

CleanPowerSF Participation in California Community Power's Long-duration Storage Procurement

February 8, 2022



Services of the San Francisco
Public Utilities Commission

CleanPowerSF



Summary

- In June 2021 the California Public Utilities Commission mandated that CleanPowerSF and other power providers procure Long-duration Energy Storage (LDS) resources.
- CleanPowerSF participated in a Request for Offers (RFO) for LDS resources as a member of California Community Power (CC Power).
- Power staff briefed the SFPUC Commission on the status of the CC Power LDS procurement process on Dec. 14th.
- On Jan. 19th CC Power approved its first LDS project from a competitive solicitation, the Tumbleweed LDS project.
- CC Power member agencies, including CleanPowerSF, are now seeking approval from their governing bodies to participate in the Tumbleweed LDS project.

Background: California Community Power or “CC Power”

- Established in February 2021 to leverage the combined buying power of Community Choice Aggregators (CCAs) for energy supply, programs and services.
- CleanPowerSF became a member in April 2021.
 - Commission approved in Resolution No. 21-0023
 - Board approved in Ordinance No. 25-21
- CC Power conducts its business in open meetings – for more info visit: <https://cacommunitypower.org/meetings/>





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Energy Authority



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**California
Community Power
Agency
Membership**

LDS Request for Offers Background & Timeline

June
'20

Joint CCAs issue a Request for Information to understand market opportunity

Oct
'20

Joint CCAs Issue a Request for Offers (RFO) for up to 500 MW of LDS

Feb
'21

California Community Power (CC Power) Formed/Long Duration Storage (LDS) Project Oversight Committee formalized

Jun
'21

LDS Projects Shortlisted, Negotiations start, and begin development of CC Power/Member Agreements

Jun
'21

CPUC Issues Mid-term Reliability Procurement Order – LDS Project Oversight Committee Develop Pathways to Achieve Compliance

Oct
'21 to
Feb
'22

CC Power and individual member agency approval process for LDS Project #1 – LS Power's Tumbleweed



CleanPowerSF Ordered to Procure 15.5 MW of LDS Resources

- On June 24, 2021, CPUC issued Decision D.21-06-035 ordering retail sellers of electricity under its jurisdiction to procure 11,500 MW of new resources, including 1,000 MW of LDS.
- CleanPowerSF's share of the LDS order is 15.5 MW.
- Failure to comply with CPUC procurement order is expected to result in significant cost to CleanPowerSF.
- Tumbleweed project will meet about half of CleanPowerSF's LDS procurement obligation.
- CleanPowerSF will pursue additional procurement through CC Power and independently to meet CPUC order.

LDS RFO Objectives & Specifications

Objectives

- Procure cost-effective LDS to integrate renewables & support grid reliability
- Joint-procurement to share resources and project risk
- Meet regulatory requirements, including procurement mandates

Specifications

- Grid-charged with minimum 8-hour discharge duration
- Located in or able to deliver to California ISO
- Commercial operation date no later than June 1, 2026
- Minimum delivery term of 10 years

LDS RFO Project Conditions

At the April 2021 CC Power Board meeting, the Board passed a resolution adopting Project Conditions for the LDS RFO regarding Workforce, Environmental, and Environmental Justice issues.

- Workforce: Requires prevailing wages; encourages local labor and apprenticeship programs; and states a preference for a Project Labor Agreement, allowing up to 5 points in the evaluation process for a commitment to PLA.
- Environmental: project must meet permitting requirements of local authority(ies); preference for projects that avoid sensitive habitats.
- Environmental Justice: Requires developer to attest to not using forced labor in its supply chain and to identify project benefits to local communities.

Summary of Offers Received

- 51 Entities submitted offers (over 9,000 MW)
- Projects on-line as early as 2023
- Total of 221 unique pricing offers
- 18 distinct technologies within 8 technology types
- 8,10,12-hour, and multi-day discharge durations

Technology Types

Technologies

Battery

Aqueous-air
Flow
Lithium-ion (Li-ion)
Zinc

Chemical Flow

Iron redox flow
Vanadium flow

Compressed Air

Fuel Cell – Hydrogen

Hybrid

Hydrogen, combined-cycle gas gen
Li-ion, combined-cycle gas gen

Mechanical – Gravity

Pumped Hydro

Thermal

Ice (HVAC)
Liquid air
Molten Salt
Molten Salt & gas gen
Volcanic stone
Water heat exchange

CC Power LDS Project #1: Tumbleweed Project by LS Power

- Developer: LS Power/REV Renewables
- Product: 6g MW/552 MWh 8-hour discharge battery
- Location: Rosamond, Kern County, California
- Technology: Lithium-ion
- Commercial Operation Date: 6/1/26
- Price structure: Fixed \$/kilowatt-month
- Proposed contract term: 15 years





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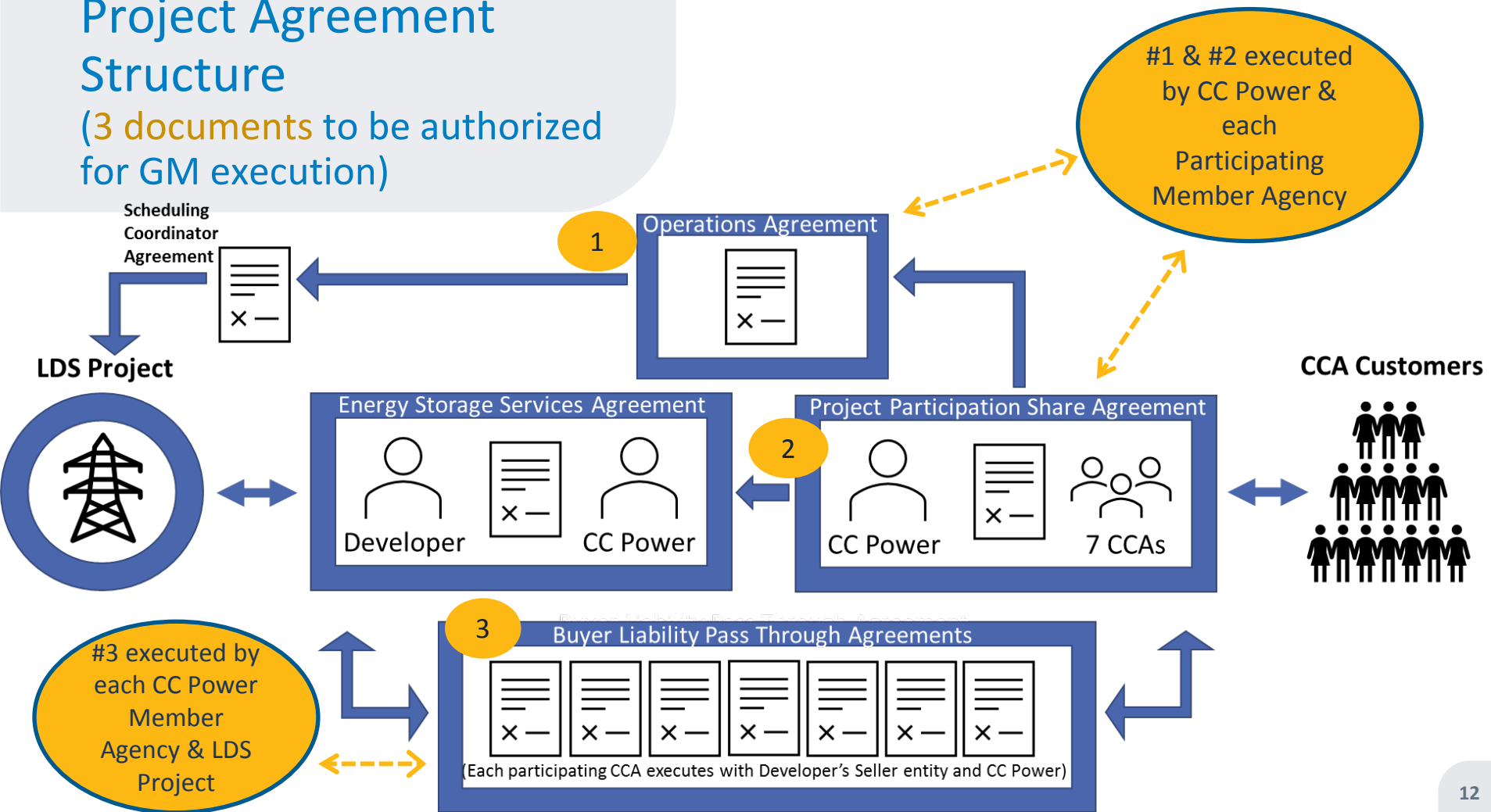


Participants in the Tumbleweed LDS Project



Project Agreement Structure

(3 documents to be authorized for GM execution)



Tumbleweed LDS Project Procurement in Context

CleanPowerSF has:

- 9 contracts with ≈ 658 MW of clean energy capacity under long-term contract of 10-years or more, today.
- Total annual power supply budget of \$200-250 million/year.

Tumbleweed LDS Project:

- Total not-to-exceed cost of \$65 million over a 15-year contract term.

Next Steps

- Participating CC Power members have 90 days from Jan. 24th (April 25th) to execute their required agreements.
- Staff bringing the Tumbleweed LDS Project to the Commission for approval on 2/22.
- If approved by Commission, staff will seek Board of Supervisors and Mayoral approval in March.
- Staff is working with CC Power to bring additional LDS Projects for approval.

Questions?



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