

Agenda Report

February 26, 2024

TO: Honorable Mayor and City Council

THROUGH: Municipal Services Committee (February 13, 2024)

FROM: Water and Power Department

SUBJECT: AUTHORIZATION TO ENTER INTO A POWER SALES CONTRACT WITH SOUTHERN CALIFORNIA PUBLIC POWER AUTHORITY FOR SOLAR PHOTOVOLTAIC ENERGY AND BATTERY ENERGY STORAGE FROM BONANZA SOLAR, LLC FOR AN AMOUNT NOT-TO-EXCEED \$512,228,000 FOR THE WATER AND POWER DEPARTMENT

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 15277 (Projects Located Outside California); and
2. Authorize the City Manager, or his designee, to enter into a contract with Southern California Public Power Authority ("SCPPA") for the purchase of renewable energy and capacity from Bonanza Solar, LLC ("Bonanza Solar") that includes daily delivery from a solar and storage facility ("Bonanza Project") of a maximum of 105 megawatts ("MW") of solar photovoltaic energy and up to four hours of dispatchable battery energy storage not to exceed 55 MW during a 20-year contract term beginning December 31, 2027, for an amount not-to-exceed \$512,228,000; neither Competitive Bidding nor Competitive Selection are required pursuant to City Charter Section 1002(H) and Pasadena Municipal Code Section 4.08.049(A)(3), contracts with other governmental entities.

MUNICIPAL SERVICES COMMITTEE RECOMMENDATION:

On February 13, 2024, the Municipal Services Committee ("MSC") unanimously approved the Staff recommendation to the City Council. The MSC requested that the not-to-exceed contract value amount stated on the Agenda Report be amended to align with the associated presentation.

EXECUTIVE SUMMARY:

City of Pasadena (“City”) Resolution 9977, which was adopted by the City Council on January 30, 2023, sets a goal to source 100% of Pasadena’s electricity from carbon-free sources by the end of 2030. This ambitious target, which has been incorporated in Pasadena Water and Power’s (“PWP”) recently adopted 2023 Integrated Resources Plan (“IRP”), calls for a complete shift to zero-carbon resources, 15 years before the 2045 target year established by Senate Bill (“SB”) 100. Pasadena’s goal greatly exceeds the requirements of California’s Renewable Portfolio Standard (“RPS”) program, both in resource qualifications and timeline, and is a largely unprecedented aspiration among California utilities. Pasadena Water and Power (“PWP”) has consistently exceeded State RPS compliance targets, focusing on resources that support ratepayer affordability while meeting Pasadena’s unique energy needs.

PWP has had a long history of decarbonization efforts, which continues with each successive IRP. The 2018 IRP was one of the first SB-100-compliant IRPs in California and includes the City Council’s initiative to restrict any future long-term energy contracts to renewable and zero-carbon resources. The 2023 IRP expands on 2018 plan by excluding any greenhouse-gas emitting resource after 2030, regardless of its RPS Program qualifications. The 2023 IRP also incorporates a Waypoint in Year 2028 to ensure that past planning carries into the 2028 IRP process, and to reassess developing technology that might be adopted to help achieve long-term goals.

As the 2030 target quickly approaches, PWP is working to transition to the accelerated trajectory of the 2023 IRP Implementation Plan. At the same time, California continues to drive faster statewide decarbonization efforts, which has resulted in extreme competition for resources and overall scarcity of viable projects that meet Pasadena’s specific needs.

The Bonanza Project

The Bonanza Project is a 300 MW RPS-eligible solar photovoltaic generating and Battery Energy Storage System (“BESS”) located in Clark County, Nevada that is estimated to begin operation on December 31, 2027. Bonanza Solar is a special purpose entity that has a business structure of a limited liability company. Its parent company is EDF Renewables, a global renewable energy affiliate of the EDF Group that has a presence in over 20 countries and that develops, builds, and operates renewable power plants.

With the termination of the Intermountain Power Project (“IPP”) coal contract in 2027, the Bonanza Project becomes operational at an opportune time and will add 62.5 MW of Resource Adequacy (“RA”) capacity to partially offset the 108 MW that will be eliminated through the IPP exit. In addition, it is a zero-carbon Solar + BESS resource that will provide electric reliability, and partially replace energy in compliance with requirements of the California Energy Commission (“CEC”) and the California

Independent System Operator (“CAISO”). A summary comparison of program attributes appears in Table 3 on Page 5 of this report.

Bonanza Solar has already executed site control and interconnection agreements and has received full Transmission Plan Deliverability Allocation from CAISO to ensure full output to the California grid. The Project will also soon begin the National Environmental Policy Act (“NEPA”) process and analysis, a federal requirement to determine if any potential environmental impacts exist.

Through an agreement with SCPPA, a Joint Powers Authority (“JPA”) and government entity comprised of eleven municipal utilities (including PWP) and one irrigation district, PWP has the opportunity to receive 105 MW of solar generation and 55 MW of battery storage of the capacity generated by the Bonanza Project beginning on December 31, 2027, for a term of 20 years. The City of Azusa Light and Power, also a SCPPA member, will opt for 20 MW of solar and 10 MW of battery storage of the capacity. The remaining balance will likely be contracted to a non-SCPPA counterparty.

As earlier noted, the competition for resources in California has reached historic levels with extremely limited feasible procurement opportunities for solid, utility-scale projects. Combined with the accelerated goals of Resolution 9977, it is incumbent on PWP to secure opportunities that represent best fit, least cost solutions for Pasadena. The Bonanza Project has multi-faceted benefits that balance electric reliability, environmental stewardship, and affordability. Bridging these goals is the larger purpose of any IRP which makes the Bonanza Project an opportunity that combines the best interests of the utility, environment, and community ratepayers.

BACKGROUND:

In December 2018, the Pasadena City Council approved and adopted the 2018 IRP, which includes a commitment to remove carbon resources from PWP’s energy resource portfolio. A key component of the 2018 IRP is the termination of PWP’s 108 MW interest in IPP effective June 2027. In addition, energy resource contracts representing at least 40 MW are set to expire by the end of 2030 and must be replaced.

The 2023 IRP, which was approved and adopted by the City Council in December 2023, expands on the goals of the 2018 IRP and outlines multiple pathways to reach the Resolution 9977 goal to source 100% of Pasadena’s electricity from carbon-free sources by the end of 2030. Pasadena’s target is considerably more ambitious than the 2045 zero-carbon goal mandated by SB 100 and associated RPS compliance requirements and will take accelerated planning and procurement in a highly competitive energy resource market to achieve.

While Pasadena’s zero-carbon procurement timelines and resource qualifications are already significantly more aggressive than State requirements, the RPS Program includes other related regulatory requirements, such as portfolio disposition and duration targets, which PWP must also meet. Specifically, 65% of a utility’s required

procurement target must be met by owned or contracted resources that are at least 10 years or more in duration. Furthermore, at least 75% of the target must be met by resources classified as Portfolio Content Category (“PCC”) 1, which carries the highest environmental value and represents the highest cost compared to qualifying lower grade resource classifications allowed in the RPS Program.

To meet overall procurement and duration requirements, and replace the capacity represented by the 2027 IPP termination and the other expiring renewable contracts, PWP plans to procure a mix of both long-and short-term zero-carbon energy products that support reliability, meet current and future state and local compliance requirements, and limit potential exposure to long-term stranded investments. The Bonanza Project, a 20-year opportunity that provides valuable PCC-1 Renewable Energy Credits (“RECs”), will help meet both portfolio disposition and long-term RPS requirements, while also contributing to the zero-carbon goals of Resolution 9977.

Bonanza Project Selection Process

On February 7, 2023, SCPA issued a Request for Proposals (“RFP”) through its website for Renewable Energy Resources and Energy Storage Solutions. As part of an evaluation process, in which PWP participated, over 20 proposals were considered based on criteria focusing on resource type and location, electricity reliability, contract duration, and comparability with existing member solar contracts.

The proposal for the Bonanza Project offered the most competitive price and was ultimately determined to be the most responsive because it qualifies for RPS compliance, meets the goals of Resolution 9977, and will provide approximately 62.5 MW of RA capacity to help meet requirements set by CAISO. PWP is not aware of any local businesses that develop utility-scale renewable energy projects with associated environmental attributes and therefore did not conduct any local outreach.

To provide an objective, third party analysis of the Bonanza Project offer, PWP requested Alliance for Cooperative Energy Services Power Marketing LLC (“ACES”) to perform a thorough review of the contract terms to determine if the new offer would be a best-fit, least-cost resource for PWP. ACES offers a broad suite of energy risk management and transaction execution services and is currently under contract with PWP to perform energy portfolio management services, including analysis of renewable project proposals as due diligence prior to PWP pursuing contract negotiations. ACES compared forward market price data from the beginning of 2023 to pricing for the term of the deal and determined that the Bonanza Project is optimally sized and provides a favorable cost/benefit ratio compared to those of other similar market offerings. ACES concluded that the project is priced competitively for the current market and fulfills PWP’s need for projects that meet RA and RPS mandates, and the Resolution goal.

The annual costs per MWh for the solar resources are provided in Table 1. Delivery of power would begin on December 31, 2027, approximately aligned with PWP’s exit from IPP. The annual costs per MWh for the BESS are provided in Table 2.

***Table 1: Bonanza Project Estimated Annual Solar Cost for PWP**

Estimated Annual Solar Cost for PWP	2028 – 2047
Solar (\$/MWh)	\$47.76
Annual Cost for Energy (\$)	\$14,497,000

**A current annual negotiated projection of full costs for solar is represented. The solar cost over the course of the contract is estimated to be approximately \$290 million.*

***Table 2: Bonanza Project Estimated Annual BESS Cost for PWP**

	2028 – 2047
Battery Energy Storage Price Conversion (\$/kW-month)	\$16.84
Annual Cost for BESS (\$)	\$11,114,400

**A current projection of full costs for BESS is represented. The BESS cost over the course of the contract is estimated to be approximately \$222 million.*

Bonanza becomes operational shortly after the IPP contract terminates and will partially replace needed RA capacity. The cost of Bonanza will also partially be offset through the IPP exit.

Table 3: A comparison of annual deliverability for IPP replacement is as follows:

Component	IPP	Bonanza
RA Capacity (MW)	108	62.5
Maximum Energy Potential	946,000 MWh	303,000 MWh
RECs	No	Yes
Estimated Annual Cost	\$67 million	\$25 million

It is respectfully requested that a 20-year contract be approved with SCPPA, a JPA and government entity, for 105 MW of solar generation and 55 MW of battery storage of the capacity of the Bonanza Project beginning on December 31, 2027, and ending on December 31, 2047, in an estimated amount of \$25,611,400 annually for Solar plus BESS for the full 20-year term, not to exceed \$512,228,000 for the full duration. Neither Competitive Bidding nor Competitive Selection are required pursuant to City Charter Section 1002(H) and Pasadena Municipal Code Section 4.08.049(A)(3), contracts with other governmental entities. A breakdown of prices is shown in Tables 1 and 2 of this report.

Market Conditions Update

As California and the nation push to decarbonize the power grid as quickly as possible, overall resource scarcity, transmission constraints, and volatile energy market conditions have resulted in extreme competition for resources. Moreover, power resource project developments and construction schedules continue to be impacted by additional CAISO transmission queue requirements, land use assessments, and

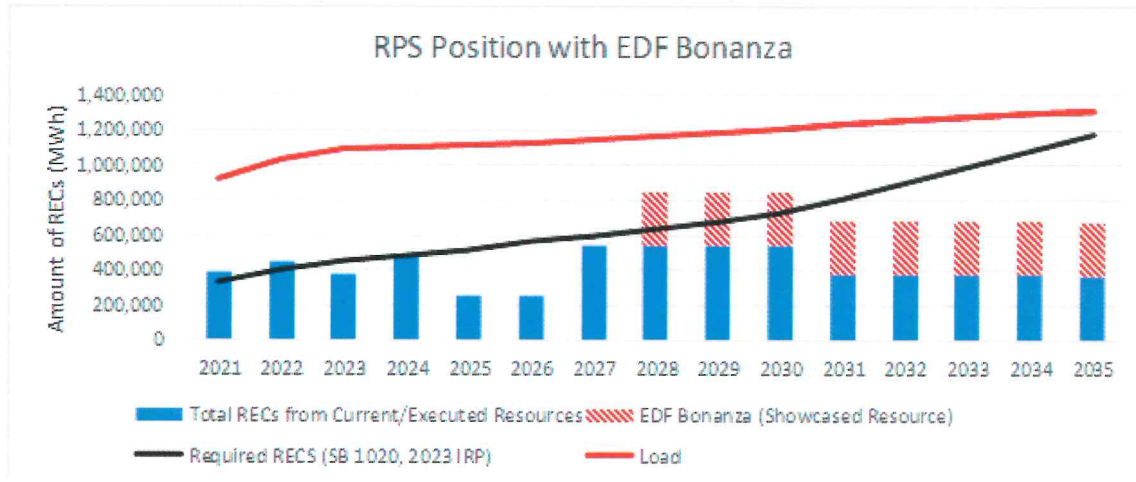
environmental impact analyses. Also, while solar energy coupled with BESS play an important role in reducing GHG emissions and mitigating climate change, the potential for environmental impacts associated with this type of technology is unknown. An exemption from CEQA has been cited for this project and will be monitored with events of the pending NEPA analysis.

PWP will continue to monitor these market trends and shifts in order to identify least-cost, best-fit projects to meet its zero-carbon goals. While the market prices for renewable and zero-carbon resource PPAs continue to increase, the current contract price of the Bonanza Project is competitive compared to those for other similar projects. The Bonanza Project is a demonstrably viable resource to expand PWP’s portfolio of carbon-free resources.

Projected RPS Impact of the Bonanza Contract on the PWP RPS Energy Portfolio

The Bonanza Project provides considerable renewable energy credit (“REC”) benefit to assist PWP’s renewable and zero-carbon resource portfolio. Figure 1 depicts PWP’s RPS position as compared to California compliance requirements and projected load.

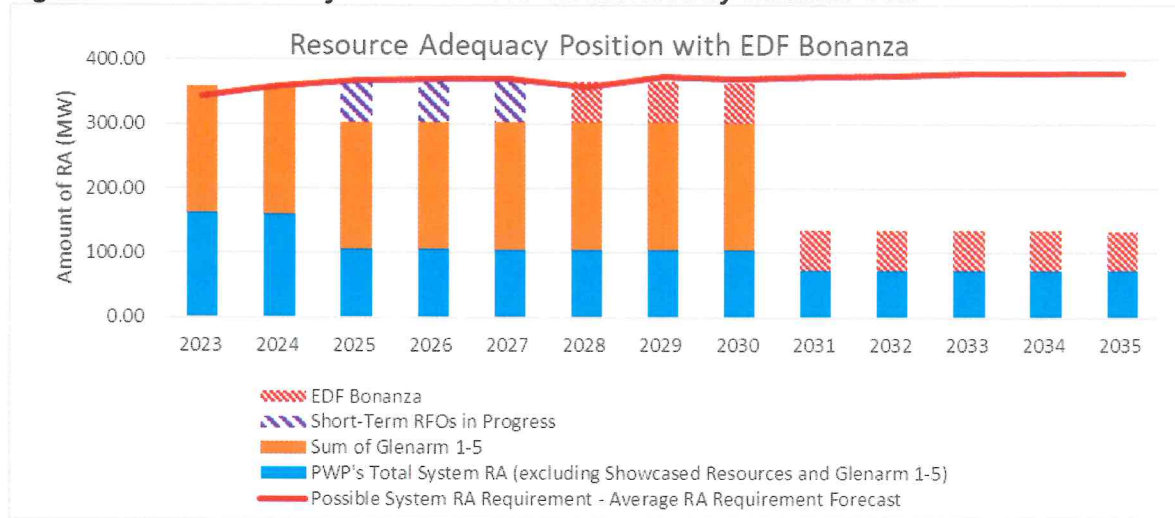
Figure 1: Pasadena’s Projected RPS Procurement Need by Calendar Year



Projected RA Impact of the Bonanza Contract on the PWP RPS Energy Portfolio

The Bonanza Project provides considerable resource adequacy (“RA”) benefit to assist PWP’s capacity requirements. Figure 2 depicts PWP’s RA resources and additional requirements for each calendar year through 2035.

Figure 2: Pasadena’s Projected RA Procurement Need by Calendar Year



COUNCIL POLICY CONSIDERATION:

The Bonanza Project, which supports an increase in renewable energy resources and reduction in GHG emissions, is consistent with the City’s Urban Environmental Accords; specifically, Action 1, Renewable Energy; Action 2, Energy Efficiency; and Action 3, Climate Change as well as with Resolution 9977, passed by the City Council on January 30, 2023, declaring a climate emergency and setting a goal to source 100% of Pasadena’s electricity from carbon free sources by the end of 2030.

ENVIRONMENTAL ANALYSIS:

The proposed action is exempt from the California Environmental Quality Act (CEQA) under Section 15277 of the State CEQA Guidelines, “Projects Located Outside California.” The Bonanza Solar and Storage Project is located in the State of Nevada and will be subject to environmental review under the National Environmental Policy Act (NEPA). Final, non-appealable NEPA approval is a condition precedent to commercial operation of the project.

Moreover, since this contract is based on an existing resource to be built by others and in which Pasadena will have no ownership interest, there is no construction by or for Pasadena, nor is there any other direct physical change in the environment attributable to Pasadena. The use of renewable energy would have a beneficial effect on the environment by reducing GHG emissions and air pollutants.

FISCAL IMPACT:

Based upon the negotiated price, the estimated annual cost of the contract is from 2028 through 2047 for a total value of \$512,228,000. A breakdown of components is shown in Table 4 below:

Table 4: Bonanza Project – summary of estimated costs

Component	Annual	20 years
Solar	\$14,497,000	\$289,940,000
BESS	\$11,114,400	\$222,288,000
Total	\$25,611,400	\$512,228,000

As PWP continues to expand its portfolio of zero-carbon resources to meet both regulatory compliance requirements and the goals of Resolution 9977, the net impact to future budgets is currently uncertain. Although no rate adjustments are recommended as part of this action, staff will evaluate the cost impacts and may return to the City Council with rate proposals related to this contract in the future.

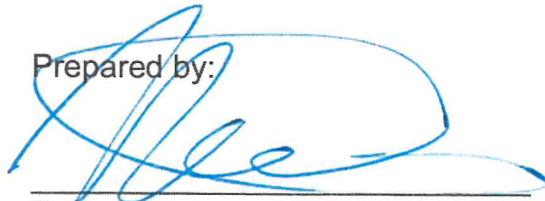
The Bonanza Project has multi-faceted benefits that balance electric reliability, environmental stewardship, and affordability. It also meets both CEC requirements for the RPS Program, represents a zero-carbon resource that will help achieve the goals of Resolution 9977, and will provide needed RA as the 2027 termination of IPP approaches. By satisfying multiple critical operating and regulatory requirements, the Bonanza Project represents an opportunity that is in the best interests of the utility, environment, and community ratepayers. Funding for this action will be addressed in future appropriations to the Power Operating Budget from Fiscal Year 2028 to 2048.

Respectfully submitted,



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