



City of Palo Alto

City Council Staff Report

(ID # 11679)

Report Type: Consent Calendar

Meeting Date: 2/1/2021

Summary Title: Recommendation for Approval of Western 2025 Base Resource Power Supply Contract

Title: Finance Committee Recommends the City Council Approve the 2025 Base Resource Power Supply Contract for the Central Valley Project With the Western Area Power Administration, to Preserve the City's Options to Maintain, Reduce or Terminate City's Allocation Until June 30, 2024

From: City Manager

Lead Department: Utilities

RECOMMENDATION

The Finance Committee (FC), Utilities Advisory Commission (UAC), and staff recommend the City Council approve the extension of the City of Palo Alto's current electricity supply contract, which is the 2025 Base Resource Contract for the Central Valley Project (CVP) with the Western Area Power Administration (WAPA) titled "Contract 20-SNR-02365 United States Department of Energy Western Area Power Administration, Sierra Nevada region contract for electric service base resource with the City of Palo Alto," for the full amount of generation available (12.06299% share), to preserve the City's options to maintain, reduce, or terminate its allocation until June 30, 2024.

EXECUTIVE SUMMARY

The Finance Committee (FC), Utilities Advisory Commission (UAC), and staff recommend the Council approve the execution of the extension of our current electricity supply contract, which will begin in 2025 and run through 2054, for the maximum allocation available (12.06299% of the total Base Resource generation) to the City including options to maintain, reduce, or terminate its allocation until June 30, 2024.

Staff presented this recommendation to the UAC on November 4, 2020 ([Staff Report ID #11128](#)). The UAC discussion focused on risks, costs, and flexibility of the resource going forward. The UAC voted unanimously (7:0) to recommend that the Council approve the execution of the [extension of the 2025 Base Resource Contract](#) for the full amount of generation available (12.06299% share).

The UAC discussion focused on:

1. Downsides of signing contract given the free termination until June 2024: No downside from staff perspective.
2. Risks of lower generation & value: Staff expressed high risk from unimpaired flow requirements. These risks were potentially mitigated by contract provisions enabling termination upon rate change every five years.
3. Risks of higher costs: Staff expressed high risks from deferred maintenance and endangered species compliance. These risks were also potentially mitigated by contract termination provisions.
4. Viable alternatives: Staff is confident the City could contract for alternatives to be delivered by 2025.

Staff presented this recommendation to the Finance Committee on December 1, 2020 ([Staff Report ID #11678](#)). The Finance Committee discussion focused on risks to the costs and value of the resource, particularly from climate change and environmental requirements. The Finance Committee voted unanimously with all three members voting in favor to recommend that the Council approve the execution of the extension of the 2025 Base Resource Contract for the full amount of generation available (12.06299% share).

The Finance Committee discussion focused on:

1. Contract flexibility: Staff highlighted the opportunity to exit contract every 5 years, as well as at any point prior to June 30, 2024, as a new important flexibility.
2. Risks to value from climate change: Staff noted that climate change posed a risk, but somewhat lower risk since the CVP watershed is largely rain-fed rather than snow-fed.
3. Risks to value from environmental regulations: Staff noted one large risk is that the high unimpaired flows required by the proposed Bay Delta Plan would lower the value from the project. Staff did note that the resource could still potentially be economically competitive.
4. Possibility of adding an audit clause: There was also a discussion of whether an audit clause could be added to the contract to enable auditing of the Federal Government. Staff said the window for this multi-party negotiation had closed and the contract had to be accepted as is if the City wanted to retain its option to continue receiving this resource after 2024.

The City's electric utility contracts with the Federal Government through WAPA for electricity from the CVP, a series of large dams and hydroelectric generation projects in California. Electricity from these projects has been a major electricity source for Palo Alto since 1964 when the City first contracted with the U.S. Bureau of Reclamation (USBR). WAPA split off from the USBR in 1977 and has been responsible for delivering CVP power since. The current WAPA Base Resource contract began in 2005 and will expire at the end of 2024. The City's current contract allocation is 12.30917% of the WAPA Base Resource, which represents about 40% of the City's electricity needs in an average hydrological year. The impact of this change in allocation is that

the City will only receive 98% of the current contract resources from WAPA starting in 2025. Beginning in 2022 staff will be evaluating what power supply resources if any are required to fill the gap left by the lower contract allowance, which amounts to a loss of 1% of the City's electricity supply portfolio.

By executing this [2025 contract extension](#)¹ by March of 2021² Palo Alto preserves all of its available options. The contract provides the City with the option to maintain, reduce or terminate the allocation amount of this new 2025 Base Resource contract up until June 30, 2024. However, if Palo Alto does not execute the WAPA 2025 Base Resource contract by March of 2021, it will not be eligible for any power supplied by WAPA after the end of 2024.

Given large uncertainties around the cost, value, and amount of output of this resource, staff recommends executing the contract for the maximum allocation available, while also thoroughly exploring alternative power supply sources in the 2023 timeframe. This will allow the City to make a more informed final decision on the contract in 2024, as staff expects there to be more clarity on outstanding uncertainties around costs, value, and amount of generation from the project before June 30, 2024, the deadline under this contract extension to terminate the contract or reduce the City's contract allocation.

The CVP Base Resource has historically been an important low-cost, carbon-free electricity resource for Palo Alto, but there are many external factors which could make this resource less economically competitive in the future. While Palo Alto is committed to helping WAPA maintain the value of this resource for all customers, the City will ultimately make a decision in 2024 about what resources to include in its supply portfolio based on its assessment of which resources provide the greatest value to Palo Alto's electric utility customers.

BACKGROUND

Palo Alto's existing 20-year power supply contract with WAPA expires on December 31, 2024. After an extensive public process, WAPA's 2025 Marketing Plan was published in the [Federal Register in August 2017](#).³ The 2025 Marketing Plan allows for existing CVP Base Resource customers, such as Palo Alto, to extend 98% of their existing power allocations after 2024 for an additional 30 years.

By executing [this contract extension](#)⁴ by March 2021 Palo Alto is not making a final decision on whether to extend its Base Resource commitment for 30 more years; rather, the City simply preserves all of its options and can choose to maintain, terminate or reduce this new 2025 Base Resource contract allocation amount up until June 30, 2024. If Palo Alto does not execute the WAPA 2025 Base Resource contract by March of 2021 Palo Alto will not be eligible for power supplied by WAPA after the end of 2024.

¹ <http://cityofpaloalto.org/civicax/filebank/blobdload.aspx?BlobID=78711>

² Customers have six months to execute the contract from the receipt of the final 2025 Base Resource contract on September 16, 2020.

³ <https://www.govinfo.gov/content/pkg/FR-2017-08-15/pdf/2017-17210.pdf>

⁴ <http://cityofpaloalto.org/civicax/filebank/blobdload.aspx?BlobID=78711>

The City of Palo Alto Utilities' (CPAU) current CVP Base Resource Contract with WAPA is an important resource providing cost-based electricity from a share of the CVP net generation. Council approved the current WAPA Base Resource Contract with Western in 2000 for the years 2005 to 2024 to provide Palo Alto with an initial 11.62% share of CVP Base Resource (Western Base Resource Contract on October 16, 2000 [CMR 378:00, [Resolution 8007](#)⁵]). In 2009, Council approved an additional share of Base Resource generation that became available starting in 2015, bringing the current contract to 12.30917% of the Base Resource generation, which represents about 40% of the City's annual electricity needs. CPAU's future maximum share of the WAPA 2025 CVP Base Resource Contract is 12.06299%⁶ for a 30-year contract which will span from 2025 through 2054. WAPA has set a deadline for customers to execute the WAPA 2025 Base Resource Contract by March 2021, six months from receipt of the final contract. The link to the final contract [2025 contract extension from WAPA is linked and shown below](#).⁷ The current WAPA Base Resource contract is provided here in the 2005 Base Resource Contract 00-SNR-00336.⁸ A Council resolution to approve execution of the renewed contract is provided in Attachment A.

DISCUSSION

The CVP Base Resource generation has historically⁹ been a valuable electricity resource for Palo Alto, with staff working collaboratively with WAPA alongside Northern California Power Agency (NCPA) and many other power customers to maintain the value and resiliency of the product; however, there are multiple external uncertainties which could make the project less competitive in the future. Due to changing energy markets and regulations, staff recommends carrying out a robust analysis of alternatives to this resource in the 2022 to 2023 timeframe. After selecting the most compelling alternatives, staff will undertake further detailed modeling using most recent market and regulatory trends to make a final recommendation to the UAC, Finance Committee and Council on whether to maintain the City's maximum allocation of Base Resource output for an additional 30-year term or pursue other alternative resources by June 30, 2024. It should also be noted that the 2025 CVP Base Resource Contract is one option for maintaining a carbon-neutral electric supply portfolio.

Base Resource Description

The WAPA Base Resource product is a percentage of the available hydroelectricity generated by the CVP, after meeting the electricity needs for Project Use (water pumps for the CVP) and First Preference Customers (customers from the counties of origin, where the CVP's Trinity and New Melones dams are located), in addition to other adjustments needed by WAPA. This is a non-firm product (meaning the amount of energy provided may vary based on the amount of

⁵ <https://www.cityofpaloalto.org/civicax/filebank/documents/22409>

⁶ CPAU's maximum portion is 98% (12.06%) of its current allocation (12.31%), as 2% of the current allocations were allocated to both new and existing customers beginning in 2025. CPAU was not awarded any of this 2% pool.

⁷ <http://cityofpaloalto.org/civicax/filebank/blobdload.aspx?BlobID=78711>

⁸ <http://cityofpaloalto.org/civicax/filebank/documents/75692>

⁹ The City of Palo Alto executed the current 2005 Base Resource Contract in 2000, which was for a 20-year contract term from 2005 to 2024; the staff report can be found in CMR 378:00 October 16, 2000 [Contract 00-SNR-00336].

energy available from the generators combined with a few other factors), and it also comes with seasonal and hourly restrictions. The average annual output of the generation of the CVP is about 2,950 gigawatt hours (GWh)¹⁰ after Project Use and First Preference electricity needs are met, and for this 2025 contract Palo Alto's share is roughly 356 GWh (approximately 40% of the City's electric load).

Base Resource Contract Allocation and Cost

WAPA Base Resource will be a cost-based resource which is expected to have a total cost (for all customers) of about \$106 million per year, regardless of the amount of electricity provided. Every year the costs of providing WAPA Base Resource power are passed through to customers, and WAPA formally updates its Base Resource rates every five years. Palo Alto's 12.06% allocation of the base resource is estimated to cost about \$13 million per year. The latest WAPA projections and U.S. Bureau of Reclamation estimates indicate total costs escalating by about 3% a year from 2020 to 2024.

In very dry periods generation could be as low as in 2015, when generation was about 40% below average, and in wet periods generation could be as high as in 2017, which provided about 50% above average generation for Palo Alto. Since the cost of the contract does not vary but the electricity provided does, it means that the effective price per megawatt-hour (MWh) for the Base Resource generation is higher in dry years (e.g. it was about \$60/MWh in 2015) and lower in wet years (e.g. it was about \$24/MWh in 2017).

Depending on the year, the average cost of the Base Resource is expected to be between \$35/MWh and \$70/MWh. This cost is estimated to be in the range of other carbon-neutral resources. This resource carries many intrinsic and extrinsic uncertainties; therefore, the long-term cost will need to reflect this uncertainty for this to continue to be an attractive resource for Palo Alto in the future. CPAU is committed to working with WAPA and the USBR to try to make this resource economically viable for all customers.

Base Resource Contract Extension Elements

- 1. Contract Term:** The term will be 30 years, from January 1, 2025 to December 31, 2054, with new contract language clarifying that customers such as Palo Alto have the opportunity to terminate or reduce their contract allocation upon new rates becoming effective, which is currently mandated by the Federal Energy Regulatory Commission (FERC) to occur every five years. The inclusion of this termination provision is a key mechanism or off-ramp the City can use to minimize its long-term risks associated with this contract, in the event that it ultimately becomes uneconomic.
- 2. Customer Communication:** WAPA commits to providing its customers both a 12-month rolling forecast on a monthly basis and a five-year forecast on an annual basis.
- 3. Daily Scheduling:** Customers will be able to submit daily preferred schedules subject to hourly minimum and maximum constraints designated by WAPA. This allows the City to schedule its electricity deliveries at the most economically optimal time of day possible,

¹⁰ A gigawatt hour (GWh) is 1,000 megawatt hours (MWh). A MWh is 1,000-kilowatt hours (kWh).

subject to some operational constraints imposed by the U.S. Bureau of Reclamation.

4. **Exchange Program:** Annual and seasonal exchange program to allow exchanges with other customers to maximize economic value. The City and other customers currently use this provision to exchange energy to modestly improve the economics of the project for all involved.
5. **Rates:** Customers are obligated to pay their percentage share of WAPA's costs based on their allocation, regardless of Base Resource generation amount.

Risks and Uncertainties of the Base Resource Contract

Since Base Resource allocations are take-or-pay and subject to water supply conditions, water needs, and other costs to maintain the projects and the environment, this contract has several risks and uncertainties around it.

Staff has undertaken significant analysis regarding what if any portion of the WAPA Base Resource Contract should be renewed in 2025, in the [Electric Integrated Resource Plan](#)¹¹ and successive studies. While the WAPA Base Resource Contract could continue to be competitive from 2025 and beyond, the magnitude of the remaining uncertainties is large enough to potentially make other resources more attractive for Palo Alto. Given these unique external uncertainties, staff recommends generating and assessing real alternative options which could replace the WAPA Base Resource Contract and come online by the beginning of 2025. Staff also engaged extensively with [USBR Commissioner Burman's CVP Power Initiative](#)¹², which identified several areas for ongoing work.

There are several factors which could make this WAPA 2025 CVP Base Resource Contract a less competitive resource in the future. Some of the most important sources of uncertainty are listed below.

1. Uncertainties Around Costs:

- Costs of [Central Valley Project Improvement Act \(CVPIA\)](#)¹³ Restoration Fund
 - Cost allocation proceedings and development of business practice guidelines are underway
 - Implementation of proportionality in cost allocation method as a result of the NCPA vs. U.S. litigation (CVPIA)
- [Costs of CVP](#)¹⁴
 - [Aid to Irrigation accumulated costs subject to repayment](#)¹⁵
 - Upcoming unbudgeted capital improvements

2. Uncertainties in Quantity of Generation:

¹¹ <https://www.cityofpaloalto.org/civicax/filebank/documents/67114>

¹² <https://www.usbr.gov/mp/docs/hydro-memo.pdf>

¹³ <https://www.usbr.gov/mp/cvpia/index.html>

¹⁴ <https://www.usbr.gov/mp/cvp/cvp-cost-allocation.html>

¹⁵ <https://www.wapa.gov/regions/SN/rates/Documents/aid-to-irrigation-03192018.pdf>

- Impacts of [Biological Opinion for Initiation of Reconsultation on the Long-Term Operation of the Central Valley Project and the State Water Project](#)¹⁶
- Impacts of the [updated Water Quality Control Plan for the San Francisco Bay/Sacramento–San Joaquin Delta Estuary \(Bay-Delta Plan\)](#)¹⁷
- Impacts of climate change

3. Uncertainties in Value of Generation:

- Impacts of [Biological Opinion for Initiation of Reconsultation on the Long-Term Operation of the Central Valley Project and the State Water Project](#)¹⁸
- Impacts of the [updated Water Quality Control Plan for the San Francisco Bay/Sacramento–San Joaquin Delta Estuary \(Bay-Delta Plan\)](#)¹⁹
- Impacts of climate change
- Impacts of the [Western Energy Imbalance Market](#)²⁰ (which the Sierra Nevada Region of WAPA will join in 2021) and the [Extended Day Ahead Market](#)²¹
- Value of avoided carbon emissions

The magnitude of the market and regulatory uncertainties should lessen in the 2023 to 2024 timeframe, and staff will evaluate what percentage of the WAPA contract to take by considering: cost certainty, term flexibility, portfolio diversification, portfolio fit, additionality of carbon-free energy, and environmental impacts or benefits.

After using these criteria to select the most promising alternative resources to replace some or all of the WAPA Base Resource contract, staff will undertake further detailed modeling of these options using the most recent market and regulatory trends to make a final recommendation to Council on this contract and other power supply contract options by June 30, 2024.

RESOURCE IMPACT

The City's current contract allocation is 12.30917%, with this extension it will be reduced to 12.06% allocation of the base resource from WAPA. If costs were to stay the same at approximately \$13.3M, then based on the new allocation the estimated cost would be about \$13 million per year.

Staff will continue to work with WAPA to preserve value and control costs, while also evaluating alternative supply options. The alternative resource analysis is expected to be completed using existing staff resources; any additional resource needs will be requested during the annual City

¹⁶ <https://www.fisheries.noaa.gov/resource/document/biological-opinion-reinitiation-consultation-long-term-operation-central-valley>

¹⁷ https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/

¹⁸ <https://www.fisheries.noaa.gov/resource/document/biological-opinion-reinitiation-consultation-long-term-operation-central-valley>

¹⁹ https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/

²⁰ <https://www.westerneim.com/pages/default.aspx>

²¹ <http://www.caiso.com/StakeholderProcesses/Extended-day-ahead-market>

budgeting process. This 2025 WAPA Base Resource contract extension will take effect in January 2025 and will be budgeted for using forecasts for generation and costs at that time, unless the City modifies or terminates at any point before June 30, 2024.

POLICY IMPLICATIONS

These programs are consistent with the Utilities Strategic Plan, the Sustainability Implementation Plans, and the City's Sustainability and Climate Action Plan (S/CAP).

ENVIRONMENTAL REVIEW

The City Council's approval regarding execution of this contract extension does not require California Environmental Quality Act review, because it does not meet the definition of a project under Public Resources Code Section 21065 and CEQA Guidelines Section 15378(b)(5), as an administrative governmental activity which will not cause a direct or indirect physical change in the environment. WAPA's 2025 Power Marketing Plan authorizing the contract has a Categorical Exclusion from National Environmental Policy Act (NEPA) review since WAPA is reallocating its existing resources and is not planning to increase its generation or transmission.

Attachments:

- Attachment A: Resolution WAPA 2025 Agreement

* NOT YET APPROVED *

Resolution No. _____

Resolution of the Council of the City of Palo Alto Approving the Execution of Contract 20-SNR-02365 United States Department Of Energy Western Area Power Administration, Sierra Nevada Region, Contract For Electric Service Base Resource With City Of Palo Alto to Preserve the City’s Options to Maintain, Terminate, or Reduce its Allocation Until June 30, 2024

R E C I T A L S

A. The City of Palo Alto (“City”), a municipal utility and a chartered city, is a “Preference Customer” of the Western Area Power Administration (“WAPA”) of the United States Department of Energy; and

B. The City’s existing 20-year power supply contract with WAPA expires on December 31, 2024; and

C. The WAPA 2025 Power Marketing Plan gave the City the right to negotiate post-2024 contract(s) in accordance with the WAPA 2025 Power Marketing Plan; and

D. The City, other WAPA customers, and WAPA have been working together to formulate the new Electric Service Base Resource Contract in accordance with the 2025 Power Marketing Plan; and

E. Contract 20-SNR-02365 for Electric Service Base Resource expressly preserves the City’s option to maintain, terminate or reduce the base resource percentage up to the full generation available, a 12.06299% share, before June 30, 2024.

F. NOW, THEREFORE, the Council of the City of Palo Alto does hereby RESOLVE as follows:

SECTION 1. The Council hereby authorizes the City Manager on behalf of the City to execute the attached Contract 20-SNR-02365 for Electric Service Base Resource between the United States Department of Energy, Western Area Power Administration, Sierra Nevada Region, and the City of Palo Alto (Linked Here).

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* NOT YET APPROVED *

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SECTION 2. The Council finds that the adoption of this resolution regarding execution of this contract extension does not require California Environmental Quality Act review, because it does not meet the definition of a project under Public Resources Code Section 21065 and CEQA Guidelines Section 15378(b)(5), as an administrative governmental activity which will not cause a direct or indirect physical change in the environment. WAPA’s 2025 Power Marketing Plan authorizing the contract has a Categorical Exclusion from National Environmental Policy Act (NEPA) review since WAPA is reallocating its existing resources and is not planning to increase its generation or transmission.

INTRODUCED AND PASSED:

AYES:

NOES:

ABSENT:

ABSTENTIONS:

ATTEST:

City Clerk

Mayor

APPROVED AS TO FORM:

APPROVED:

Deputy City Attorney

City Manager

Director of Utilities

Director of Administrative Services