



Southern California Public Power Authority

Questions and Answers related to Request for Proposal:

Standalone Energy Storage

1. We would like to submit proposal for up to two projects at the following locations, assuming the adjacent transmission lines are owned by LADWP / SCPPA:

████████████████████

████████████████████

[Redacted for Privacy]

Both sites are right at the SCE / LADWP border, so there is some uncertainty. Assuming the lines are owned by LADWP / SCPPA, can you let us know how much load and generation capacity might exist for a BESS?

Response:

We are unable to share load and generation capacity information due to security reasons. Seller may submit proposals for projects on Seller-owned land and Buyer will share such information under an NDA if the proposal is selected for further discussions.

2. We noticed there is an energy density minimum requirement (1 kWh/sq ft) outlined in the RFP. Are there any similar requirements for power density?

Response:

Currently, there is no power density requirement in the RFP for Proposals utilizing Seller-Owned land. Please see updated Exhibit 3 for location-specific details and approximate footprint.

3. Would LADWP entertain an alternate bid with a lithium-ion term length of 20 years?

Response: Alternate lithium-ion bids with a term length of 20 years will be evaluated for applicable locations.

4. What are the procurement targets for other members of SCPPA, such as IID?

Response: Please reach out to other SCPPA Members through John Quan or Randy Krager, or email StandalonestorageRFP@scppa.org and we'll reach out to the Members.

5. What is driving the number of cycles required for the BESS?

Response: In general, LADWP may use the ESS for daily load shaving and/or energy arbitrage to complement renewable energy integration purposes unless explicitly stated otherwise. Ancillary services may be required in certain locations as well. On the demand side, the BESS may alleviate load stress due to electrification (i.e. EV chargers and general need), or flattening the duck curve. Other SCPPA Members may also have more specific needs.

6. Will you consider proposals for a bolt-on BESS where LADWP is already the off-taker for the solar project, meaning the facilities would share a substation / interconnection? Or would LADWP prefer an independent BESS facility?

Response

Since this is a Standalone Energy Storage RFP, we require an independent BESS facility.

7. What is a "Rolling RFP"?

Response: As indicated in Section V of the RFP, a Rolling RFP means the RFP will be open from the issue date to the close date (typically near the end of the calendar year). SCPPA will accept proposals till the close date and can start negotiation at any time if the proposal is deemed suitable to our Member's need.

8. How does the interconnection work? Do we have to file for the IA with LADWP if we elect to use the ?

Response:

For proposals located on Seller-owned land, Seller is required to submit an interconnection request through the LADWP Large Generator Interconnection Process and a deposit prior to proposal submission, as well as provide evidence of submission in the proposal. Interconnection and its costs are Seller's responsibility

For proposals located on LADWP-owned land, interconnection details shall be discussed outside this RFP.

9. It seems we can submit for the RFP anytime. Does that mean if the price work, we might be selected prior to December 29 date?

Response:

Yes, SCPPA may reach out to developers prior to the December 29 date if the proposal meets the criteria of our SCPPA Members. LADWP has the following soft close dates for its locations in Exhibit 3:

- Location 1: July 1, 2022 & November 1, 2022
- Locations 2-5: November 1, 2022

LADWP staff will review all proposals received to-date on soft close dates to determine if there are suitable proposals for negotiations.

10. What is the preferred in-service date?

Response:

See updated Exhibit 3 for location-specific details or section A in Appendix A for proposals targeting LADWP on Seller-owned land. Seller may reach out to John Quan or Randy Krager for proposals targeting other SCPPA Members.

11. Exhibit 3 of Appendix A refers to locations for ESS deployment, but there is only one aerial image in this exhibit. Are the other four locations located on the same site, but with different acreage and perimeters?

Response: See updated Exhibit 3 for location specific details. Please assume none of the locations in Exhibit 3 are on the same location. Further details such as acreage and plot dimensions are provided in the updated Exhibit 3.

12. Is the depicted site in Exhibit 3 fully permitted? What do we need to know about this site?

Response:

This depends on which permit is being discussed. For locations in Exhibit 3, LADWP expects to take on a leading role while working with developer in obtaining permits for project development. Building and construction permits shall be Seller's responsibility.

For proposals on Seller-owned land, Seller shall be responsible for all permits.

13. What is the site control structure? And what number should we assume for the site control costs? Lease rate?

Response:

Seller may assume LADWP has site control for BOOT contracts on locations 1-5. For the PPA/ESA option in Location 1, site control may be discussed separately.

14. What is the min and max MW or MWh acceptable for this RFP?

Response:

See updated Exhibit 3 for proposals targeting LADWP-owned land. Proposals on Seller-owned land shall be discussed separately.

15. What is the POI for the site(s) in Exhibit 3? Line voltage?

Response:

Exhibit 3 locations may be assumed to have 230kV interconnection. Proposals should include a step-up transformer to 230kV. Location 1's POI is adjacent to the Beacon Collector station.

16. Is there any available study for available capacity and potential upgrades for the Exhibits 3 site(s)?

Response: At this time, there is no available study.

17. Page 6: Section 6j says

“Stat[e] whether Respondent will use subcontractors to perform services pursuant to the contract. ... Subcontractors shall not be allowed to further subcontract with others for work on this program. ...”

The construction of the storage plant will be carried out by and experienced EPC contractor, who is contracted by the project company.

The EPC contractor will most likely partially subcontract work to local companies. In that case the EPC company is the main contractor who will have subcontractors.

We understand that the subcontractors of the EPC contractor shall then not be allowed to further subcontract, but please clarify.

Response:

EPC may subcontract as needed, but subcontractors must be held to the same terms and conditions as those between Buyer and Seller. RFP has been updated for clarity.

LADWP Appendix A ESS Requirements

18. Page 7: Requirement 26 states “ESS Round-Trip Efficiency at rated capacity shall be explicitly provided in the proposal including auxiliary loads.” Can you provide a clear definition on what loads are considered auxiliary and station service?

Response:

The specific list of such loads will be further defined during discussions with Seller(s) as these loads will be different for each technology. The following is a sample list of general auxiliary and station service loads for lithium-ion BESS.

Auxiliary loads:

- Resistive losses,
- Power Conversion System (PCS)
- MV Transformers
- Battery Management Systems (BMS) or equivalent for non-battery technologies
- Pumps, motors (if applicable)
- Thermal regulation systems (i.e. HVAC, fans)

Station Service loads:

- Energy required for information technology, communications, lighting, ventilation, and safety systems.

19. Page 9: Part of the required information is “1.6. Capacity and Ancillary Services Operating Restrictions”. Please provide more details on what you are looking for.

Response:

Proposals shall note which ancillary services it cannot provide. For example, a proposed energy storage may not be capable of responding fast enough to meet NERC frequency response obligations or perform frequency following.

The follow is a list of sample Capacity operating restrictions:

- the minimum and maximum project MW that a proposal/technology can build.
- some technologies may be restricted to operating within a certain SOC range, instead of 0-100%.

Exhibit 1 Questions

20. Pg 22, Rated Continuous Charge Power: Units are listed at MW % and a value of 99% is given in the Expected column. [Please confirm if] the % units and value of 99% only go with the

asterisk comment in the Definition column and the value the Respondent is to fill in has the units "MW".

Response:

Units for rated continuous discharge power are MW. 99% means Buyer expects that the ESS charge rate shall be at least 99% of nominal rated value for the ESS' rated energy amount. For example, a 100MW BESS rated for 4 hour charge & discharge at 100 MW shall be capable of charging at 99% of full-rated power ($0.99 \times 100\text{MW} = 99\text{MW}$) for the entire 0-100% SOC operating range that corresponds to rated energy amount ($4\text{h} \times 100\text{MW} = 400\text{MWh}$).

21. Pg 22, RTE:

Can you confirm that the definition of RTE includes auxiliary loads (ie. Same definition as p. 7 26.1)?

Can you also confirm where the input and outputs of the system are measured (I.e. POI for output).

Last, can you confirm whether there are any adjustments for environmental temperatures or should we assume that RTE is calculated at ISO conditions?

Response:

The RTE definition in section 26.1 (copied below) is correct; aux loads are included. RTE System input and output measurements for RTE are taken at ESS AC terminals with dedicated ESS meters. If proposed ESS' RTE changes with environmental temperature or other conditions, measured RTE may be modified according to a correction curve provided beforehand.

26. ESS Round-Trip Efficiency at rated capacity shall be explicitly provided in the proposal including auxiliary loads

26.1. Auxiliary loads and station service load to be separately metered from BESS. Auxiliary load energy and station service load energy to be supplied by Buyer, or cost of such energy to be borne by Buyer, as applicable.

22. Pg 23, Rated Discharge Energy-Flow: the definition for this row is identical to the row above it. Is this intended to ask for a different quantity than the row above? If so, please clarify how it differs from the row above

Response:

Typo has been corrected to state Rated Charge Energy.

23. Pg 24, Rated Discharge Energy; this seems to be the same quantity and definition asked for twice in on pg 23 (see question above).

Response:

See previous question.

24. Pg 24: System Ratings and Limits: What is the difference between “WMax” here and “Rated Continuous Discharge Power” in the table above?

Response:

Some ESS may be de-rated to a lower capacity than the ESS is capable of. For example, an ESS’ maximum discharge power may be 500kW (Wmax), but the design calls for 250kW (Rated Continuous Discharge). Normal operation would not exceed 250kW, but the ESS can technically achieve 500kW output.

System Ratings and Limits

Specification Parameter	Description	Units	Expected Value
WMax	The maximum real power that the ESS can deliver to the grid, in Watts.	MW	

This template to be filled out by owner for all applicable items. Please indicate N/A for non-applicable items

Specification Parameter	Definition	Units	Expected Value
Rated Continuous Discharge Power	The rate at which the ESS can continuously deliver energy for the energy storage component’s entire <i>specified</i> SOC range.	MW	

25. Pg 27: System RTE: Can you confirm our understanding of the following:

"100% DoD Cycles, @ 50% SOC, Full rated power" is assumed to mean starting the system at 50% SOC, charging it to 100%SOC at rated charge power, then discharging to

0% SOC at rated charge power and charging back up to 50%SOC at rated charge power. Measuring the energy input and output during this process provides RTE at rated power.

Response:

This means starting at 50% SOC, discharging to 0%, and charging back to 50% SOC, at full rated power. Alternatively, the ESS may charge from 50% to 100% and discharge to 50% SOC, at full-rated power. The SOC during charging and discharging follows either the 50-0-50 or 50-100-50 pattern.

Similarly, 20% DoD, @ 50% SOC, Half-rated power, translates to 50-30-50 or 50-70-50 for the SOC.

System Efficiency

Specification Parameter	Description	Units	Expected Value
System Round-Trip Efficiency	Total round-trip efficiency from beginning of life (BOL) to end of life (EOL), defined as the ratio of the delivered output energy of the energy storage system to the absorbed input energy required to restore it to the initial state of charge under specified conditions.		
	Provide the total round-trip efficiency under the following conditions, at the beginning of life (BOL).		
	100% DoD Cycles, @ 50% SOC, Full rated power.	%	
	100% DoD Cycles, @ 50% SOC, Half rated power.	%	
	100% DoD Cycles, @ 50% SOC, Quarter rated power.	%	
	20% DoD Cycles, @ 50% SOC, Full rated power.	%	
	20% DoD Cycles, @ 50% SOC, Half rated power.	%	
	20% DoD Cycles, @ 50% SOC, Quarter rated power.	%	
	Provide the total round-trip efficiency under the following conditions, at the end of life (EOL).		
	100% DoD Cycles, @ 50% SOC, Full rated power.	%	
	100% DoD Cycles, @ 50% SOC, Half rated power.	%	
	100% DoD Cycles, @ 50% SOC, Quarter rated power.	%	
	20% DoD Cycles, @ 50% SOC, Full rated power.	%	
	20% DoD Cycles, @ 50% SOC, Half rated power.	%	
20% DoD Cycles, @ 50% SOC, Quarter rated power.	%		

26. Pg 28: The definition of Minimum Discharge Time seems to be the definition for Minimum Charge Time. Please confirm that the definition should be “The minimum amount of time required for the ESS to be discharged from its rated maximum SOC to the SOC.

Response:

Correct, the typo has been fixed in the updated RFP.

27. Pg33: Exhibit 1. We are not clear what is meant by “Control Power UPS Back-Up Time”. Can you clarify?

Response:

The amount of time an ESS' control system(s) can operate off back-up power (i.e. a UPS) in the event of power loss or other interruption to the ESS' external power supply.

Start Up/Shut Down Characteristics		
Specification Parameter	Description	Expected Value
Average Start Up Time	Typical start up time under the specified conditions. List for both cold start and from standby mode.	
Maximum Start Up Time	Seconds	
Typical Shut Down Time	Seconds	
Maximum Shut Down Time	Seconds	
Control Power UPS Back-Up Time	Expected minimum autonomy time on back-up power (provided by the UPS).	
System Behavior when Main Power Is Interrupted	Behavior of system while the control systems are powered by a UPS, or an alternative auxiliary power supply, when the mains power line is shorted or opened.	
System Behavior when Mains Power Returns	Behavior of system when the mains power returns while the control systems are still powered by the UPS or an alternative power source.	

General Questions

28. **Project Timeline:** Noting LADWP's request for COD's as early as 2025, can LADWP summarize its view of the timeline for project contracting and regulatory approval with city council? More specifically, what is the earliest date by which LADWP expects to obtain city council approval for the selected projects?

Response:

The timeline for project contracting & regulatory approval depends on the complexity of the project, Seller may assume 12 months for general planning purposes.

29. Would the Stand-alone Storage RFP also contemplate small pilot programs with Flow Battery which could also take advantage of CA State grants?

Response

Yes.

30. If we have bid a Standalone Storage project into the SCPPA All Source RFP, should we also bid it separately into the Standalone Storage RFP?

Response

Yes, please submit the standalone energy storage proposals to the Standalone Energy Storage RFP separately from the Renewable Energy Resources and Energy Storage Solutions RFP.

31. Do you have any feedback for us on our response and proposal for the SCPPA All Source RFP? The feedback would be very helpful for us to understand how we can best answer your needs and serve you better.

Response

Since this is separate from the Standalone Storage RFP, please reach out to SCPPA directly, either Randy or John for updates on your proposal.

32. How much is the cost of the transmission interconnection application?

Response:

Please refer to <http://www.oasis.oati.com/ldwp/index.html> for LADWP-related proposals.

33. What about for the other members?

Response:

Please reach out to other SCPPA Members through John Quan or Randy Krager, or email StandalonestorageRFP@scppa.org

34. Can we interconnect through CAISO?

Response:

LADWP requires interconnection to its grid for proposals targeting LADWP. Please reach out to John Quan or Randy Krager or email StandalonestorageRFP@scppa.org for other SCPPA Members' requirements.