


AGREEMENTS FOR SOLAR POWER AND BATTERY STORAGE

San José City Council

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SAN JOSE 
CLEAN ENERGY
A Program of the City of San José

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

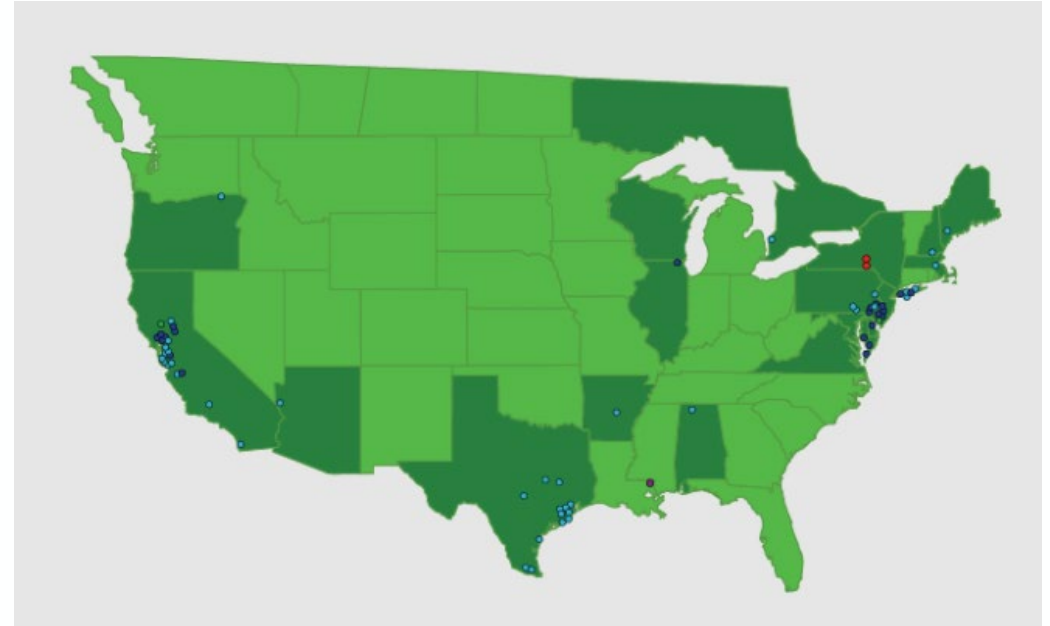
Terms: 15 years

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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