0150-10189-0000

TRANSMITTAL

TO	DATE	COUNCIL FILE NO.
Marcie L. Edwards, General Manager Department of Water and Power	JUN 24 2014	
FROM The Mayor		COUNCIL DISTRICT

Request to Approve a Resolution Relative to Power Purchase Agreement No. BP 13-057 Between the Department of Water and Power and Barren Ridge 1, LLC (Recurrent) for a Solar Generating Facility, a Purchase Option For the Barren Ridge Solar Generation Facility, a Purchase Option for the Barren Ridge LandCo, LLC, and Real Estate License Agreement No. 14-017

Transmitted for further processing, including Council consideration.
See the City Administrative Officer report attached.

MAYOR (Ana Guerrero)

MAS:RPR: 10140084t

CAO 649-d

REPORT FROM

OFFICE OF THE CITY ADMINISTRATIVE OFFICER

Date: June 17, 2014

CAO File No. 0150-10189-0000
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, 2014, revised June 16, 2014; referred by the Mayor for report

Subject: **POWER PURCHASE AGREEMENT NO. BP 13-057 AND PURCHASE OPTION FOR THE BARREN RIDGE 1, LLC (RECURRENT) SOLAR PROJECT**

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 relating to the RE Barren Ridge 1 Solar Generation Facility (Barren Ridge Solar), a fixed tilt photovoltaic solar facility located in Kern County, California. The project includes a commercial operation date (COD) of December 31, 2015.

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 Purchase Agreement (PPA) No. BP 13-057 with RE Barren Ridge 1, LLC (Recurrent), a developer of solar projects; which is a subsidiary of Recurrent Energy Development Holdings, LLC; which is a subsidiary of Recurrent Energy, LLC, which is a subsidiary of Sharp US Holding Inc., which is a subsidiary of Sharp Corporation of Japan, for the purchase of 60 megawatts (MW) of solar electric generating capacity with an average of 174,380 Megawatt hours (MWh) annually, including the associated environmental attributes, at a flat cost of $67.83/MWh during a 20-year term. Approval is pursuant to City Charter Sections 674(a)(2), by ordinance, and Section 373.

ii. Facility Purchase Option with Recurrent for the Barren Ridge Solar facility at the 6th, 10th, 15th, or 20th anniversary of the COD, with predetermined pricing constraints. Approval is pursuant to City Charter Section 674(a)(1), by ordinance.

iii. Land Purchase Option with RE Barren Ridge LandCo, LLC; which is a subsidiary of Recurrent Energy LandCo, LLC; which is a subsidiary of Recurrent Energy US Holdings, LLC; which is a subsidiary of Recurrent Energy Portfolio Holdings, LLC, which is a subsidiary of Recurrent Energy, LLC; which is a subsidiary of Sharp US Holding Inc.; which is a subsidiary of Sharp Corporation of Japan, for the land underlying the Barren Ridge Solar facility at set intervals with predetermined market pricing requirements. Approval is pursuant to City Charter Section 674(a)(1), by ordinance.

iv. License Agreement BP 14-017 allowing Recurrent to construct, own, operate and maintain certain transmission facilities on DWP-owned land facilitating the connection of Barren Ridge Solar to the DWP Barren Ridge Switching Station for a term of 20 years with an option to extend up to a duration not exceeding 34 years and 11 months. Approval of this license agreement is pursuant to a finding of the City Council that the long term of the agreement is in the best interest of the City, in accordance with City Charter Section 607, as well as Section 606.

The proposed resolution and Solar Transaction consisting of a PPA, Purchase Option, Land Purchase Option, and License Agreement have been reviewed by the City Attorney and approved as to form.

Due to risks associated with not achieving compliance with California Energy Commission (CEC) requirements, and in consideration of the effort expended negotiating and developing this proposal, the DWP prefers to complete this contract with Recurrent. The DWP Board Report offers that an alternative to approving this proposal is for DWP to begin negotiations with another developer. DWP officials emphasize that beginning negotiations with an alternative developer could impact achieving CEC requirements. However, to date no penalties have been established for not achieving the CEC requirements. It is the recommendation to approve the proposed resolution and Solar Transaction. However, due to concerns with the project which are contained in this report and our desire for the Department to achieve the renewable energy goals, we believe the Department may want to embark on its alternative as a safeguard in the event of excessive delays or the unforeseen cancellation of the project.

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 public owned utilities to increase their use of renewable energy resources 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 resources 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.

During the past two years renewable energy prices have plummeted, in large part due to an influx of low-cost solar panels and a large number of renewable energy developers increasing the supply of available projects. Prior to 2011, solar was considered an expensive type of renewable energy technology while it is now generally among the least expensive. As a result of the changes in the industry, particularly for solar, renewable energy prices are approaching parity with long-term brown energy market prices once the value of emissions credit is included.

In February 2014, the U.S. Energy Department's (DOE) 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 and that a number of factors could push renewable energy prices back up in the near future. Among the factors are (1) the scheduled expiration of federal tax incentives at the end of 2016; (2) the possibility that California will raise its RPS requirement; or (3) the federal government could impose a RPS requirement or impose a 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.

The typical industry cost of various types of energy sources ranges from $48 to $225 per MWh, not including the transmission costs, which can add up to $17 per MWh to the cost. The table on Exhibit A (attached) provides the average cost per MWh of the Department's various sources of energy since October 2012 for comparison with the cost under the proposed PPA.

REQUEST FOR RENEWABLE ENERGY PROPOSALS

In January 2012, DWP and multiple utilities participated with the Southern California Public Power Authority (SCPPA) to issue an annual Request for Proposal (RFP) for the purchase and/or acquisition of renewable energy sources. A total of 340 proposals were received. The purpose of the proposal process was to assess the availability of renewable energy projects and environmental attributes. 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.

During the review of the proposed Agreement by this Office, DWP stated that, although the SCPPA RFP was released in 2012, the actual negotiations were initiated in July 2013 and that Recurrent submitted revised bids to SCPPA on February 27, 2013, and May 10, 2013. It is uncertain why the Department utilized a proposal that was not current; nevertheless, it appears that the resubmitted bid price per MWh of energy decreased compared to the previous 2012 bid. Regardless, it is worrisome that the current contracting process, as reported in the DWP Board Report, is not comprehensive and well documented. Furthermore, due to significant price declines that started in 2011 and appear to be ongoing within the solar industry, the age of the 2012 RFP, as well as the resubmitted bid, may not represent the current competitive market cost of solar or the best interests of the ratepayers, Department, or the City.

RECURRENT SOLAR PROJECT

One of the 340 proposals received during the SCPPA RFP process was from Recurrent, who proposed a power purchase agreement for the purchase of 60 MW of renewable solar energy, generating capacity, and the associated environmental credits from the Barren Ridge Solar facility. 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. To limit administrative costs associated with SCPPA participation and to centralize management functions, DWP decided to redefine the PPA exclusively between DWP and Recurrent.

DWP states that Barren Ridge Solar project was selected because the Solar Facility:

- Utilizes existing transmission capacity at the nearby Barren Ridge Switching Station;
- Obtains substantial solar energy resources due to its location; and
- Is located nearby existing DWP operation and maintenance crews

Site Control - According to the Department, the site of the Barren Ridge Solar facility is located on 588 acres of privately owned, non-tribal land; however, RE Barren Ridge LandCo, LLC holds an option to purchase the land from the unidentified private owner(s). Recurrent controls the land necessary for a solar facility through a lease with its subsidiary company RE Barren Ridge LandCo, LLC for a duration of 20 years with three five-year extension options, and a cumulative duration of 35 years. Title ownership of the land parcel has not been provided. Recurrent is also in the process of leasing land from the Bureau of Land Management for the gen-tie transmission line necessary to connect the solar facility to the Barren Ridge Substation. A licensing agreement is included in this DWP request to allow Recurrent to construct, own, operate, and maintain transmission facilities on DWP-owned land facilitating the connection of the solar facility to the DWP Barren Ridge Switching Station for a term of 20 years with an option to extend up to a total duration not exceeding 34 years and 11 months. It is a concern that the separate ownership of the land and facility could increase the risk of exercising the Facility Purchase Option in the event of bankruptcy by the developer.

PPA Energy Cost and Term – The solar energy delivered will be priced at a fixed rate of $67.83 per MWh or $0.06783 per kilowatt hour (kWh). This project is connecting to the DWP balancing authority and will not incur any additional transmission cost. The estimated cost of the renewable solar energy and the environmental attribute purchases over the 20-year term of the PPA is expected to total $237 million or $11.8 million annually. The impact on a typical residential customer bill is forecasted to be $0.075 per month.

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 Recurrent PPA has been structured to receive the benefits associated with the ITCs through lower energy purchase prices. As provided by the Department, the estimated value of the ITCs to DWP under the Recurrent PPA is approximately $2.5 million per year or $50.4 million

over the 20-year term.

Facility Purchase Option and Land Purchase Option – Included in the proposal is a Facility Purchase Option for the solar facility at identified intervals beginning at year 6 of the PPA. This date corresponds to the completion of investment tax credits anticipated to be received by the developer, which is not available to municipally-owned utilities such as DWP. The purchase option includes minimum and maximum valuation amounts for forecasting the value of the solar facility in approximately the years 2021, 2025, 2030, and 2035. A separate land purchase option is also included in the proposal that provides DWP the ability to purchase the land throughout the term of the PPA. The table below outlines the predetermined values of both options at identified intervals.

Summary of Facility and Land Purchase Options by Year ($ millions)

Year	Facility Option Fair Market Value (min – max)	Land Option Fair Market Value (min – max)	Total (min – max)
6 (2023)	$108 - $127	$4.5 - $5.4	$112.5 - $132.4
10 (2026)	$101 - $119	$5.6 - $6.7	$106.6 - $125.7
15 (2031)	$90 - $106	$7.7 - $9.3	$97.7 - $115.3
25 (2041)	$75 - $88	$9.5 - $11.4	$84.5 - $99.4

Executing an option to purchase each facility is subject to approval by the DWP Board of Commissioners and the Mayor and City Council, by ordinance, pursuant to the provisions of City Charter Section 674(a), prior to exercising the option. This Office and DWP agree that this subsequent approval, by ordinance, will allow for an elevated level of review by both the Mayor and City Council. Additionally, given that future energy costs are speculative, it will provide DWP the opportunity to develop and present a comprehensive financial analysis and review of the facility conditions, project costs, market conditions, industry developments, and new technologies. Furthermore, this analysis will provide an improved ability to determine if the estimated pricing included in the Purchase Option Agreements is appropriate or if the Department should continue to only purchase the energy through the duration of the PPA.

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. Compared to the DWP Beacon Solar Project which utilized 25 years for the valuation of the Facility Purchase Options, this longer lifespan could unfavorably result in higher estimated valuations, significant maintenance expense, and reduced energy generation capabilities caused by anticipated panel degradation (0.5 percent annually) if the DWP exercises a purchase option for the facility. The expected annual maximum energy output assuming a 35 percent capacity factor is approximately 174,380 MWh or 0.6 percent of retail customer sales. Support was not provided for the expected 35-year life of the facility nor the assumed capacity factor.

Power Purchase Agreement (PPA) Trends – Significant ongoing solar generation price declines have been observed since 2011. Evidence of this decline is provided in a presentation by the