Date of Issuance: May 6, 2022

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

ENERGY DIVISION **RESOLUTION E-5179**
May 5, 2022

R E S O L U T I O N

Resolution E-5179 Authorizing Southern California Edison's decommissioning of the Tehachapi Storage Project

PROPOSED OUTCOME:

- Approves Southern California Edison Advice letter 4568-E to the decommission of the Tehachapi Storage Project with modifications to cost recovery.

SAFETY CONSIDERATIONS:

- SCE shall operate the TSP site and decommission the resource in accordance with prudent and safe electrical practices.

ESTIMATED COST:

- The costs of decommissioning and continued operation and maintenance of the Tehachapi Storage Project were previously authorized by the California Public Utilities Commission at $25.978 million. Recovery of any costs that are incurred above the approved amount can be sought through a Tier 3 Advice Letter.

By Advice Letter 4568-E, Filed on August 23, 2021

SUMMARY

This Resolution approves Southern California Edison's (SCE) plan to shut down and decommission the Tehachapi Storage Project (TSP), with modifications to cost recovery as recommended by the Public Advocates Office. Decommissioning the TSP is prudent from a cost and safety perspective.

In AL 4568-E, SCE seeks approval for decommissioning and cost recovery for the TSP. SCE states that decommissioning of the TSP is necessary due to SCE's inability to source components for the TSP's first-generation battery storage system. SCE justifies the decommissioning of the project based upon the costs required to continue operations of the TSP, a lack of impact on grid reliability from decommissioning, and safety concerns. SCE states that decommissioning the TSP will avoid exceeding the authorized funding if operations were to otherwise continue. The remaining funding for TSP is $5.778 million as of December 31, 2020. SCE ceased operations of the TSP on May 17, 2021.

By late 2020 SCE had already begun investigating decommissioning the resource. SCE's concerns included future costs and safety considerations. Because so much has been learned about Energy Storage safety over the last decade, the current standards for safety in operations maintenance and facilities for energy storage resources are notably different than what was considered best practices when TSP was built. Costs of prudent safety upgrades that would allow safe continued operation would overwhelm potential benefits of future operations.

BACKGROUND

Tehachapi Storage Project

The TSP is an 8-megawatt (MW), 4-hour (32 megawatt-hour, MWh) utility-scale lithium-ion battery energy storage system (BESS) located in SCE's Monolith Substation, 100 miles northeast of Los Angeles within the Tehachapi Wind Resource Area. Originally funded in part by a United States Department of Energy (DOE) grant, the objective of the TSP was to evaluate utility-scale BESS for the purposes of improving grid performance and integrating renewable wind energy generation resources into the grid. Specifically, the project was intended to assist with storing energy from the existing wind turbines in the Tehachapi area and provide other transmission, system, and grid benefits.

On September 10, 2009, the Commission issued Decision (D.) 09-09-029 allowing SCE to file Tier 3 ALs to recover SCE's cost share for smart grid projects such as the TSP if the project meets certain conditions.[1] These project conditions are:
(1) must receive a DOE Smart Grid Recovery Act funding award; (2) must not require

[1] *Commission Decision 09-09-029, Decision Establishing Commission Processes for Review of Projects and Investments by Investor-Owned Utilities Seeking Recovery Act Funding*, September 10, 2009, pp. 4-5.

the following reviews and permits: California Environmental Quality Act (CEQA), Certificate of Public Convenience and Necessity (CPCN), or a Permit to Construct (PTC); and (3) must not seek ratepayer funding in excess of 50 percent of the project costs or ratepayer funding greater than $30 million.

SCE AL 2482-E and Resolution E-4355

On June 20, 2010, SCE submitted a Tier 3 AL, AL 2482-E, in compliance with the provisions of D. 09-09-029. AL 2482-E provided the following TSP project details to demonstrate that the TSP project fit the criteria for a Tier 3 AL approval process.

- TSP was awarded DOE Smart Grid Recovery funding.
- SCE requested incremental ratepayer funding for the TSP up to $25,978,264, which did not exceed the $30 million cap or represent 50 percent of the total TSP costs.
- The TSP was expected to provide one or more benefits to ratepayers identified in section 5.2 of D. 09-09-029.
- SCE's ratepayer cost share was matched by DOE funding at $24,978,264, California Energy Commission (CEC) co-funding in the amount of $1,000,000, and third-party funding in the amount of $5,261,627.[2] The total project cost was $57,218,155.

On August 12, 2010, the Commission concluded that the TSP met the requirements specified by D. 09-09-029 and issued Resolution E-4355 approving SCE's TSP request in SCE AL 2482-E to recover up to a maximum of $25,978,264 for the TSP.

Resolution E-4355 also required SCE to:

- Investigate the feasibility of continued operation of the TSP facility beyond the projected five-year demonstration pilot period, including an evaluation of the costs and benefits of continued operational activities versus the costs and benefits of decommissioning the facility at the end of the initial project period; and
- Summarize the TSP continued operations feasibility study findings versus decommissioning in a Tier 3 AL.

[2] *SCE Advice Letter 3384-E Tehachapi Storage Project, Continued Operation Feasibility*, March 21, 2016, (Advice Letter 3384-E), p. 1.

SCE AL 3384-E and Resolution E-4809

On March 21, 2016, SCE submitted AL 3384-E, to comply with the requirements of Resolution E-4355.

SCE AL 3384-E provided a cost analysis of continued TSP operational activities versus TSP decommissioning. SCE provided three options for the TSP and the Commission approved Option 1, which continued the TSP operations at a new permanent position referred to as the Monolith 12 kilovolt (kV) operating bus.

SCE recommended continued operation of the TSP because it would leverage ratepayer and DOE investments already made to provide additional information on operating utility scale energy storage and ratepayer benefits**.** SCE also recommended Option 1, which would continue TSP operations and permanently move the point of interconnection to the Monolith 12 kV bus because it was the most cost-effective option.

On December 15, 2016, the Commission issued Resolution E-4809 authorizing SCE to continue operations of the TSP and to move the point of interconnection to the Monolith 12 kilovolt (kV) operating bus. Resolution E-4809 also clarified that SCE was to use a portion or all of the remaining funding amount, not to exceed the original pre-authorized funding of $25.978 million, to support project activities arising from the option selected and allowed SCE to use the economic benefits from market participation to offset annual O&M costs. Resolution E-4809 continued to require that SCE file Tier 3 ALs on April 1st of each year in the event that TSP market benefits do not offset O&M costs in the preceding year, or if the pre-authorized funding is exceeded and to either justify continued operations of TSP or recommend facility decommissioning.

SCE AL 3779-E and Resolution E-4954

On April 2, 2018, SCE submitted AL 3779-E in compliance with Resolution E-4809 requirements and to demonstrate that TSP's operations in 2016, 2017, and for the anticipated life of the TSP would be beneficial for grid reliability and economically feasible.

In AL 3779-E, SCE explained that due to prolonged negotiations to finalize a new TSP operating contract, the TSP only earned revenue for one month (December) in 2017. [3,4]

[3] *Energy Division Data Request Set Advice Letter 3779-E ED SCE-01, November 16, 2018.*
[4] *The original TSP operating and maintenance contract expired on December 31, 2016.*

Between December 31, 2016, and December 1, 2017, SCE took TSP offline since it did not have a contract in place to maintain the TSP. A new contract was executed on October 18, 2017, but necessary TSP inspections, repairs, and operational checks delayed returning the TSP to market operations till December 2017.

The TSP funding balance at the end of 2016 was $5.495 million,[5] which accounts for project cost deductions from the Smart Grid American Recovery and Reinvestment Act Memorandum Account (SGARRAMA). This funding balance does not include the TSP anticipated decommission and relocation costs. The total TSP market benefits in 2016 and 2017 were estimated at $0.694 million and $0.095 million respectively.[6] The 2017 operating costs were estimated at $0.583 million. Accounting for these 2016 and 2017 revenue and cost figures results in a net TSP market benefit of $0.207 million for 2016 and 2017. Adding $0.207 million to the remaining funds for TSP provides a new funding balance of $5.702 million at the end of 2017. This estimated remaining funding balance does not include decommissioning or relocation costs estimated respectively at $1.316 million[7] and $1.747 million.[8]

Based on recent observed TSP market benefits, SCE projected that the recorded market revenues for the TSP operations from 2018 to 2027[9] would exceed the TSP O&M costs. Specifically, SCE estimated that the total TSP market benefits would be $8.608 million and the total TSP expenses would be $7.390 million for the years 2018-2027. This TSP expense cost figure includes the estimated TSP decommission costs but uses a lower amount for the estimated TSP relocation costs at $1.682 million.[10]

SCE AL 3980-E and Resolution E-5019

In AL 3980-E, filed on April 2, 2019, SCE illustrated the reasons the TSP merited continued operations even though its 2018 market benefits did not offset its total 2018 expenses. Through the provided 2018 market benefits by month table, SCE

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[5] *This funding balance figure is consistent with the TSP funding summary provided in AL 3980-E-A.*

[6] *SCE AL 3779-E Tehachapi Storage Project, Continued Operations: Market Benefits and Energy Storage Costs, January 16, 2019 (SCE Advice Letter 3779-E), p. 3.*

[7] *SCE Advice Letter 3779-E, p. 3 and in Attachment B: TSP, Annual Cost Revenue Forecast Redacted.*

[8] *SCE Advice Letter 3384-E, p. 4.*

[9] *SCE Advice Letter 3384-E, p. 3. SCE stated that the long-term operation of TSP is expected to be 10 additional years, beyond the initial two-year demonstration period. Thus, the year 2027 is the projected end of the TSP useful life because it is 12 years from the end of the TSP pilot.*

[10] *SCE AL 3779-E, p. 3.*

demonstrated that in 2018 the TSP generated approximately $1.009 million[11] which exceeded its 2018 O&M expenses of $0.514 million.[12] for a net TSP revenue of $0.495 million.

However, the TSP incurred additional costs in 2018. These additional costs included $4,472 for one-time remaining DOE program closeout costs[13] and $0.039 million[14] for critical lifetime spare part costs as well as $0.682 million[15] for the pre-approved relocation costs. These relocation costs were approved under Resolution E-4809 and originally estimated at $1.747 million.[16] These combined costs exceeded the 2018 TSP market benefits by $0.231 million. These costs were covered through the remaining TSP project funds, resulting in a new estimated TSP funding balance of $5.47 million at the end of 2018 as reported by SCE.

Resolution E-5019 approved continued operation of the TSP for the near future, with an anticipated decommissioning date of 2027. E-5019 also ordered SCE to estimate decommissioning costs and include those estimates in its regular Tier 3 Advice Letters submitted to comply with E-4809.

SCE AL 4568-E

Advice Letter 4568-E was filed on August 23, 2021, and advised the Commission of SCE's intent to decommission the TSP resource. This AL also served as a formal notification that SCE had undertaken a safety study which found that the risk mitigation measures recommended by the study would be cost prohibitive, and that continued operation of the resource without such measures in place would not be in accord with current best practices for safety.

SCE also advised that in June 2020 the TSP resource was reduced to half capacity, and in March 2021 it was reduced again to 25% of its original capacity. In this state, according to SCE's projections, the resource was not expected to be profitable in the foreseeable future. SCE stopped operating the resource in May 2021.

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[11] *SCE AL 3980-E, Tehachapi Storage Project, Continued Operations: Market Benefits and Energy Storage Costs*, April 2, 2019, (SCE AL 3980-E) p. 3.

[12] SCE reported that TSP ongoing operating costs at $513,620, but Commission staff has checked the provided monthly TSP costs and noted that operating costs should be reported as $513,617 instead.

[13] SCE AL 3980-E, p. 4.

[14] SCE AL 3980-E, p. 4.

[15] SCE AL 3980-E, p. 4.

[16] SCE Advice Letter 3384-E, p. 4.

NOTICE

Notice of AL 4568-E was made by publication in the Commission's Daily Calendar. SCE states that a copy of the Advice Letter was mailed and distributed in accordance with Section 4 of General Order 96-B and to all parties on the service list for R.08-12-009.

PROTESTS

Advice Letter 4568-E was timely protested by the Public Advocates Office of the California Public Utilities Commission on September 13, 2021.

Public Advocates Office recommended that SCE's costs for decommissioning the TSP be capped at the remainder of previously authorized funds. If decommissioning costs exceed the previously authorized funds, SCE should seek to recover those additional costs by way of a Tier 3 Advice Letter. SCE had suggested that any additional costs could be reviewed by Energy Resource Recovery Account (ERRA), but Cal Advocates countered that ERRA is not the appropriate venue to consider reasonableness of these costs.

SCE served a late-filed reply on October 7, 2021, that was accepted by Energy Division. SCE's reply agrees with Cal Advocates that the cost of decommissioning and continued O&M is set at $25.978 million, as authorized by the California Public Utilities Commission, and SCE agrees to seek recovery of any costs that exceed this amount via a Tier 3 advice letter (as opposed to recovery through ERRA as proposed by SCE in SCE's Advice 4568-E).

DISCUSSION

The Commission has reviewed the Advice Letter, the protest, and finds that SCE's plan to decommission the resource is reasonable. We also find that the protest from Cal Advocates is reasonable and as it is agreed to by SCE, we approve the changes suggested by the protest.

In particular, SCE has shown in their advice that the following elements contribute to their decision to decommission TSP:

- Operating the resource at limited capacity is unlikely to benefit the grid, and restoring the full capacity of the resource is not practical

- SCE's projections show that the resource is not expected to be profitable

- Potential safety hazards are serious, and also a threat to the ability of the resource to provide any benefit to the grid

- Current remaining allocated funds exceed the expected decommissioning costs[17], making this an ideal time to begin decommissioning.

Cal Advocates protest rightly observes that ERRA is not the appropriate forum for evaluating the reasonableness of decommissioning costs that exceed the original funding allotment. We agree that a Tier 3 Advice Letter would be a more appropriate venue and Cal Advocates protest is granted.

COMMENTS

Public Utilities Code section 311(g)(1) provides that this Resolution must be served on all parties and subject to at least 30 days public review. Any comments are due within 20 days of the date of its mailing and publication on the Commission's website and in accordance with any instructions accompanying the notice. Section 311(g)(2) provides that this 30-day review period and 20-day comment period may be reduced or waived upon the stipulation of all parties in the proceeding.

The 30-day review and 20-day comment period for the draft of this resolution was neither waived nor reduced. Accordingly, this draft resolution was mailed to parties for comments on March 29, 2022. No comments on this resolution were received.

FINDINGS

1. Continued operations of TSP, which is currently rated at 2 MW, will not significantly support grid reliability and will require significant investment for risk mitigation.
2. Reasonable forecasts do not expect TSP to be profitable in its current state.

[17] *Estimated decommissioning costs are found in the confidential version of SCE's AL.*

3. Repairing and modernizing TSP would be very costly with little expected benefit.
4. Pursuant to Resolution E-4809, TSP cannot exceed the authorized funding amount of $25.978 million for maintenance, operations, and decommissioning.
5. Remaining TSP funds as of 12/31/2020 are $5,778,259.
6. Decommissioning the TSP now is prudent from a cost and safety perspective
7. Southern California Edison agrees with Cal Advocates' protest that the Commission has capped the cost of decommissioning and continued O&M of TSP at $25.978 million.
8. Southern California Edison agrees to seek recovery of any costs that exceed the authorized budget amount via a Tier 3 advice letter (as opposed to recovery through ERRA as proposed by SCE in SCE's Advice 4568-E).

THEREFORE, IT IS ORDERED THAT:

1. Advice Letter SCE 4568-E is approved with modifications to cost recovery, and Southern California Edison is approved to decommission the Tehachapi Storage Project.
2. Reasonableness review of any costs of decommissioning that exceed the original authorized funding level shall not be considered in ERRA or included in any ERRA application.
3. Recovery of any costs of decommissioning that exceed the original authorized level of funding shall be sought through a tier 3 advice letter.

This Resolution is effective today.

I certify that the foregoing resolution was duly introduced, passed, and adopted at a conference of the Public Utilities Commission of the State of California held on May 5, 2022; the following Commissioners voting favorably thereon:

/s/ RACHEL PETERSON
Rachel Peterson
Executive Director

ALICE REYNOLDS
President

CLIFFORD RECHTSCHAFFEN
GENEVIEVE SHIROMA
DARCIE HOUCK
JOHN R.D. REYNOLDS
Commissioners