

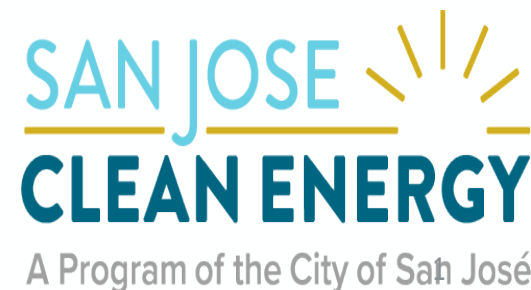
Presentation - est. 10 minutes

AGREEMENTS FOR SOLAR POWER AND BATTERY STORAGE

San José City Council

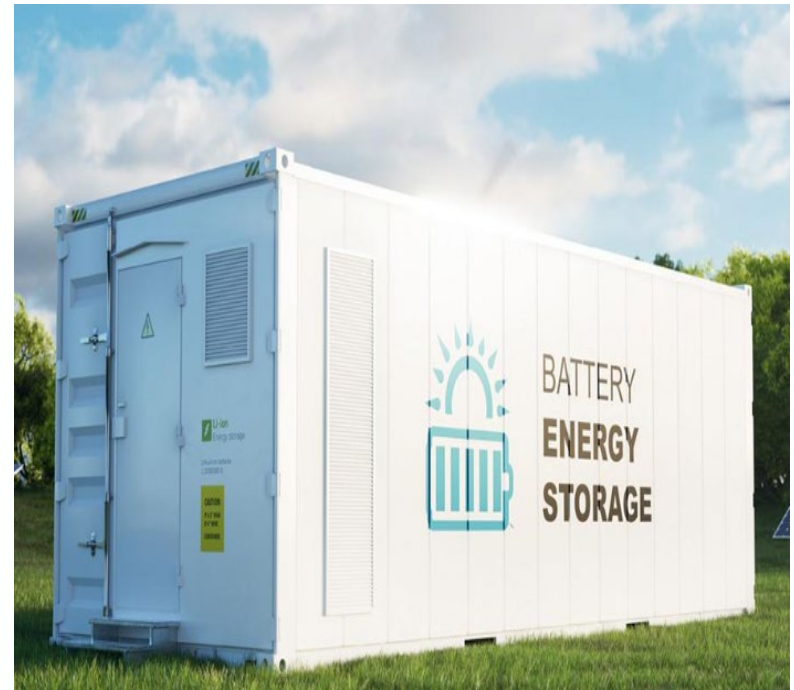
October 25, 2022

Lori Mitchell, Director of Community Energy
Jeanne Solé, Deputy Director of Power Resources
Phil Cornish, Senior Power Resources Specialist
Prachi Avasthy, Division Manager of Risk Management, Contracts & Administration



MID TERM RELIABILITY BACKGROUND

- In February 2022, SJCE and EBCE issued a joint RFO for clean new resources including renewables and batteries with heavy emphasis on Mid-Term Reliability (MTR) compliant projects
 - 27 bidders and 44 projects
 - 10 projects shortlisted
- Recommendations for today:
 - Cascade and Noosa standalone storage projects from Broad Reach Power: RA-only
 - Nova Power standalone storage projects from Calpine Corporation: RA + dispatchable energy
- Staff will return with additional agreements later this year



CPUC PROCUREMENT MANDATE (MID TERM RELIABILITY)

D.21-06-035 (2021) requires SJCE to buy 247 MW of Net Qualifying Capacity (NQC), which is capacity that can be delivered during September peak load:

- 43 MW in 2023: (already procured)
- 129 MW in 2024: (112 MW including today's recommendation)
- 32 MW in 2025: (13 MW including today's recommendation)
- 43 MW in 2026:
 - 21.5 MW Long Duration Storage (already procured through CC Power LDS Solicitation)
 - 21.5 MW Firm Clean Resources (already procured through CC Power FCR Solicitation)

Penalties:

- If SJCE does not procure resources needed ahead of time, PG&E will be required to undertake procurement and the costs will be allocated to SJCE
- Additional penalties could be applied based on the cost of a new battery storage facility

BROAD REACH POWER: CASCADE

Seller: Cascade Energy Storage, LLC

Developer: Broad Reach Power

Technology: Battery Storage

Product: RA (meets CPUC MTR requirement)

Location: San Joaquin County, CA

COD: June 1, 2023

Price: Fixed \$/kw-mo, no escalation

Terms: 10 years

Annual Cost: \$360,000

Total Cost: \$3.6 Million

BROAD REACH POWER: NOOSA

Seller: Noosa Energy Storage, LLC

Developer: Broad Reach Power

Technology: Battery Storage

Product: RA (meets CPUC MTR requirement)

Location: San Joaquin County, CA

COD: June 1, 2024

Price: Fixed \$/kw-mo, no escalation

Terms: 10 years

Annual Cost: \$2.6 Million

Total Cost: \$26 Million

BROAD REACH POWER

- Broad Reach Power is a utility scale independent power producer
 - 350 MW of battery storage in operation
 - Over 10 GW in development pipeline
- At the end of 2021, Broad Reach Power received \$400 Million of equity commitment to accelerate their growth and expansion plans
- Broad Reach Power is not a publicly traded company



Source: Broad Reach Power website

CALPINE CORPORATION: NOVA POWER

Seller: Nova Power, LLC

Developer: Calpine Corporation

Technology: Battery Storage

Product: RA (meets CPUC MTR requirement), SJCE can direct battery operation (SJCE pays for charging and collect revenues from battery discharge, lowers evening energy costs)

Location: Riverside County, CA

COD: June 1, 2025

Price: Fixed \$/kw-mo, no escalation

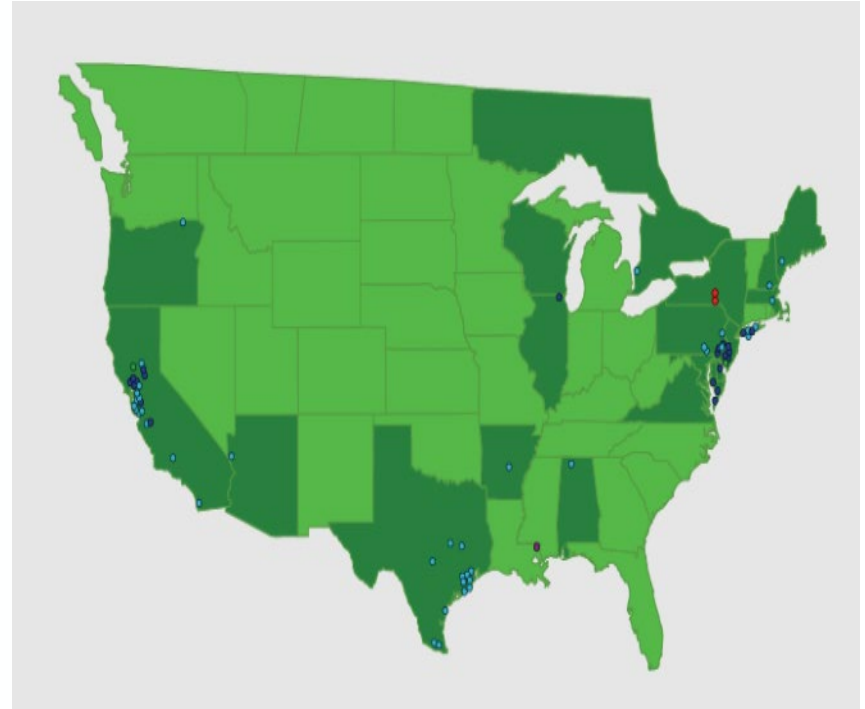
Terms: 15 years

Annual Cost: \$9.9 Million

Total Cost: \$148.5 Million

CALPINE CORPORATION

- Full-service energy company
 - Develops power generation
 - Owns and operates a fleet of natural gas, geothermal, and energy storage projects
 - Sells wholesale and retail electricity
- Calpine has a geographically and technologically diverse portfolio
 - 76 power plants operating or under construction in US and Canada
 - Total generation capacity of approximately 26,000 MW
- Calpine Corporation is a private company with public debt



Source: Calpine website

EDWARDS SOLAR V BACKGROUND

- December 2019, the SJCE signed a PPA with Terra-Gen for Edwards V solar project; Projected Online Date: December 31, 2022.
- March 2022, Terra-Gen informed the Department they would not build the project due to CEQA construction issues.
- Department and Terra-Gen negotiated a replacement package of 4 contracts.
- These replacement agreements:
 - Replace value of the Edwards Solar V PPA
 - Reduce power costs and risks by transitioning to firm renewable energy structure (i.e. 10AM-10PM similar structure to the Edwards IV PPA)
 - Increase renewable energy components and resource adequacy components (from solar and batteries)

TERRA-GEN

- Leading developer, owner, and operator of utility-scale renewable energy projects
- Operating since 2008 with over 1700 MW of operating projects
- Terra-Gen is not a publicly traded company
- Provide firm renewable power contracts



Source: Terra-Gen website

TERRA-GEN: EDWARDS SOLAR V REPLACEMENT PACKAGE

Seller: NTGP Energy Management II, LLC
Enterprise Solar Storage II, LLC
Enterprise Solar Storage III, LLC

Developer: Terra-Gen, LLC

Technology: 4 contracts: renewable energy plus storage

Product: RA (meets CPUC MTR requirement), Firm Renewable Energy

Location: Kern County, CA

COD: Varies, 2023-2026

Price: Fixed \$/MWh for energy and \$/kw-mo for RA, no escalation

Terms: 15 years

Annual Cost: \$23,140,000

Total Cost: \$352,300,000

QUESTIONS?

Recommendations:

Authorize the City Manager or designee to negotiate and execute:

- i. an agreement with Cascade Energy Storage LLC, to buy Resource Adequacy from a battery storage facility,
- ii. an agreement with Noosa Energy Storage LLC, to buy Resource Adequacy from a battery storage facility,
- iii. an agreement with Nova Power, LLC, to buy Resource Adequacy and Dispatchable Energy from a battery storage facility,
- iv. agreements with Terra-Gen to replace the Edwards Solar V PPA.



Source: Terra-Gen website

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