

OFFICE OF THE CITY ADMINISTRATIVE OFFICER

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Council File No.

Council District: outside City limits

To: The Mayor
The City Council

From: Miguel A. Santana, City Administrative Officer



Reference: Communication from the Department of Water and Power Board of Commissioners dated March 11, 2013

Subject: **POWER SALES AGREEMENT WITH SOUTHERN CALIFORNIA PUBLIC POWER AUTHORITY NO. BP 12-049 AND RELATED AGENCY AGREEMENT NO. BP 12-050 FOR THE WILD ROSE GEOTHERMAL ENERGY PROJECT**

SUMMARY

The Department of Water and Power (DWP) Board of Commissioners (Board) has submitted a Resolution that requests:

- Approval, by ordinance, to enter into a Power Sales Agreement (PSA) No. BP 12-049 between DWP and the Southern California Public Power Authority (SCPPA) to purchase 13.71 megawatts (MW) of renewable geothermal energy annually from SCPPA resulting in an average annual expenditure for purchased energy of \$11.3 million and a total of \$226 million over the 20-year term. The PSA also enables SCPPA to enter into a Power Purchase Agreement (PPA) with ORNI 47, LLC, the owner of a proposed geothermal power plant, Wild Rose Geothermal Energy Project (WRGE) a limited liability company incorporated in the State of Delaware, to obtain the renewable energy and environmental attributes towards Renewable Portfolio Standard (RPS) targets of DWP and the City of Burbank (collectively referred to as the Participants);
- Approval, by ordinance, to enter into an Agency Agreement (AA) No. BP 12-050 between DWP and SCPPA which designates DWP as the Project Manager to administer the WRGE Project including fiscal matters on behalf of and for the benefit of the Participants. DWP will charge and receive reimbursements from SCPPA for this service based on each Participant's share of the WRGE Project;

WRGE Project total capacity is expected to be 16.2 MW with Participant shares consisting of DWP receiving up to 13.71 MW (or 84.62 percent) of the energy output, and the City of Burbank receiving up to 2.49 MW (or 15.38 percent) of the energy output. Geothermal energy from WRGE would represent 0.5 percent of the Department's RPS requirement in 2020 and will provide enough energy to initially serve more than 19,000 homes. The energy from WRGE will be added to the Department's existing energy grid. The proposed Commercial Operation Date (COD) of the WRGE Project is December 31, 2013 with a preliminary delivery of test energy in October 2013.

City Council approval of this PSA and AA is required pursuant to City Charter Sections 373 regarding rules for long-term contracts and 674(a) (1) and (2) regarding the purchase of power generating capacity. The proposed Resolution, PSA, and AA have been reviewed by the City Attorney and approved as to form and legality. The Office of Public Accountability performed a preliminary review of this proposal and determined that the action supports the renewable energy goals of the DWP and appears consistent with utility industry standards. Since the Agency Agreement will be administered by DWP staff, City Charter Section 1022 regarding the use of independent contractors is not applicable.

BACKGROUND

In 2002, the California Legislature passed Senate Bill (SB) 1078 which established the California Renewable Portfolio Standard. 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 2011 Integrated Resources Plan (IRP) which includes 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.

SOUTHERN CALIFORNIA PUBLIC POWER AUTHORITY

The Southern California Public Power Authority (SCPPA) is a non-profit joint powers authority. SCPPA was formed in 1980 for the purpose of planning, financing, developing, acquiring, constructing, operating and maintaining projects for the generation and transmission of electric energy. The members include the municipal utilities of the cities of Anaheim, Azusa, Banning, Burbank, Cerritos, Colton, Glendale, Los Angeles, Pasadena, Riverside, Vernon and the Imperial Irrigation District. SCPPA is governed by a Board of Directors, which consists of representatives from each of its members. The management of SCPPA is under the direction of an Executive Director, who is appointed by the Board. SCPPA’s role has evolved over the years to include legislative advocacy at the state and national levels. SCPPA currently holds capacity entitlements in various projects including the following projects and 100 percent of the output is sold and controlled by its member utilities.

SCPPA Projects

- Palo Verde Power Plant (DWP Participant)
- Hoover Upgrading Power Project
- Southern Transmission System (DWP Participant)
- Mead-Adelanto Transmission Project (DWP Participant)
- Copper Mountain Solar 3 Project (DWP Participant)

REQUEST FOR RENEWABLE ENERGY PROPOSALS

In January 2011, DWP and multiple utilities participated with the Southern California Public Power Authority (SCPPA) to issue a Request for Proposal (RFP) for the purchase and/or acquisition of renewable energy sources and 220 proposals were received. The purpose of the proposal process was to assess the availability of renewable energy projects and environmental attributes. DWP evaluated the proposals and intends to implement projects that satisfy the intent of the 2011 Integrated Resource Plan (IRP), which outlines DWP's goals for utilizing different resources for energy production.

The Department intends to achieve the RPS requirements and goals by utilizing a combination of existing projects, DWP RFPs for renewable energy projects, and Southern California Public Power Authority (SCPPA) sponsored projects. A significant number of the responses were for existing projects that are sited at facilities that did not require extensive development and regulatory approvals. The existing renewable projects include small hydro, biomass, and wind projects. The proposed WRGE Project is one of the 220 proposals selected by several SCPPA members based on established criteria.

THE WILD ROSE GEOTHERMAL ENERGY PROJECT

The proposed WRGE Project is a binary design geothermal energy facility located on federal government land managed by the United States Department of Interior Bureau of Land Management (BLM) in the western portion of Gabbs Valley, in Mineral County, Nevada. The geothermal energy will be delivered to the Mead Substation located in Boulder City, Nevada which connects to the DWP transmission system. Through separate power sales agreements between SCPPA and each Participant, SCPPA will sell all of the renewable energy received from the WRGE Project and will pass through to each Participant in accordance with its respective output share, the rights, benefits, and obligations provided under the PPA. The proposed PSA between DWP and SCPPA authorizes the purchase of up to 13.71 MW of geothermal energy from SCPPA along with the environmental attributes and generating capacity rights of the WRGE Project with a contractual term of 20 years.

The project will provide reliable, base-load geothermal energy on a long-term basis and will add a new source of renewable energy to DWP's RPS portfolio. WRGE will provide the opportunity to explore geothermal resources in Nevada, which is an integral part of DWP's plan for a coal replacement strategy for the Intermountain Power Plant in Utah. This project has the potential of

eliminating approximately 64,100 metric tons of CO2 emissions, which is equivalent to removing 12,300 cars from road annually.

PROJECT STATUS

DWP states that drilling exploration began during 2010 and was completed in 2012. The existence of the geothermal resource was confirmed and eight commercial wells have been drilled and long term testing completed. The BLM approved the development, the Transmission Line plan and the final environmental assessment report for the WRGE Project on October 5, 2012. The SCPPA Board approved the project on December 20, 2012. Currently, all the SCPPA participants in the WRGE Projects are submitting this proposal to their governing bodies for approval.

PROJECT COST AND SOURCE OF FUNDING

The current Power System financial plan that provided the basis of the Incremental Rate Ordinance No. 112273 (CF No. 12-1504), adopted October 5, 2012, considered the purchase of renewable energy to comply with RPS requirements and included a placeholder for geothermal projects similar to this proposal for the WRGE project. The rate impact of the geothermal placeholder projects was forecasted to affect fiscal year (FY) 2013-14 and FY 2014-15

DWP states that the cost of renewable geothermal energy and environmental attributes from WRGE is expected to be approximately \$11.3 million annually with a fixed price per megawatt hour (MWh) of \$99. The estimated rate impact will be approximately \$0.00016 per kilowatt hour (kWh) in FY 2013-14 and up to approximately \$0.00030 per kWh in FY 2014-15 and beyond. The impact on a typical residential customer's bill is forecasted to be \$0.08 per month in FY 2013-14 and \$0.15 per month in FY 2014-15. DWP indicates that the WRGE project provides for slightly lower cost renewable power than was contemplated in the current power rates. During FY 2013-14 and FY 2014-15, the rate impact is between \$0.00008 and \$0.00016 per kWh less than assumed in the financial case, saving about \$0.04 and \$0.08, respectively, per month on the typical retail bill.

The WRGE Agreement has been structured to allow SCPPA Participants to indirectly receive the benefits associated with the environmental attributes through lower energy purchase costs. According to the Department, the average value of the environmental attributes to DWP is approximately \$4.5 million per year or \$90 million over the 20 year term.

The significant terms of the PSA are as follows:

- COD is estimated in December 2013;
- Amount of power provided to DWP is 13.71 MW;
- Fixed price per megawatt hour (MWh) is \$99 with no escalation through the term;
- Geothermal energy provides for a different source of renewable energy that is not subject to weather conditions.

RISK MANAGEMENT/CANCELLATION

The PPA provides for WRGE to deliver geothermal energy on a long term basis; therefore, it is in the best interest of DWP and SCPPA to partner with a viable company to provide this energy. The seller, ORNI 47, LLC is a wholly-owned affiliate of Ormat Nevada, Inc. who is fully owned by Ormat Technologies, Inc. (Ormat). Ormat is a leading geothermal energy developer in the U.S. and world-wide. The company currently owns and operates 503MW of geothermal energy projects world-wide (378 are in the U.S.) and currently employs 526 workers in the U.S. A large number of the staff members are devoted to geothermal energy development, construction, financing, commercial operation and facilities maintenance. Based on Ormat’s experience and knowledge in geothermal energy and development, in addition to the financial statements submitted to DWP, the Department states that the risk is minimal.

The PPA also provides for performance securities for various stages of construction and through the term of the Agreement, which DWP can draw on if certain conditions are not met. In order to better secure the credit risk, SCPPA obtained a Performance Security furnished by the seller in the aggregate amount of \$2.5 million on the effective date and \$8 Million on the Commercial Date of Operation. A failure to meet the following milestones will result in the damages as listed below:

WRGE Milestones and Penalty Schedule	Cost per Day	Maximum Cost
Failure to achieve Power Block Construction Milestone	\$6,840	\$615,600
Failure to achieve the Commercial Operation Milestone	\$20,520	\$1,847,000

The Agreement also contains a Force Majeure Event cancellation provision, which is commonly found in many agreements, providing for the termination of the Agreement with WRGE 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.

TRANSMISSION

Electricity generated from the WRGE facility will be delivered through a new twenty-mile long transmission line to be constructed by WRGE that connects to the existing Mead Substation in Nevada. The new transmission line (One Nevada Transmission Line) is currently under construction and scheduled for completion on December 31, 2013. The Mead 230kV Switchyard is located in Boulder City in Southern Nevada. This switchyard was originally developed as the delivery point for energy generated by Hoover Dam. The Mead 230kV Switchyard is owned and operated by the Western Area Power Administration (WAPA). This very large switchyard has 30 interconnections owned by various entities including DWP, Nevada Energy, WAPA, Southern California Edison, Metropolitan Water District, and the Mead-Phoenix Project. All the foregoing are customers of WAPA at the switchyard and pay annual usage fees to cover the operation, maintenance, and capital improvement costs of the switchyard. WAPA is the sole owner of the facility and the customers have no ownership of the switchyard. DWP has three (3) transmission line connections at the Mead 230kV Switchyard that transmit power to the Los Angeles area.

If the service date for the One Nevada Line is delayed, the PPA allows for the Seller to utilize the transmission services of the California Independent System Operator (CALISO) as an alternate transmission path for energy delivery for a maximum of three years until December 31, 2016 at a discounted energy price of \$93 per MWh. After the end of the three years, the Seller may choose to permanently deliver through the CALISO transmission system at the original energy price of \$99 per MWh for delivery to the Mead Substation for the remaining seventeen years of the PPA.

COSTS OF OTHER SOURCES OF ENERGY

The typical industry cost of energy ranges from \$48/MWh to \$152/MWh, not including the transmission costs, which can add up to \$17/MWh to the cost. DWP advises that the costs continue to escalate at a rate greater than inflation and that the average price of the energy proposed in the WRGE PSA of \$99 per MWh or \$0.099 per kWh is competitive. A recent survey of industry-wide energy prices comparing the approximate costs per MWh for other sources of energy and prices reflected in the Department's proposed 2012 IRP are provided below for comparison with the energy cost under the WRGE PSA.

<u>Source of Energy</u>	<u>Cost per MWh</u>
Coal	\$48
Small Hydropower	\$76
Natural Gas	\$80-\$170 (depends on capacity and cost of gas)
Geothermal	\$65-\$106
Biomass	\$68-\$110
Solar	\$116-\$152

The above mentioned aspects of the proposed resolution, agreements, and this report, are based upon revised information received from the Department subsequent to the initial request submittal.

RECOMMENDATION

That the Council, subject to the concurrence of the Mayor, approve the Resolution of the Board of Water and Power Commissioners that requests:

Approval, by ordinance, of the execution of (a) Power Sales Agreement No. BP 12-049 between DWP and the Southern California Public Power Authority to purchase up to 13.71 megawatts of geothermal power annually through the ORNI 7, LLC for electric energy from the Wild Rose Geothermal Energy Project located in Gabbs Valley, in Mineral County, Nevada; and (b) Agency Agreement No. BP 12-050 between DWP and the Southern California Public Power Authority which designates DWP as the Project Manager to administer the project on behalf of and for the benefit of the project participants, the City of Burbank and DWP.

FISCAL IMPACT STATEMENT

The proposed Agreements will have no direct impact on the City General Fund. The Power Revenue Fund will provide an average annual expenditure of \$11.3 million annually for 20 years, or \$226 million total over the 20 year duration of the Agreement. Funding is budgeted in the Power Revenue Fund's Fuel and Purchased Power Budget. The impact on a typical residential customer's bill is forecasted to be \$0.08 per month in 2013-14 and \$0.15 in 2014-15.

Time Limit for Council Action

The City Attorney advises that there is no time limitation for items approved by ordinance.

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