



# Memorandum

**TO:** HONORABLE MAYOR  
AND CITY COUNCIL

**FROM:** Lori Mitchell

**SUBJECT:** Willow Rock Long Duration  
Energy Storage Agreement

**DATE:** March 16, 2026

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Approved

Date:

3/17/26

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**COUNCIL DISTRICT:** Citywide

## **RECOMMENDATION**

Adopt a resolution authorizing the Director of the Energy Department or their designee to negotiate and execute the following two related agreements for the procurement of a share of the GEM A-CAES LLC (Willow Rock) long-duration storage project, with any non-material modifications developed, as appropriate, in consultation with the City Attorney, and subject to the annual appropriation of funds, in an amount not to exceed \$3,960,000 annually and \$79,200,000 in aggregate in Calendar Years 2030 through 2050:

- (a) Project Participation Share Agreement between California Community Power, the City of San José, CleanPowerSF, Peninsula Clean Energy, Redwood Coast Energy Authority, Silicon Valley Clean Energy, and Valley Clean Energy; and
- (b) Buyer Liability Pass Through Agreement between California Community Power, GEM A-CAES LLC (or its affiliate), and the City of San José.

## **SUMMARY AND OUTCOME**

By executing the Project Participation Share Agreement (PPSA) and the Buyer Liability Pass Through Agreement (BLPTA), the City of San José (City) would procure a share of the advanced compressed air energy storage system (A-CAES) GEM A-CAES LLC project (Willow Rock), an affiliate of Hydrostor Inc. (Hydrostor). Entering into these agreements would cost San Jose Clean Energy (SJCE) slightly under \$4 million dollars annually and approximately \$79 million dollars over the 20-year delivery term of the agreement. The Willow Rock project would be the fifth power project offtake agreement procured through California Community Power (CC Power), a joint powers authority of which the City is a member. SJCE, administered by the Energy Department

(Department), will be a participating share taker along with five other participating Community Choice Aggregators (CCAs).

This project contributes towards: 1) the ability of SJCE to meet its Resource Adequacy requirements in years 2030 through 2050; 2) the ability of SJCE to comply with procurement requirements of the California Public Utilities Commission (CPUC); 3) reducing SJCE's risk of high energy costs, particularly during expensive and volatile hours in the summer months; and 4) energy storage technology diversity with respect to the SJCE portfolio.

## **BACKGROUND**

### ***CPUC Resource Adequacy Slice-of-Day Requirements***

On June 23, 2022, the CPUC released Decision 22-06-050 adopting a Resource Adequacy Reform Track Framework. In this decision, the CPUC adopted a new regulatory framework for Resource Adequacy, a program to ensure that there are sufficient power resources to reliably meet demand. The regulatory framework requires load serving entities to show they have contracted with sufficient resources to meet their demand every hour of the day, on the peak day of each month.

Under this framework, the Willow Rock facility can be available for eight hours of the day to help meet resource adequacy requirements. This technology can be charged during periods of excess grid energy (e.g., during solar hours) and discharged as needed (e.g., during peak evening demand). By charging during periods of excess renewables and offsetting natural gas resources during its discharge cycle, this technology will increase grid reliability while decreasing system emissions.

### ***CPUC Procurement Mandate and SJCE Integrated Resource Planning***

On June 6, 2021, the CPUC issued Decision 21-06-035 Requiring Procurement to Address Mid-term Reliability (2023-2026) in the Integrated Resource Planning proceeding, due in part to the expected phased retirement of the Diablo Canyon Power Plant in 2024 and 2025.<sup>1</sup> That decision requires all load serving entities to procure their proportional share of 11,500 megawatts of Resource Adequacy from new, renewable, or zero carbon emitting resources or energy storage. The resources procured must be from long-term agreements that come online over the period of calendar years 2023 through 2026. The CPUC assigned SJCE 247 megawatts of this procurement requirement. A subset of the 247 megawatts includes 21.5 megawatts that must be sourced from long-duration storage resources.

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<sup>1</sup> CPUC Decision 23-12-036 extended the continued operation of Diablo Canyon Power Plant beyond the originally planned closure. The incremental procurement requirement from Decision 21-06-035 was not modified.

On February 2, 2023, the CPUC issued Decision 23-02-040 that extended the deadline for part of this requirement to 2028. That decision also added to the procurement requirements in Decision 21-06-035, that all load serving entities must procure their proportional share of 4,000 megawatts of resource adequacy. The CPUC assigned SJCE 80 megawatts of this additional procurement requirement.

On February 20, 2024, the CPUC issued Decision 24-02-047, allowing an extension for long duration storage resources to come online no later than June 1, 2031. Willow Rock qualifies as a long-duration storage resource necessary to meet this CPUC procurement mandate.

On February 26, 2026, the CPUC issued Decision 26-02-057 requiring 2029-2032 electric resource procurement and transmitting portfolios for 2026-2027 transmission planning process. This decision requires all load serving entities to procure their proportional share of 6,000 megawatts of new incremental resource adequacy. The resources procured must be pursuant to long-term agreements that come online over the period of calendar years 2030 through 2032. The CPUC assigned SJCE 129 megawatts of this procurement requirement and 32 of those megawatts must come from firm clean resources or long-duration storage.

### ***Solicitation***

CC Power issued a 2024 Request for Proposals on behalf of participating members seeking proposals for renewable generation and capacity resources, including long duration storage. Nearly 22 entities submitted 61 unique project offers in response to the solicitation. Willow Rock was selected pursuant to this solicitation.

### ***Risk Oversight Committee Review***

On March 25, 2026, the City Manager's Risk Oversight Committee recommended that the Energy Department submit to City Council for approval a resolution as described in the Recommendation section of this memorandum.

## **ANALYSIS**

### ***Benefits of the Agreement***

Key benefits of these agreements include:

- Contribute to the storage needs identified in SJCE Integrated Resource Plan and is consistent with the anticipated deployment of long-duration storage under the state's least-cost new resource buildout (CPUC Ruling 25-06-019).
- Provide coverage under the CPUC Decision Requiring 2029-2032 Electric Resource Procurement and Transmitting Portfolios for 2026-2027 Transmission Planning Process.

- Contributes to SJCE annual and monthly regulatory requirements under the Slice-of-Day Resource Adequacy program.
- Demonstrate leadership in the adoption of a leading-edge technology that can help avoid concentration in lithium-ion battery technology.
- The entire Willow Rock project is expected to create high value jobs in Kern County, contributing approximately 275 to 750 construction jobs (average to peak) and an expected 40 permanent jobs, plus indirect jobs.
- Hydrostor intends to use domestic manufacturers where possible.

### ***Portfolio Fit***

#### SJCE Integrated Resource Plan

In accordance with state law and SJCE Risk Management Regulations, the Department developed the 2022 SJCE Integrated Resource Plan to identify a least-cost portfolio build out designed to reliably and affordably achieve specified emission-reduction targets. In 2024, the Department updated its analysis, incorporating the transition to the Slice-of-Day approach for Resource Adequacy in preparation for the 2024 Integrated Resource Planning cycle. However, the CPUC subsequently postponed the Integrated Resource Plan filing requirement until mid-2026.

Both the 2022 Integrated Resource Plan and the 2024 analysis concluded that a least-cost portfolio should include energy storage systems. In addition, as of January 2026, the CPUC published a state-wide least cost portfolio to help inform individual planning exercises, which includes an increasing amount of long-duration energy storage. Staff expects energy storage, across a range of technologies and durations, to remain a key component of future portfolio buildout. This facility will contribute to that buildout.

#### Resource Adequacy

This project would provide SJCE with Resource Adequacy that can be counted toward its hourly requirements for up to eight hours each day under the CPUC's Slice-of-Day framework. Given California's current resource mix, the most challenging periods to meet Resource Adequacy requirements occur during the late summer evenings hours, when solar generation declines and system demand remains high. The Willow Rock energy storage system will allow SJCE to charge from the grid during hours of excess renewable generation and discharge during periods of low renewable generation and high demand, including the evening ramp. Because of this, the project will support compliance with the Resource Adequacy requirements during the most constrained hours of the day.

#### Energy Supply

The financial settlement provisions in these agreements will allow SJCE to mitigate exposure to periods of high energy costs. Under the California Independent System

Operator (CAISO) tariff, facilities with a Resource Adequacy obligation must offer energy into the day-ahead market. CAISO dispatches resources using a least-cost model, typically prioritizing renewables first before turning to more expensive resources such as natural gas facilities.

Because the facility has a Resource Adequacy obligation, it must offer energy into the day-ahead market. When CAISO awards the facility, the resulting financial settlement compensates SJCE, helping offset the energy costs incurred to serve customer load, including peak demand hours.

### ***Technology, Advanced Compressed Air Energy Storage***

The A-CAES stores energy by using electricity during periods of low demand or excess supply to compress ambient air. The compression process generates heat, which is captured and stored for later use. The compressed air is then stored in a purpose-built underground cavern until electricity is needed.

When energy is required, the compressed air is released from the storage cavern and flows back to the surface under the pressure of the connected surface water reservoir. The stored heat generated during the charging process is added back to the compressed air, which drives a turbine to generate electricity.

Because the system maintains steady pressure using water, nearly all of the air can be recovered and used to generate electricity. This differs from traditional compressed air energy storage systems, which must retain a significant portion of the air to maintain minimum operator pressure. This feature of A-CAES greatly reduces storage volume requirements as compared to traditional compressed air energy storage systems.

### ***Energy Storage Safety***

The A-CAES process is an inherently low-risk process configuration using standard mechanical equipment and no hazardous chemicals or fuels. The process relies only on air and water, and these fluids are compressed at relatively low process pressures and temperatures. The risk profile of an A-CAES facility is generally related to mechanical failure of parts like vessels and piping, similar to a thermal power plant, but without fuel-related or combustion hazards. This gives A-CAES a relatively lower technology-related safety risk as compared to certain chemical storage technologies. The subsurface storage is well understood and uses cavern construction techniques designed for the much more rigorous requirements of hydrocarbon storage rather than the limited risk of air and water at balanced natural hydrostatic pressures at depth. There is very little risk associated with the long-term operations of A-CAES, and it does not rely on combustible materials and does not have the risk of fire or thermal runaway of the stored energy.

### ***Project Developer***

The ultimate parent of Willow Rock is Hydrostor Inc., a developer and technology provider for utility-scale energy storage facilities. Hydrostor was founded in 2010 and is headquartered in Toronto, Canada. Hydrostor has successfully developed one small-scale A-CAES project in Ontario, Canada, and has a 200-megawatt A-CAES facility under development in Australia.

### ***Project Terms and CC Power Agreement Structure***

CC Power is a Joint Powers Authority comprised of CCAs in northern and central California.<sup>2</sup> CC Power was formed to allow CCAs to jointly procure projects to take advantage of potential economies of scale.

The contracting structure with CC Power includes three separate agreements, each among different entities, that work in tandem. The structure establishes CC Power as the buyer of the storage services, in this case, resource adequacy and a financial energy settlement. The seller has direct recourse through CC Power to each participating CCA for its share of the contract payments, but this recourse is limited to only that CCA's share. Each participating CCA receives from CC Power its related share of the contract benefits. CC Power has no assets but is required to maintain an appropriate suite of insurances. Finally, each CCA commits to assuming no more than 25% above its initial share of the contracted costs and benefits if one or more of the other participating CCAs default.

#### ***1. Power Purchase Agreement (Resource Adequacy and TB4 Agreement)***

This agreement is between CC Power and Hydrostor's special purpose entity Willow Rock (more specifically, GEM A-CAES LLC, or Seller) and requires Seller to schedule the energy in the CAISO market while conveying the Resource Adequacy attributes and day-ahead energy revenues to CC Power. This agreement is administered by CC Power and governs project development and operational requirements, milestones, price, volumes, term length, payment obligations and other keys terms.

#### ***2. Buyer Liability Pass Through Agreement (BLPTA)***

Each BLPTA is signed by CC Power, Seller and a single participating CCA, and each BLPTA mirrors the liability a participating member would have if executing its share of the power purchase agreement with Willow Rock directly. Through the agreement, each participating CCA guarantees CC Power's payment obligations relative to its share of the project. In exchange, the developer agrees to release CC Power from liability and limit recovery of damages from each CCA proportional to their respective share of

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<sup>2</sup> <https://cacommunitypower.org/members/>

capacity in the power purchase agreement. In total, CC Power and Seller will execute six BLPTAs, one with each participating CCA.

### *3. Project Participation Share Agreement (PPSA)*

This agreement is signed by CC Power and all participating CCAs and requires each CCA to agree to fund its share of CC Power's payment obligations to Seller under the Power Purchase Agreement. The PPSA also addresses how participating CCAs will: 1) share the energy settlement revenues; 2) direct CC Power's actions under the Power Purchase Agreement; and 3) step in, within a cap, to cover any member default to avoid a CC Power default under the Power Purchase Agreement.

The form of the BLPTA is Exhibit L in the Power Purchase Agreement (RA+TB4 Agreement).

**Table 1: CCAs Participating in the Willow Rock Project**

<b>CCA</b>	<b>Financial Strength</b>
Clean Power SF (City and County of San Francisco Program, administered by the San Francisco Public Utilities Commission)	Investment Grade Credit Rating
Peninsula Clean Energy	Investment Grade Credit Rating
Redwood Clean Energy Authority	Unrated (small share of project)
San José Clean Energy, City of San José Program, administered by the Department	Investment Grade Credit Rating
Silicon Valley Clean Energy	Investment Grade Credit Rating
Valley Clean Energy	Investment Grade Credit Rating

*Project terms:*

- Maximum annual cost to SJCE: up to \$3,960,000.
- Maximum total contract cost to SJCE: up to \$79,200,000.
- Delivery Term: 20 years.
- Development and performance security consistent with industry standards.
- A failure to deliver resource adequacy results in no payment for the service and could result in penalties.
- Payment for the services after they are delivered.
- Buyers may terminate the agreements for certain performance failures.

Additional agreement terms can be found in 'Attachment - Summary of Material Terms for the Hydrostor Agreements'

### ***Workforce, Environment and Community Engagement***

The Department finalized the San José Clean Energy Power Workforce and Environmental Stewardship Project Selection Criteria in May of 2025<sup>3</sup>, which was after the CC Power solicitation in which Willow Rock was selected for procurement. However, Department staff reviewed Willow Rock status related to the criteria and reports that the project:

- will be built using union labor via a project labor agreement that will include goals for use of local and apprentice workers;
- has a low likelihood of affecting sensitive habitats or species, and any impacts will be formally mitigated;
- intends to implement a community benefits plan for the local community including financial investments in Kern County; and
- is in California and within California Independent System Operator territory.

Under SJCE's now adopted project selection criteria, Willow Rock scores well in these important categories.

### ***Climate Smart San José Analysis***

Proceeding with the agreements with Willow Rock promotes the City's ability to provide power to SJCE customers at a reasonable price.

### **EVALUATION AND FOLLOW-UP**

No additional follow-up is expected at this time.

### **FISCAL IMPACT**

Entering into these agreements will cost the City \$3,960,000 annually, beginning in 2030.

Funding for these agreements will be recommended to be included in the San José Clean Energy Operating Fund as part of future budget processes beginning with the development of the 2029-2030 Proposed Operating Budget and will be subject to the appropriation of funds. The Department recommends SJCE customer rates to City Council on an annual basis, considering the Department's costs, including power costs of all its agreements.

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<sup>3</sup> <https://sanjose.legistar.com/View.ashx?M=F&ID=14145212&GUID=5C39D187-D67C-465B-A844-F1FF6ED29BD5>

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### **COORDINATION**

This memorandum has been coordinated with the City Attorney's Office and the City Manager's Budget Office.

### **PUBLIC OUTREACH**

This memorandum will be posted on the City Council Agenda website for the April 7, 2026 City Council meeting.

### **BOARD, COMMISSION, COMMITTEE RECOMMENDATION AND INPUT**

No board, commission, or committee recommendation or input is associated with this action.

### **CEQA**

Not a Project, File No. PP17-003, Agreements/Contracts (New or Amended) resulting in no physical changes to the environment.

### **PUBLIC SUBSIDY REPORTING**

This item does not include a public subsidy as defined in section 53083 or 53083.1 of the California Government Code or the City's Open Government Resolution.

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Lori Mitchell  
Director of Energy

For questions, please contact Paul Innamorato, Deputy Director of Power Resources, Energy Department, at [Paul.Innamorato@sanjoseca.gov](mailto:Paul.Innamorato@sanjoseca.gov) or 408-535-4891.

ATTACHMENT: Summary of Material Terms for the Hydrostor Agreements

## ATTACHMENT - SUMMARY OF MATERIAL TERMS FOR THE HYDROSTOR AGREEMENTS

Together, the following agreements enable California Community Power (CC Power) and participating CCAs to procure and share the benefits and obligations of Hydrostor's special purpose entity Willow Rock Energy Center, GEM A-CAES LLC (Seller) while allocating financial responsibilities, governance, and risk among the parties.

Agreement	Purpose	Key Parties	Key Function
Power Purchase Agreement	Governs project delivery	CC Power & Seller (Willow Rock)	Sets terms for development, operations, pricing, capacity, and payments
Buyer Liability Pass Through Agreement	Allocates liability to CCAs	CC Power, Seller, The City of San José	Assigns each CCA its share of payment obligations and limits CC Power liability.
Project Participation Share Agreement	Allocates costs and governance among CCAs	CC Power & participating CCAs, including The City of San José	Defines cost sharing, revenue allocation, governance, and member default backstop.

**Buyer:** California Community Power, a California joint powers authority (JPA)

**Seller:** GEM A-CAES LLC, a Delaware limited liability company

**Project Participants:** The City of San José, a California Municipal Corporation as well as The City and County of San Francisco acting by and through its Public Utilities Commission (CleanPowerSF), Peninsula Clean Energy Authority, a California JPA, Redwood Coast Energy Authority, a California JPA, Silicon Valley Clean Energy, a California JPA, and Valley Clean Energy, a California JPA.

**Products:** Capacity Attributes including Resource Adequacy and Energy Settlement Revenue

**Facility:** Seller will develop, design, permit, construct, own, and operate an advanced compressed air energy storage system located in Kern County, California.

**CAISO Scheduling Coordinator:** Seller will be the CAISO Scheduling Coordinator.

**Delivery Term:** The delivery term for the project is 20 years.

**Guaranteed Commercial Operation Date:** 2030

**City's Maximum Share Pricing:** \$11,227,000 Estimated Annual Cost. \$224,540,000 Maximum Total Cost.

**Events of Default and Termination Rights:** Not disclosed due to commercially sensitive nature.

**Insurance:** Consistent with the requirements approved by Risk Management.

**Prevailing Wage:** The Seller must comply with all applicable federal, state, and local laws, including employment discrimination and prevailing wage laws. Although the Facility is not legally classified as a public work, all construction must (i) follow California prevailing wage requirements and (ii) be performed under a project labor or similar workforce agreement with applicable labor organizations.

**Designated Fund and Appropriation of Funds:** The City of San José is a municipal corporation and is precluded under the California State Constitution and applicable law from entering into obligations that financially bind future governing bodies without an appropriation for such obligation, and, therefore, nothing in the Agreement shall constitute an obligation of future legislative bodies of the City of San José to appropriate funds for purposes of the Agreement; provided, however, that the City of San José has created and set aside a designated fund (being the San Jose Energy Operating Fund established pursuant to City of San Jose Municipal Code, Title 4, Part 63, Section 4.80.4050 *et. seq.*) (“Designated Fund”) for payment of its obligations under this Agreement. The City of San José’s payment obligations under this Agreement are special limited obligations of San José Clean Energy payable solely from the Designated Fund and are not a charge upon the revenues or general fund of the City of San José or upon any non- San José Clean Energy moneys or other property of the Community Energy Department or the City of San José.