\hat{D})}{\hat{D}^2}\right].$$

Given the simplifying assumptions in this protocol, the 95% confidence interval around the estimated number of tortoises within the action area will be wide (e.g., the estimate of the number of tortoises will be imprecise). While this level of imprecision would not be appropriate for recovery planning and decision making at large scales, this protocol provides estimates at local scales that most efficiently utilize the best information that is available to provide statistically defensible results.

## Appendix 2. Example

Project location = near Beatty, NV (within the Eastern Mojave RU)

Action area = 12 km<sup>2</sup> (3,000 acres)

According to this protocol's Site Assessment key, the proposed action is within the known range of the desert tortoise. The local USFWS and appropriate State wildlife agency offices were contacted and a species list, which includes the desert tortoise, was obtained for the action area. Therefore, pre-project survey and consultation are necessary.

The project footprint is only 10 km<sup>2</sup>, but since the project will include blasting, the reach of the proposed action on listed species extends to 12 km<sup>2</sup>. Thus, the action area (and therefore the area which needs to be surveyed for desert tortoises) is 12 km<sup>2</sup> (which is more inclusive than the 10 km<sup>2</sup> project footprint).

According to Table 2 of the pre-project survey protocol, the project size of 12 km<sup>2</sup> is above the threshold project area to allow probabilistic sampling in the Western Mojave RU (10.8 km<sup>2</sup> threshold). Therefore, at a minimum, 1,083 km of transects must be walked. For this example, 108 10-km transects (10-m wide) were placed systematically across the project site and were completed in a random order. Surveys of 100% coverage in which 10-m wide transects were placed across the entire 12 km<sup>2</sup> action area would also have been acceptable.

Transects totaling 1,083 km were conducted and 19 adult tortoises (> 160 mm carapace length) were found (as well as tortoise sign, both of which were catalogued using the USFWS 2009 DT pre-project survey protocol data sheet). If 20 adult tortoises had been encountered before the 1,083 km of transects were completed, and transects were conducted in a random order, then surveys could have been considered complete after the 20<sup>th</sup> tortoise was catalogued.

Data collected from the 108 transects (live animals encountered <160-mm MCL)

Number of tortoises (n <sub>i</sub> )	Number of transects on which n <sub>i</sub> tortoises were seen
0	93
1	11
2	4

Using the Western Regional Climate Center website, it was determined that the Beatty area had received 97-mm (3.8 inches) of rain in the October through March preceding the survey effort, which is above the 40-mm (1.5 inches) in Table 1. Therefore, P<sub>a</sub> of 0.80 will be used in this estimation.



Thus, from

$$\hat{N} = \left[ \frac{(n)}{(Table2)(0.63)} \right] \left[ \frac{(A)}{(a)} \right], \text{ we get } \hat{N} = \left[ \frac{(19)}{(0.80)(0.63)} \right] \left[ \frac{(12 \text{ km}^2)}{(10.8 \text{ km}^2)} \right], \text{ or } \hat{N} \approx 42 \text{ tortoises}$$

$$\text{Density} = \frac{(\hat{N})}{(A)}, \text{ we get } \hat{D} = \frac{(42)}{(12 \text{ km}^2)}, \text{ or } \hat{D} \approx 3.5 \text{ tortoises/km}^2$$

To calculate the 95% confidence interval for our abundance estimate, we use:

$$\text{var}(\hat{n}) = L \sum_{i=1}^k l_i \left( \frac{n_i}{l_i} - \frac{n}{L} \right)^2 / (k-1),$$

$$\text{we get } \text{var}(\hat{19}) = 1080 \left[ (93)(10) \left( \frac{0}{10} - \frac{19}{1080} \right)^2 + (11)(10) \left( \frac{1}{10} - \frac{19}{1080} \right)^2 + (4)(10) \left( \frac{2}{10} - \frac{19}{1080} \right)^2 \right] / (108-1), \text{ or}$$

$$\text{var}(\hat{19}) = 23.88$$

And for,

$$\text{var } \hat{D} = \hat{D}^2 \left[ \frac{\text{var}(n)}{n^2} + \frac{\text{var}(\hat{P}_a)}{(\hat{P}_a)^2} + \frac{\text{var}(\hat{P}_d)}{(\hat{P}_d)^2} \right], \text{ we get } \text{var } \hat{D} = 3.5^2 \left[ \frac{23.88}{19^2} + \frac{0.05}{0.80^2} + \frac{0.011}{0.63^2} \right], \text{ or } \text{var } \hat{D} = 2.107$$

Using our log-transformation because the tortoise density sampling distribution is positively skewed,

$$\text{var}(\log_e \hat{D}) = \log_e \left[ 1 + \frac{\text{var}(\hat{D})}{\hat{D}^2} \right], \text{ we get } \text{var}(\log_e \hat{D}) = \log_e \left[ 1 + \frac{2.107}{3.5^2} \right], \text{ or } \text{var}(\log_e \hat{D}) = 0.15$$

Then,

$$C_N = \exp \left[ z_{\alpha} \sqrt{\text{var}(\log_e \hat{D})} \right], \text{ we get } C_N = \exp \left[ (1.96) \sqrt{0.15} \right], \text{ or } C_N = 2.18$$

And,

$$\left( \hat{N} / C_N, \hat{N} \cdot C_N \right), \text{ we get } (42 / 2.18), (42 \cdot 2.18), \text{ or } \sim (19, 92).$$

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## Summary

Using the Site Assessment key, it was determined that survey and consultation were necessary for the proposed action. Thus, the pre-project field survey protocol was implemented. In this case, probabilistic sampling with equal length transects (10-km long) was used and 19 adult tortoises and tortoise sign were found during the sampling of the action area, indicating presence. Using the equations and data presented in Appendix 1 of this protocol, Table 3 estimated the actual number of tortoises within the project was estimated to be ~42, with a 95% confidence interval of ~(19, 92).

**USFWS DESERT TORTOISE PRE-PROJECT SURVEY DATA SHEET**

Date of survey: \_\_\_\_\_ Survey biologist(s): \_\_\_\_\_  
(month, day, year)

Site description: \_\_\_\_\_  
(project name and size; general location)

County: \_\_\_\_\_ Quad: \_\_\_\_\_ Location: \_\_\_\_\_  
(UTM coordinates, lat-long, and/or TRS; map datum)

Transect #: \_\_\_\_\_ Transect length: \_\_\_\_\_ Type of survey: \_\_\_\_\_  
(acres to be surveyed; 100% coverage/probabilistic sampling)

GPS Start-point: \_\_\_\_\_ Start time: \_\_\_\_\_ am/pm  
(easting, northing, elevation in meters)

GPS End-point: \_\_\_\_\_ End time: \_\_\_\_\_ am/pm  
(easting, northing, elevation in meters)

Start Temp: \_\_\_\_\_ °C Weather: \_\_\_\_\_ End Temp: \_\_\_\_\_ °C

**Live Tortoises**

Detection number	GPS location		Time	Tortoise location <i>(in burrow: all of tortoise beneath plane of burrow opening, or not in burrow)</i>	Approx MCL >160-mm? <i>(Yes, No or Unknown)</i>	Existing tag # and color, if present
	Easting	Northing				
1						
2						
3						
4						
5						
6						
7						
8						

**Tortoise Sign (burrows<sup>1</sup>, scats, carcasses, etc)**

Detection number	GPS location		Type of sign <i>(burrows, scats, carcass, etc)</i>	Description and comments
	Easting	Northing		
1				
2				
3				
4				
5				
6				
7				
8				

<sup>1</sup> See section 4.1.2 for information on burrow condition class and photographing burrows

## **CHAPTER 5. AFTER A BIOLOGICAL OPINION OR TAKE PERMIT HAS BEEN ISSUED FOR THE DESERT TORTOISE - MOJAVE POPULATION: PRELIMINARY CONSIDERATIONS BEFORE GOING TO THE FIELD**

### **5.1. Marking and Numbering**

Typically, desert tortoises are not marked or numbered in association with most projects. If you intend to permanently mark or number desert tortoises (e.g., by notching the shell or attaching a tag), you must be authorized to do so and coordinate with the USFWS Desert Tortoise Recovery Office ( DTRO) for instruction. The DTRO in coordination with other agencies assigns tortoise numbers that are used by scientists to mark desert tortoises throughout its range. You must contact the DTRO and appropriate State wildlife agency before marking desert tortoises.

### **5.2. Field Supplies and Equipment**

Prepare in advance for a variety of field situations. A list of materials needed for handling desert tortoises is provided below. Many researchers have a kit for each type of activity (e.g., tortoise handling kit, burrow excavation kit, etc.). Organize all the materials and equipment that you need to expeditiously handle desert tortoises to ensure their safety and minimize stress.

All authorized personnel (Authorized Biologists and 10(a)(1)(A) permitted biologists) must be knowledgeable on diseases, parasites, and precautions to avoid the spread of pathogens when handling desert tortoises. Upper Respiratory Tract Disease, (URTD) caused by *Mycoplasma* spp. was identified as one of the threats that contributed to the population decline and subsequent listing of the desert tortoise as threatened by the USFWS and CDFG. This and other diseases (e.g., cutaneous dyskeratosis) are present in many populations of the desert tortoise. Also present are parasitic ticks, which are potential vectors of disease to humans (Berry and Christopher 2001).

#### 5.2.1. Documents

Agency document(s) regulating the specific project may include:

- USFWS biological opinion or incidental take permit
- BLM stipulations
- USFWS Authorized Biologist or desert tortoise Monitor approval and/or
- Copy of 10(a)(1)(A) permit or other permits
- State wildlife agency permit
- State memorandum of understanding

#### 5.2.2. Basic supplies and equipment

- Hand-held GPS unit with extra batteries
- Desert Tortoise Field Manual
- Thermometer (to measure air and ground temperatures)

- Watch or clock (to record start and finish processing times)
- Hand held mirror (for viewing inside burrow)
- LED flashlight
- Water
- Project maps
- Clipboard
- Data sheets (in this Manual)
- Tortoise tapping rod (collapsible fishing pole, etc.)
- Surveyor's tape

### 5.2.3. Desert tortoise handling and marking

- Disposable latex gloves (for handling tortoise)
- Different sizes of coffee cans (or similar cylinders) and waterproof disposable plastic (for immobilizing tortoise and preventing disease transmission)
- Toothbrush, disinfected (for cleaning dirt from scute to be numbered)
- Acrylic paint or typewriter correction fluid (for making dot to number tortoise)
- Waterproof, capillary pen (for numbering the tortoise and keeping notes)
- ½-inch masking tape (to cover growth areas prior to applying epoxy)
- Epoxy, toothpicks, wooden coffee stirrer, tongue depressors (to cover the number on the scute and to apply the epoxy)
- Hand lens (for observing parasites)
- 0.175 percent sodium hypochlorite (bleach) solution (1 part household bleach to 10 parts water) in a spray bottle (for disinfecting equipment) or Nolvasan (chlorhexidine diacetate)
- Rubber/plastic container and lid (for soaking instruments in Nolvasan)
- Container for rehydrating tortoises
- New, disposable cardboard boxes or disinfected plastic containers (for holding and/or transporting tortoises)
- Plastic, ziplock bags (for holding unused latex gloves and weighing juvenile tortoises)
- Garbage bags (for disposing of used gloves, grocery bags, etc.)
- Disposable baby changing sheets
- DTRO/State wildlife agency-approved, sequential numbering scheme for marking tortoises and three-cornered files

### 5.2.4. Desert tortoise weighing and measuring

- Cloth bags to transport desert tortoises (allows air flow; should be wetted to cool desert tortoises; and must be washed and bleached before reuse)
- Cord with appropriate tensile strength (to harness and weigh the desert tortoise)
- Calipers (for measuring mid-line carapace length)
- Metal or plastic rule
- 100 gram, 1.0 kilogram, and 5.0 kilogram tubular spring scale (to weigh desert tortoises)

### 5.2.5. Desert tortoise burrow excavation and construction

- Measuring tape (for burrow dimensions)
- Compass (for burrow orientation)
- Leather or cloth gloves (to avoid animal stings and/or bites)
- Shovels (2) (for excavating burrow)
- Garden trowel (for excavating small burrows and nests)
- 4 foot x 8 foot x ¼ inch thick plywood (for artificial burrow construction)
- Hand saw (to cut plywood into appropriate size and shape)
- Surveyor's tape (for marking a burrow)

#### 5.2.6. Desert tortoise egg handling

- Felt-tipped pen (for marking eggs)
- Plastic bucket (for transporting eggs)
- Garden trowel (for excavating nest)

#### 5.2.7. Other

- Fiber-optic scope or miniature camera and clear protective covering (to avoid disease transmission)
- Pads or blanket for truck bed to cushion transported tortoise and reduce heat
- Phone number and contact person of local USFWS field office, State wildlife agency, BLM field office, etc.
- Phone number of nearest qualified veterinarian to treat injured tortoise
- Extra change of clothing, including extra shoes

### **LITERATURE CITED**

Berry, K. H. and M. M. Christopher 2001. Guidelines for the field evaluation of desert tortoise health and disease. *Journal of Wildlife Diseases*, 37(3) 427-450.

McCullough, D.L., K.D. Jones, and T.E. Olson. 1993. List of materials to be carried in the truck; list of materials to be included in the tortoise kit; tortoise excavation/removal data sheets; tortoise shell data sheet; and rough draft of a handling protocol. Materials received from McCullough Ecological Systems and Dames & Moore in response to a request for materials to be included in these Guidelines. Las Vegas, Nevada and Santa Barbara, California.

## **CHAPTER 6. CLEARANCE SURVEY PROTOCOL FOR THE DESERT TORTOISE - MOJAVE POPULATION**

### **6.1. Objectives**

- Locate as many desert tortoises as possible within the project site.
- Remove all desert tortoises encountered from the project site.
- Safely excavate, collect, and rebury desert tortoise eggs.

### **6.2. Applicability of Clearance Surveys**

For projects located in occupied desert tortoise habitat, especially those projects with a permanent or linear disturbance (e.g., pipelines, roads, transmission lines), a clearance survey may be required as part of the Terms and Conditions of a biological opinion or incidental take permit. This survey is intended to reduce the likelihood that desert tortoises are killed or injured as a result of the proposed action. Clearance survey methods may include temporarily penning desert tortoises within the area surrounding its burrow, relocating desert tortoises from the impact area, or translocating desert tortoises to a designated area outside its home range in accordance with a USFWS-approved translocation plan (Section 7.10).

### **6.3. Methodology**

- Clearance surveys require 100 percent coverage of the project area, with a focus on locating all desert tortoises above and below ground within the project area. This survey would be conducted immediately prior to surface disturbance at each site within the project area or following construction of a desert tortoise-proof fence or similar barrier encompassing the project area to ensure that tortoises cannot enter the project area.
- Clearance surveys at the project site must consist of at least 2 consecutive surveys of the site. Surveys shall involve walking transects less than or equal to 15-feet (5-meter) wide under typical conditions. In areas of dense vegetation or when conditions limit the ability of the surveyor's to locate desert tortoises, transects should be reduced in width accordingly. Clearance surveys should be conducted when desert tortoises are most active (April through May or September through October). If desert tortoises are found during the second pass, the USFWS and appropriate State wildlife agency may require a third survey. If any desert tortoises need to be translocated follow the USFWS-approved translocation plan for that project.
- After the desert tortoise exclusion fence has been installed, the fencing should be checked several times a day to ensure a tortoise has not been trapped within the fence and may be exposed to lethal temperatures. Desert tortoises often pace along new fences attempting to gain access to the other side or return to areas from which they were removed.
- All methods used for handling desert tortoises during the clearance surveys must be in accordance with this Manual. Anyone that handles desert tortoises during clearance activities must have the appropriate authorizations from USFWS and the State.
- During the clearance surveys, desert tortoises in burrows may be removed through tapping (Section 6.4) or careful excavation. Multiple visits may be necessary if desert tortoises are inaccessible in deep caves or burrows.

- During all handling procedures, desert tortoises shall be treated in a manner to ensure that they do not overheat or exhibit signs of overheating (e.g., gaping, foaming at the mouth, etc.), or are placed in a situation where they cannot maintain surface and core temperatures necessary to their well-being. Desert tortoises shall be kept shaded at all times until it is safe to release them. Ambient air temperature shall be measured in the shade, protected from wind, at a height of 2 inches (5 centimeters) above the ground surface. All clearance activities (capture, transport, release, etc.) shall occur when ambient temperatures are below 95 degrees F (35 degrees C) and not anticipated to rise above 95 degrees F (35 degrees C) before handling and processing desert tortoises are completed. Refer to section 7.4 for handling desert tortoises during hot temperatures.
- If a desert tortoise is encountered aboveground and outside the temperature limits refer to Section 7.4 or 7.5.
- The area cleared and number of desert tortoises found within that area must be reported to the local USFWS and the appropriate State wildlife agency. The report should be made in writing, either by mail or email. Notification should be received within one week.
- If a desert tortoise is encountered after clearance surveys have been completed, process the tortoise according to the methods described above.

#### **6.4. Extracting Desert Tortoises from Burrows**

Before touching a desert tortoise or using any instrument that comes into contact with a desert tortoise, implement procedures described in Section 7.6. Examine the burrow for other occupants (e.g., snakes, spiders, scorpions, wasps, Gila monsters, etc.). Firmly pound the soil at the side of the “apron” or soil mound at the entrance of the burrow 5 to 6 times with an open hand then listen for desert tortoise movement; wait 30 seconds and repeat several times if needed. Avoid disturbing or pounding the center of the apron or entrance of the burrow where desert tortoises typically dig nests and lay their eggs. If the desert tortoise is visible deep in its burrow, the observer can gently tap the carapace 3 to 4 times with a stick (Medica et al. 1986). The observer should then remove the stick and move away from the burrow entrance. If tapping is successful, the desert tortoise will emerge, usually to the burrow entrance. If desert tortoise movements are not heard within a few minutes, discontinue tapping.

If the desert tortoise is within arm’s reach, firmly grasp the gular, plastron, or posterior edge of the carapace and gently pull the tortoise towards the burrow entrance. If the desert tortoise resists to the point where moderate pulling effort is unsuccessful, stop pulling while maintaining a grip on the tortoise; resume when the tortoise relaxes. **Never use a hook or other instrument to remove a desert tortoise from a burrow or otherwise compromise the integrity of a burrow if the desert tortoise will remain in the project area.**

If the area is to be cleared of all desert tortoises, excavate the burrow as described in Section 6.5. If the tortoise is in a deep caliche cave which cannot be excavated without potentially harming the desert tortoise, record the location and contact the USFWS for instruction.



## 6.5. Excavating Burrows

According to most agency documents, desert tortoise burrows are excavated only if they occur within a proposed disturbance area. If excavating a burrow to relocate a desert tortoise, and an artificial burrow is required, it should be constructed before beginning the excavation (Section 6.7.). Biological opinions and permits typically require that such areas be flagged and that project activities be confined to those areas. As an alternative to excavation in certain circumstances, the immediate area surrounding a burrow occupied by a desert tortoise may be temporarily penned, if authorized by the USFWS and the appropriate State wildlife agency (Section 6.9.).

When required, take measurements of the burrow before excavating it. Before excavation, feel for desert tortoise eggs by gently probing the soil in front of the burrow opening (i.e., the mound) with a blunt instrument (e.g., knitting needle) or similar instrument, and along the floor of the burrow as you excavate the burrow. The purpose of probing is to locate areas of excavated soil which are less compacted and may indicate a nest. Eggs have been found up to 6 feet (1.9 meters) in front of burrow openings and up to 6 feet (1.9 meters) within the entrance of a burrow; they may also occur in the mound at the burrow opening. To avoid crushing eggs, do not scrape the shovel across the bottom of the burrow, but continue to probe the area with your fingers as you proceed. Removal of the top 10 inches (25 centimeters) of soil (or until a hard layer of soil is encountered) will typically ensure that you find any desert tortoise eggs. Be particularly careful from late April to mid-October when eggs are most likely present. If found, follow the USFWS's egg handling protocol (Section 6.6.).

Excavators should wear leather or cloth gloves during burrow excavation to avoid being bitten or stung by venomous animals. Use blunt-nosed shovels or garden trowels. The preferred method involves two individuals, each with a shovel, to excavate a burrow. Place a shovel in the burrow entrance, or garden trowel for small burrows, and slice away the ceiling with the second shovel or trowel. Remove the soil with the first shovel or trowel as excavation proceeds and repeat. Excavate the burrow slowly and carefully and stop often to see if a desert tortoise is within reach. Do not collapse the burrow ahead of the shovel or trowel inside the burrow. You should feel the shovel contact the other shovel with each stroke to avoid striking a desert tortoise. It may take several minutes or several hours to excavate a desert tortoise burrow, depending on its length and other characteristics.

Always excavate the burrow to its absolute end(s), and then excavate an additional foot-or-so (0.3 meter) of harder soil beyond the suspected end to ensure that a desert tortoise is not behind a dirt plug or mound. Search all side tunnels within the burrow for desert tortoises, especially in kit fox dens. If a desert tortoise is found, do not assume that it is alone. After removing the first desert tortoise encountered, return to the burrow and continue to excavate it looking for additional desert tortoises. After excavating the burrow, leave it collapsed so that no desert tortoise may reuse it easily.

When excavating a burrow, stop digging when a desert tortoise is encountered. If during the desert tortoise less-active period (i.e., during July - August, and November - February; in Arizona the less-active period may begin in late May or June), relocate the desert tortoise to an artificial burrow. If it is during the most-active period (i.e., when desert tortoises are most likely

above ground; March - June, and September - October), place the desert tortoise in the shade of a shrub, or depending on conditions, in an artificial burrow (Section 6.7.).

## **6.6. Nest and Egg Handling Protocol**

Desert tortoises may lay eggs during the months of May through July and usually hatch July through October. Some eggs may not hatch, or hatchlings may not emerge until the following spring. Because desert tortoise eggs are also protected by the ESA, the Authorized Biologist shall search for nests and encouraged to search prior to clearance surveys. Desert tortoise eggs shall be moved to artificial nests either in the wild or at a USFWS-approved facility. If you encounter unemerged hatchlings, contact the USFWS and appropriate State wildlife agency for instructions. Authorized Biologists must receive special training in the procedures outlined below. If you discover a nest and have not been trained, the nest shall be carefully covered with soil so as not to move the eggs then contact the USFWS and appropriate State wildlife agency for instructions.

Any nest that is found shall be carefully excavated by hand at a time of day when the air temperature 6 inches (15 centimeters) above the ground is approximately equal to the soil temperature at egg level. Immediately upon finding a nest, discontinue using large tools. The Authorized Biologist shall excavate the nest using his or her hands. Disposable rubber or latex gloves must be worn when marking and handling eggs. Before disturbance of nest contents, each egg shall be gently marked with a small dot on the top using a felt-tipped pen to establish the egg's orientation in the nest. In handling nest contents, eggs must be maintained in this orientation at all times. Because egg shells become extremely fragile in the last few weeks before hatching, special care shall be taken with eggs found from August to mid-October. Because the egg is very fragile, it may break during handling; this will be lethal to the developing tortoise inside. Broken eggs shall be buried nearby and left in the field, or the contents preserved and made available for research projects. Report broken eggs to the USFWS and appropriate State wildlife agency as required for tortoise mortalities.

The Authorized Biologist shall measure and record the depth of the nest below the soil surface, the cardinal location of the nest in relation to any adjacent shrub (i.e., north, south, east, or west side of the shrub), the species of shrub and its approximate foliage volume, and the soil type. Place approximately 1 inch (2.5 centimeters) of soil from the nest area in a bucket and carefully transfer the eggs to the bucket, maintaining egg orientation. Gently cover the eggs with soil that is free of cobbles and pebbles, to a depth equivalent to that of the original nest.

If good desert tortoise habitat is available in the general area, the eggs shall be relocated between 150 to 1,000 feet (45.7 to 305 meters) from outer boundary of the project site, unless directed differently by USFWS. Eggs and tortoises shall only be placed on lands administered by a Federal agency or on lands when a written authorization to bury the eggs or relocate the tortoises has been obtained. A nest shall be prepared with the same depth, orientation, location in relation to a specific shrub species, and in the same soil type as the original nest. The eggs shall be transferred to the new nest, maintaining their original orientation. The eggs shall be replaced so that they touch one another. Gently cover with soil from which cobbles and pebbles have been removed so that all the air spaces around the eggs are filled. Relocated nests in the wild shall be monitored by an Authorized Biologist. The monitoring program shall be developed in

consultation with the USFWS and appropriate State wildlife agency. Care must be taken to remove any scent of tortoise eggs or human activity at the nest site to minimize nest predation.

If a suitable site for a nest is not available in the wild, the eggs shall be prepared for incubation in a suitable holding facility. A small amount of soil shall be placed in a bucket and the eggs transferred to the bucket using the technique specified above, making sure that the eggs are touching one another. The bucket shall be carefully filled to the depth of the original nest, but leave the top of the soil layer 3 inches (7.6 centimeters) below the rim of the bucket so that future hatchlings cannot escape. The bucket shall be buried in soil in a safe location at a holding facility approved by the USFWS and appropriate State wildlife agency.

The Authorized Biologist shall record in detail all the procedures used in moving eggs. Personnel caring for incubating eggs at a facility shall maintain a record of where the eggs were found, method of incubation, length of time and conditions under which the eggs were incubated, observations of eggs during the incubation period, information about hatchling health and behavior, and disposition of the hatchlings.

## **6.7. Constructing Artificial Burrows**

Constructing an artificial burrow will take from 30 minutes to several hours, depending on the substrate. An artificial burrow is intended to provide replacement shelter and protection to a desert tortoise when removed from its natural burrow. The USFWS requires experience and training in burrow construction prior to being authorized to construct an artificial burrow. The information provided below including Figures 6.1 and 6.2 is a general description of the methods for constructing artificial burrows taken from Tortoise Group's adoption and care pamphlet ([www.tortoisegroup.org](http://www.tortoisegroup.org)).

Create an artificial burrow that is the same orientation and size as the burrow from which the desert tortoise was taken. The burrow for a juvenile desert tortoise should be 3 to 4 feet (0.9 to 1.2 meters) long and an adult tortoise burrow should be 5 to 6 feet (1.5 to 1.8 meters) long. Burrow construction involves digging a three-sided shelf upon which plywood will be placed to serve as the roof of the burrow. A channel is dug below the level of the shelf which approximates the width of the tortoise and functions as the actual burrow (Figure 6.1).

Determine the width and length to dig the shelf, place the plywood on the ground. Use corner stakes and twine to delineate the perimeter. Dig the burrow in a downward slant of 15 to 20 degrees below the horizontal line of the ground (Figure 6.2). Place the plywood onto the shelf. Fit the plywood snugly and then remove it. Next, dig the channel and loosen the soil along the floor of the channel to a depth of 6 inches (15.2 centimeters) to allow a tortoise to dig its way out should the plywood sag and possibly trap or pin it in the burrow. Replace the plywood and shovel dirt on top. Place rocks along the eave of the burrow roof, above the opening (Figure 6.2). Mound the dirt so that rain water will not puddle on top of the finished burrow.

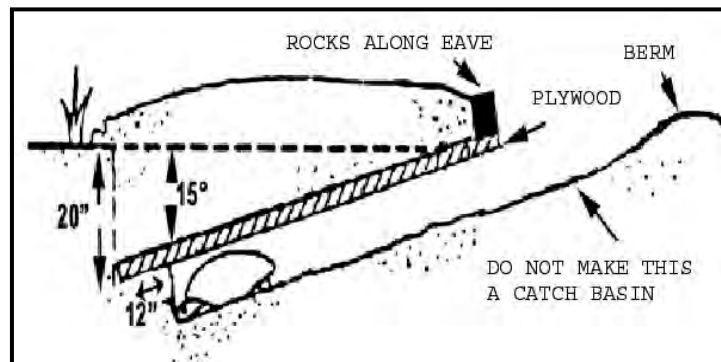
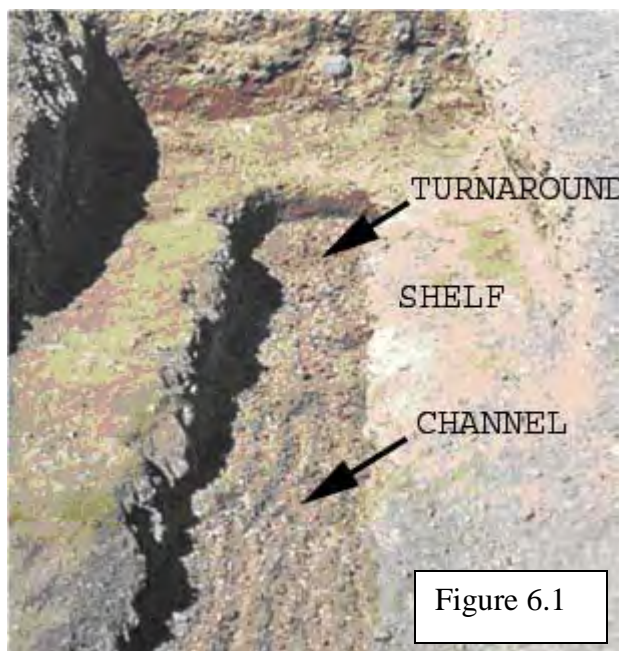


Figure 6.2

We recommend that you cover the opening of the artificial burrow with rocks or wood for 2 or 3 days to ensure that the tortoise remains within the burrow and out of harm's way, or that it resumes hibernation or aestivation.

Alternatively, the tortoise and its burrow may

be temporarily penned (Section 6.9). Providing an artificial burrow is particularly important if most of the burrows have been lost to disturbance and a desert tortoise would be unable to find an existing burrow in a reasonable amount of time. After several days, when project activities have ceased in the area (i.e., as on a pipeline or transmission line), or when you are reasonably sure that the tortoise is safely hibernating or aestivating, **it is absolutely essential that you remove the rocks from the opening of the blocked burrow or remove the pens around the tortoise and its burrow.**

## 6.8. Mapping and Finding Blocked Burrows

If you block a desert tortoise inside a burrow or temporarily pen the tortoise and its burrow according to instructions from the USFWS, you must return to that burrow and unblock it or remove the enclosure as soon as possible. Tortoises shall not be blocked in burrows during extreme high temperatures and construction activity shall be carefully monitored in the area around the blocked or penned tortoise. Accurately map the burrow with GPS so that you can find it again. Additionally, we recommend that you mark the area as a backup in case of GPS failure. For example, mark burrows with lath or ribbon placed a minimum of 100 feet (30.5 meters) from burrow. The marker should provide a cryptic message sufficient to locate the burrow (e.g., B23-2100FTS, to indicate that Burrow #23 on Reach 2 is 100 feet (30.5 meters) south of the lath (LaRue 1993)). The area must be discretely marked to avoid attracting people or ravens to the burrow.

## 6.9. Temporarily Confining Desert Tortoises

Desert tortoises found in the project area sheltering in a burrow during a period of reduced activity (e.g., winter), may be temporarily penned according to instructions from the USFWS. Tortoises shall not be penned in burrows during extreme high temperatures and construction activity shall be carefully monitored in the area around the penned tortoise. The methodology for penning desert tortoises (U.S. Department of Defense 2005) is adapted from a methodology developed by Gilbert Goodlett (EnviroPlus Consulting, Ridgecrest, California). Generally,

desert tortoises should not be penned in areas of moderate or heavy public use. Penning shall be accomplished by installing a circular fence, approximately 20 feet (6 meters) in diameter to enclose the tortoise/burrow. The pen should be constructed with durable materials (i.e., 16 gauge or heavier) suitable to resist desert environments. Fence material should consist of ½-inch hardware cloth or 1-inch horizontal by 2-inch (2.5 by 5.0 centimeters) vertical, galvanized welded wire. Pen material should be 24 inches (50 centimeters) in width. Steel T-posts or rebar (2 to 3 feet or 0.6 to 0.9 meter) should be placed every 5 to 6 feet (1.5 to 1.8 meters) to support the pen material. The pen material should extend 18 inches (45.7 centimeters) aboveground. The bottom of the enclosure shall be buried 6 to 12 inches (15 to 30 centimeters) or bent inward (towards the burrow), soil mounded along the base, and implement other measures to ensure zero ground clearance. Care shall be taken to minimize visibility of the pen by the public. An Authorized Biologist or Desert Tortoise Monitor shall check the pen at least daily and ensure that the desert tortoise is in the burrow or pen, the desert tortoise is okay, and the pen is intact. All instances of penning or issues associated with penning shall be reported to the USFWS within 3 days.

### **Literature Cited**

- LaRue, Jr., E.L. 1993. Monitoring guidelines for construction projects in desert tortoise habitat. Guidelines developed at Tierra Madre Consultants, Inc., Riverside, California.
- Medica, P.A., C.L. Lyons, and F.B. Turner. 1986. "Tapping:" A technique for capturing tortoises. *Herpetological Review* 17(1):15-16.
- U.S. Department of Defense. 2005. DARPA Grand Challenge 2005 after-action report. Defense Advanced Research Projects Agency (DARPA) Unpublished report prepared for the United States Fish and Wildlife Service, Southern Nevada Field Office. December 2005.

## **CHAPTER 7. GUIDELINES FOR HANDLING DESERT TORTOISES-MOJAVE POPULATION AND THEIR EGGS**

### **7.1. Objectives**

- Provide the reader with the most current methods for handling desert tortoises based on research and experience implementing previous handling protocols.
- Provide guidance to ensure the health and well-being of desert tortoises while allowing collection of data and necessary handling of desert tortoises.
- Ensure that diseases and parasites are not transmitted among desert tortoises.

### **7.2. Specific Considerations before Handling Desert Tortoises**

Depending on the circumstances, desert tortoises that are beneath machinery, in trenches or pipes, under pallets, or anywhere on the project site may be in danger and may need to be moved. Desert tortoises may be handled only by authorized personnel, but other project personnel may move a desert tortoise the shortest distance necessary to remove the desert tortoise from imminent danger if an Authorized Biologist is not present. The desert tortoise shall be monitored until an Authorized Biologist or USFWS is contacted for further instruction. If desert tortoises must be moved, a secure location must be available and the appropriate procedures in this Manual must be followed to ensure safe handling. If a secure location is not available, the tortoise must be held pending instruction from USFWS and the appropriate State wildlife agency. Before touching a desert tortoise, implement procedures described in Section 7.6.

### **7.3. Temperature Considerations**

Desert tortoises, particularly small ones, have been observed to be active aboveground every month of the year. However, the preferred daytime body temperature of desert tortoises is 69 degrees F to 101 degrees F (20.5 degrees C to 38 degrees C) (McGinnis and Voigt 1971). The critical maximum body temperature is between 103 degrees F and 112 degrees F (39 degrees C to 44 degrees C) (Brattstrom 1965, Naegle 1976). Berry and Turner (1984) found that juvenile desert tortoises preferred air temperatures of 63 degrees F to 66 degrees F (17 degrees C to 19 degrees C) during March, and 77 degrees F to 83 degrees F (25 degrees C to 28 degrees C) during June. Consequently, more juvenile desert tortoises were located in the morning (76.1 percent) than in the afternoon (23.9 percent). Zimmerman et al. (1994) found that air temperatures were comparable between 2 and 10 inches (5 centimeters to 25.4 centimeters) aboveground, with maximum variance of less than 3.5 degrees F (1.2 degrees C). Current information on lower temperature limits for desert tortoise activity is not well known.

Walde et al. (2003) observed that desert tortoises retreated into burrows when the air temperature reached 91.0 degrees F  $\pm$  3.5 degrees F (32.7 degrees C  $\pm$  1.2 degrees) and ground temperatures reached 95 degrees F  $\pm$  6 degrees F (35 degrees C  $\pm$  2.4 degrees); 95 percent of the desert tortoise observations aboveground occurred at air temperatures less than 91.4 degrees F (33 degrees C). Ground temperatures shall be measured on the ground surface in an area near the desert tortoise in full sun, with the thermometer in the shadow of the observer. Ambient air temperature shall

be measured in the shade, protected from wind, at a height of 2 inches (5 centimeters) above the ground surface.

During extreme heat, desert tortoises that shelter in relatively shallow burrows will remain in the burrow as long as the burrow temperature is lower than the temperature outside of the burrow. At night the air and surface temperatures drop faster than the temperature in the burrow. When the air and surface temperature drop below the burrow temperature, the desert tortoise may exit the burrow in an effort to lower its body temperature. Desert tortoises have been observed moving from a few feet out of the burrow to 50 feet (15 meters) or more during the night (Steve Ferrand, 2009, Nevada Biological Consulting, *in litt.*). Tortoises shall not be blocked in burrows during extreme temperatures and construction sites shall be carefully inspected during these periods for tortoises aboveground.

#### **7.4. Hot Temperatures**

Desert tortoises shall be treated in a manner to ensure that they do not overheat or exhibit signs of overheating, which include aggressive struggling by the desert tortoise, hot to the touch, frothing at the mouth, excessive salivation, or voiding its bladder. Desert tortoises shall not be placed in a situation where they cannot maintain surface and core temperatures necessary to their well-being. Desert tortoises shall be kept shaded at all times until it is safe to release them. Ground temperatures are much hotter than air temperatures thus never place a desert tortoise on unshaded ground. Removal of the upper layer of hot substrate would expose a cooler layer below.

No desert tortoise shall be captured, moved, transported, released, or purposefully caused to leave its burrow for whatever reason when the ground temperature is above 95 degrees F (35 degrees C). Temperature must be measured in the shade and protected from the wind at a height of 2 inches (5 centimeters) above the ground. No desert tortoise shall be captured if ground temperature is anticipated to exceed 95 degrees F (35 degrees C) before handling and relocation can be completed. If the ground temperature exceeds 95 degrees F (35 degrees C) during handling or processing, desert tortoises shall be kept shaded in an environment where the ambient air temperatures do not exceed 91 degrees F (32.7 degrees C) and ground temperature does not exceed 95 degrees F (35 degrees C). The desert tortoise shall not be released until ground temperature at the release site declines to below 95 degrees F (35 degrees C).

If a desert tortoise is found aboveground when these upper temperatures are exceeded and the desert tortoise must be moved from harm's way, place the desert tortoise in a clean, unused cardboard box or disinfected open plastic container, and keep it in a climate-controlled environment (e.g., air conditioned vehicle or building) until the ambient air and ground temperatures are below upper limits.

## Hyperthermic Desert Tortoises

Before touching a desert tortoise, implement procedures described in Section 7.6. If an animal begins frothing at the mouth, it is probably nearing an upper lethal body temperature and immediate action is required: a) capture, transport, and hold the desert tortoise in a climate-controlled environment, or b) if a nearby climate-controlled environment is unavailable, place the desert tortoise in an unused or open disinfected plastic container in the shade and pour cool water over the shell to a depth that ensures the nares remain above the water level. If no container is available, excavate a depression in a shaded area; place the desert tortoise in the depression and pour water over the shell. Heat-stressed desert tortoises shall not be released until they resume normal behavior. Monitor the desert tortoise after release until normal behavior resumes including sheltering.

### **7.5. Cold Temperatures**

If a desert tortoise is found aboveground during cold temperatures (i.e., ambient temperature less than 55 degrees F or 12.8 degrees C) and its burrow cannot be located nearby or will be destroyed, then capture the animal and implement the appropriate actions in Table 7.1. Before touching a desert tortoise, implement procedures described in Section 7.6. If relocating the desert tortoise to a natural burrow, ensure that the burrow is unoccupied; both a natural or artificial burrow must be of appropriate size within the average home range for that size and sex animal. If the end of the burrow cannot be seen, the burrow must be examined with a fiber-optic scope to ensure that the burrow and all side channels are unoccupied by other desert tortoises. Placing a desert tortoise in a burrow occupied by another desert tortoise may promote disease transmission and aggressive behavior between the desert tortoises.



**Table 7.1. Actions to implement for desert tortoises in harm’s way or adjacent to project areas during cold temperatures.**

CIRCUMSTANCE	ACTIONS		
	Find natural, unoccupied burrow; block tortoise inside	Construct artificial burrow; block tortoise inside	Construct pen around tortoise and burrow (Section 6.9)
<b>Desert tortoise above ground:</b>			
Desert tortoise in harm’s way, not in burrow	<b>X</b>	<b>X</b>	
Desert tortoise and burrow in harm’s way	<b>X</b>	<b>X</b>	
Desert tortoise in harm’s way, nearby burrow not in harm’s way			<b>X</b>
Desert tortoise adjacent to project, burrow in harm’s way	<b>X</b>	<b>X</b>	
Desert tortoise adjacent to project, no burrow	<b>X</b>	<b>X</b>	
Desert tortoise and burrow adjacent to project, not in harm’s way			<b>X</b>
<b>Desert tortoise in burrow:</b>			
Desert tortoise in harm’s way	<b>X</b>	<b>X</b>	
Desert tortoise adjacent to project			<b>X</b>

## **7.6. Procedures to Avoid Transmission of Diseases or Parasites**

At all times, handle a desert tortoise as if it has a contagious disease or parasites, and in such a way to avoid transmitting disease or parasites from one desert tortoise to another. Much of the following information was developed by Berry and Christopher 2001.

During handling each desert tortoise, wear a new pair of disposable latex or rubber gloves (i.e., one pair of gloves, per desert tortoise, per encounter). If a glove is torn while handling a desert tortoise, which is likely when its toenail scrapes the glove, put on a new glove over the old one. Used gloves and disposable supplies (e.g., surveyors tape or flagging, etc.) must be placed in a plastic trash bag and disposed of offsite.

All tools that contact desert tortoises shall be disinfected in accordance with procedures described in Section 7.6.2.

### **7.6.1. Disinfecting Clothing**

Do not allow a desert tortoise to contact clothing. If it does, change clothes before handling another desert tortoise. Contaminated clothes must be washed before worn again while handling desert tortoises. Keep a change of clothes on-hand and change clothes, including shoes, before leaving the site for another geographical location (e.g., another valley or mountain range would

be considered a separate location). As an alternative, wear disposable jumpsuits or gowns and disposable paper or plastic shoe covers. Use disposable paper or plastic sheeting to place under the desert tortoise or on the lap of field workers; disposable baby changing sheets may prove useful.

#### 7.6.2. Disinfecting Tools and Equipment

All equipment and work surfaces after contact with each desert tortoise, any equipment (e.g., scales, calipers, ruler, etc.) that comes in contact with a desert tortoise, including poles used to probe burrows or tap desert tortoises from burrows (Medica et al. 1986), must be disinfected. Disinfecting solutions shall be either 0.175 percent sodium hypochlorite (bleach) (Wendland et al. 2009) or *Nolvasan* (prepared according to the manufacturer's instructions). A 0.175 percent sodium hypochlorite bleach is a 1:10 dilution of 5 percent household bleach to water. Before disinfecting, first remove any organic debris (e.g., dirt, feces, etc.) by rinsing the area with water or brushing off the area with paper towels or a scrub brush. If using a bleach solution, the equipment and work surface shall be saturated with the solution and allowed to air dry. If using a *Nolvasan* solution, the equipment and work surface shall be submersed in the solution (bath) for a minimum of 10 minutes before being used on another animal. Equipment baths shall be changed regularly according to the label instructions. Measures should be taken to avoid transmission of pathogens between burrows when using a fiber-optic scope which may include covering the scope with a disposable plastic cover.

Between study sites, equipment, particularly buckets will be scrubbed using a dish soap and bleach solution. After rinsing, the bleach solution will be sprayed on the equipment and allowed to air dry. This will minimize the chance of cross-contamination between study sites.

Only metal or plastic rulers may be used; never use a wooden ruler, which is too porous and cannot be properly disinfected. If permitted to notch desert tortoises, files must be disinfected after each use.

Thoroughly clean field vehicles inside and out at a car wash before moving to another geographical location.

### **7.7. Capturing Desert Tortoises**

When encountering a desert tortoise outside its burrow, approach the animal slowly (e.g., if the desert tortoise is 15 feet (4.5 meters) away, pace your approach with pauses to contact the desert tortoise in 30 seconds). Put on a clean, unused pair of latex or rubber gloves and grasp the desert tortoise at its bridge (connection between the carapace and plastron) with both hands, holding it firmly with its plastron parallel to, and facing the ground. Slowly lift the desert tortoise to your waist height and slowly and smoothly walk to where the desert tortoise will be placed (e.g., remove from harm's way).

If a desert tortoise is collected at or near sunset and intended to be released the same day, hold the desert tortoise overnight in a clean, unused cardboard box or open disinfected plastic container, and release it the next morning at or near the capture site. Monitor the desert tortoise until it resumes normal behavior.

## 7.8. Processing Desert Tortoises

Before touching a desert tortoise, implement procedures described in Section 7.6. A desert tortoise shall only be processed (i.e., weighed, measured, or sexed) if authorized in a biological opinion or permit. An experienced biologist should be able to process a desert tortoise in 5 to 10 minutes. **Do not process a desert tortoise if the ambient temperature exceeds 95 degrees F (35 degrees C)** (Section 6.3 or 7.4.) or if there is a chance that a second desert tortoise could be in harm's way and requires timely action while processing the first one.

Inspect a desert tortoise and record data on size, sex, distinctive features, indications of health and disease (e.g., ectoparasites, shell lesions, signs of osteoporosis or osteomalacia, injuries, evidence of URTD, etc.). Ensure that the desert tortoise is maintained in a horizontal position at all times.

### 7.8.1. Measuring and Sexing

If authorized and required, measure the midline carapace length (MCL) of the desert tortoise from the nuchal to pygal scutes using calipers, which provide the most accurate measurement. Measurements should be taken in millimeters (mm). Before touching a desert tortoise, implement procedures described in Section 7.6.

The sex of desert tortoises less than 180 mm MCL cannot be accurately determined based on external characteristics. Generally, the following male characteristics differentiate them from females: a) concave plastron; b) longer, more curved gulars; c) larger, well-developed chin glands; d) longer, broader, more conical tail; and e) shorter, thicker toenails. Pay particular attention to the gular projection and the shape of the plastron, which are the two best features for differentiating the sexes. For very large desert tortoises, feel the concave (male) or flattened (female) plastron or see it by holding the desert tortoise at eye level without turning the desert tortoise on its back. When in doubt, record all other information and mark "sex unknown" on the data sheet.

### 7.8.2. Weighing

Handle desert tortoises carefully. Mishandling may result in injury or cause the tortoise to void its bladder. Before touching a desert tortoise, implement procedures described in Section 7.6. If using a digital scale, immobilize the desert tortoise as described in Section 7.8.3. If using a spring scale, place the desert tortoise inside a harness made of clean, unused cord that will avoid the spread of pathogens. It will also minimize gross contamination to the desert tortoise and to field equipment from urination or defecation. The harness shall consist of a double loop with one loop crossing the plastron posterior to the forelimbs and the other anterior to the hind limbs. As the Authorized Biologist slowly begins to raise the tortoise, the tortoise shall remain positioned horizontally and care shall be taken to ensure that the tortoise does slip out of the harness or fall. Using the harness allows the Authorized Biologist to observe any stressful behavior exhibited by the desert tortoise (e.g., flailing of legs) and act quickly to correct this situation. Suspend the harness from the scale, ensuring the desert tortoise is securely and safely positioned, a few inches above sand or soil substrate. Keep weighing time to a minimum; and

take every precaution to prevent the desert tortoise from falling or voiding. Once the desert tortoise has been weighed, dispose of the harness.

The following spring scale sizes are recommended: a) 0 to 100 gram scale with a 1.0 gram precision for small desert tortoises; b) 1 kilogram scale with a 10 gram precision for moderate-sized desert tortoises; and c) 5 kilogram scale with a 50 gram precision for large desert tortoises. It is best to use the smallest scale that will accommodate the weight of a desert tortoise. Occasionally a desert tortoise will weigh more than 5 kilograms; in this case you may use two 5-kilogram scales simultaneously on the harness and add the weights. Keep scales clean and calibrated.

Experts recommend weighing a desert tortoise immediately after capture. This provides a true weight. Should the desert tortoise void its bladder, weigh it afterwards to determine how much fluid has been lost. Another reason for weighing a desert tortoise is to determine if it is underweight for its size. Low weight may be the result of disease, drought conditions, recent egg-laying, or other factors.

### 7.8.3. Restricting Mobility

*Using cylinders* - Before touching a desert tortoise, implement procedures described in Section 7.6. A desert tortoise may be placed on the top of a cylindrical holding stand such as a coffee can or other large can to facilitate processing. The stand should be large enough to support the desert tortoise and small enough to prevent any waving appendages from touching the stand, and tall enough to prevent desert tortoise from touching a solid surface below. Given that desert tortoises come in all sizes, a range of stand sizes will be needed. Note that coffee cans and other types of stands come in several sizes and can be "nested" in one another for ease of transport thereby accommodating different-sized desert tortoises. Freedom to move its appendages may encourage a desert tortoise to extend its head, which allows observation of the eyes, nares, chin glands, and beak where most signs of URTD are observed. The stand must be disinfected before using it with another desert tortoise, or place waterproof plastic on top of the stand prior to each use, then position the desert tortoise on top of the plastic, and discard the plastic afterwards.

### 7.8.4. Assessing Desert Tortoise Health

A section 7 biological opinion or section 10 permit may require a health assessment for encountered desert tortoises. Before initiating this assessment, contact the appropriate USFWS office to determine the information to be included in the health assessment. This will determine the qualifications needed by the person conducting the health assessment. You will need the approval of the person conducting the health assessment from the USFWS.

### 7.8.5. Marking Desert Tortoises

You must contact the DTRO and appropriate State wildlife agency before marking desert tortoises. Before touching a desert tortoise, implement procedures described in Section 7.6. If authorized, first restrict movement of the desert tortoise (Section 7.8.3.). Next, use a clean, disinfected toothbrush to remove dirt from the left fourth costal scute, where the desert tortoise will be marked. If this scute is damaged, use the right fourth costal scute. Next, place a small

dot (i.e., no larger than 1/4 inch (0.64 centimeter) in diameter) of correction fluid (i.e., white out) or acrylic paint on the scute. The number is likely to last longer if placed on a rough, off-centered surface where shell-wear is less common, which is one reason only the fourth costal scutes are used for marking. Once the spot is dry, write the identifying mark on the spot using a waterproof, permanent black ink pen. Some biologists recommend using a capillary type technical pen (e.g., fine-tip Sharpie).

Allow the number to dry before applying 5-minute epoxy. Mix the epoxy on a file card or piece of paper, then transfer the mixed epoxy to the dot on the shell using a toothpick, wooden coffee stirrer, or tongue depressor. Wait several seconds until the epoxy starts to thicken but is still liquid enough to spread over the numbered spot with ease. Cover the paint spot overlapping its edges just enough to seal the paint. **Never allow the epoxy to spill over onto the growth area, which occurs at the border between two scutes.** Anticipate this when applying the paint so there will be space for the epoxy to overlap the paint without entering the seams. It may be helpful to cover the margins of the scute with 1/2-inch wide masking tape before applying the epoxy, to ensure that the epoxy does not touch the growth area, especially on smaller desert tortoises. Record the identifying mark on the data sheet. Dispose of used materials appropriately after use on each desert tortoise.

#### 7.8.6. Photographing Desert Tortoises

Before touching a desert tortoise for photographing, implement procedures described in Section 7.6. If permitted, photograph processed desert tortoises as follows: a) dorsal view of the carapace; b) the numbered scute; and c) frontal view of the desert tortoise's face and forelegs. Photograph any recent or previously healed injuries or unusual anomalies. Unless specifically required, do not photograph the plastron which would require unnecessary handling and risk to the tortoise. It is important that each object fills 80 to 90 percent of the frame and that the object be clearly focused. Digital photographs are preferred. Two types of labels are recommended: a) hold a small card adjacent to the desert tortoise so that the above information is clearly visible on the photograph without blocking the part of the desert tortoise being photographed; or, b) attach a 1/2 inch x 1/2 inch, adhesive label to the desert tortoise to allow for closer, more detailed photographs of the subject. Dispose of label appropriately following use on each desert tortoise.

Keep a log of the photographs in your field notes (e.g., "photo number 453, carapace of desert tortoise 4"). You must be familiar with the features of the camera. Label photographs with the following information: date, biologist's name, project name, desert tortoise number, UTM or lat/long, county, and state.

Supplies and equipment:

- 3 inch x 5 inch file cards (for identifying photographs)
- 1/2 inch x 1/2 inch labels or other stickers (to attach to desert tortoise to identify photograph)
- Camera

## **7.9. Desert Tortoise Urination and Hydration**

Desert tortoises may void their bladder: 1) when first encountered, picked up, or carried; 2) the longer you handle them; and (3) during drought conditions, which is also when water availability is at its lowest. Since desert tortoises store water in their bladders, any loss of this fluid may result in death (Averill-Murray 2002). Discourage bladder voiding by gently and slowly moving the desert tortoise. If the tortoise does void, record on the data sheet the quantity, color, and viscosity of the urine. If the desert tortoise has already been weighed, weigh it again to estimate the amount of lost fluid. Avoid all unnecessary actions that may result in stress to the animal.

If the desert tortoise urinates, it should be rehydrated. To rehydrate, soak the desert tortoise at the release location in a tub with a clean unused plastic disposable liner for a minimum of 10 to 20 minutes in a quiet protected area. Water level shall not be higher than the lower jaw of the animal; the water temperature should be tepid. Desert tortoises must be soaked individually. Weigh the desert tortoise before and after placing in water. Even if desert tortoises do not drink, they can absorb water through their cloaca. Weighing the desert tortoise before and after placing it in water will determine if the tortoise took in water (James Jarchow, veterinarian, pers. comm.).

On warm days, transport the desert tortoise in the shade. Remember to roll up your sleeves and wear protective clothing to avoid transmitting disease or parasites to other desert tortoises that may come in contact with your clothing. When handling is complete, remove and properly dispose of your gloves and protective clothing.

## **7.10. Moving and Releasing Desert Tortoises**

In this Manual, relocating desert tortoises is defined as moving them from harm's way but allowing them to remain within their home ranges. To relocate, move the desert tortoise the distance directed in the permit or biological opinion once the desert tortoise has been processed. The minimum distance from the edge of the project footprint that a desert tortoise can be relocated will be determined by its age and sex (different home range sizes), the presence or absence of desert tortoise-proof fencing around the perimeter of the project footprint, and the duration of the project activity. Desert tortoises may attempt to return to their point of capture. A desert tortoise should not be placed on private land without the written permission of the landowner.

In this Manual, translocating desert tortoises is defined as moving them from harm's way to a location outside their home range (e.g., more than 1,000 feet (305 meters)). Translocating tortoises should only occur when authorized by the permitting agencies and in accordance with an approved, project-specific translocation plan. Translocation not only affects the desert tortoise being moved but also may impact resident desert tortoises in the translocation area. The effectiveness of translocation of desert tortoises as a conservation or recovery tool has not been proven. Until its effectiveness is determined, it should be implemented only on an experimental basis and in close coordination with the USFWS and State wildlife agency.

For temperature considerations, refer to Section 7.3. To discourage urination or if the tortoise voided during handling, refer to Section 7.9.

After processing is completed, release the desert tortoise as soon as possible while considering its well-being. Desert tortoises shall be released individually and not in groups. The biological opinion or permit may require that desert tortoises be removed from the project site and placed in the shade of a shrub, in a natural unoccupied burrow, or in an artificial burrow. Desert tortoises shall be released at a safe location as near to the point of capture as possible. If a desert tortoise is found aboveground, release it aboveground if environmental conditions are suitable (Sections 7.4 and 7.5), or hold it until conditions are suitable, then release it. When releasing the desert tortoise, slowly lower the animal to the ground, release it, and slowly walk away. Following release, monitor the desert tortoise until it exhibits and maintains normal behavior. Further, we recommend that desert tortoises **not** be put into existing burrows to avoid exposing the desert tortoise to diseases.

If a desert tortoise and its burrow are not in harm's way but adjacent to project activities, as an alternative to moving, construct a temporary restraining pen around the desert tortoise and its burrow to protect it during project activities (See Section 6.9.).

#### 7.10.1. Temporarily Holding Desert Tortoises

There may be a situation where a desert tortoise needs to be removed from the field, held overnight or longer, and then released at its point of capture. While held, each desert tortoise shall remain in a clean, unused or disinfected container that is covered or closed. Newspaper placed in the bottom will absorb any urine that is voided. The box shall be ventilated in such a way that a desert tortoise's leg or head cannot be caught in the ventilation hole. Never put more than one desert tortoise in a container, and avoid placing anything in a container occupied by a tortoise that previously came in contact with another tortoise without following disinfection procedures (Section 7.6.).

#### 7.10.2. Transporting by Vehicle

Do not allow desert tortoises to roam freely in the vehicle. Do not transport desert tortoises in shopping or grocery bags or other containers less sturdy than a new cardboard box. Discard the box immediately after use to ensure that it is not used for another desert tortoise.

Never place desert tortoises over the catalytic converter or other area in a vehicle that becomes hot. Pad truck beds or floorboards and travel at speeds that minimize vibrations or shifting of the box. Never leave a desert tortoise unattended in a vehicle. During summer months, transport desert tortoises in an air-conditioned vehicle, placing them in a covered, unused cardboard box while maintaining the vehicle interior temperature between 75 degrees F and 80 degrees F (23.9 degrees C and 26.7 degrees C). If a desert tortoise is captured during the winter, maintain the desert tortoise at its current body temperature, which will be less stressful to it than much warmer temperatures, and may allow it to remain in a physiological state of brumation. When transporting an adult female desert tortoise, assume it may be gravid (i.e., April through July) and take special care to avoid jolting and jostling to ensure that the eggs are not ruptured which may result in her death from egg yolk peritonitis.

## **7.11. Injured or Dead Desert Tortoises**

If an injured desert tortoise is encountered that may have been the result of project activities, follow the instructions of the biological opinion/permit, which typically requires immediate transport to a qualified veterinarian. Contact the USFWS and appropriate State wildlife agency. Document the injury with photographs and a written description of the injury; circumstances and probable cause; and recommendations to avoid future injuries. Submit this information to the USFWS and other appropriate agencies.

If a dying or dead desert tortoise is encountered, you may not salvage or collect it unless authorized to do so under a biological opinion, section 10 permit, or under 50 *Code of Federal Regulations* 17.31.



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## CHAPTER 8. DESERT TORTOISE EXCLUSION FENCE

### RECOMMENDED SPECIFICATIONS FOR DESERT TORTOISE EXCLUSION FENCING

These specifications were developed to standardize fence materials and construction procedures to confine tortoises or exclude them from harmful situations, primarily roads and highways. Prior to commencing any field work, all field workers should comply with all stipulations and measures developed by the jurisdictional land manager and the U.S. Fish and Wildlife Service for conducting such activities in desert tortoise habitat, which will include, at a minimum, completing a desert tortoise education program.

#### Fence Construction

##### Materials

Fences should be constructed with durable materials (*i.e.*, 16 gauge or heavier) suitable to resist desert environments, alkaline and acidic soils, wind, and erosion. Fence material should consist of 1-inch horizontal by 2-inch vertical, galvanized welded wire, 36 inches in width. Other materials include: Hog rings, steel T-posts, and smooth or barbed livestock wire. Hog rings should be used to attach the fence material to existing strand fence. Steel T-posts (5 to 6-foot) are used for new fence construction. If fence is constructed within the range of bighorn sheep, 6-foot T-posts should be used (see New Fence Construction below). Standard smooth livestock wire fencing should be used for new fence construction, on which tortoise-proof fencing would be attached.

##### Retrofitting Existing Livestock Fence

**Option 1 (see enclosed drawing).** Fence material should be buried a minimum of 12 inches below the ground surface, leaving 22-24 inches above ground. A trench should be dug or a cut made with a blade on heavy equipment to allow 12 inches of fence to be buried below the natural level of the ground. The top end of the tortoise fence should be secured to the livestock wire with hog rings at 12 to 18-inch intervals. Distances between T-posts should not exceed 10 feet, unless the tortoise fence is being attached to an existing right-of-way fence that has larger interspaces between posts. The fence must be perpendicular to the ground surface, or slightly angled away from the road, towards the side encountered by tortoises. After the fence has been installed and secured to the top wire and T-posts, excavated soil will be replaced and compacted to minimize soil erosion.

**Option 2 (see enclosed drawing).** In situations where burying the fence is not practical because of rocky or undigable substrate, the fence material should be bent at a 90E angle to produce a lower section approximately 14 inches wide which will be placed parallel to, and in direct

contact with, the ground surface; the remaining 22-inch wide upper section should be placed vertically against the existing fence, perpendicular to the ground and attached to the existing fence with hog rings at 12 to 18-inch intervals. The lower section in contact with the ground should be placed within the enclosure in the direction of potential tortoise encounters and level with the ground surface. Soil and cobble (approximately 2 to 4 inches in diameter; can use larger rocks where soil is shallow) should be placed on top of the lower section of fence material on the ground covering it with up to 4 inches of material, leaving a minimum of 18 inches of open space between the cobble surface and the top of the tortoise-proof fence. Care should be taken to ensure that the fence material parallel to the ground surface is adequately covered and is flush with the ground surface.

### New Fence Construction

Options 1 or 2 should be followed except in areas that require special construction and engineering such as wash-out sections (see below). T-posts should be driven approximately

24 inches below the ground surface spaced approximately 10 feet apart. Livestock wire should be stretched between the T-posts, 18 to 24 inches above the ground to match the top edge of the fence material; desert tortoise-proof fencing should be attached to this wire with hog rings placed at 12 to 18-inch intervals. Smooth (barb-less) livestock wire should be used except where grazing occurs.

If fence is constructed within the range of bighorn sheep, two smooth-strand wires are required at the top of the T-post, approximately 4 inches apart, to make the wire(s) more visible to sheep. A 20 to 24-inch gap must exist between the top of the fence material and the lowest smooth-strand wire at the top of the T-post. The lower of the top two smooth-strand wires must be at least 43 inches above the ground surface.

(72-inch T-posts: 24 inches below ground + 18 inches of tortoise fence above ground + 20 to 24-inch gap to lower top wire + 4 inches to upper top wire = 66 to 70 inches).

### **Inspection of Desert Tortoise Barriers**

The risk level for a desert tortoise encountering a breach in the fence is greatest in the spring and fall, particularly around the time of precipitation including the period during which precipitation occurs and at least several days afterward. All desert tortoise fences and cattleguards should be inspected on a regular basis sufficient to maintain an effective barrier to tortoise movement.

Inspections should be documented in writing and include any observations of entrapped animals; repairs needed including bent T-posts, leaning or non-perpendicular fencing, cuts, breaks, and gaps; cattleguards without escape paths for tortoises or needed maintenance; tortoises and tortoise burrows including carcasses; and recommendations for supplies and equipment needed to complete repairs and maintenance.

All fence and cattleguard inventories should be inspected at least twice per year. However, during the first 2 to 3 years all inspections will be conducted quarterly at a minimum, to identify and document breaches, and problem areas such as wash-outs, vandalism, and cattleguards that fill-in with soil or gravel. GPS coordinates and mileages from existing highway markers should be recorded in order to pinpoint problem locations and build a database of problem locations that may require more frequent checking. Following 2 to 3 years of initial inspection, subsequent inspections should focus on known problem areas which will be inspected more frequently than twice per year. In addition to semi-annual inspections, problem areas prone to wash-outs should be inspected following precipitation that produces potentially fence-damaging water flow. A database of problem areas will be established whereby checking fences in such areas can be done efficiently.

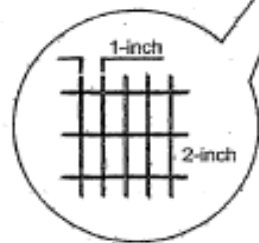
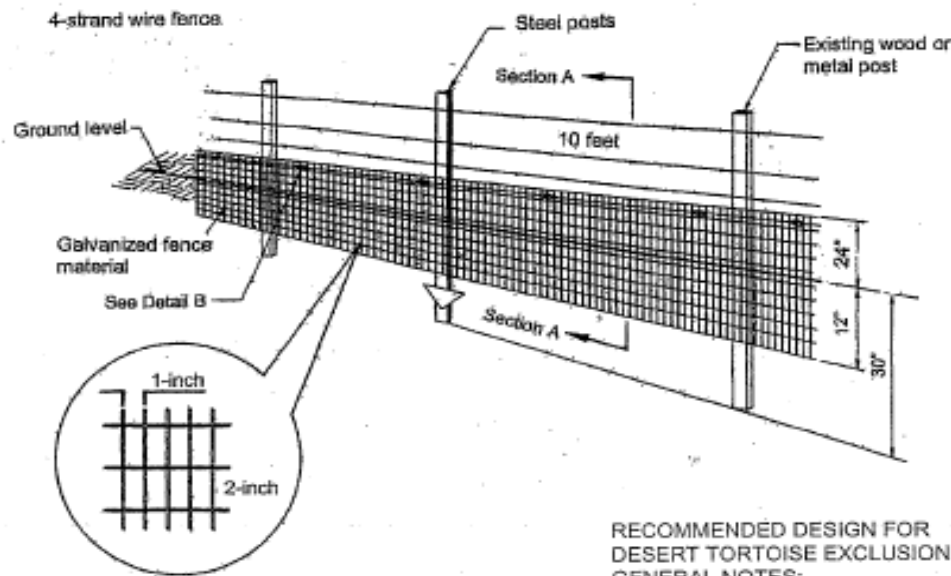
### **Repair and Maintenance of Desert Tortoise Barriers**

Repairs of fence wash-outs: (1) realign the fence out of the wash if possible to avoid the problem area, or (2) re-construct tortoise-proof fencing using techniques that will ensure that an effective desert tortoise barrier is established that will not require frequent repairs and maintenance.

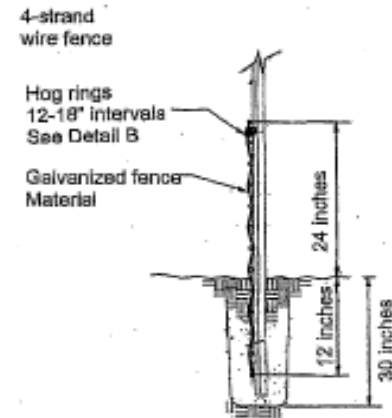
Gaps and breaks will require either: (a) repairs to the existing fence in place, with similar diameter and composition of original material, (b) replacement of the damaged section to the nearest T-post, with new fence material that original fence standards, (c) burying fence, and/or (d) restoring zero ground clearance by filling in gaps or holes under the fence and replacing cobble over fence constructed under Option 2. Tortoise-proof fencing should be constructed and maintained at cattleguards to ensure that a desert tortoise barrier exists at all times.

All fence damage should be repaired in a timely manner to ensure that tortoises do not travel through damaged sections. Similarly, cattleguards will be cleaned out of deposited material underneath them in a timely manner. In addition to periodic inspections, debris should be removed that accumulates along the fence. All cattleguards that serve as tortoise barriers should be installed and maintained to ensure that any tortoise that falls underneath has a path of escape without crossing the intended barrier.

DESERT TORTOISE EXCLUSION FENCE (2005)



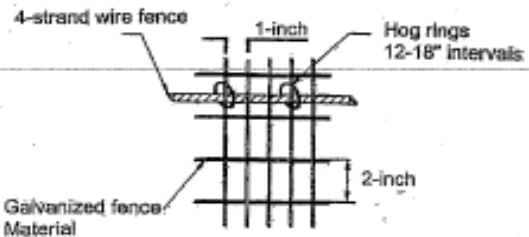
DETAIL A



SECTION A

RECOMMENDED DESIGN FOR  
DESERT TORTOISE EXCLUSION FENCE  
GENERAL NOTES:

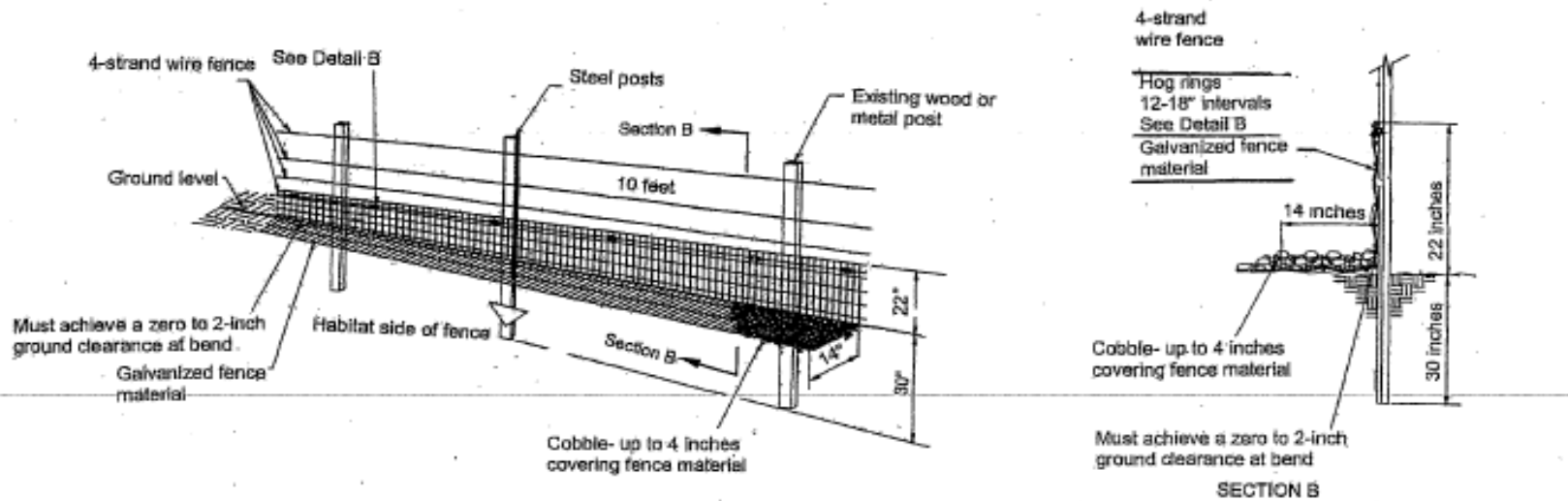
1. Ensure that fence posts and materials conform to the standards approved by the U.S. Fish and Wildlife Service.
2. Ensure that the height above ground level is no less than 18 inches and no higher than 24 inches.
3. Ensure that the depth of fence material below ground level is about 12 inches but no less than 6 inches. (See SECTION A above)
4. Install additional steel posts when span between existing fence posts exceed 10 feet.
5. Attach fence material to existing fence or wire using hog rings at 12-inch intervals.
6. Fasten fence material to posts with 3 tie wires with a wire near the top, bottom, and center of the fence material.
7. Backfill trenches with excavated material and compact the material.
8. Attach fence material to all gates. Ensure that clearance at base of gate achieves zero ground clearance.
9. Substitute smooth wire for barbed wire if additional support wires are necessary.
10. The number and placement of support wires may be modified to allow sheep and deer to pass safely.
11. Erosion at the edge of the fence material where the fence crosses washes may occur and requires appropriate and timely monitoring and repair.
12. Tie the fence into existing culverts and cattleguards when determined necessary to allow desert tortoise passage underneath roadways.




DETAIL B

### FOR BEDROCK OR CALICHE SUBSTRATE

1. Use this fence design (see below) only for that portion of the fence where fence material cannot be placed 6 inches below existing ground level due to presence of bedrock, large rocks or caliche substrate.
2. Ensure that the fence height above ground level is no less than 22 inches.
3. Ensure that there is a zero to 2-inch ground clearance at the bend.
4. Ensure that the bent portion of the fence is lying on the ground and pointed in the direction of desert tortoise habitat.
5. Cover the portion of the fence that is flush with the ground with cobble (rocks placed on top of the fence material to a vertical thickness up to 4 inches).
6. When substrate no longer is composed of bedrock or caliche, install fence using design shown above.



 <b>ELECTRICAL ENGINEERING SECTION</b>	<b>ELECTRICAL ENGINEERING DESIGN STANDARD</b>	<b>SECTION</b> <b>40.10.05</b>
	<b>GROUNDING OF CHAIN LINK FENCES</b>	<b>PAGE</b> 1 of 3
		<b>ISSUE DATE</b> 01/15/85
		<b>REVISION</b> 12/01/09
<b>No Applicable National Standards Based on Substation Practices</b>		Approved: <u>Minh T. Le</u> Manager, Electrical Engineering

## 1.0 Purpose

This standard provides information on the grounding of metallic fences in various Department installations.

## 2.0 General


All substation perimeter metallic fencing shall be grounded. A double counterpoise shall always be used. Use single counterpoise only when double counterpoise is not practical. (In The California Code of Regulation, Title 8, require the fence to be permanently and effectively grounded. In other states, the National Electrical Safety Code requires a counterpoise along the fence line.) In most cases, this counterpoise shall be connected to the facility ground grid system. Fences which connect to the substation perimeter fence shall be grounded or shall be isolated in accordance with Design Standard 40.10.15.

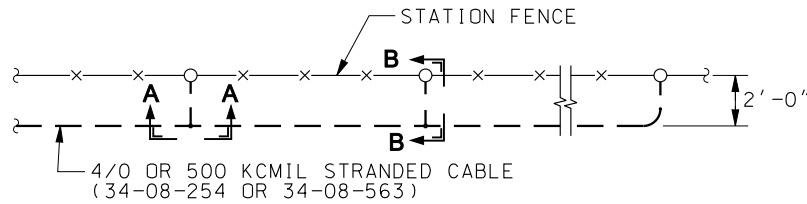
## 3.0 Bonding

Bonding of two fences is required only when both fences are grounded. If one fence is grounded and the other is not, bonding shall not be done.

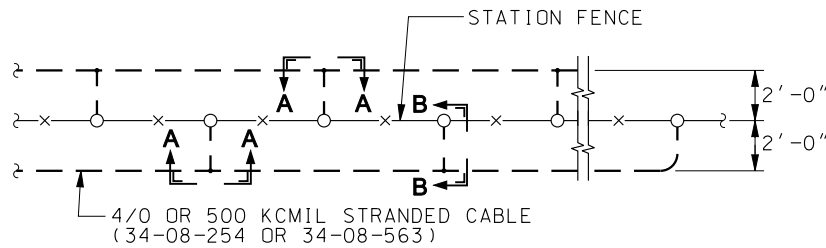
## 4.0 Installation

When grounding a fence, each line post, corner post, and gate post shall be grounded to the ground grid or fence counterpoise with 4/0 or 500 kcmil stranded bare copper cable based on the grounding grid calculations. The fence counterpoise shall be 4/0 or 500 kcmil stranded bare copper cable, based on the grounding grid calculations, installed two feet (0.6 meters) from the fence and buried at the same depth as the ground grid conductors, about 18 inches (0.5 meters).

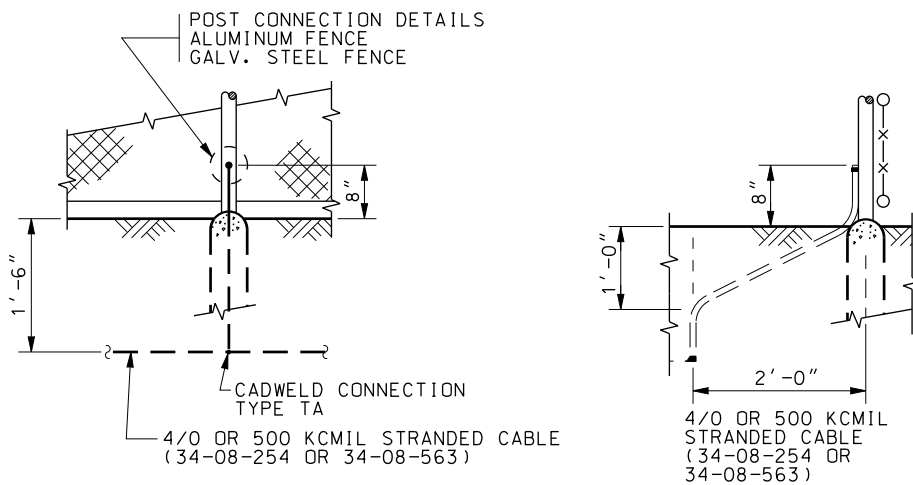
	<b>ELECTRICAL ENGINEERING DESIGN STANDARD</b>	<b>SECTION</b>	<b>40.10.05</b>	
	<b>GROUNDING OF CHAIN LINK FENCES</b>		<b>PAGE</b>	2 of 3
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<b>ELECTRICAL ENGINEERING SECTION</b>				
<b>No Applicable National Standards Based on Substation Practices</b>		Approved: <u>Minh T. Le</u> Manager, Electrical Engineering		



**FIGURE 1 - Single Counterpoise**  
(Only use when Double Counterpoise is not practical)




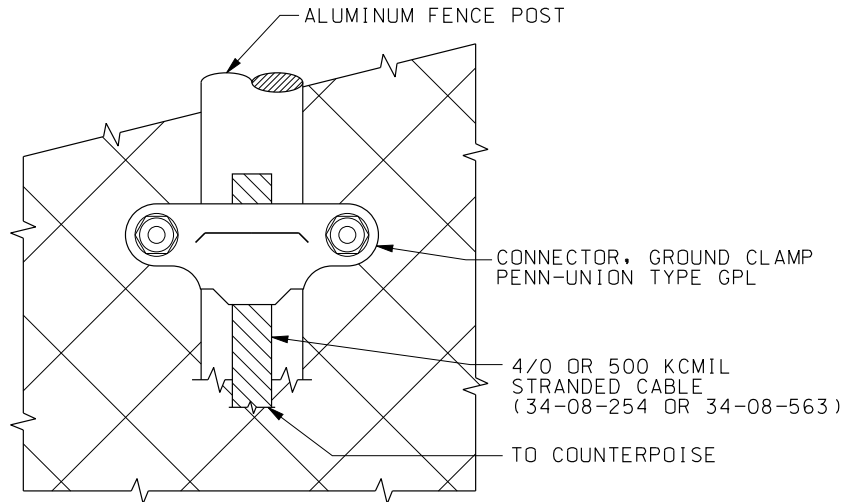
**FIGURE 2 - Double Counterpoise**



**FIGURE 3 - Section A-A and Section B-B**



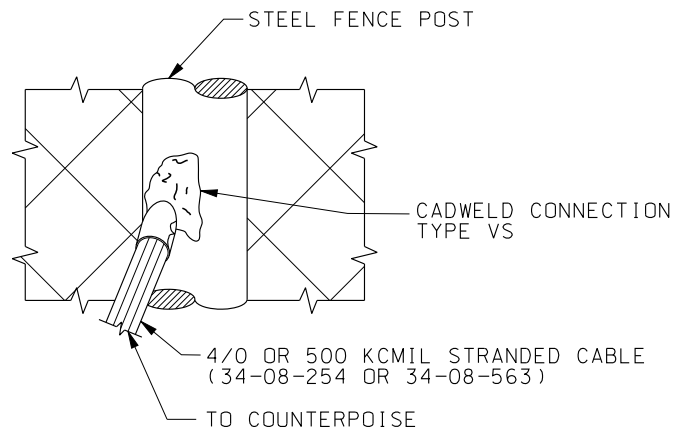
 <b>ELECTRICAL ENGINEERING SECTION</b>	<b>ELECTRICAL ENGINEERING DESIGN STANDARD</b>	<b>SECTION</b> 40.10.05
	<b>GROUNDING OF CHAIN LINK FENCES</b>	<b>PAGE</b> 3 of 3
		<b>ISSUE DATE</b> 01/15/85
		<b>REVISION</b> 12/01/09
<b>No Applicable National Standards Based on Substation Practices</b>		Approved: <u>Minh T. Le</u> Manager, Electrical Engineering



**FIGURE 4 - Aluminum Fence Grounding**


Procedure for connecting copper cable to aluminum fence.

1. Apply penetrox A to post at the connection area.
2. With clean, dry, wire brush remove oxide from post by brushing through the penetrox A.
3. Connect ground cable to the aluminum post using the copper tin-plated, or copper-to-aluminum, ground connector. Do not remove the penetrox A.



**FIGURE 5 - Steel Fence Post Grounding**

**NOTE:** After cadweld, clean and paint cadweld area with metallic, zinc-type paint.

 <b>ELECTRICAL ENGINEERING SECTION</b>	<b>ELECTRICAL ENGINEERING DESIGN STANDARD</b>	<b>SECTION</b> 40.10.10
	<b>GROUNDING OF CHAIN LINK FENCE GATES</b>	<b>PAGE</b> 1 of 2
		<b>ISSUE DATE</b> 01/15/85
		<b>REVISION</b> 12/01/09
<b>No Applicable National Standards Based on Substation Practices</b>		Approved: <u>Minh T. Le</u> Manager, Electrical Engineering

## 1.0 Purpose

This standard provides information on the grounding of chain link fence gates in the vicinity of electrical equipment and structures.

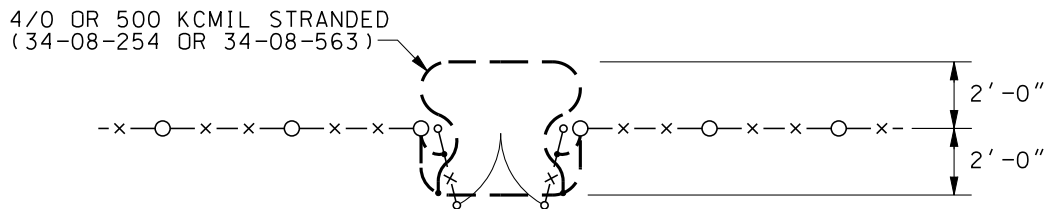
## 2.0 General

Regardless of the fence grounding requirements, all gates in fences around or in the vicinity of electrical equipment and structures shall have all parts bonded together and grounded.

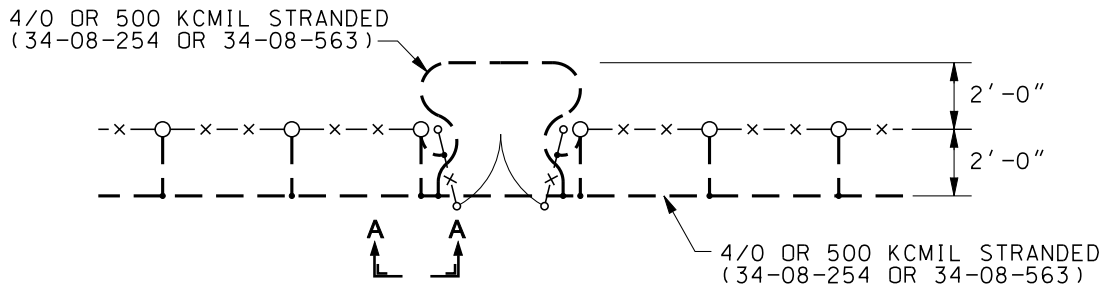
## 3.0 Installation

Bonding and grounding of all gates shall be done as shown below:

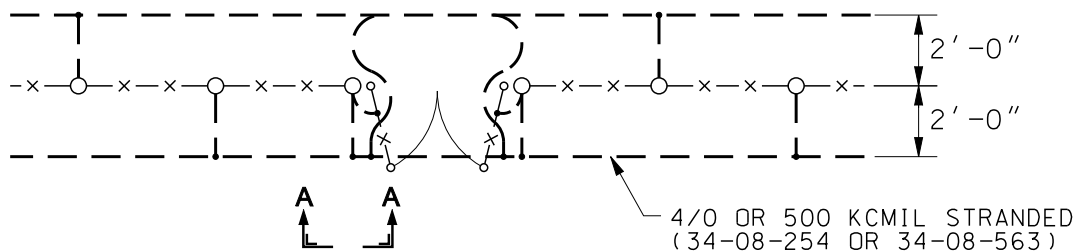
### GATE IN THE VICINITY OF THE STATION AREA




**FENCE NOT COUNTERPOISED**

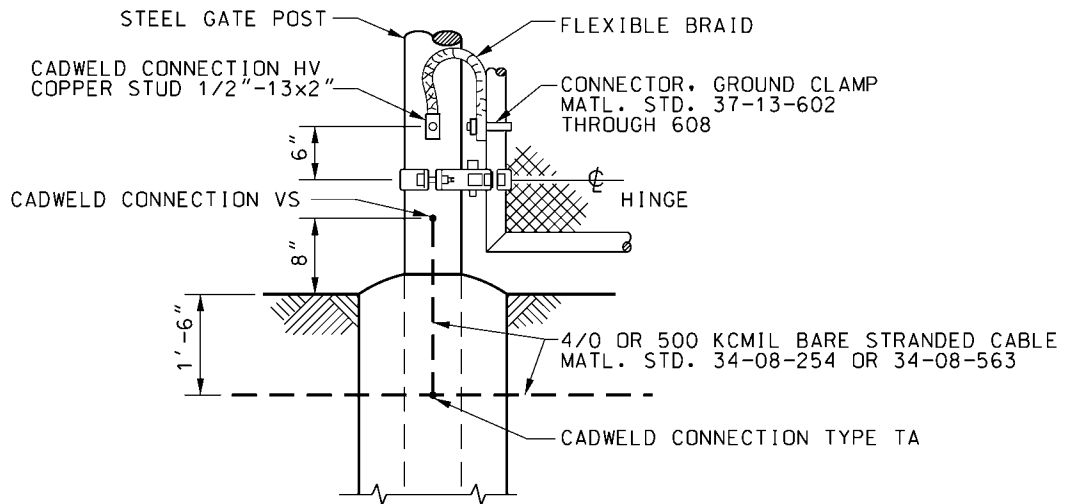


**SINGLE COUNTERPOISED**

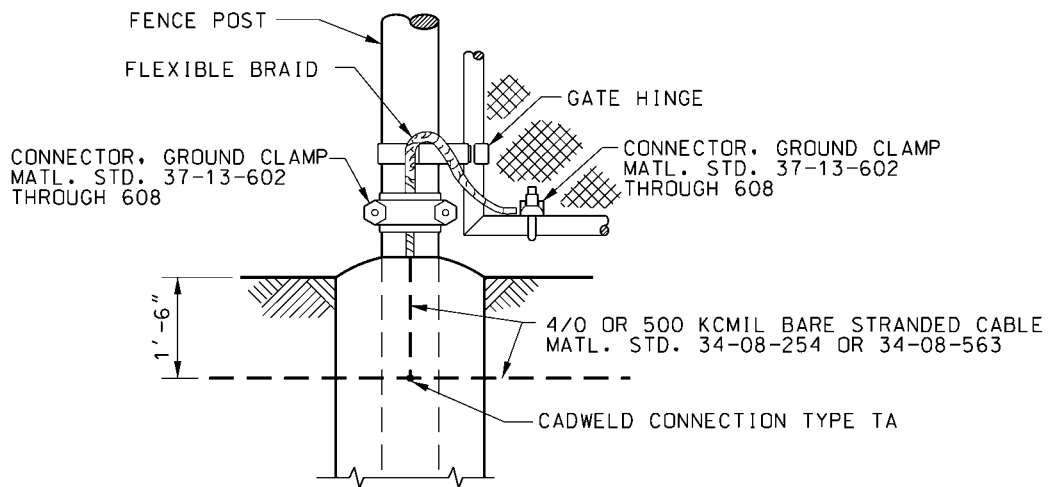


**DOUBLE COUNTERPOISED**


	<b>ELECTRICAL ENGINEERING DESIGN STANDARD</b>	<b>SECTION</b> 40.10.10
		<b>PAGE</b> 2 of 2
<b>ELECTRICAL ENGINEERING SECTION</b>	<b>GROUNDING OF CHAIN LINK FENCE GATES</b>	<b>ISSUE DATE</b> 01/15/85
		<b>REVISION</b> 12/01/09
	<b>No Applicable National Standards Based on Substation Practices</b>	
		Approved: <u>Minh T. Le</u> Manager, Electrical Engineering



**SECTION A-A  
GALVANIZED STEEL FENCE  
GATE CONNECTION**



**SECTION A-A  
ALUMINUM FENCE  
GATE CONNECTION**

	<b>ELECTRICAL ENGINEERING DESIGN STANDARD</b>	<b>SECTION</b>	<b>40.10.15</b>
	<b>CHAIN LINK FENCE INSULATING UNITS</b>	<b>PAGE</b>	1 of 6
<b>ISSUE DATE</b>		03/15/85	
<b>REVISION DATE</b>		01/04/10	
<b>ELECTRICAL ENGINEERING SECTION</b>			
<b>No Applicable National Standards Based on Substation Practices</b>		Approved: <u>Minh T. Le</u> Manager, Electrical Engineering	


## 1.0 Purpose

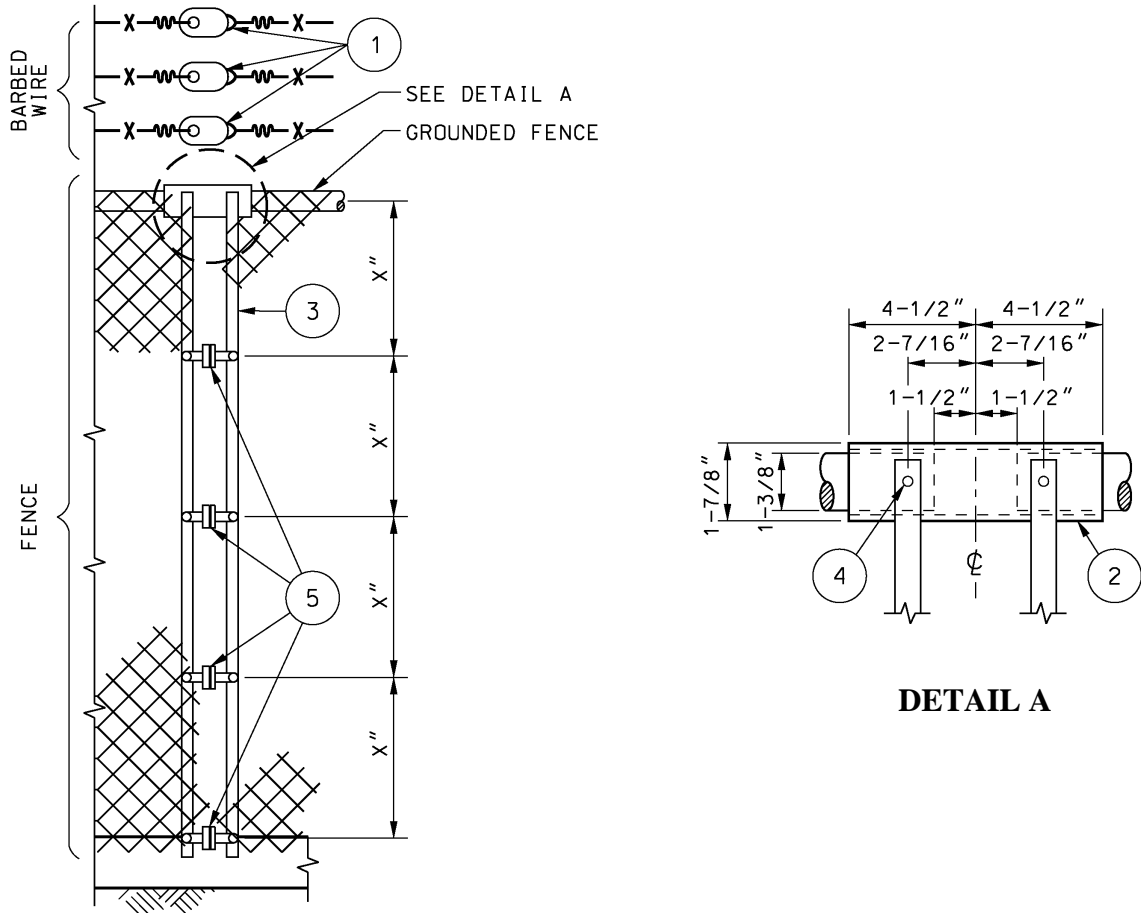
This standard provides information on several methods for isolating ungrounded chain link fences from substation fencing which is normally attached to grounding grid systems.

## 2.0 General

Substation fences are sometimes extended to other areas of a site. This may present a transferred potential hazard during a ground-fault current flow when the extended fence is connected to the substation grounding grid system.

In order to lessen this hazard, an "Insulating Unit" as shown in Figure 1, Figure 2, and Figure 3 shall be installed between the substation grounding fence and the extended fence leaving the substation area. This is done to eliminate transfer potentials that would cause dangerous step-and-touch voltages on ungrounded portions of the extended fence.


	<b>ELECTRICAL ENGINEERING DESIGN STANDARD</b>	<b>SECTION</b>	<b>40.10.15</b>
	<b>CHAIN LINK FENCE INSULATING UNITS</b>		<b>PAGE</b>
		<b>ISSUE DATE</b>	03/15/85
		<b>REVISION DATE</b>	01/04/10
<b>ELECTRICAL ENGINEERING SECTION</b>			
<b>No Applicable National Standards Based on Substation Practices</b>		Approved: <u>Minh T. Le</u> Manager, Electrical Engineering	

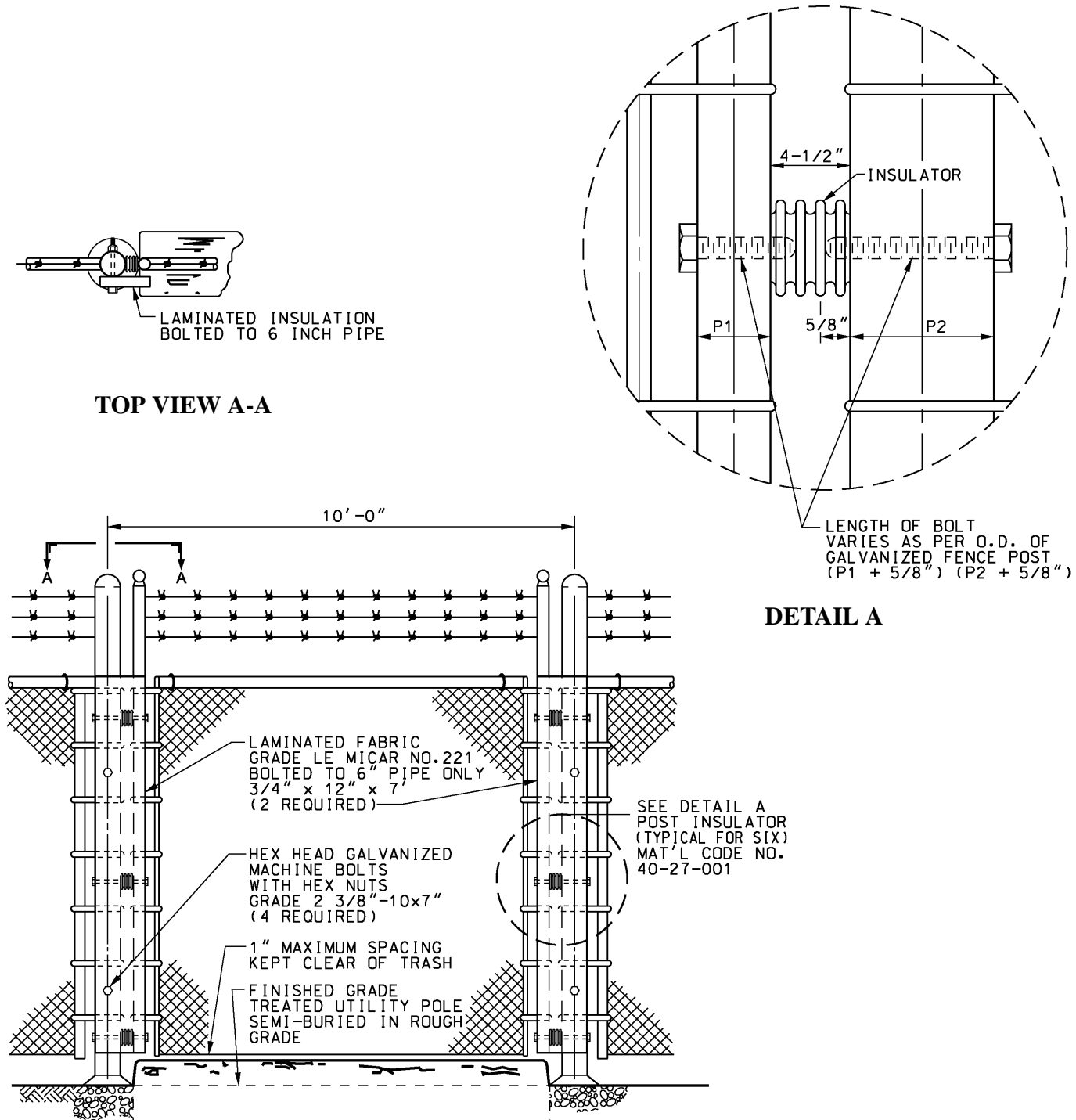


**FIGURE 1 - Chain Link Fence Insulating Unit**


<b>PART NO.</b>	<b>DESCRIPTION</b>	<b>MATERIAL CODE</b>
1	INSL STRAIN OB 31352	40-31-201
2	CND PVC SCH 80 1-1/2"	36-23-300
3	TERMINATION BAR 1-1/4" x 1/4"	57-38-830
4	BOLT MACH 1/2" x 3"	58-11-105
5	INSL STRAIN OB 22482 WITH TWO CLEVISES	40-25-510

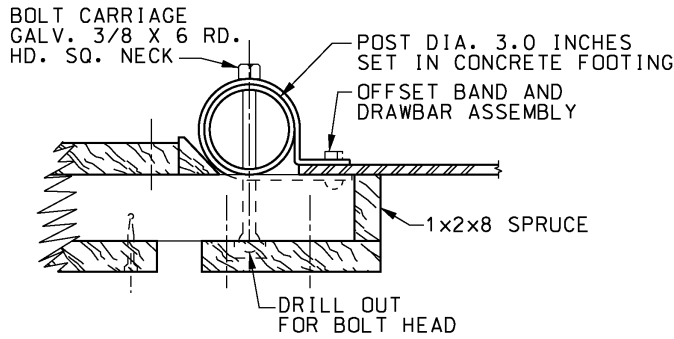
NOTE: Use aluminum hardware for aluminum fence.

	<b>ELECTRICAL ENGINEERING DESIGN STANDARD</b>	<b>SECTION</b> 40.10.15
	<b>CHAIN LINK FENCE INSULATING UNITS</b>	<b>PAGE</b> 3 of 6
<b>ELECTRICAL ENGINEERING SECTION</b>		<b>ISSUE DATE</b> 03/15/85
		<b>REVISION DATE</b> 01/04/10
<b>No Applicable National Standards Based on Substation Practices</b>		Approved: <u>Minh T. Le</u> Manager, Electrical Engineering

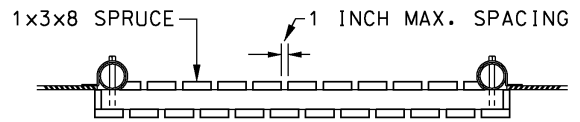


**FIGURE 2 - Fence Isolation Detail**

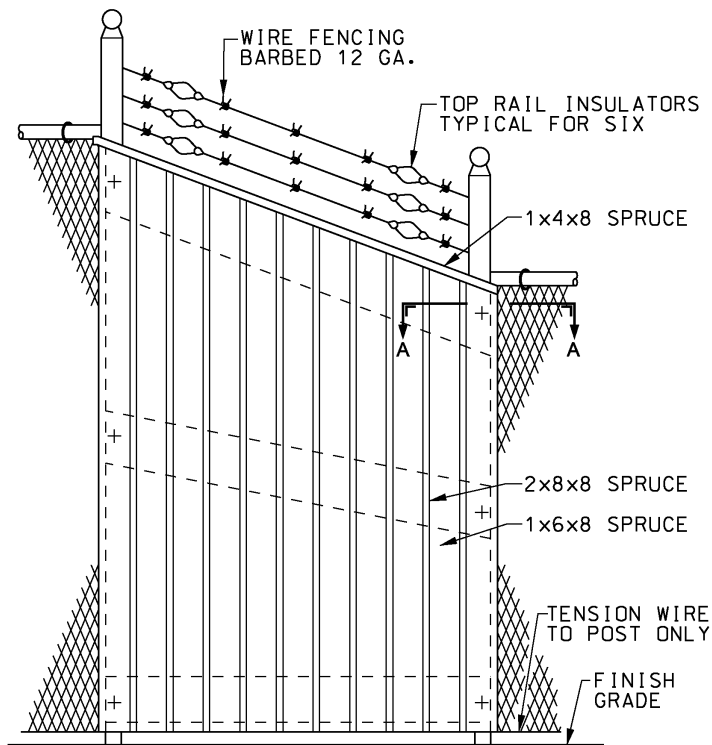
	<b>ELECTRICAL ENGINEERING DESIGN STANDARD</b>	<b>SECTION</b> 40.10.15
	<b>CHAIN LINK FENCE INSULATING UNITS</b>	<b>PAGE</b> 4 of 6
<b>ELECTRICAL ENGINEERING SECTION</b>		<b>ISSUE DATE</b> 03/15/85
		<b>REVISION DATE</b> 01/04/10
<b>No Applicable National Standards Based on Substation Practices</b>		Approved: <u>Minh T. Le</u> Manager, Electrical Engineering



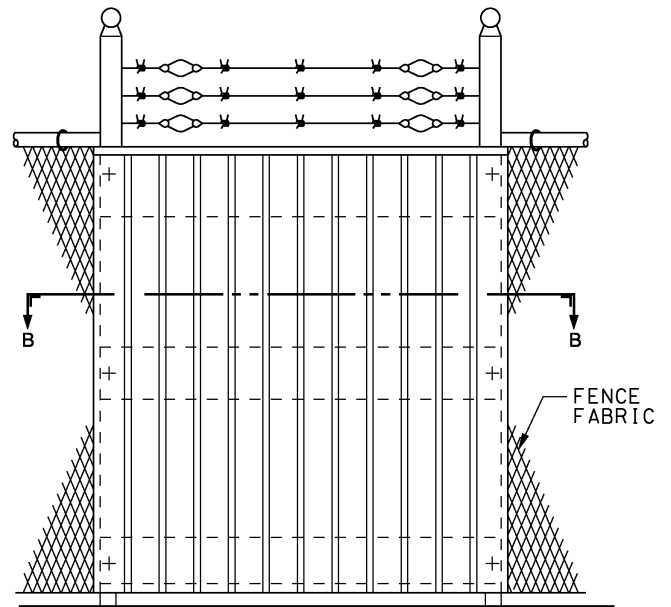
**SECTION VIEW A-A**



**SECTION VIEW B-B**




**DETAIL FOR FENCES OF UNEQUAL HEIGHT**



**DETAIL FOR FENCES OF EQUAL HEIGHT**

**FIGURE 3 - Redwood Fence Insulating Unit**

**NOTE:** All vertical and horizontal structural parts of insulated fence (posts excepted) to be fabricated from pressure treated dressed wood and fresh cuts to be treated with similar preservative, before assembly.

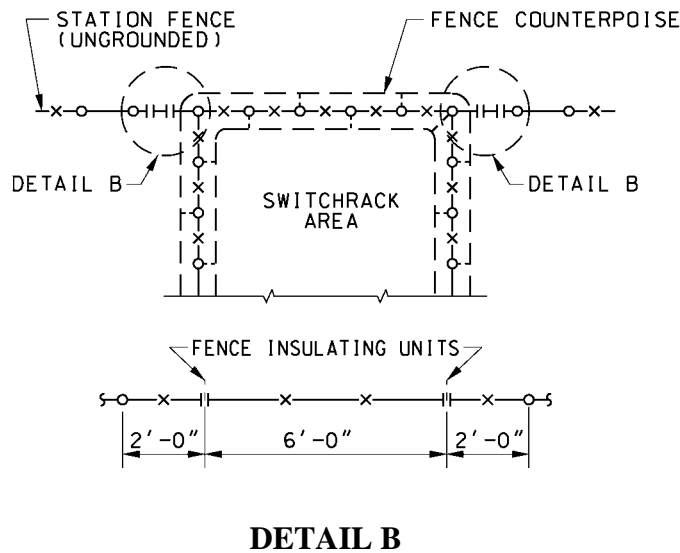
 <b>ELECTRICAL ENGINEERING SECTION</b>	<b>ELECTRICAL ENGINEERING DESIGN STANDARD</b>	<b>SECTION</b> 40.10.15
	<b>CHAIN LINK FENCE INSULATING UNITS</b>	PAGE 5 of 6
		ISSUE DATE 03/15/85
		REVISION DATE 01/04/10
<b>No Applicable National Standards Based on Substation Practices</b>		Approved: <u>Minh T. Le</u> Manager, Electrical Engineering

### 3.0 Installation

The number of insulating units to be installed shall be determined by the ground-grid potential rise. Following are guidelines for arranging fence insulating units for specific levels of potential rise.


#### 3.1 Potential Rise Less than 40,000 Volts

Two-fence insulating units shown in Figure 4 are used where the maximum grid-rise "V" is less than 40,000 volts.



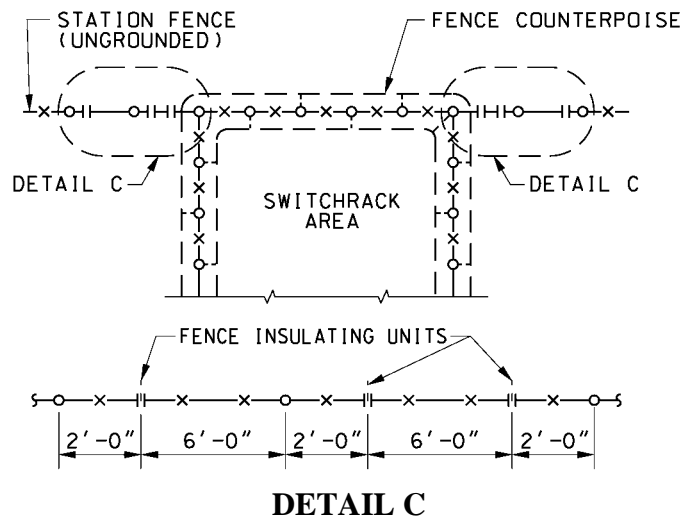
**FIGURE 4 - Two-Fence Insulating Units (Detail B)**



	<b>ELECTRICAL ENGINEERING DESIGN STANDARD</b>	<b>SECTION</b> 40.10.15
	<b>CHAIN LINK FENCE INSULATING UNITS</b>	PAGE 6 of 6
<b>ELECTRICAL ENGINEERING SECTION</b>		<b>ISSUE DATE</b> 03/15/85
		<b>REVISION DATE</b> 01/04/10
<b>No Applicable National Standards Based on Substation Practices</b>		Approved: <u>Minh T. Le</u> Manager, Electrical Engineering

### 3.2 Potential Rise from 40,000 to 60,000 Volts

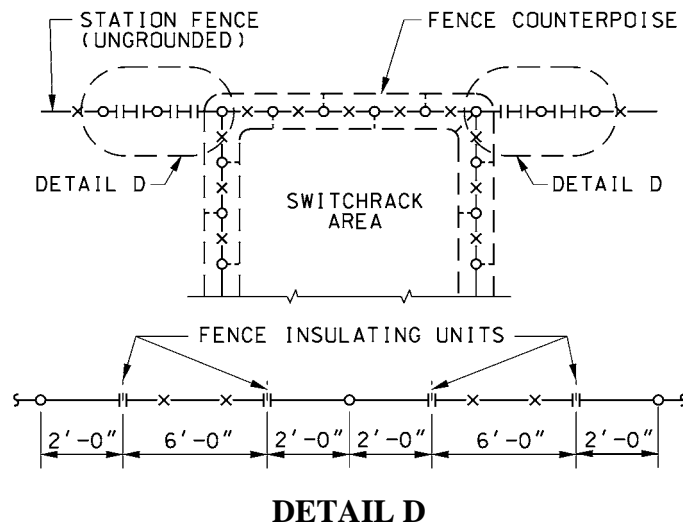
Three-fence insulating units are used where the maximum grid-rise “V” is from 40,000 to 60,000 volts (Figure 5).



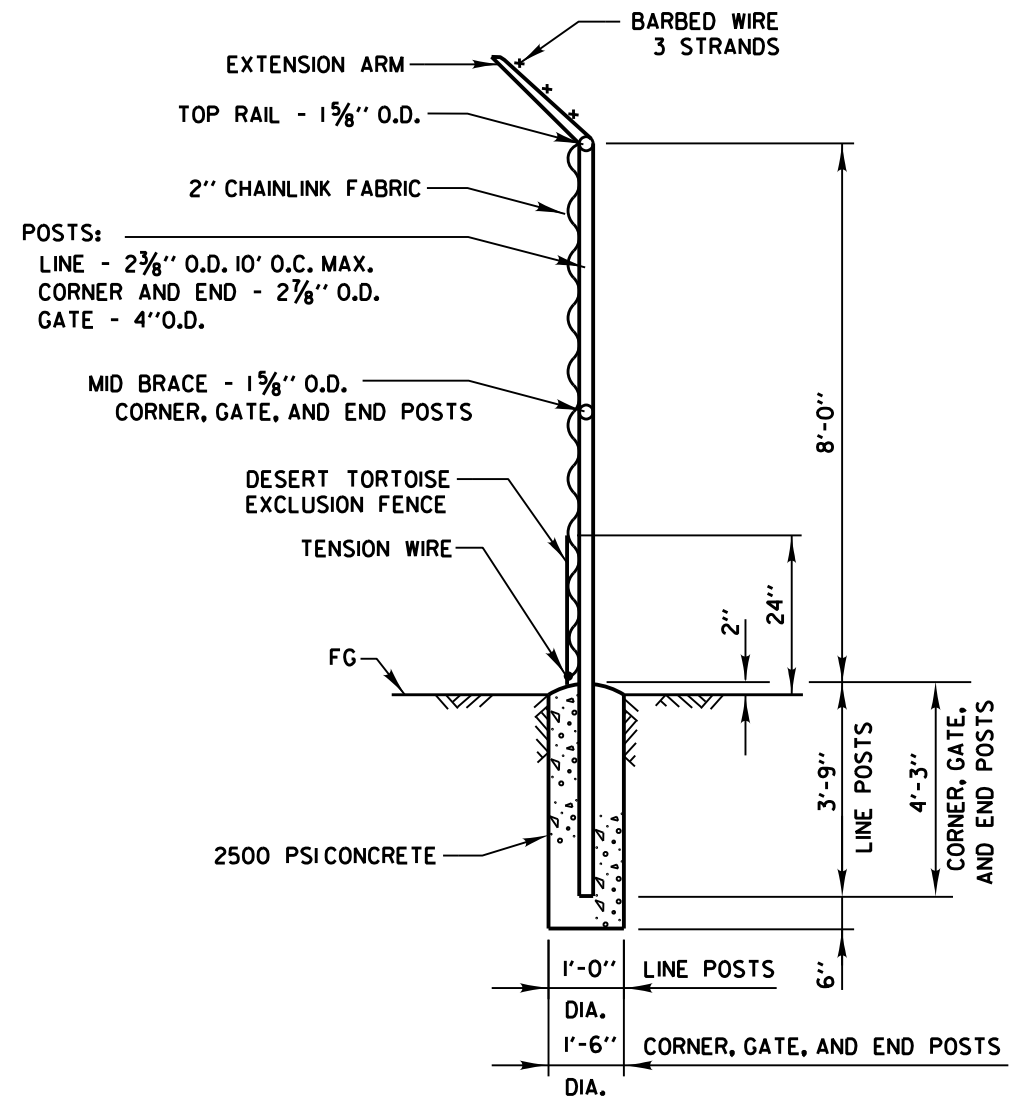
**FIGURE 5 - Three-Fence Insulating Units (Detail C)**

### 3.3 Potential Rise from 60,000 to 80,000 Volts

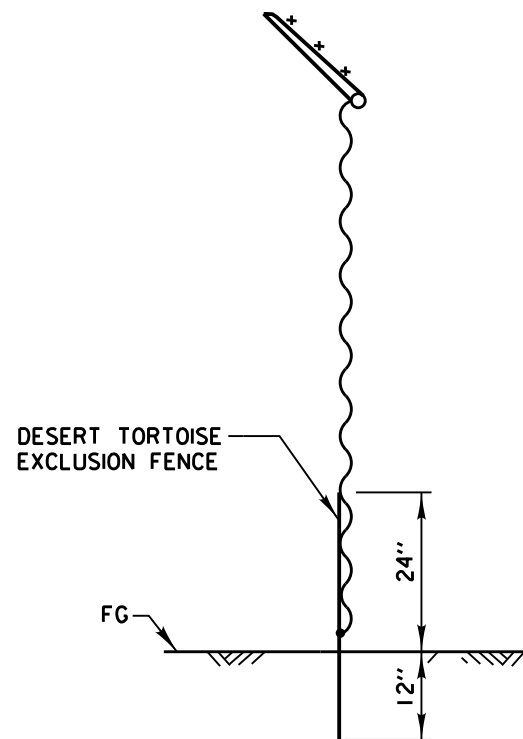
Four-fence insulating units are used where the maximum grid-rise “V” is from 60,000 to 80,000 volts (Figure 6).



**FIGURE 6 - Four-Fence Insulating Units (Detail D)**



**FENCE DETAIL AT POST**  
SCALE: NONE



**FENCE DETAIL BETWEEN POSTS**  
SCALE: NONE

**NOTES:**

1. ALL METALLIC MATERIAL SHALL BE HOT DIP GALVANIZED.
2. THE DESERT TORTOISE EXCLUSION FENCE SHALL COMPLY WITH THE CURRENT SPECIFICATIONS ESTABLISHED BY THE U.S. FISH AND WILDLIFE SERVICE.

**FENCE DETAIL  
BEACON SOLAR PROJECT**



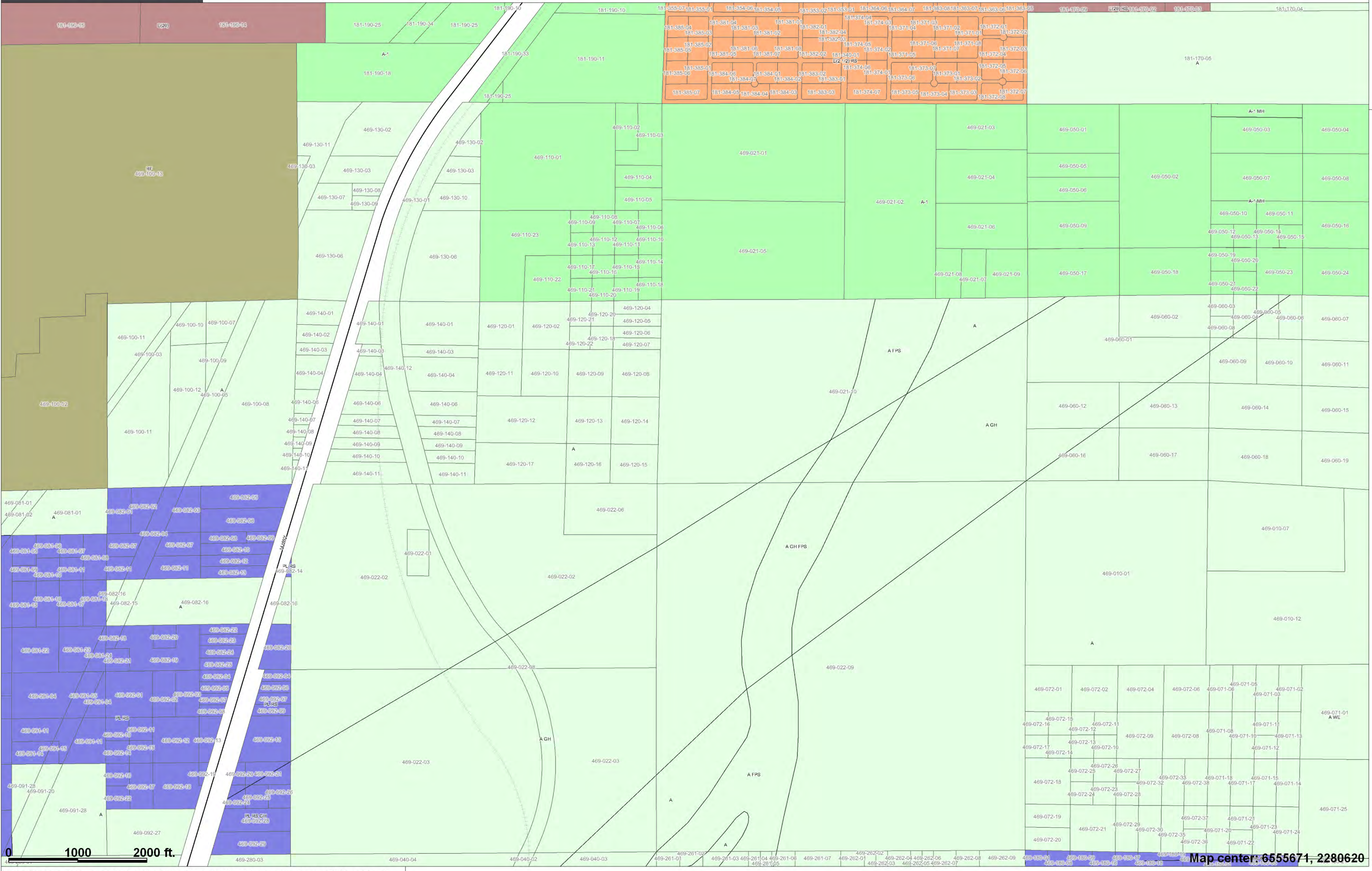
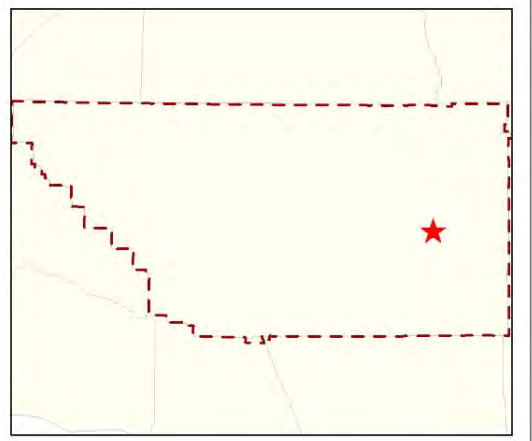
POWER SYSTEM  
DEPARTMENT OF WATER AND POWER  
CITY OF LOS ANGELES

DRAWING NUMBER

**GPV54-C-EIS1**

REV.

# Zoning Map



### Legend

**Roads**

- Arterial
- Collector
- Highway
- Local
- Ramp
- Unpaved

**Railroads**

- County of Kern
- Assessment Parcels
- COUNTY\_ZONING

**Zoning Codes**

- A
- A-1
- C-1
- C-2
- CH
- C-H
- CO
- DI
- E(1/4)
- E(1/2)
- E(1)
- E(10)
- E(10) RS
- E(2 1/2)
- E(20)
- E(5)
- FFP
- FPP
- KRC
- M-1
- M-1 PD
- M-2
- M-3
- MP
- MS
- MS(25)
- MS(5)
- MS(2.5)
- NR(10)
- NR(20)
- NR(5)
- OS
- Other
- P
- PL
- R-1
- R-2
- R-3
- RF
- SP

Map center: 6555671, 2280620

Scale: 1:8,571

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

**KERN COUNTY  
GENERALIZED LAND USE ZONING GUIDE**

<b>ZONE</b>	<b>TITLE</b>	<b>TYPICAL USES</b>	<b>MINIMUM PARCEL SIZE</b>
A	Exclusive Agriculture	Agricultural uses and other activities compatible with agricultural uses	20 acres; 80 acres if designated 8.3 on General Plan and under Contract
A-1	Limited Agriculture	Combination of estate-type residential development, agricultural uses, and other compatible uses	2 1/2 acres
E (1/4)	Estate - 1/4 acre	Larger-lot, single-family residential development; uses typical of and compatible with quiet residential neighborhoods	1/4 acre
E (1/2)	Estate - 1/2 acre	Larger-lot, single-family residential development; uses typical of and compatible with quiet residential neighborhoods	1/2 acre
E (1)	Estate - 1 acre	Larger-lot, single-family residential development; uses typical of and compatible with quiet residential neighborhoods	1 acre
E (2 1/2)	Estate - 2 1/2 acres	Larger-lot, single-family residential development; uses typical of and compatible with quiet residential neighborhoods	2 1/2 acres
E (5)	Estate - 5 acres	Larger-lot, single-family residential development; uses typical of and compatible with quiet residential neighborhoods	5 acres
E (10)	Estate - acres	10 Larger-lot, single-family residential development; uses typical of and compatible with quiet residential neighborhoods	10 acres
E (20)	Estate - acres	20 Larger-lot, single-family residential development; uses typical of and compatible with quiet residential neighborhoods	20 acres
R-1	Low-density Residential	Traditional smaller lot, single-family homes and compatible uses	6,000 square feet
R-2	Medium-density Residential	Single-family, duplex, and other medium-density, multifamily residential development; innovative housing techniques, including clustering and zero lot line development	6,000 square feet
R-3	High-density Residential	Medium- to high-density residential living environments, including apartments, townhouses, and condominiums	6,000 square feet
MS	Mobilehome Subdivision - 6,000 sq. ft.	Mobilehome residential living environments restricted to final map subdivisions; uses typical of and compatible with residential neighborhoods	6,000 square feet
MS (1/4)	Mobilehome Subdivision - 1/4 acre	Mobilehome residential living environments restricted to final map subdivisions; uses typical of and compatible with residential neighborhoods	1/4 acre

MS (1/2)	Mobilehome Subdivision - 1/2 acre	Mobilehome residential living environments restricted to final map subdivisions; uses typical of and compatible with residential neighborhoods	1/2 acre
MS (1)	Mobilehome Subdivision - 1 acre	Mobilehome residential living environments restricted to final map subdivisions; uses typical of and compatible with residential neighborhoods	1 acre
MS (2 1/2)	Mobilehome Subdivision - 2 1/2 acres	Mobilehome residential living environments restricted to final map subdivisions; uses typical of and compatible with residential neighborhoods	2 1/2 acres
MS (5)	Mobilehome Subdivision - 5 acres	Mobilehome residential living environments restricted to final map subdivisions; uses typical of and compatible with residential neighborhoods	5 acres
MS (10)	Mobilehome Subdivision - 10 acres	Mobilehome residential living environments restricted to final map subdivisions; uses typical of and compatible with residential neighborhoods	10 acres
MS (20)	Mobilehome Subdivision - 20 acres	Mobilehome residential living environments restricted to final map subdivisions; uses typical of and compatible with residential neighborhoods	20 acres
MP	Mobilehome Park	Medium- to high-density mobilehome living areas; mobilehome parks with spaces; mobilehomes available for rent; accessory uses; recreation parks	None
CO	Commercial Office	Business and professional offices; low-intensity commercial activities	7,500 square feet
C-1	Neighborhood Commercial	Low-intensity commercial activities oriented to serving nearby residential areas; small retail, service-oriented commercial activities, including small shopping centers	7,500 square feet
C-2	General Commercial	Widest range of retail commercial activities, including regional shopping centers and heavy commercial uses	7,500 square feet
CH	Highway Commercial	Uses and services normally associated with the traveling public, such as gas stations, restaurants, and motels; urban-type uses in rural areas adjacent to highways	7,500 square feet
M-1	Light Industrial	Wholesale commercial, storage, trucking, and assembly-type manufacturing, and other similar industrial uses; processing or fabrication limited to activities conducted within a building that does not emit fumes, odor, smoke, or gas beyond the confines of the building within which the activities occur or produce significant levels of noise or vibration	None
M-2	Medium Industrial	General manufacturing, processing, and assembly activities	None
M-3	Heavy Industrial	Heavy manufacturing, processing, and assembly activities	None

RF	Recreational-Forestry	Conservation and use of natural resources and compatible recreational uses	5 acres
OS	Open Space	Preservation of identified scenic values, habitat for endangered plants or animals, unique geologic features, natural resources, passive recreational values	None
NR (5)	Natural Resource - 5 acres	Contain productive or potentially productive petroleum, mineral, or timber resources; resource exploration, production, and transportation, and compatible activities	5 acres
NR (10)	Natural Resource - 10 acres	Contain productive or potentially productive petroleum, mineral, or timber resources; resource exploration, production, and transportation, and compatible activities	10 acres
NR (20)	Natural Resource - 20 acres	Contain productive or potentially productive petroleum, mineral, or timber resources; resource exploration, production, and transportation, and compatible activities	20 acres
DI	Drilling Island	Single lots and relatively small areas within final map subdivisions and mobilehome parks that contain productive or potentially productive petroleum resources; petroleum and gas exploration, production, and transportation; compatible open space and recreational uses	2 1/2 acres
FPP	Floodplain Primary	Low-intensity uses not involving buildings, structures, and other activities that might adversely affect or be adversely affected by flow of water in the floodway	None
SP	Special Planning	Encourage and facilitate the creative and innovative use of land which may otherwise be limited or prohibited by the standard provisions of other parts of the Zoning Ordinance	5 acres
PL	Platted Lands	Residential uses and other compatible activities; future land divisions are prohibited	Existing on April 15, 1982
LS	Lot Size Combining	Uses permitted by the base district with which it is combined	Per requirements of base district
PD	Precise Development Combining	Uses permitted by the base district with which it is combined	Per requirements of base district
CL	Cluster Combining	Innovative siting of buildings; uses permitted by the base district with which it is combined	None
RS	Residential Suburban Combining	Expand the number and type of permitted domestic agricultural uses within rural residential areas; allows one large animal for each 1/4 acre of lot area	Per requirements of base district (lot of not less than 1/2 acre)
MH	Mobilehome Foundation Combining	Installation of mobilehomes with or without foundations in agricultural, resource-related, and residential-zoned areas	Per requirements of base district

WE	Wind Energy Combining	Wind-driven electrical generators -- prototype and production; accessory administrative and maintenance structures and facilities; electrical substances, transmission lines, and other facilities and electrical structures accessory and incidental to main use; uses permitted by the base district with which it is combined	Per requirements of base district (lot of not less than 20 acres)
PE	Petroleum Extraction Combining	Wells for the exploration for and development and production of oil or gas or other hydrocarbon substances; deepening or redrilling, within existing well bore; drilling of a replacement well; uses permitted by the base district with which it was combined	Per requirements of base district
GH	Geologic Hazard Combining	To minimize property damage by designating areas subject to or potentially subject to surface faulting, ground shaking, ground failure, landslides, mudslides, or other geologic hazards; uses permitted by the base district with which it is combined	Per requirements of base district
FP	Floodplain Combining	Uses permitted by the base district with which it is combined	Per requirements of base district (lot of not less than 20 acres)
FPS	Floodplain Secondary Combining	Uses permitted by the base district with which it is combined (Certain measures are required to protect structures from a potential flood hazard)	Per requirements of base district
D	Architectural Design Combining	Uses permitted by the base district with which it is combined (Appearance of any structure is subject to review for compatibility with the established architectural motif)	Per requirements of base district
H	Airport Approach Height Combining	Uses permitted by the base district with which it is combined (Proximity to an airport limits height of structures to 35 feet)	Per requirements of base district

**APPENDIX DD**  
**Corporate Structure of Seller and Parent Entit(ies)**

Parent of Seller: Hecate Energy LLC

-Equity (closely held co.)

-A Shares (4 voting members)

Christopher Bullinger

Nicholas Bullinger

Fazli Qadir

David Tohir

-B Shares (non-voting equity)

Seller: Hecate Energy Beacon #1 LLC (DE)

(comprised of the following)

-Senior Debt

-Equity

-Tax Equity

-O & M Partner

Hecate Energy Beacon #1 LLC is a special purpose vehicle (SPV) formed under Hecate Energy LLC solely for the purpose of this project.

In certain cases, one party may comprise more than one of the structural components of the SPV.