Agenda Report

January 11, 2021

TO: Honorable Mayor and City Council

THROUGH: Municipal Services Committee (January 5, 2021)

FROM: Water and Power Department

SUBJECT: **AUTHORIZATION TO ENTER INTO A CONTRACT WITH SOUTHERN CALIFORNIA PUBLIC POWER AUTHORITY ("SCPPA") FOR THE PURCHASE OF RENEWABLE ENERGY FROM COSO GEOTHERMAL POWER HOLDINGS, LLC**

RECOMMENDATION:

It is recommended that the City Council:

1. Find that the proposed action is exempt from the California Environmental Quality Act ("CEQA") pursuant to State CEQA Guidelines Section 15061(b)(3) (Common Sense Exemption); and
2. Authorize the City Manager, or his designee, to enter into a contract without competitive bidding pursuant to City Charter Section 1002 (H) Contracts with other governmental entities or their contractors for labor, material, supplies, or services, and PMC Section 4.08.049 (A)(3) Contract with other governmental entities, with SCPPA for the purchase of renewable energy and capacity from Coso Geothermal Power Holdings, LLC, for a total of up to 20.46 megawatts ("MW") for Pasadena, for a term of 20 years beginning January 1, 2022.

MUNICIPAL SERVICES COMMITTEE ("MSC") RECOMMENDATION:

On January 5, 2021, the MSC approved the staff recommendation to enter into a 20 year contract with SCPPA for the purchase of renewable energy from Coso Geothermal Power Holdings, LLC. Below are points of clarification requested by the MSC, for the City Council meeting.

Pasadena Water and Power ("PWP") will only pay for the energy actually received, at the rate of $69 per megawatt hour ("MWh"). During the first five years, PWP will not be taking any energy and hence will not be liable for any payments for the first five years. In addition, PWP is well positioned to meet or exceed the state's renewable portfolio standard ("RPS"), up to calendar year 2022. Future RPS requirements will be met

through a variety of short term and long term renewable resources that best fit PWP's energy and RPS needs. Lastly, the contract price and other terms are competitive for a baseload (a resource that generates energy at a steady rate, at all times of the day) renewable resource, as compared to similar resources such as biomass, landfill gas and small hydro-electric.

EXECUTIVE SUMMARY:

The state law, through Senate Bill ("SB") 100 and SB 350, requires electric utilities like PWP to procure increasing amounts of renewable energy to serve retail load. The current Renewable Portfolio Standard ("RPS") goals require 33 percent of retail sales from renewable resources by 2020, 44 percent by 2024, 52 percent by 2027, and 60 percent by 2030. Additionally, the state has made a commitment that renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity by 2045. Since the inception of the state mandatory requirements, PWP has been consistently exceeding the state goals for both renewables and carbon reduction. For the year 2019, PWP's RPS was 37.5% compared to the state requirement of 31% and PWP achieved a carbon reduction of 51.7% compared to the base year, 1990. PWP has been gradually procuring renewable energy resources based on its anticipated future retail sales that are least cost and best fit to match its retail load profile.

The proposed renewable energy purchase contract will help meet the future RPS requirements in line with the City's RPS Procurement Plan and RPS Enforcement Program (collectively, "Pasadena RPS Policy"), which was approved by the City Council on December 10, 2018.

The Coso geothermal facility ("Coso Project") has been operating since 1987, and is one of the top three producers (by volume) of geothermal electrical power in the United States. The Coso Project is an existing 270 MW generation station located near China Lake, in an unincorporated area of Inyo County, California, approximately 160 miles from Pasadena. Geothermal is a very reliable resource, and unlike intermittent solar and wind resources, it operates continuously at full capacity around the clock (commonly called "base load" operation).

Under the recommended 20-year contract, PWP will receive capacity and in-state renewable energy to meet compliance targets. However, PWP will receive energy starting in year six, for a period of 15 years. PWP will receive up to a 10.37 MW share during the first ten years (from 2027 through the end of 2036), then up to a 20.46 MW share for the last five years (from 2037 through 2041). The contract price is fixed at $69/MWh for the entire term, and will cost approximately $6 million per year for the first ten years (2027-2036), and approximately $12 million per year for the last five years (2037-2041).

The Coso Project will supply approximately 8% of PWP's annual energy needs (based on projected retail sales) during the first ten years and 16% thereafter. It will partially fill

the gap for energy when the existing power agreement with the Intermountain Power Project ("IPP") terminates in June, 2027.

The Coso Geothermal Power Purchase Agreement was approved by the SCPPA Board on September 17, 2020. Subject to approval by their individual governing bodies, the output of the project will be purchased through SCPPA via Power Sales Agreements by the Cities of Pasadena, Banning and Riverside.

BACKGROUND:

The Coso Project counts towards the RPS requirements in addition to requirements set by the California Independent System Operator ("CAISO") for resource adequacy ("RA"). PWP's existing contract with IPP will terminate in 2027, and other renewable energy contracts are set to expire beginning in 2023. As a result, PWP has a need to procure energy as well as RPS products to replace these expiring contracts. PWP plans to meet its future compliance requirement through a mix of short and long-term resources, with the goal of meeting its compliance requirements but limit potential exposure to long-term stranded investment.

SB 350, which became law in 2015, set restrictive guidelines for the procurement of renewables. Most notably, 65% of all renewable energy contracts must be derived from long term contracts (10 years or longer in duration) and must come from a diverse set of resources and resource types (including location and term). As stated earlier, SB 100, which became law in 2018, set additional RPS goals, including a RPS of 60% by 2030 and a mandate to have a carbon-free portfolio by 2045. The Coso Project helps PWP meet these obligations.

Coso Project Selection Process

SCPPA issued a Renewable Energy Resources and Energy Storage Solutions Request for Proposal ("RFP") on January 23, 2019, seeking continuous proposals through December 30, 2019. PWP reviewed over 20 proposals submitted through the RFP process that matched PWP's specific needs. Contracts were reviewed based on their reliability, type of resource and location, with a specific need for baseload renewable resources to complement the intermittent solar contracts that have been approved and executed in the past several years. A focus on baseload energy was particularly important, due to the termination of the IPP contract in 2027. It is important to note that the majority of the resources were for a contract term of 20 years or longer, and shorter contracts are in limited supply.

The Coso Project was determined by PWP, as well as other SCPPA participants, to be the most competitive and attractive of the available project offerings, as it qualifies for RPS and will provide baseload energy and RA capacity, to replace part of IPP. The CAISO sets specific RA capacity requirements for PWP; in this case, it meets PWP's system RA capacity requirement of 115% of PWP's forecasted peak load. For example, if PWP's forecasted peak load was 300 MW, PWP would be required to procure 345 MW of capacity to meet the CAISO requirements.

Due to the fact that the project is an existing operating facility, it eliminates the project development and transmission interconnection risk PWP typically faces with new renewable energy contracts. The project is also located within the CAISO balancing authority area, and it will provide a high level of system RA capacity. The point of delivery was negotiated at SP-15, which is close to PWP's service area, and mitigates much of the risk of transmission congestion, which may reduce transmission costs in the future.

The Coso Project agreement also starts delivery of power when PWP will need more baseload resources (as the IPP contract expires). The term of the contract was favorable to limit the potential of stranded investment, yet meet the ten-year minimum to qualify for PWP's regulatory obligations. Many renewable energy project developers and marketers will not consider contract terms less than 20 years; however, by partnering with other SCPPA member agencies, PWP was able to secure a shorter term that better meets PWP's specific needs. Through this joint effort, PWP was able to negotiate terms by which zero energy will be delivered to Pasadena during the first five years (2022- 2026), which better aligns with PWP's needs. The other participants begin delivery of energy in 2022. As a result, PWP is able to delay deliveries until 2027, which directly matches its need post-IPP.

The price point of the Coso Project is competitive. Compared to other geothermal resources, the Coso Project is at the low end of the price range. Many of the other geothermal projects have transmission limitations or are not in the CAISO, which increases cost. Compared to PWP's historical renewables resources, the Coso Project is at the low end of the price range. The price is fixed at $69/MWh, with no escalation, which includes the RA, RPS and energy attributes (around the clock, unlike wind and solar). The estimated annual costs associated with the Coso Project is shown in Table 1.

Table 1: Coso Project Estimated Annual Cost for PWP

Contract Year	Calendar Year	Estimated Energy (MWh/year)	Estimated Cost ($000/year)
1-5	2022-2026	0	$0
6	2027	90,876	$6,270
7	2028	90,166	$6,221
8	2029	88,963	$6,138
9	2030	88,006	$6,072
10	2031	87,050	$6,006
11	2032	86,329	$5,957
12	2033	85,137	$5,874

Contract Year	Calendar Year	Estimated Energy (MWh/year)	Estimated Cost ($000/year)
13	2034	84,180	$5,808
14	2035	83,223	$5,742
15	2036	82,492	$5,692
16	2037	179,076	$12, 356
17	2038	176,970	$12, 211
18	2039	174,863	$12,066
19	2040	173,229	$11,953
20	2041	170,649	$11,775

Projected RPS Impact of the Coso Contract to the PWP RPS Portfolio

The Coso Project will add approximately 14% to PWP's RPS requirements for calendar years 2027-2036 (contract years 6-15) and approximately 26% to PWP's RPS requirements for calendar years 2037-2041 (contract years 16-20). Please refer to Figure 1, which depicts PWP's RPS needs by calendar year and Table 2, which shows the list of PWP's long term RPS contracts and Portfolio Content Category ("PCC").

Figure 1: Pasadena Projected RPS Procurement Need by Calendar Year

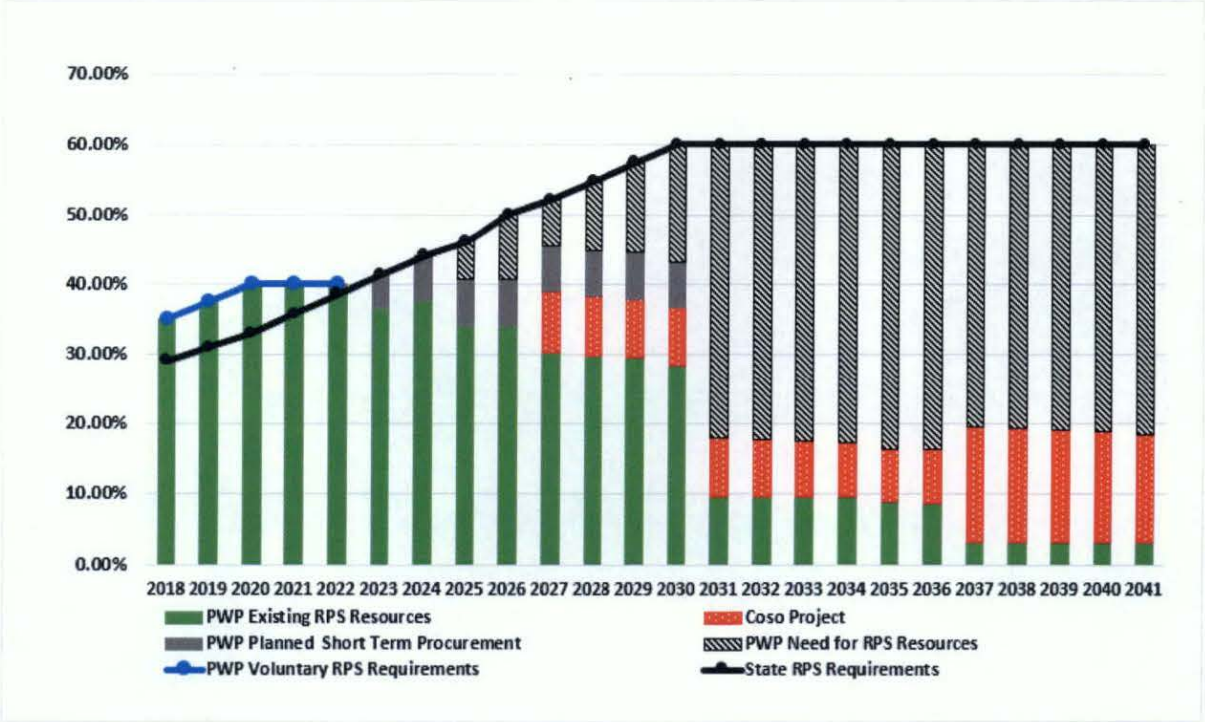

Table 2: Long Term RPS Contracts

Resource	MW	Start Date	End Date	PCC
Avangrid Wind	**6**	**8/25/2003**	**12/31/2024**	**0**
Ormat Heber South (Geothermal)	**1.5**	**6/18/2006**	**12/31/2031**	**0**
Ormat Heber South (Geothermal)	**0.6**	**5/1/2008**	**12/31/2031**	**0**
UPC Wind (Milford I)	**5**	**11/15/2009**	**11/14/2029**	**0**
Chiquita Canyon (Landfill Gas)	**6.67**	**11/23/2010**	**11/22/2030**	**0**
Windsor Reservoir Solar	**0.564**	**5/31/2011**	**5/30/2031**	**1**
Columbia 2 Solar	**2.57**	**12/19/2014**	**12/18/2034**	**1**
Kingbird Solar	**20**	**4/30/2016**	**12/31/2036**	**1**
Summer Solar	**6.5**	**7/25/2016**	**12/31/2041**	**1**
Antelope Big Sky Ranch Solar	**6.5**	**8/19/2016**	**12/31/2041**	**1**
Puente Hills (Landfill Gas)	**12.55**	**1/1/2017**	**12/31/2030**	**1**
PX 11-year Index + Deal (Mix)	**Varies**	**1/1/2020**	**12/31/2030**	**1 & 2**
Coso Project (Geothermal)*	**10-20**	**1/1/2022**	**12/31/2041**	**1**

**This list includes the Coso Project, if approved by City Council*

PWP is not aware of any local businesses that offer baseload clean energy or any other wholesale energy suppliers or associated environmental attributes and therefore did not conduct any local outreach.

COUNCIL POLICY CONSIDERATION:

The Coso Project is consistent with the City's Urban Environmental Accords goals with respect to increasing renewable energy and reducing greenhouse gas emissions, the General Plan Energy Element, the 2018 Power Integrated Resource Plan and the City Council's Strategic Planning Goals.

ENVIRONMENTAL ANALYSIS:

The proposed contract has been determined to be exempt from the California Environmental Quality Act pursuant to State CEQA Guidelines Section 15061 (b)(3), the common sense exemption, that CEQA applies only to projects which have the potential for causing a significant effect on the environment. Since this contract is based on an existing resource, there is no construction or other direct physical change in the environment; the use of renewable energy would have a beneficial effect on the environment by reducing greenhouse gas emissions and air pollutants; therefore it is exempt from CEQA under the general rule set forth in CEQA Guidelines section 15061(b)(3).

FISCAL IMPACT:

The cost for this contract is estimated at:

Term	Average Annual Cost	Estimated Total Cost
CY 2027-2036	$5.7 - $6.3 million	$ 60 million
CY 2037-2041	$11.8 - 12.4 million	$ 60 million
Estimated Contract Total		**$120 million**

Funding for this action will be addressed in future appropriations to the Power Operating Budget from FY 2027 to FY 2042.

There will be no anticipated impact to other operational programs or capital projects as a result of this action.

Respectfully submitted,

GURCHARAN S. BAWA
General Manager
Water and Power Department

Prepared by:

Mandip Samra
Power Resource Planning Manager

Concurred by:

MATTHEW E. HAWKESWORTH
Director of Finance

Approved by:

STEVE MERMELL
City Manager