

POWER SYSTEM  
MAY 13 2015  
EXECUTIVE OFFICE

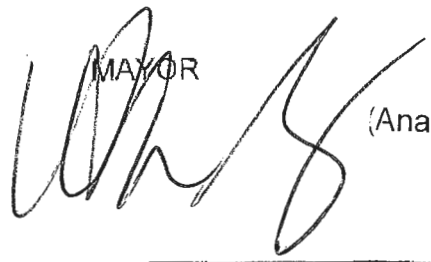
0150-10396-0000

**TRANSMITTAL**

TO Marcie L. Edwards, General Manager Department of Water and Power	DATE <b>MAY 12 2015</b>	COUNCIL FILE NO.
FROM The Mayor	COUNCIL DISTRICT	

**SPRINGBOK 2 SOLAR FARM POWER SALES AGREEMENT WITH THE SOUTHERN CALIFORNIA PUBLIC POWER AUTHORITY (SCPPA)**

Approved and transmitted for further processing including Council consideration.  
See the City Administrative Officer report attached.

MAYOR  
  
(Ana Guerrero)

**OFFICE OF THE CITY ADMINISTRATIVE OFFICER**

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Date: May 12, 2015

CAO File No. 0150-10396-0000  
Council File No.  
Council District: Outside City Limits

To: The Mayor

From: Miguel A. Santana, City Administrative Officer 

Reference: Communication from the Department of Water and Power dated April 2, 2015; referred by the Mayor for report on April 17, 2015

Subject: **SPRINGBOK 2 SOLAR FARM POWER SALES AGREEMENT WITH THE SOUTHERN CALIFORNIA PUBLIC POWER AUTHORITY (SCPPA)**

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**SUMMARY**

The Department of Water and Power (DWP; Department) requests approval of a proposed resolution that authorizes the DWP Board of Commissioners (Board) to execute several agreements with the Southern California Power Purchase Authority (SCPPA), a non-profit joint power agency, relating to the Springbok 2 Solar Farm Project (Springbok 2; Project), which is owned and developed by 63SU 8ME, LLC (Developer; 8ME). If approved, the proposed Project will consist of a 150 megawatt (MW) fixed tilt photovoltaic solar facility located in Kern County, California with a commercial operation date (COD) of June 2016.

Approval of the proposed resolution specifically provides authority to the DWP Board to execute the following agreements, collectively identified as the Solar Transaction:

- i. Power Sales Agreement (PSA) BP 15-003 with the SCPPA for the purchase of 150 megawatts (MW) of solar electric generating capacity with an average of 397,026 megawatt hours (MWh) annually from the Springbok 2 Project, including the associated environmental attributes. The cost of energy, including environmental credits, is \$58.65 per MWh during a 27-year term and includes an option to extend for three additional years, resulting in a total duration of up to 30-years. The PSA also includes an option to purchase the Project based on the fair market value of the facility in Years 15, 20, 27, and 30.
- ii. Agency Agreement (AA) BP 15-004 with SCPPA which designates DWP as the Project Manager in the event DWP exercises a purchase option for the Springbok 2 Project.
- iii. License Agreement BP 15-010 allowing 8ME to construct, own, operate, and maintain certain transmission facilities on DWP owned land facilitating the connection of the Springbok 2 Project to the DWP owned Beacon Substation for a term of 30 years with an option to extend up to a maximum duration not to exceed 35 years.
- iv. Amended and Restated Real Estate License Agreement BP 14-016 relating to the Springbok 1 Solar Farm allowing for technical changes to account for the shared use by Springbok 1 and Springbok 2 of transmission lines that connect both facilities to the Beacon Substation for a term of 30 years with an option to extend up to a maximum duration not to exceed 35 years.

We have reviewed the proposed resolution and recommend that it be approved. Additional background information relating to this request is provided in the appendix.

Pursuant to Charter Section 607, approval requires the City Council to make a finding by a two-thirds vote that the long-term nature of the License Agreement and Amended and Restated Real Estate License Agreement is in the best interest of the City, as the terms are greater than 30 years. The City Attorney has reviewed and approved the proposed resolution as to form and legality.

## **RECOMMENDATIONS**

That the Mayor:

1. Approve the proposed resolution relating to the Springbok 2 Solar Farm Project consisting of (a) Power Sales Agreement No. BP 15-003 with the Southern California Power Purchase Authority, (b) Agency Agreement No. BP 15-004 with the Southern California Power Purchase Authority, and (c) License Agreement BP 15-010 with 8Minute Energy;
2. Approve the Amended and Restated Real Estate License Agreement BP 14-016 relating to the Springbok 1 Solar Farm; and,
3. Return the proposed resolution to the Department for further processing, including Council consideration.

## **FISCAL IMPACT STATEMENT**

Approval of the proposed resolution authorizes expenditures of approximately \$23.3 million per year and \$699 million over a 30-year term from the Power Revenue Fund. There is no impact to the City's General Fund. The proposed Agreement complies with the Department's adopted Financial Policies.

Attachment

*MAS:RPR:06150071*

## APPENDIX

### BACKGROUND

In 2002, the California Legislature passed Senate Bill (SB) 1078 which established the California Renewable Portfolio Standard (RPS). SB 1078 requires privately owned utilities and encourages publicly owned utilities to increase their use of renewable energy until 20 percent of generation is obtained from renewables by the year 2017. Senate Bill SB2 1X, the California Renewable Energy Resources Act furthers SB 1078 by requiring both privately and publicly owned utilities, such as DWP, to increase their use of renewable energy to 25 percent by the year 2016 and 33 percent by 2020. The DWP Board adopted the 2012 Integrated Resources Plan (IRP) which maintains the following RPS Policy targets that achieve compliance with regulatory mandates:

*RPS Policy and Compliance Targets*

Renewable Energy Amount (Average)	Compliance Targets
20%	Jan. 1, 2011 to Dec. 31, 2013
25%	Jan. 1, 2016 to Dec. 31, 2016
33%	Jan. 1, 2020 to Dec. 31, 2020
33%	Each year after 2020

DWP's IRP presents several potential strategies for meeting the regulatory requirements and policy objectives for increasing renewable energy generation and reducing greenhouse gases.

Prior to 2011, solar was considered an expensive type of renewable energy technology while it is now generally among the least expensive. Market forces have supported the decline in solar prices including:

- An influx of low-cost solar panels;
- A large number of renewable energy developers; and,
- A supply of available projects.

In February 2014, the U.S. Energy Department's SunShot Initiative--a collaborative national effort launched in 2011 to make solar energy fully cost-competitive with traditional energy sources by 2020--announced that the solar industry is already most of the way to achieving SunShot's cost target of \$0.06 per kilowatt-hour (kWh) or \$60.00 per MWh by 2020 for utility-scale PV.

Notwithstanding the market forces causing a precipitous decline in solar prices and the SunShot Initiative, DWP continues to assert that the future price of solar energy is uncertain. A non-exhaustive list of factors which could drive prices up in the near term include the following:

- Expiration of federal tax incentives scheduled at the end of 2016;
- Increase of California RPS requirement beyond 33 percent by 2020; and,
- Launch of Federal RPS requirement or cost on carbon-emitting resources.



As a result of the historically low prices and in light of scheduled changes and possible legislation, the DWP is supportive of executing long-term commitments that help the City meet its RPS goals.

## **REQUEST FOR RENEWABLE ENERGY PROPOSALS**

DWP participated with the Southern California Public Power Authority (SCPPA) to issue an annual Request for Proposal (RFP) in 2013 for the purchase and/or acquisition of renewable energy sources. The Department states that this is an open RFP, which allows new proposals to be submitted on a continuous basis and existing proposals to be refreshed with current prices and terms. A total of 340 proposals were received.

It is the intent of the Department to evaluate and implement projects that satisfy the DWP Integrated Resource Plan (IRP) and the Renewal Portfolio Standards (RPS) requirements. It is expected that the Department will consider a combination of existing projects, DWP RFPs for renewable energy projects, and SCPPA-sponsored projects.

## **8MINUTE ENERGY / SPRINGBOK 2 PROJECT**

One of the 340 proposals received during the SCPPA RFP process was from 8ME, who proposed a power purchase agreement for the purchase of 150 MW of solar energy generating capacity and the associated environmental credits from the Springbok 2 Project. Although the SCPPA team used criteria identified by several SCPPA members, the location and limited transmission availability would increase costs to other SCPPA participants. Consequently, all other SCPPA members declined allowing DWP to be the sole participant.

DWP states that the Springbok 2 Project was selected because the Solar Facility:

- Utilizes existing transmission lines and the nearby DWP owned Beacon Substation;
- Obtains substantial solar energy resources due to its location and provides geographic diversity of resources;
- Is located nearby existing DWP operation and maintenance crews; and,
- Includes options for the purchase of the facility.

Springbok 2 is the second solar project with 8ME. The first project, Springbok 1, was approved by the City Council and Mayor in October 2014. The Springbok 2 energy cost is \$58.65 per MWh compared to the Springbok 1 energy cost of \$68.60 per MWh. The lower price of energy for Springbok 2 is primarily due to lower panel prices that have emerged since the execution of the first contract. However, economies of scale and utilization of existing infrastructure expected to be constructed for Springbok 1 have also driven prices lower.

Site Control - According to the Department, the site of the Springbok 2 Project is located on privately owned, non-tribal land that is secured by the Developer with long term lease contracts. Neither the Department nor SCPPA is a party to these land lease contracts. The term of the Developer's lease contracts is 25 years with an option to extend for an additional 15 years, resulting in a total duration of 40 years. The duration of the Developer's lease agreement exceeds the proposed PSA and Licensing Agreement to provide the Developer an opportunity to operate,

redevelop, or decommission the Project following expiration of the PSA. The land owners are referenced in Attachment H of the Power Purchase Agreement.

A licensing agreement is included in this DWP request to allow the developer to construct, own, operate, and maintain transmission facilities on DWP owned land covering approximately 1,157,000 square feet to facilitate the connection of the solar facility to the DWP owned Beacon Substation for a term of 30 years with an option to extend up to a maximum duration not to exceed 35 years.

Cost of Energy and Term – The solar energy delivered will be priced at a fixed rate of \$58.65 per MWh or \$0.05865 per kilowatt hour (kWh). This project is connecting directly to the DWP owned Beacon Substation and will not incur any third-party transmission costs. The estimated cost of the renewable solar energy and the environmental attribute purchases over the 30-year term of the PSA is expected to total \$699 million or \$23.3 million annually. Energy from Springbok is expected to meet approximately 1.79 percent of DWP’s renewable energy requirement.

The environmental attributes provided as part of the price of energy would permit DWP to accumulate Renewable Energy Credits (RECs) as a credit toward the DWP RPS goals. In addition, current tax laws allow for the federal Investment Tax Credits (ITCs) to apply to private entities that develop and operate a qualifying renewable energy generation facility. DWP states that the proposed agreements have been structured to receive the benefits associated with the ITCs through lower energy purchase prices. The estimated value of the ITCs to DWP under the proposed PSA is approximately \$2.4 million per year or \$72 million over the 30-year term.

Purchase Option – Included in the proposal is a Purchase Option for the Springbok 2 Project at identified intervals beginning at year 15 of the PSA. This negotiated date corresponds to the completion of investment tax credits anticipated to be utilized by the developer, which is not available to municipally-owned utilities such as DWP. The purchase option includes minimum and maximum valuation amounts that forecast the value of the solar facility in approximately the years 2031, 2036, 2043, and 2046. The table below outlines the predetermined values of the purchase options at identified intervals.

**Summary of Purchase Options by Year**

Year	Purchase Option for the Springbok Project	
	Minimum Price – Maximum Price	
15 (2031)	\$184,000,000 – \$211,700,000	
20 (2036)	\$137,000,000 – \$157,500,000	
27 (2043)	\$58,000,000 – \$69,600,000	
30 (2046)	\$49,200,000 – \$59,100,000	

The proposed resolution states that prior to execution of any purchase option or assumption of any Springbok Project debt, the Department will require further authorization from the DWP Board and the City Council. This Office and DWP agree that this subsequent approval could allow for an elevated level of review by both the DWP Board and City Council. Additionally, given that the future facility and energy costs are speculative, it could provide DWP an opportunity to prepare a comprehensive financial analysis and review of the facility conditions, operations and

maintenance costs, regulatory costs, project costs, market conditions, industry developments, and new technologies. Ultimately, the results of any future analysis or reviews of the Springbok 2 Project could improve the City's ability to determine if the estimated pricing in the Purchase Option Agreements is appropriate or if the Department should continue to solely purchase the energy through the duration of the PSA.

Further Aspects of the Proposal – The expected life of the facility before significant maintenance is required is estimated by DWP to be 35 years, which is greater than most solar panel warranties of 25 years and inverter components of approximately five years. Operation of the facility beyond the warranty could unfavorably result in significant maintenance expenses if the DWP exercises a purchase option for the facility. Estimated costs for maintenance are uncertain and have not been included in the cost of energy or the estimated cost of purchasing the facility.

The average expected annual generation (EAG) from Springbok 2 is approximately 397,026 MWh. Total energy generated ranging from a guaranteed minimum of 75 percent EAG to a maximum of 120 percent EAG will cost the Department \$58.65 per MWh including green energy credits. To the extent there is a shortfall of guaranteed energy delivered in a contract year, a two year replacement period is provided for the Project to deliver qualifying replacement energy. If a shortfall remains after the replacement period, the Developer shall pay SCPPA liquidated damages for the replacement of similar renewable energy and credits at market prices. Energy generated that is in excess of 120 percent EAG will be purchased at a lower rate of \$20.35 per MWh. The likelihood of excess energy is uncertain and highly dependent on technological advancements in solar generation as well as declines in the cost of generating solar energy.

#### **SOURCE OF FUNDING AND RATE IMPACT**

DWP states that funding for this PSA has been included in the Fuel and Purchased Power Budget within the Power Revenue Fund. The PSA provides for the purchase of solar energy from 8ME. However, should DWP decide to purchase the Springbok Project at the option dates indicated in the PSA, the impact on ratepayers will change from a fuel expense to a capital expenditure, which should be carefully considered in the DWP financial plan for future budgets as well as for potential rate increases during the 30-year term of this Agreement. The Agreement does not require purchase of the Springbok 2 Project and DWP did not factor a purchase into its rates.

DWP expects the Springbok 2 Project to result in a ratepayer impact of approximately \$0.15 per month for a typical household consuming 500 kWh per month.

#### **POWER TRANSMISSION**

The Developer is committed to building a new two-mile, 34.5kV transmission line that will connect both the Springbok 1 and Springbok 2 Projects with the DWP Beacon Substation. Subsequently, the energy will transmit through existing capacity on the Barren Ridge 230kV transmission line into Los Angeles.

#### **RISK MANAGEMENT**



To ensure delivery and performance of the solar project, the Developer will provide a project performance security (in a letter of credit) totaling \$6.93 million before commercial operation date (COD) and \$22.5 million after COD until the completion of the PSA term. The Department states that the coverage provided by the performance security deposit is sufficient to protect the interests of the City and the Department's demand for qualifying renewable energy.

There are four milestones that the Developer is required to meet during the Project development. Failure to achieve a milestone allows for the collection of liquidated damages (LDs) funded by the performance security. Each milestone is provided as follows:

1. Developer must deliver the Environmental Impact Study by September 1, 2015, and if that date is missed, SCPPA will collect LDs at the rate of \$17,104 per day;
2. Developer must deliver a Notice to Proceed allowing them to begin construction on the Project site by November 30, 2015, and if that date is missed, SCPPA will collect LDs at the rate of \$17,104 per day;
3. Developer must install the first MW of solar capacity by October 31, 2016, and if that date is missed, SCPPA will collect LDs at the rate of \$17,104 per day; and,
4. Springbok 2 must achieve COD no later than December 31, 2016. If that date is missed, SCPPA will collect LDs at the rate of \$17,104 per day.

## **CANCELLATION OF AGREEMENT**

The Agreement provides for multiple scenarios in which DWP can terminate the Agreement with 8ME. One of the scenarios for termination is a Force Majeure Event that is commonly found in agreements and provides for cancellation due to an uncontrollable condition such as a disaster or act of God, preventing one of the parties from performing obligations listed in the Agreement.

Furthermore, if 8ME fails to deliver 50 percent of the Guaranteed Generation for a period of 18 consecutive months, or if the facility is inoperable and cannot be repaired or replaced within 24 months, termination of the agreement will be deemed "no-fault" and neither DWP or 8ME shall have any liability or obligation to the other party.

## **PROPOSED USAGE OF SOLAR GENERATED ENERGY**

The DWP electric generation can be separated into three basic categories: base, intermediate, and peak load units. Base load units derive their energy from operating generation stations on a constant (24 hours a day, 7 days a week) basis, historically needed to supply the DWP customers a majority of the time. Intermediate load units are utilized to satisfy periodic energy demand fluctuations. Peak load units are utilized to address short term seasonal or emergency needs.

Solar energy is affected by seasonal and meteorological variations that impact its availability. Springbok 2 is sited in an area which has a high probability of generating solar energy on a regular basis. However, as a result of the intermittent nature of solar energy, energy generated by this Project will be used to supplement the DWP base load energy demand during peak hours and during high temperature periods.