

2023 Long-Term Resource RFO & Bilaterally Negotiated Contracts: Overview & Update

January 10, 2024



Agenda

- 2023 Long-Term Resource Solicitation Overview
- Challenges in Marketplace
- Bilateral Projects Offered
- Discussion of Projects Proposed for January Board Approval
- Reminder: Portfolio Summary

Solicitation Overview

Goals & Objectives

- Secure a portfolio of contracts to provide EBCE customers with affordable renewable and clean energy sources;
- Meet IRP Near- and Mid-Term Resource Adequacy Reliability Procurement mandates;
- Meet current and future CPUC compliance obligations;
- Create new renewable energy projects to deliver PCC1 RECs
- Contract low-cost energy hedges to compliment existing portfolio
- Partner with SJCE for efficiency, to minimize expenses, and lead the market in contract terms.

Project Characteristics

Facilities:

- Location: Projects may be within or outside of California. All energy must be deliverable to CAISO & must provide RA
- Construction Status: Energy and related products may come from new resources or add incremental capacity to existing resources.

Capacity:

- Minimum Contract Capacity: 5 MW
- Maximum Contract Capacity: none

Delivery Date:

- Energy and RPS attribute delivery must be within calendar years 2024 through 2030 with a preference for projects that begin delivery earlier within this window.

Contract Duration:

- 10-20 year durations

Technology:

- Renewables, Large Hydro
- Storage – short or long duration; any technology

Actions

- Issued a broad, open, competitive solicitation to ensure wide array of opportunities considered;
- Evaluated combinations of projects to achieve desired volume targets;
- Typically prioritize project risk, location, workforce development, economics, and other characteristics; limited ability to do so in this RFO due to limited offers in earlier years;
- Encouraged RFO participants to be creative and provide proposal variations on individual projects and include battery storage.

Solicitation Overview - Eligible Products

Product #	Product Name	Description	Example
Product 1	As-Available RPS Product	New or incremental capacity to an existing stand-alone PCC1-eligible generating resource	solar, wind, geothermal, small hydro or ocean (thermal, wave, or current)
Product 2	As-Available RPS plus Energy Storage	New or incremental capacity to an existing stand-alone PCC1-eligible generating resource with co-located energy storage	Same as above plus storage with 2-hr, 4-hr, or 4-hr+ duration capability
Product 3	Firm or Shaped RPS Product	New PCC1-eligible generating resources; likely paired with energy storage	Energy delivered during specific hours
Product 4	Stand-Alone Energy Storage Toll	Energy storage may offer a full product “tolling” structure contract. RA-only offers <i>not</i> accepted in this RFO	Any storage technology with 2-hr, 4-hr, or 4-hr+ duration capability

Evaluation Process

- **Evaluation Rubric scored 3 areas:**
 - Counterparty Execution, Offer Competitiveness, and Project Development Status
 - Multiple items under each area
- **Two reviewers were assigned to each project.**
- **Staff reviewed all submitted information and provided scores for all categories and NPV.**
 - Each item has 100 point max. at its own weighting.
 - Term Sheet Markups were scored by one assigned reviewer.
 - NPV scores were directly incorporated into overall project score with a weighting of 55%.
 - The Net Present Value was calculated based on simulations on 6 different forward curves
 - For each forward curve we took a weighted average of the P5 (50%), P50 (30%), and P95 (20%); and then took a simple average across the 6 curves
 - We normalized this number on a \$/MW basis and the projects were then assigned a 0-55 score based on the NPV distribution
 - Other factors considered in qualitative evaluation were Counterparty Execution Risk (20 points), Development Status Risk (20 points) and Local Business Enterprise (4 points) and Small Business Enterprise (1 point)
- **Scoring and rubric were similar to the selection process for previous RFOs**
 - Previous RFOs used 3 forward curves, this RFO featured 6 curves each representing a unique scenario
 - Minor changes were made to weighting of local projects, including addition of points for small businesses

Challenges in the Marketplace

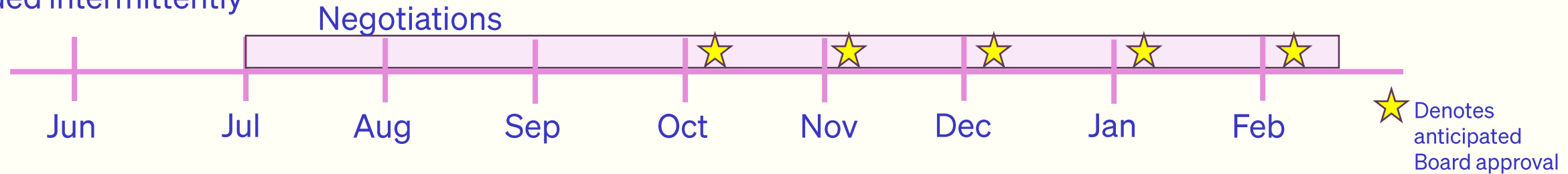
- Ongoing supply chain disruption & delays
- Uncertainty related to future tariffs for core components
- Result: suppliers of core components pricing using Index structure; many Project Developers unwilling to take on price risk thus requiring pricing using index also or extreme mark-ups in price to cover risk
- General: prices for generation and storage resources have increased 30-40% since ~2020.
- Rising interest rates create risks

Overview of Planned Procurement

- Procurement targets:
 - Generation: up to 1000 MW of nameplate capacity
 - Storage (paired &/or stand-alone): up to 500 MW of nameplate capacity
- Online Dates: 2025 - 2030

Status of Negotiations

Project Shortlisting
Began; add'l projects
added intermittently



- Limited number of Projects have dropped from shortlist, including the only in-territory shortlisted project
- Interest rate increases create pressure and uncertainty for developers. High likelihood of credit defaults in coming months.
 - “A perfect storm or rising interest rates, bleaker economic outlook, weakening credit quality, are setting the stage for speculative-grade downgrades and defaults in the year ahead” – Moody’s Investors Service
- Strong competition among buyers for most desirable projects

Bilateral Project Offers

- **Background: CAISO Transmission Plan Deliverability (TPD) Allocation**
 - Generation & storage projects under development can seek Deliverability (i.e. the ability to provide Resource Adequacy) from the CAISO
 - Projects are more likely to be granted Deliverability if they have executed offtake agreements
 - Evidence of contract or status of offtake due to CAISO in mid-February
- **Benefits to Ava of Executing “TPD Deals”**
 - Multiple developers proposed TPD deal structures
 - Staff focused on viable projects, project fit in Ava portfolio, & desirability of commercial terms
 - *Most* TPD deals will be structured as options
 - Guaranteed benefit to Ava customers if projects are granted Deliverability
 - TPD deals are compared against projects offered into RFO to ensure portfolio value

Projects Proposed for Execution

Seeking approval for four contracts:

One power purchase agreement (PPA) submitted into Ava and SJCE's joint 2023 Long-Term Resource RFO

- 20-year, 38 MW solar + 38 MW/152 MWh storage contract for energy, environmental attributes, and resource adequacy (RA) from a facility in Merced County with Longroad Energy. Online April, 2027.

Three* agreements proposed to Ava bilaterally

- 20-year, 240 MW contract for energy, environmental attributes, and RA from a wind farm in the state of Baja California, Mexico. Online
- 10-year, 90 MW RA-only contract from a battery storage facility in Alameda County. Online
- 10-year, 200 MW/800 MWh RA-only contract from a battery storage facility in Fresno County

* Additional project may be brought to Board in January

Longroad Energy Project Details



- Selected via the 2023 EBCE-SJCE Long-Term Resource RFO
- Contract for 38 MW of nameplate capacity including energy, environmental attributes, and Resource Adequacy and 38 MW/152 MWh battery storage
- Facility in Merced County
- Total project size is 75 MW; SJCE is other offtaker
- 20-year contract
- Expected Commercial Operation Date is April 1, 2027
- Project has an executed interconnection agreement and site control
- Committed toward paying prevailing wages and seeks union labor
- The contracting entity under Zeta Solar, LLC.

Longroad Energy - Company Overview



- Longroad is led by former executives of First Wind Energy.
- Longroad was founded in 2016 and focuses primarily on the development and operation of utility-scale wind, solar, and battery energy storage projects throughout the United States.
- Since 2019, Longroad has brought eleven major projects to COD, including 1.9 GW of solar projects.
- Longroad is currently contracted to operate 3.5 GW of operating or under-construction solar and wind projects across the United States, of which Longroad owns 1.8 GW.
- Longroad has some experience with CCAs; owns and operates at least 1 executed contract with CCAs:
 - PPA with MCE that achieved COD in 2020

IGNIS – Wind Project Details



- Project offered bilaterally; aim to obtain CAISO TPD Deliverability allocation
- Contract for 240 MW of nameplate capacity including energy, environmental attributes, and Resource Adequacy
- Wind facility in the Tecate Municipality, state of Baja California, Mexico
- Total project size will be 1 GW
- 20-year contract
- Expected Commercial Operation Date is September, 2028
- Project has site control; interconnection agreement is in progress
- Under discussion: Ava prioritization of prevailing wages and importance of union labor to the extent available
- The contracting entity will be identified prior to Ava's January Board meeting.

IGNIS - RA-only Storage Project Details



- Project offered bilaterally; aim to obtain CAISO TPD Deliverability allocation
- Contract for Resource Adequacy from a 90 MW battery storage facility
- Battery storage facility will be sited in Alameda County
- 10-year contract
- Expected Commercial Operation Date is July, 2026
- Project has site control; interconnection agreement is in progress
- Committed toward paying prevailing wages and seeks union labor
- The contracting entity will be Reclaimed Wind, LLC.

IGNIS – Company Overview



- IGNIS is a privately-owned developers and operators of wind, solar, natural gas, combined heat and power, and energy storage projects
- Company is lead by former Iberdrola and Bank of America executives
- Founded in 2015, IGNIS's global development team includes 135 people
- IGNIS has developed 1,143 MW of resources. Its development portfolio in Spain includes 25 GW of new resources; the international development portfolio include 15 GW of new resources, 2,430 MW of which are in the United States
- IGNIS is currently co-developing a wind farm in Alameda County, CA

Clearway Project Details



- Project offered bilaterally; aim to obtain CAISO TPD Deliverability allocation
- Contract for Resource Adequacy from a 200 MW battery storage facility
- Facility in Fresno County
- Total project size is tbd at this time
- 10-year contract
- Expected Commercial Operation Date is December, 2032
- Project has site control; interconnection agreement is in progress
- Committed toward paying prevailing wages and will seek union labor
- The contracting entity under Sequoia Renewable LLC.

Clearway - Company Overview



- Clearway Energy Group is one of the largest renewable energy companies in the US and is made of up the former NRG Renewables platform
- 4.1GW of projects in operations (over 330 projects) and over 9GW in development, including both solar and wind assets
- Large office in San Francisco (6 offices across the US) with 600 employees overall
- Clearway has a strong track record in CA and experience with CCAs, including Ava. Projects include:
 - Golden Fields Solar (112 MW)
 - Daggett 3 Solar+Storage (50 MW; 12.5MW/50MWh)

Portfolio Summary

Project Name 1	Project Name 2	Developer	Type	Nameplate Capacity	COD	Term (Years)	Technology	County	State
Altamont	SHWEC	Greenbacker	RPS	57.5	7/2/2021	20	Wind	Alameda	CA
Rosamond Central	Golden Fields	Clearway	RPS	112	12/22/2020	15	Solar	Kern	CA
Pattern	Tecolote	Pattern	RPS, no RA	100	12/20/2021	10	Wind	Guadalupe & Torrance	NM
Luciana	Tulare	Idemitsu	RPS	56	4/30/2022	15	Solar	Tulare	CA
Henrietta D	Henrietta	Convergent	Storage	10	12/2/2021	15	Storage	Kings	CA
Daggett South	Daggett	Clearway	RPS+Storage	50	9/5/2023	15	Solar + Storage	San Bernadino	CA
RE Scarlet	Sonrisa	EDPR	RPS+Storage	100	12/15/2023	20	Solar+Storage	Fresno	CA
Oberon	Oberon	Intersect	RPS+Storage	125	1/1/2024	15	Solar	Riverside	CA
Edwards Solar II	Edwards	Terra Gen	RPS	100	Q2 2024	15	Solar	Kern	CA
Sanborn	Sanborn	Terra Gen	Storage	47	Q2 2024	12	Storage	Kern	CA
Tumbleweed	Tumbleweed	REV Renewables	Storage	50	6/1/2024	15	Storage	Kern	CA
Kola	Kola	NextEra	Storage	125	4/1/2025	20	Storage	San Joaquin	CA
Fervo	Corsac Station	Fervo	RPS	40	2/1/2030	15	Geothermal	Churchill	NV



Community Energy