



Electricity Supply Reliability Reserve Fund Progress Report

May 1, 2025

Department of Water Resources acknowledges the efforts and contributions made by leadership and staff members.

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I. Executive Summary

This May 2025 report details current activities undertaken by the Department of Water Resources' Statewide Energy Office (DWR SWEO) and funded by the Electricity Supply Reliability Reserve Fund (ESRRF) from October 1, 2024, through February 28, 2025.

The following activities have taken place since the last report:

- This May 2025 report has been streamlined to focus on current activities. Please see prior reports for historical activities.
- Contracted Program Support, Professional and Technical Services, and Equipment
 - Linda Rogers & Associates, Inc. was acquired by and is now doing business as Qualus.
- State Power Augmentation Program (SPAP)
 - On September 15, 2024, the Federal Energy Regulatory Commission's interconnection waiver expired for the Yuba City site, reducing interconnection capacity from 60 megawatts (MW) to 49 MW.

Table ES-1 below summarizes the total committed funds per project category, the disbursements for incremental activities between October 1, 2024, through February 28, 2025, and total cumulative disbursements.

Table ES-1: Current Activities Reporting Period Disbursement Summary

Project Category	Committed Funds	Disbursed 10/1/24 - 2/28/2025	Total Disbursed as of 2/28/2025
Contracted Program Support, Professional and Technical Services, and Equipment	\$166,050,343	\$778,183	\$25,026,978
State Power Augmentation Program (SPAP) – Emergency & Temporary Power Generators > 5 MW	\$106,983,586	\$2,700,362	\$100,783,277
2023 – 2027 – Emergency & Temporary Power Generators > 5 MW	\$334,407,842	\$12,647,393	\$263,787,835
Extended Operations of Retiring Facilities	\$1,290,427,064	\$153,583,418	\$473,156,205
Total	\$1,897,868,835	\$169,709,356	\$862,754,295

II. Background

In June 2022, Assembly Bill (AB) 205 (Committee on Budget, Chapter 61, Statutes of 2022), AB 178 (Ting, Chapter 56, Statutes of 2022), and AB 180 (Ting, Chapter 44, Statutes of 2021) were enacted and collectively established California's Strategic Reliability Reserve (SRR). The SRR provides funding to secure additional resources to address extreme events above and beyond traditional resource planning and procurement, such as the Resource Adequacy program. The SRR includes three distinct programs, two administered by the California Energy Commission (CEC) and one by DWR. CEC's Demand Side Grid Support (DSGS) Program provides incentives to reduce customer net energy load and provide backup generation during extreme events and the Distributed Electricity Backup Assets (DEBA) Program incentivizes the construction of cleaner and more efficient distributed energy assets that would serve as on-call emergency supply or load reduction for the state's electrical grid during extreme events. DWR's Electricity Supply Strategic Reliability Reserve Program (ESSRRP), created under Division 29 of the Water Code, contracts with for and/or constructs new supply-side assets, extends the operating life of resources planned for retirement, and, in 2022 and 2023, reimbursed the above-market cost for imports beyond Resource Adequacy requirements. The ESSRRP is funded by the Electricity Supply Reliability Reserve Fund (ESRRF). The Water Code makes clear the powers, responsibilities, and funding established under Division 29 are separate and distinct from those for the State Water Project (Water Code Section 80700(b), 80711, 80720). The activities of the ESSRRP are carried out by the Statewide Energy Office (SWEO).

A. Reporting Period

Water Code Section 80730 requires DWR to submit regular progress reports for the ESRRF to the Joint Legislative Budget Committee, first due January 31, 2023, and then every May 1, August 1, and December 1 thereafter. Such reports shall include:

- (a) *Amount of funds expended;*
- (b) *Purpose of funds expended;*
- (c) *Status of actions funded;*
- (d) *For new and expanded resources, the amount by megawatt, resource type, operational date, and expected lifetime of that capacity;*
- (e) *The frequency at which resources funded by DWR have been used and the extent to which they complied with the requirements;*

(f) *In consultation with the CARB, estimate or provide the best available information on the emissions of greenhouse gases, criteria air pollutants, and toxic air contaminants emitted by the resources funded by DWR over the period since the previous report; and*

(g) *Summary of contracts, grants, and loans issued.*

This May 2025 report details current activities undertaken by DWR and funded by the ESRRF from October 1, 2024, through February 28, 2025.

III. Contracted Program Support, Professional and Technical Services, and Equipment

DWR entered into agreements for professional program and project management, construction and commissioning expertise, and other related specialized technical services. SWEO utilizes these agreements to validate and secure viable electrical asset sites, provide services and expertise for site feasibility studies and support, program management, site and project management, and to meet the deadlines outlined in statute, beginning with Water Code Section 80710. Table 1 below provides a listing of each agreement's term, committed funds, disbursed funds prior to October 1, 2024, amounts disbursed this reporting period (October 1, 2024, through February 28, 2025), and the total cumulative disbursed amounts. The agreements listed below support multiple objectives and efforts under the ESSRRP.

The Bureau Veritas North America, Inc (Bureau Veritas) agreement provides quality control and quality assurance inspection services for the manufacturing, procurement, design, installation/construction, and repair/refurbishment of equipment and materials in accordance with contract requirements. The EDF Trading North America LLC (EDF) and Pacific Gas & Electric (PG&E) agreements support the fuel management services for the Modesto Irrigation District (MID), Turlock Irrigation District (TID), and City of Lodi (Lodi) facilities developed under the agreement with Enchanted Rock, LLC (ERock). The EDF agreement provides purchasing and scheduling needs and the PG&E agreement finances the transportation of natural gas to each of the three facilities. The EUCL agreement provides training services for staff for topics such as power purchase agreements, regulatory compliance, and energy markets. The Kiewit Power Constructors, Co. agreement provides design, construction, and commissioning expertise, and other related technical services. The MID agreement is for the purchase of a spare transformer to replace the one used to interconnect the Enchanted Rock generator at the MID site. The Qualus agreement (formerly doing business as Linda Rogers & Associates, Inc.) supports compliance with

mandatory North American Electric Reliability Corporation reliability standards via permitting, reliability, technical engineering support, and auditing services. The Stantec Consulting Services, Inc. and Ulteig Operations, LLC¹ agreements support engineering, professional and technical programs, and project management services for all ESSRRP activities.

Table 1: Contracted Program Support, Professional and Technical Services, and Equipment

Counterparty	Agreement Start Date	Agreement End Date	Committed Funds	Disbursed prior to 10/1/24	Disbursed 10/1/24 – 2/28/25	Total Disbursed
Bureau Veritas	02/01/2023	02/05/2026	\$6,000,000	\$839,331	\$0.00	\$839,331
EDF	12/1/2023	12/31/2027	\$15,313,065	\$139,054	\$95,905	\$234,959
EUCI	10/01/2024	09/30/2026	\$49,999	\$0.00	\$6,216	\$6,216
Kiewit Power Constructors, Co.	10/15/2022	06/30/2027	\$120,000,000	\$18,289,281	\$0.00	\$18,289,281
MID Spare Transformer	11/16/2023	12/31/2027	\$2,607,294	\$2,607,294	\$0.00	\$2,607,294
PG&E – Lodi	12/1/2023	12/31/2027	\$2,381,345	\$16,490	\$25,467	\$41,957
PG&E – MID	12/1/2023	12/31/2027	\$2,381,345	\$47,517	\$397	\$47,914
PG&E – TID	12/1/2023	12/31/2027	\$2,317,295	\$70,228	\$87,133	\$157,361
Qualus	01/01/2024	12/31/2026	\$3,000,000	\$42,081	\$0.00	\$42,081
Stantec Consulting Services, Inc.	07/29/2022	06/30/2027	\$6,000,000	\$299,785	\$0.00	\$299,785
Ulteig Operations, LLC	07/01/2022	06/30/2027	\$6,000,000	\$1,897,734	\$563,065	\$2,460,799
Total			\$166,050,343	\$24,248,795	\$778,183	\$25,026,978

IV. State Power Augmentation Program (SPAP)

In accordance with the Governor's Emergency Proclamation issued July 30, 2021,² DWR, CEC, and the California Independent System Operator (CAISO)

¹ Previously doing business as Ulteig Engineers, Inc.

² Proclamation of a State of Emergency (July 30, 2021), available at <https://www.gov.ca.gov/wp-content/uploads/2021/07/Energy-Emergency-Proc-7-30-21.pdf>.

partnered together to deploy temporary power generators by September 2021 under the State Power Augmentation Program (SPAP). The SPAP is part of California's broader effort to safeguard the state's electric grid from climate change-induced drought, wildfires, heat waves, and other extreme events. DWR collaborated with the CEC and CAISO to procure, install, and license the temporary natural gas fueled electric generators, which are capable of running on a blend of up to 75 percent hydrogen in the future depending on the availability of hydrogen fuel. The SPAP generators are placed at existing electric generation sites to feed directly into the electric grid to provide support during extreme events, including localized energy emergencies. The SPAP facilities became operational on September 22, 2021, meeting the challenge of the July 2021 Emergency Proclamation with the support of the CEC and CAISO, and directly supported California's electric grid during the September 2022 extreme heat event and various other electrical and transmission emergencies declared by CAISO and other Balancing Authorities. As shown in Table 2 below, two out of the four original SPAP facilities are still available at the Yuba City site, but the site's capacity has been reduced from its maximum generating capability of 60 MW to 49 MW due to the expiration of an interconnection waiver from the Federal Energy Regulatory Commission on September 15, 2024.³

Table 2: State Power Augmentation Program

Site	MW	Committed Funds	Disbursed prior to 10/1/24	Disbursed 10/1/24 – 2/28/25	Total Disbursed
Calpine Greenleaf 1	49.0	\$106,983,586	\$98,082,915	\$2,700,362	\$100,783,277
Total	49.0	\$106,983,586	\$98,082,915	\$2,700,362	\$100,783,277

Calendar year 2024 emissions will be reported in the August 2025 report.

V. 2023 – 2027 – Emergency and Temporary Power Generators > 5 MW

Under the authority provided in Water Code Section 80710, subdivision (b)(1)(B), DWR executed a contract with ERock, three related site use agreements with MID, TID, and Lodi, respectively, and one unrelated letter agreement with Ares Panoche Holdings, LLC (Panoche) to secure new emergency and temporary power generators to support electric grid reliability during extreme events as

³ Federal Energy Regulatory Commission, Order Granting Request for Waiver, Docket No. ER21-2753-000, September 15, 2021.

shown in Table 3 below. Site studies, engineering design, equipment procurement activities, site certification, permitting, and project management activities began in Q4 2022. These new emergency resources are contracted to operate until 2027 to support electric grid reliability during extreme events.

On October 27, 2022, due to the parties' inability to agree on acceptable commercial terms, including cost parameters, DWR discontinued the Panoche negotiations without executing a final contract for this contemplated 52 MW project. DWR has reimbursed Panoche for incurred costs as deemed acceptable under the letter agreement. The final invoicing and close-out occurred in February 2025 and will be removed from subsequent reports.

As noted in the *Contracted Program Support, Professional and Technical Services, and Equipment* section, DWR voluntarily undertook environmental studies, surveying, environmental analysis, tribal consultation, and engagement with the local air pollution control districts to support the three new ERock facilities.⁴ Moreover, ERock's proprietary technology, similar to those contracted by DWR, has met CARB's Distributed Generation (DG) Certification Program requirements.⁵ The DG Certification Program certifies electrical generation technologies that are exempt from the permit requirements of air pollution control or air quality management districts.

The ERock facilities came online in 2024, and calendar year 2024 emissions will be reported in the August 2025 report.

⁴ "Environmental Documents" for the City of Lodi, Modesto Irrigation District, and Turlock Irrigation District are available at: <https://water.ca.gov/Programs/Statewide-Water-and-Energy>.

⁵ California Air Resources Board. Executive Order DG-052. *Distributed Generation Certification of Enchanted Rock LLC NGE21.9L-CA Generator*. August 2021. <https://ww2.arb.ca.gov/sites/default/files/2022-05/DG-052.pdf>.

Table 3: Emergency and Temporary Power Generators > 5 MW

Counterparty	Site Name	MW	Committed Funds	Disbursed prior to 10/1/24	Disbursed 10/1/24 – 2/28/25	Total Disbursed
ERock	City of Lodi	48	\$113,832,881	\$85,963,929	\$5,227,815	\$91,191,744
	Modesto Irrigation District	48	\$104,418,556	\$80,755,233	\$3,660,926	\$84,416,159
	Turlock Irrigation District	47	\$115,706,405	\$84,148,118	\$3,651,340	\$87,799,458
Panoche	Unicorn	N/A	\$450,000	\$273,162	\$107,312	\$380,475
Total		143	\$334,407,842	\$251,140,442	\$12,647,393	\$263,787,835

VI. Extended Operations of Retiring Facilities

Pursuant to Water Code Section 80710, subdivision (b)(1)(A), DWR sought to fund, reimburse, or compensate the owners of electric generating facilities pending retirement for costs, expenses, or financial commitments incurred to retain future availability. Table 4 below summarizes five such agreements executed to retain existing resources while load-serving entities are actively pursuing clean energy resources, which may be negatively affected by tariffs and other challenges, to meet traditional planning requirements.⁶

Table 4: Extended Operations of Retiring Facilities

Counterparty	MW	Committed Funds	Disbursed prior to 10/1/24	Disbursed 10/1/24 – 2/28/25	Total Disbursed
CSUCI	27.5	\$23,000,000	\$4,211,036	\$1,651,457	\$5,862,493
AES - Alamos	1,141.2	\$528,616,081	\$124,758,238	\$68,143,470	\$192,901,708
AES - Huntington Beach	226.8	\$105,799,596	\$30,349,583	\$16,177,147	\$46,526,730
GenOn	1,491.3	\$558,011,387	\$107,765,062	\$67,611,344	\$175,376,406
PG&E*	-	\$75,000,000	\$52,488,868	\$0.00	\$52,488,868
Total	2,886.8	\$1,290,427,064	\$319,572,787	\$153,583,418	\$473,156,205

*Capacity for PG&E's contract is not considered part of the ESSRP portfolio.

⁶ Kootstra, Mark, and Nathan Barcic (CPUC). 2023. *Joint Agency Reliability Planning Assessment*. California Energy Commission. Publication Number: CEC-200-2023-002

California State University Channel Islands

In 2020, California State University Channel Islands (CSUCI) submitted a retirement notice to the CAISO but was ultimately retained by the CAISO to address local reliability needs.⁷ Later in August 2022, the CAISO noted that the unit was no longer needed for local electric reliability.⁸ Under the authority provided by Water Code Section 80710, subdivision (b)(1)(A), DWR entered into an agreement with CSUCI to ensure the facility remained online from January 1, 2023, through 2027 to retain 27.5 MW under the ESSRRP portfolio.

AES Alamitos, AES Huntington Beach, and GenOn

On September 30, 2022, the Statewide Advisory Committee on Cooling Water Intake Structures (SACCWIS) recommended to the State Water Resources Control Board (SWRCB) to extend the compliance date of a number of once-through cooling (OTC) natural gas fueled electric generation facilities from December 31, 2023 to December 31, 2026 in order to include these facilities in the ESSRRP portfolio.⁹ Without SWRCB action, these resources with a combined capacity of 2,859.3 MW¹⁰ would have retired by December 31, 2023 in order to comply with OTC policy.¹¹ The SACCWIS, which includes the CAISO, CEC, and CPUC, recommended compliance extension for the following units: Alamitos Units 3, 4, and 5 (1,141.2 MW), Huntington Beach Unit 2 (226.8 MW), and Ormond

⁷ Millar, Neil. California Independent System Operator. (2020, March 18). *Decision on reliability must-run designations for Greenleaf II Cogen, Channel Islands Power and E.F. Oxnard Incorporated*. <https://www.caiso.com/Documents/Decision-ReliabilityMust-RunDesignations-Memo-Mar2020.pdf>.

⁸ Millar, Neil. California Independent System Operator. (2022, August 24). *Decision on conditional approval to extend existing reliability must-run contracts for 2023*. <http://www.caiso.com/Documents/DecisiononConditionalApprovaltoExtendReliabilityMust-RunContracts-Memo-Aug2022.pdf>.

⁹ Statewide Advisory Committee on Cooling Water Intake Structures. (2022, September 30). *2022 Special Report*. 2022 Special Report of the Statewide Advisory Committee on Cooling Water Intake Structures. https://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/saccwis/docs/20221108-final-report.pdf and Tesfai, Leuwam, et al. "Use of the Once-Through Cooling Power Plants in the Strategic Reserve." www.caiso.com, 30 Nov. 2022, <http://www.caiso.com/Documents/Nov30-2022-JointLetter-CaliforniaStateWaterResourcesControlBoard-Use-Once-ThroughCoolingPowerPlants-StrategicReserve.pdf>.

¹⁰ Based on net qualifying capacity as determined by the CAISO.

¹¹ California State Water Resources Control Board. (2021, October 10). Amendment to the Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling. https://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/docs/otc_policy_2021/otc_policy.pdf.

Beach Units 1 and 2 (1,491.3 MW). The SACCWIS explained that “[e]nabling DWR to contract with existing resources will allow the state to address [electric grid] reliability concerns and populate the Strategic [Reliability] Reserve more expeditiously and with more certainty while it works to secure additional resources.”¹² Furthermore, the CAISO, CEC, and CPUC clarified that resources would not be considered resource adequacy resources since that “would lead to increased use of once through cooling as well as increased air emissions, which AB 205 seeks to limit.”¹³ Instead, the OTC “resources will only be called upon to support grid operations during extreme events (including any maintenance or test events recommended by and coordinated with the CAISO).”¹⁴ Otherwise, the resources will be offline. The SWRCB unanimously voted to extend the OTC compliance period to December 31, 2026, at its August 15, 2023, Board meeting.¹⁵ DWR executed separate agreements with AES Alamos LLC, AES Huntington Beach LLC, and Ormond Beach Power, LLC (GenOn). The term of all three contracts is from January 1, 2024, through December 31, 2026. SWEO staff collaborated with the CPUC, CEC, and CAISO staff to negotiate the agreements which added the OTC facilities to the ESSRRP portfolio to support electric grid reliability during extreme events. These assets provide 2,859.3 MW to support California's electric grid reliability as California is taking action to accelerate the deployment of clean energy resources. As shown in Table 4 above, costs incurred for AES Alamos LLC and AES Huntington Beach LLC prior to this reporting period include capital expenditures for maximizing the availability and reducing maintenance of the facilities. Costs incurred for AES Alamos, AES Huntington Beach, and GenOn during the reporting period largely reflect capacity payments for each unit's availability, which began January 1, 2024.

¹² Statewide Advisory Committee on Cooling Water Intake Structures. (2022, September 30). 2022 Special Report, Pg. 15. 2022 Special Report of the Statewide Advisory Committee on Cooling Water Intake Structures.

https://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/saccwis/docs/20221108-final-report.pdf

¹³ Tesfai, Leuwam, et al. “Use of the Once-Through Cooling Power Plants in the Strategic Reserve.” [www.caiso.com](http://www.caiso.com/Documents/Nov30-2022-JointLetter-CaliforniaStateWaterResourcesControlBoard-Use-Once-ThroughCoolingPowerPlants-StrategicReserve.pdf), 30 Nov. 2022, <http://www.caiso.com/Documents/Nov30-2022-JointLetter-CaliforniaStateWaterResourcesControlBoard-Use-Once-ThroughCoolingPowerPlants-StrategicReserve.pdf>.

¹⁴ *Ibid.*

¹⁵ State Water Resources Control Board Resolution No. 2023-0025, *Amendment to the Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling to Revise Compliance Schedules for Alamos, Huntington Beach, Ormond Beach, and Scattergood Generating Stations, and Diablo Canyon Nuclear Power Plant*, August 13, 2023. https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2023/rs2023-0025.pdf.

Pacific Gas & Electric

The last agreement listed in Table 4 is with PG&E, the owner and operator of the Diablo Canyon Power Plant (DCPP), which had been scheduled for decommissioning on November 2, 2024 (Unit 1) and August 26, 2025 (Unit 2). DWR's agreement with PG&E allows for the procurement of fuel purchases, spent fuel management, and other costs necessary to maintain the option of extending operations for DCPP. This agreement was executed pursuant to AB 205 (Committee on Budget, Chapter 61, Statutes of 2022). Subsequently, in September 2022, Senate Bill (SB) 846 (Dodd, Chapter 239, Statutes of 2022) was signed into law to preserve the option of continued operations at DCPP to improve statewide electric reliability and reduce greenhouse gas (GHG) emissions while additional renewable and zero-carbon resources are built. DCPP supplies approximately 17 percent of California's zero-carbon electricity supply and 8.6 percent of California's total electricity supply. SB 846 found that actions to extend DCPP's operations for a renewed license term are prudent, cost effective, and in the best interests of all California electricity customers. SB 846 established the Diablo Canyon Extension Fund overseen by DWR, as well as milestones and criteria for PG&E and various state agencies to extend the operating life of DCPP for another five years to no later than October 31, 2030. DWR's agreement with PG&E under AB 205 and the loan agreement pursuant to SB 846 and funded by the Diablo Canyon Extension Fund are separate legal agreements.

Pursuant to SB 846, the SWRCB unanimously voted to revise the OTC compliance date for DCPP to October 31, 2030, at its August 15, 2023, Board meeting.¹⁶ On November 7, 2023, PG&E filed a License Renewal Application (LRA) with the United States Nuclear Regulatory Commission (NRC), which the NRC deemed sufficient on December 19, 2023.¹⁷ This means that DCPP may continue to operate, even beyond its current licensed end dates, while the NRC reviews PG&E's LRA. The NRC expects to provide a decision on the LRA in August 2025.¹⁸

¹⁶ State Water Resources Control Board Resolution No. 2023-0025, *Amendment to the Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling to Revise Compliance Schedules for Alamitos, Huntington Beach, Ormond Beach, and Scattergood Generating Stations, and Diablo Canyon Nuclear Power Plant*, August 13, 2023. https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2023/rs2023-0025.pdf.

¹⁷ Federal Register / Vol. 88, No. 242 / Tuesday, December 19, 2023 / Notices page 87817 to 87819. <https://www.govinfo.gov/content/pkg/FR-2023-12-19/pdf/2023-27856.pdf>

¹⁸ <https://www.nrc.gov/reactors/operating/licensing/renewal/applications/diablo-canyon.html> (accessed on April 25, 2025).

In parallel, the CPUC voted to conditionally extend DCPD operations until October 31, 2029 (Unit 1) and October 31, 2030 (Unit 2).¹⁹

Table 4 above shows costs incurred by PG&E pursuant to AB 205 to support DCPD license renewal, including the purchase of nuclear fuel.

Calendar year 2024 emissions will be reported in the August 2025 report for CSUCI and the three OTC units. There are no GHG emissions or pollutant data for DCPD because it is a nuclear power plant.

¹⁹ California Public Utilities Commission, Decision Conditionally Approving Extended Operations at Diablo Canyon Nuclear Power Plant Pursuant to Senate Bill 846, Rulemaking 23-01-007, Decision 23-12-036, December 14, 2023, <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M521/K496/521496276.PDF> (accessed on January 17, 2024).