PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

ENERGY DIVISION **RESOLUTION E-5219**
June 23, 2022

R E S O L U T I O N

Resolution E-5219. San Diego Gas & Electric Company Contract and Cost Information for Four Utility-Owned Circuit-Level Energy Storage Microgrid Projects Pursuant to Decision 21-12-004.

PROPOSED OUTCOME:

- This Resolution approves the contracts for San Diego Gas & Electric Company's four utility-owned circuit-level energy storage microgrid projects for a total of 39 megawatts of incremental capacity.
- This Resolution finds the four utility-owned circuit-level energy storage microgrid projects do not require a Certificate of Public Convenience and Necessity, Permit to Construct, or notice of exempt construction to be issued from the Commission.

SAFETY CONSIDERATIONS:

- The contracts for the four utility-owned circuit-level energy storage microgrid projects contain detailed safety provisions in Exhibit N (Safety and Site Security Requirements) and throughout the contract technical specifications in Exhibit A-3.

ESTIMATED COST:

- The estimated present value revenue requirement (i.e., total cost) of the four utility-owned circuit-level energy storage microgrid projects is $190.9 million.

By Advice Letter 3992-E, Filed on April 27, 2022.

SUMMARY

This Resolution approves the contracts for four utility-owned circuit-level energy storage microgrid projects (collectively, the Microgrid Projects) for a total of 39 megawatts (MW) of incremental capacity that San Diego Gas & Electric Company (SDG&E) procured to address 2023 summer reliability and thereafter. For each of the four projects, these contracts include an Equipment Supply Agreement (ESA) with Mitsubishi Power America, Inc. (Mitsubishi), a Long-Term Services Agreement (LTSA) with Mitsubishi, and a Balance of Plant (BOP) agreement with Morrow Meadows Corporation (Morrow Meadows).[1] This Resolution approves the requested relief in Advice Letter (AL) 3992-E.

BACKGROUND

On July 30, 2021, Governor Newsom issued a Proclamation of State of Emergency (Emergency Proclamation) due to the increasing effects of climate change and their impact on the state's electric system.[2] The Emergency Proclamation requests that the Commission "work with the State's load serving entities on accelerating plans for the construction, procurement, and rapid deployment of new clean energy and storage projects to mitigate the risk of capacity shortages and increase the availability of carbon-free energy at all times of day."[3] It also requests that the Commission expedite its actions, "to the maximum extent necessary to meet the purposes and directives of this proclamation, including by expanding and expediting approval of demand response programs and storage and clean energy projects, to ensure that California has a safe and reliable electricity supply through October 31, 2021, to reduce strain on the energy infrastructure, and to ensure increased clean energy capacity by October 31, 2022."[4]

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[1] SDG&E AL 3992-E at 4. An ESA provider is responsible for equipment (e.g., batteries, inverters, containers, transformers), commissioning and long-term services associated with the equipment and a BOP provider is responsible for the construction of the above and below grade work including civil and electrical work associated with the proposed Microgrid Projects.

[2] Gavin Newsom, Proclamation of a State of Emergency, July 30, 2021, available as of May 9, 2022, at: https://www.gov.ca.gov/wp-content/uploads/2021/07/Energy-Emergency-Proc-7-30-21.pdf.

[3] *Id.* at Order 2.

[4] *Id.* at Order 13.

The Commission undertook an expedited Phase 1 of Track 4 of the microgrids and resiliency strategies proceeding R.19-09-009 in response to this directive.

On August 17, 2021, the Assigned Commissioner issued an amended scoping memo and ruling providing the scope and schedule of expedited Phase 1 and non-expedited Phase 2 of Track 4, finding that "while Rulemaking 20-11-003 is the primary venue for emergency action and electric reliability service in California in the event of extreme weather, there may be actions that the Commission can take in this docket that will help support the Governor's and the Commission's overall goals."[5] Subsequently, the assigned Administrative Law Judge (ALJ) issued a ruling on August 23, 2021, directing parties to submit microgrid and resiliency proposals that could result in resiliency and microgrid projects installed and delivering reliability benefits by summer 2022 and/or summer 2023.[6]

On December 6, 2021, the Commission issued Decision (D.) D.21-12-004, directing SDG&E to develop up to four utility-owned circuit-level energy storage microgrid projects, conditioned upon the requirement that the projects provide peak and net peak grid reliability benefits starting in the summers of 2022 and/or 2023.[7, 8] Additional requirements included:

- The projects demonstrate islanding and resiliency capabilities, in addition to reliability benefits;[9]
- Compliance with the Cost Allocation Mechanism for utility-owned storage previously adopted in Rulemaking 20-11-003 and any subsequent modifications to the Cost Allocation Mechanism adopted in Rulemaking 20-11-003;[10]

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[5] Assigned Commissioner's Amended Scoping Memo and Ruling Setting Track 4: Expedited Phase 1, and Phase 2 at 8.

[6] E-mail Ruling on Potential Microgrid & Resiliency Solutions for Commission Reliability Action to Address Governor Newsom's July 30, 2021, Proclamation of a State of Emergency at 5.

[7] D.21-12-004, OP 7.

[8] As noted in D.21-12-004 footnote 64 at 33, "The projects were originally part of SDG&E proposal in A.18-02-016. D.19-06-032, in effect, denied the application for these projects without prejudice."

[9] D.21-12-004, OP 7.

[10] *Id.*

- Any project pursued by SDG&E must have a commercial operation date no later than August 1, 2023;[11] and
- SDG&E shall operate its circuit-level energy storage microgrid projects to maximize ratepayer benefits and net revenue under least-cost dispatch during normal conditions in the California Independent System Operator (CAISO) market and shall partially offset ratepayer costs for development of the projects with revenue received from market participation.[12]

On January 3, 2022, as directed in D.21-12-004 Ordering Paragraph (OP) 6, SDG&E filed a Tier 2 AL (AL 3929-E) with additional information on the reliability and resiliency capabilities that each of its proposed Microgrid Projects would produce for enhanced reliability starting in the summer of 2022 and/or in 2023. Energy Division approved AL 3929-E, effective March 3, 2022, via disposition letter. A short summary of the information provided in AL 3929-E is provided in the Discussion section below. In its disposition of AL 3929-E, Energy Division recommended SDG&E include final design values for project capacity in MW, project energy storage in megawatt-hours (MWh), and the number of MWs available for Resource Adequacy (RA). SDG&E provided this information in AL 3992-E and it is shown in the project summary table below.

On April 27, 2022, SDG&E submitted AL 3992-E requesting approval of Equipment Supply Agreement (ESA) and Long-Term Services Agreement (LTSA) contracts with Mitsubishi and Balance of Plant (BOP) contracts with Morrow Meadows for four utility-owned circuit-level energy storage microgrid projects with a total capacity of 39 MW. SDG&E requested a shortened protest period of five-business-days and a reply to protest period of five days. Energy Division rejected SDG&E's request for such a short protest period, and instead granted a shortened protest period of twelve-calendar-days and a reply to protest period of four-calendar-days. As directed by Energy Division, SDG&E notified the service lists that received AL 3992-E of the shortened protest period.

The proposed Microgrid Projects will be capable of providing resiliency during substation or transmission outages, including transmission level public safety power shutoffs (PSPS). SDG&E's reply to the August 23, 2021, ALJ ruling directing parties to submit microgrid and resiliency proposals that could result in resiliency and microgrid

[11] *Id.* at 2, 33, 38, COL 10.

[12] *Id.* OP 8.

projects installed and delivering reliability benefits by summer 2022 and/or summer 2023 indicated the proposed Boulevard and Paradise projects would serve designated low-income communities.[13] Boulevard circuit 445 was in the top 1% of worst performing circuits for 2019-2020, excluding planned outages and major event days, for both System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI).[14]

SDG&E AL 3929-E indicated the following critical facilities would be able to receive resiliency from the proposed Microgrid Projects:

- Clairemont C278: Balboa Branch Library (Cool Zone), Fire Station 36, Lafayette Elementary, Sequoia Elementary, Innovation Middle School, CPMA Middle School, and Madison High School;
- Boulevard C445: San Diego County Sheriff's Department, San Diego County Fire Station 47, Boulevard Border Patrol Station, Campo Reservation Fire Station, CAL Fire White Star Station, Campo Tribal Office, Campo Kumeyaay Nation Medical Center, Southern Indian Health Council Campo Clinic, and Boulevard Post Office;
- Paradise C320: Fire Station 51, Fire Station 32, Southeast Division Police Department, Bell Middle School, Freese Elementary, Boone Elementary, and Fulton Elementary; and
- Elliot C1266: Fire Station 39, Tierrasanta Public Library (Cool Zone), Tierrasanta Medical Center, Jean Farb Middle School, Canyon Hills High School, Tierrasanta Elementary, and Kumeyaay Elementary.[15]

All four projects would be built on SDG&E-owned sites and operated to provide incremental capacity available to discharge electricity during peak and net peak periods and to meet summer 2023 reliability needs. The contracts will be managed directly by SDG&E via the contractors throughout the project development. The Commercial Operation Date is July 31, 2023, for the Clairemont C278 Microgrid Project (Clairemont); June 8, 2023, for the Paradise C320 Microgrid Project (Paradise); May 1, 2023, for the

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[13] Response of SDG&E to Administrative Law Judge's Ruling on Potential Microgrid and Resiliency Solutions for Commission Reliability Action to Address Governor Newsom's July 30, 2021, Proclamation of a State of Emergency, September 10, 2021, at 3-4.

[14] SDG&E System Reliability Annual Report 2020, July 15, 2021, at 47-48.

[15] SDG&E AL 3929-E at 5.

Boulevard C445 Microgrid Project (Boulevard); and July 21, 2023, for the Elliot C1266 Microgrid Project (Elliot). The projects are to be sited on existing SDG&E land. Clairemont is to be located adjacent to the Clairemont Substation and each of the other projects is to be located within its respective substation (Paradise, Boulevard, Elliot).

The four projects are summarized in the table below:

Project Name	Clairemont C278	Paradise C320	Boulevard C445	Elliot C1266
Community	Clairemont Mesa	Skyline	Boulevard	Tierrasanta
ESA Counterparty	Mitsubishi	Mitsubishi	Mitsubishi	Mitsubishi
LTSA Counterparty	Mitsubishi	Mitsubishi	Mitsubishi	Mitsubishi
BOP Counterparty	Morrow Meadows	Morrow Meadows	Morrow Meadows	Morrow Meadows
Energy Storage Technology	Lithium-Iron Phosphate	Lithium-Iron Phosphate	Lithium-Iron Phosphate	Lithium-Iron Phosphate
Beginning-of-Life Size	9 MW 29 MWh	10 MW 50.5 MWh	10 MW 50.5 MWh	10 MW 50.5 MWh
End-of-Life Size	9 MW 22 MWh	10 MW 40 MWh	10 MW 40 MWh	10 MW 40 MWh
Energy Reserved for Microgrid[16]	3 MWh	1.5 MWh	1 MWh	1.5 MWh
Resource Adequacy (RA)	6.8 MW	10 MW	10 MW	10 MW
Energy Attributes	Energy, Capacity/RA, Ancillary Services, and Resiliency	Energy, Capacity/RA, Ancillary Services, and Resiliency	Energy, Capacity/RA, Ancillary Services, and Resiliency	Energy, Capacity/RA, Ancillary Services, and Resiliency
Estimated Commercial Operation Date	7/31/2023	6/8/2023	5/1/2023	7/21/2023
Contract Term	10 years	10 years	10 years	10 years

The estimated total present value revenue requirement (i.e., total cost) of the utility owned proposed Microgrid Projects is $190.9 million.[17] The estimated total present value revenue requirement includes capital expenditures for:

- Contract costs for the Equipment Supply Agreements;
- Contract costs for the Balance of Plant agreements;
- SDG&E system upgrades and interconnection facilities needed to connect the system to the grid;

[16] The Energy Reserved for Microgrid represents the amount of energy needed to support a transmission or substation outage duration of 33 minutes as outlined in SDG&E AL 3929-E-A.

[17] SDG&E AL 3992-E at 21.

- SDG&E staff and consultant/contractor services (as needed) for project management, environmental, quality assurance/quality control, engineering, safety, and information technology (IT) to support the completion of the projects; and
- SDG&E communications and controls for the design, procurement, and installation of communications and systems related to IT and cybersecurity.

The estimated total present value revenue requirement includes Operations and Maintenance (O&M) expenditures for the contract costs for the Long-Term Service Agreements (LTSA). The LTSA includes power capacity, energy capacity, and availability performance guarantees, extended warranties, and vendor costs to maintain the power and energy capacity of the projects (if applicable). The estimated total present value revenue requirement includes SDG&E's authorized rate of return (D.19-12-056) and the depreciation life consistent with SDG&E's most recent General Rate Case (D.19-09-051).

SDG&E's Advanced Clean Technologies (ACT) function[18] conducted competitive solicitations for the proposed Microgrid Projects.[19] SDG&E initially leveraged its ongoing Mid-Term Reliability (MTR) Request for Proposals (RFP) to obtain pricing information for the proposed Microgrid Projects. Through the MTR RFP, SDG&E identified a single bidder who had the lowest price for both an ESA contract and an Engineering, Procurement, and Construction contract (EPC). This bidder then decided to only proceed on negotiations for the ESA elements, leading SDG&E to conduct an RFP for the BOP elements of the proposed Microgrid Projects.[20] SDG&E evaluated the BOP proposals "based on the bidders' social responsibility, contract exceptions, total cost, work plan, quality assurance/quality control, safety, ability to meet schedule, proposed subcontractors, and key personnel," resulting in Morrow Meadows as the awardee for the proposed Microgrid Projects.[21]

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[18] ACT operates as SDG&E's Utility Development Team (UDT).

[19] SDG&E AL 3992-E at 3.

[20] An EPC contract is a turnkey contract inclusive of the elements of an ESA contract and a BOP contract. The combined scopes of an ESA contract and a BOP contract is equivalent to the scope of an EPC contract.

[21] SDG&E AL 3992-E at 4.

During negotiations for the ESA contract the previously chosen bidder withdrew, leading SDG&E to conduct a smaller, expedited RFP for the ESA elements of the proposed Microgrid Projects. SDG&E requested proposals for the four project sites, each with 10 MW or 40 MWh Battery Energy Storage Systems (BESS), giving bidders discretion to propose either an augmented or non-augmented design.[22] Rated output of a BESS declines over time due to battery degradation and augmentation is a strategy to maintain the battery capacity or performance at a specific level by the end of the BESS lifetime or LTSA.[23] SDG&E describes two augmentation approaches to maintaining available power capacity and/or energy capacity.[24] One approach is scheduled augmentation to add additional batteries in a specific year(s) to increase the capacity of the degraded existing batteries. SDG&E states this approach may require additional construction activity, if not initially built to accommodate it, and may present equipment compatibility challenges. A second approach is upfront augmentation where an increased Beginning-of-Life (BOL) capacity is initially deployed to maintain power capacity and energy capacity level through the LTSA.[25] SDG&E states this approach can maximize the available physical land to accommodate battery containers at the beginning of a project and avoid the remobilization necessary with a scheduled augmentation.

SDG&E evaluated the ESA proposals based on "price, contract exceptions, safety, schedule, available supply, and equipment" and "safety features, equipment, and ability to meet the required project in-service date."[26] SDG&E states it compared "the

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[22] SDG&E Reply to Protest at 6, fn. 22 indicates this was a typographical error and that AL 3992-E should have read "10 MW and 40 MWh."

[23] Augmentation strategies to maintain battery performance over time include adding more storage capacity in the future (scheduled augmentation) or overbuilding capacity initially (upfront augmentation). Some BESS are not augmented and will deliver lower battery performance over time as the BESS ages.

[24] D.21-12-004 was silent on whether the proposed Microgrid Projects would or would not be augmented and if they were to be augmented, on which approach would be utilized.

[25] In SDG&E AL 3992-E, non-augmented and upfront augmentation are used interchangeably. We understand this to mean a BESS designed with an upfront augmentation does not receive any additional augmentation during the LTSA and is thus non-augmented from the commercial operation date to the end of the LTSA.

[26] SDG&E AL 3992-E at 4 and 5.

three proposals received on a contract Total Cost of Ownership (TCO) basis and compare[d] them against the same discounted value analysis performed on bid proposals from the Mid-Term Reliability RFP."[27] SDG&E describes the TCO approach as:

- Including the initial capital costs (battery storage equipment and balance of plant construction costs) and the annual fixed O&M fees associated with the LTSA;
- Determining the annual electricity discharged by each project;
- Utilization of a 7.75% discount rate;
- Computing discounted value of costs over the ten-year LTSA term;
- Computing discounted energy for ten-year LTSA term plus an additional ten years of operation beyond the initial contract (residual value of energy); and
- Incorporating degradation of the batteries in the calculations.

SDG&E states this cost competitive analysis performed for the proposed Microgrid Projects is consistent with the analysis performed and deemed reasonable by the Commission in Resolution E-5193. The cost competitive analysis resulted in Mitsubishi as the awardee for the capital costs of the equipment for the proposed Microgrid Projects (ESA) and for the ongoing O&M of the equipment (LTSA).

SDG&E states a similar TCO analysis (discounted cost compared to discounted energy analysis) was performed to compare the scheduled augmentation approach with the upfront augmentation approach, accounting for the energy associated with each approach, and that the TCO of the upfront augmentation offers more value.[28, 29] SDG&E's asserts the initial buildout of the Boulevard, Elliot, and Paradise projects at 50.5 MWh "will not only allow those sites to provide peak grid reliability benefits, but also supply benefits during SDG&E's system net peak during 4 p.m. to 9 p.m." and that its proposed design allows reserving "the necessary amount of energy for the resiliency of the circuits while also being able to provide grid reliability benefits during the peak and net peak periods."[30]

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[27] *Id.* at 5.

[28] *Id.* at 7-8.

[29] The Clairemont project is constrained by the physical size of the site and neither scheduled nor upfront augmentation are feasible.

[30] SDG&E AL 3992-E at 8.

SDG&E asserts the increased demand for battery cells and modules, along with supply channels that remain constrained due to the COVID pandemic, has led to increased prices for energy storage projects.[31] SDG&E further asserts the price of equipment and construction costs have continued to rise, citing a Bloomberg New Energy Finance survey indicating prices for four-hour duration battery storage systems to range from $250/kWh to $400/kWh for projects scheduled for commissioning in 2023.[32] SDG&E states that the proposed Microgrid Projects "cannot easily be compared against other stand-alone battery energy storage projects for energy and/or capacity only" because they "offer both grid reliability and resiliency services;" however, "SDG&E did perform a comparison of both the capital and O&M costs of the current proposed microgrid energy storage projects against prior approved utility-owned projects to assess the cost competitive analysis."[33]

SDG&E performed a Net Market Value (NMV) analysis for the proposed Microgrid Projects, calculating the Net Present Value (NPV) of the benefit streams over a 20-year period and the total revenue requirements of each project. SDG&E conducted the NMV analysis for three scenarios – (1) benefit streams, including greenhouse gas (GHG) adder, escalated for future years using an annual escalator from the West Region Consumer Price Index for Energy from 2011 to 2022, (2) without GHG adder applied, and (3) with alternate (lower) growth rate as the GHG adder applied to benefit streams. The results of the NMV analysis are provided in confidential appendices O, P, and Q.

Because the proposed Microgrid Projects would be utility-owned resources, SDG&E states it must follow the Commission Standard of Conduct 4 for least-cost dispatch.[34] SDG&E states this approach uses the most cost-effective mix of total resources and that because the proposed Microgrid Projects would be scheduled under least-cost dispatch principles, the cost of energy to customers will be minimized. SDG&E states there are multiple benefits to a utility-owned resource in comparison to a Power Purchase Agreement (PPA). SDG&E asserts a utility-owned asset can operate and provide capacity, energy, or ancillary services for a significant period after the LTSA ends,

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[31] *Id.* at 5.

[32] *Id.* at 6.

[33] *Id.*

[34] *Id.*at 15.

whereas when a PPA ends the provision of contracted capacity, energy, or ancillary services also ends. SDG&E asserts the infrastructure improvements (e.g., graded pads, interconnection facilities, and communications equipment/shelter) at the project sites will hold significant value into the future because it would decrease the costs to repower the site in the future.

As directed by D.21-12-004 OP 7, SDG&E proposes cost recovery of the associated costs of the Microgrid Projects be through the Cost Allocation Mechanism (CAM) previously adopted in Rulemaking 20-11-003.[35] OP 11 of the Phase 2 Decision in Rulemaking 20-11-003, D.21-12-015 (Phase 2 Decision), orders that the net costs associated with the supply side procurement shall be passed through to all benefitting customers, consistent with the CAM. D.21-12-015 further provides that beginning in 2024, after the emergency period has concluded, RA benefits associated with resource procured under the Phase 2 Decision must be allocated to benefiting customers for the period in which costs are shared.

Each of the Microgrid Projects is and has been in the Wholesale Distribution Access Tariff (WDAT) interconnection queue and has received full capacity deliverability status (FCDS) from the CAISO. Below is a summary of each project's current interconnection status and next steps.

1. Clairemont's WDAT queue number is W128. The project has a System Impact Study (SIS) and was in the CAISO's Cluster 11 Deliverability Assessment and was awarded Transmission Planning Deliverability (TPD) allocation of 10 MW in March 2020. The finalized small generator interconnection agreement (SGIA) is pending.
2. Paradise's WDAT queue number is W130. The project has a SIS and was in the CAISO's Cluster 11 Deliverability Assessment and was awarded TPD allocation of 10 MW in March 2020. The finalized SGIA is pending.
3. Boulevard's WDAT queue number is W127. The project has a SIS and was in the CAISO's Cluster 11 Deliverability Assessment and was awarded TPD allocation of 10 MW in March 2020. The finalized SGIA is pending.
4. Elliot's WDAT queue number is W129. The project has a SIS and is currently in the CAISO's Cluster 11 Deliverability Assessment and was awarded TPD allocation of 10 MW in March 2020. The finalized SGIA is pending.

[35] *Id.*at 21.

In its disposition of AL 3929-E, Energy Division recommended SDG&E include information on what operational measures it will undertake to prioritize critical facilities or extend the duration of resiliency to critical facilities if the energy storage state of charge drops to very low levels (e.g., below the minimum reserve energy). SDG&E indicates in the event of a planned outage, a specifically designed predetermined switch plan will be followed to prioritize critical customers and sectionalize circuit segments with non-critical loads.[36] SDG&E distribution operators would implement this plan by operating field sectionalizing devices, such as distribution switches, to reduce the load served by the microgrid. SDG&E indicates in the event of an unplanned outage, each microgrid will follow an operating procedure or document highlighting critical infrastructure that can be energized via remote switching operations versus manual switching operations, along with a contingency plan providing limiting factors like tie capacity, thermal ratings, and customer counts.[37]

SDG&E states each of the projects will either have the discretionary or ministerial permits needed for construction imminently or it has been determined that the project qualifies for an exemption or exception from a permit.[38] SDG&E states that the Commission's General Order (GO) 131-D governs the permitting of certain electrical facilities including the purchase and installation of turnkey electrical facilities by an investor-owned utility (IOU), as applicable to the Microgrid Projects. SDG&E states the proposed Microgrid Projects are necessary to reduce the risk of further outages and to safeguard the health and safety of Californians.[39] SDG&E believes the proposed Microgrid Projects are subject to Section 15269(c) of the Guidelines adopted to implement the California Environmental Quality Act (CEQA), which exempts "actions necessary to prevent or mitigate an emergency" and the proposed Microgrid Projects are thus exempt from GO 131-D compliance pursuant to GO 131-D, Section III.B.1.h, which governs the construction of projects by investor-owned utilities that are statutorily or categorically exempt.[40] SDG&E states it has executed these contracts in

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[36] *Id.* at 18.

[37] *Id.*

[38] *Id.* at 10.

[39] SDG&E AL 3992-E at 16.

[40] *Id.*

direct response to Commission decisions to expedite projects to ensure reliability in the face of extreme weather events.[41]

SDG&E requests that the following relief be approved by the Commission:

1. The projects meet the needs, eligibility, and other requirements in the Decision.
2. The projects' costs are reasonable to be recovered via the CAM.

NOTICE

Notice of AL 3992-E was made by publication in the Commission's Daily Calendar on May 4, 2022. SDG&E states that a copy of the Advice Letter was mailed and distributed in accordance with General Rule 4 of GO 96-B.

PROTESTS

SDG&E's Advice Letter 3992-E was timely protested by the Public Advocates Office at the California Public Utilities Commission (Cal Advocates) on May 9, 2022.

Cal Advocates sought denial of SDG&E's request for an expedited protest and disposition of AL 3992-E because of the length of the AL and its Appendices and the magnitude of the potential ratepayer impact of SDG&E's cost recovery request.[42] Cal Advocates states that SDG&E's filing was "over two weeks after the deadline set by D.21-12-004."[43]

Cal Advocates seeks rejection of the Boulevard, Elliot, and Paradise projects because the beginning-of-life (BOL) energy capacity of the projects exceeds 40 MWh. Cal Advocates states D.21-12-004 approved the projects with a power capacity of 10 MW and an energy capacity of 40 MWh. Cal Advocates states that SDG&E's upfront augmentation of the

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[41] *Id.*

[42] Energy Division partially granted Cal Advocates request by rejecting SDG&E's request for a five-business-day protest period. Energy Division granted a twelve-calendar day protest period and a four-business-day reply period.

[43] Cal Advocates Protest at 2.

three projects to 50.5 MWh "is merely a cover to procure larger projects."[44] Cal Advocates asserts that while SDG&E argues upfront augmentation may be less costly than scheduled augmentation, it does not save money compared to no augmentation. Cal Advocates notes that the Resource Adequacy (RA) program requires energy storage to have the capability for four hours of full-power output and that the three projects would receive the same RA value in 2023 because projects of 10 MW / 40 MWh at BOL would receive the same RA value as projects of 10 MW / 50.5 MWh at BOL.[45] Cal Advocates states that the additional energy capacity is not needed for reliability or resiliency and that SDG&E is reserving "very little – 3% to 7% of the energy capacity" for resiliency needs.[46] Cal Advocates states that the CAISO's "net load remains low for a significant portion of the supposed [4 p.m. to 9 p.m.] peak, indicating that storage will not need to provide output at full power during the full five-hours, and thus does not require a five-hour duration."[47]

Cal Advocates protest states the upfront augmentation of 10.5 MWh to each of the Boulevard, Elliot, and Paradise projects (31.5 MWh in total) is significant and roughly estimates it results in a cost increase of $7.6 million.[48] Cal Advocates protest states SDG&E has performed an NMV analysis with three different assumptions for a GHG adder but "only under SDG&E's erroneously high rate of growth assumption … do projects appear to show a positive NMV."[49] Cal Advocates states that "the high rate of growth in the GHG adder … relies on multiple arithmetic errors to achieve an implausible conclusion," that "SDG&E does not provide any evidence that the GHG shadow price can be monetized … or will offset other procurement costs," and that "SDG&E does not justify its conclusion that total energy revenues will grow at a rate that corresponds with the growth in GHG shadow prices."[50]

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[44] *Id.* at 3.

[45] *Id.*

[46] *Id.* at 4.

[47] *Id.*

[48] *Id.* at 5.

[49] *Id.*

[50] *Id.* at 5-6.

Cal Advocates recommends approval of the Clairemont project because it does not have an upfront augmentation.[51] Cal Advocates recommends that SDG&E be required to resubmit an AL for the Boulevard, Elliot, and Paradise projects in which each project should not exceed 10 MW and 40 MWh at BOL, and without augmentation.[52]

SDG&E REPLY TO PROTEST

SDG&E timely responded to the protests of Cal Advocates on May 13, 2022.

In response to Cal Advocates' protest seeking denial of expedited protest and disposition of AL 3992-E, SDG&E cites the Governor's Proclamation of State of Emergency, authorization of emergency resources in D.21-12-004 and D.21-12-015, and media coverage of California energy officials recent warning of potential summer blackouts as justification for SDG&E's request for expedited protest and disposition of AL 3992-E. SDG&E states AL 3992-E was filed approximately 55 days early rather than over two weeks late as asserted by Cal Advocates.

In response to Cal Advocates' protest seeking rejection of the Boulevard, Elliot, and Paradise projects because the BOL energy capacity of the projects exceeds 40 MWh, SDG&E states neither the Finding of Facts, Conclusions of Law, nor Ordering Paragraphs of D.21-12-004 dictated limitations to the power capacity or energy capacity of the projects nor did the Decision limit the augmentation approach for the proposed Microgrid Projects. SDG&E states the ten-year total average annual energy capacity across the four sites is 158 MWh which is below the 160 MWh that Cal Advocates suggests is a requirement and that due to battery degradation the total energy capacity of the four sites in total will be below 160 MWh by year four.

SDG&E states the proposed Microgrid Projects must provide both peak and net-peak reliability benefits while also being available to provide resiliency as stipulated in D.21-12-004 and that the upfront augmentation to 50.5 MWh BOL for the Boulevard, Elliot, and Paradise projects will allow the BESS at each project site to maintain 10 MW/40 MWh for RA purposes through nearly the entire ten-year LTSA. SDG&E states "that given footprint constraints and remobilization costs, installing all energy capacity upfront to maintain 40 MWh through the end of the term of the LTSA offers

[51] *Id.* at 6.

[52] *Id.*

more value to customers than a later, scheduled augmentation."[53] SDG&E concedes that at the initial commercial operation date the RA value would be the same for a 40 MWh BOL energy capacity and a 50.5 MWh BOL energy capacity, but by year eight the RA value would have decreased 20% to 8 MW whereas SDG&E's proposal ensures nearly 10 MW of RA value for the entirety of the ten-year LTSA period. SDG&E states it "sought to maximize the amount of qualifying RA capacity for its proposed projects" and that "Cal Advocates suggestion of 'no augmentation' ignores current realities and is inconsistent with California state needs … [r]ather, SDG&E must ensure that the projects serve peak and net peak system capacity shortfalls, and that window is 4:00 to 9:00 p.m."[54] SDG&E states that "in CAISO's Draft Flexible Capacity Needs Assessment for 2023, the 'peak' and 'super-peak' flexible capacity categories for resources are defined as five-hour periods and vary by month."[55]

In response to Cal Advocates' protest refuting SDG&E's NMV analysis, SDG&E asserts Cal Advocates previously raised identical arguments which were resolved in Resolution E-5193, noting that D.21-12-015 did not specify how the NMV analysis should be performed and that the Commission found that SDG&E's NMV analysis met the requirement of D.21-12-015. SDG&E states "there are multiple ways to mathematically calculate a growth rate and the growth rate SDG&E applied fell in the middle of the mathematical calculations" and that "energy storage resources will increase in value over time to maintain reliability of the system while achieving the state's net-zero goals by 2045."[56] SDG&E states that NMV was not a required component of AL 3992-E, that NMV was provided to offer cost comparable analyses with recently approved utility-owned storage resources, and that the findings from Resolution E-5193 should apply.

DISCUSSION

The Commission has reviewed AL 3992-E, the protest, and the reply of SDG&E. We consider issues raised by the protestant to AL 3992-E in the following discussion. We find that SDG&E's request in AL 3992-E is reasonable overall.

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[53] SDG&E Reply to Protest at 5.

[54] *Id.* at 7.

[55] *Id.* at 9.

[56] *Id.* at 10.

Expedited Treatment of AL 3992-E

Cal Advocates asserts SDG&E filed AL 3992-E after the deadline set in D.21-12-004. This is incorrect. D.21-12-004 OP 9 directed SDG&E to file a Tier 2 AL with cost and contract information within 60 days of the approval of the Tier 2 AL required in D.21-12-004 OP 6 *and* upon completion of the contracting necessary to implement each of its up to four circuit-level energy storage microgrid projects.[57] SDG&E states it executed contracts for the proposed Microgrid Projects on April 22, 2022.[58] Thus, the Tier 2 AL required by D.12-21-004 was due no later than June 21, 2022. SDG&E AL 3992-E was timely filed on April 27, 2022.

SDG&E AL 3992-E was timely filed even if one were to read D.21-12-004 OP 9 as requiring SDG&E to file a Tier 2 AL with cost and contract information within 60 days of the approval of the Tier 2 AL (i.e., AL 3929-E) required by D.21-12-004 OP 6. AL 3929-E, as supplemented by AL-3929-E-A, was approved by Energy Division disposition, and became effective March 3, 2022, which would have resulted in AL 3992-E being due no later than May 2, 2022.

The need to address reliability concerns for summer 2022 and/or 2023 has been established in multiple Commission proceedings. The R.19-09-009 track 4, phase 1 proceeding resulting in D.21-12-004 was itself expedited, being initiated on August 23, 2021, and the Decision adopted on December 2, 2021. D.21-12-004 requires the proposed Microgrid Projects to have a commercial operation date no later than August 1, 2023. SDG&E states it intends to issue a notice to proceed on June 24, 2022, for each of the proposed Microgrid Projects.[59] Cal Advocates request to deny expedited treatment of AL 3992-E is rejected because SDG&E timely filed the AL and adequately justified the need for expedited treatment.

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[57] Cal Advocates notes the obvious typographical error in D.21-12-004 OP 9 which refers to OP 5 rather than OP 6. OP 5 relates to PG&E requirements.

[58] SDG&E Reply to Protest at 2.

[59] SDG&E AL 3992-E at 12-14.

Consistency with Commission decision D.21-12-004

We find that SDG&E's AL 3992-E filing is consistent with Commission decision D.21-12-004.

As directed in D.21-12-004 OP 6, SDG&E filed a Tier 2 AL (AL 3929-E) on January 3, 2022, with additional information on the reliability and resiliency capabilities that each of its Microgrid Projects would produce for enhanced reliability starting in the summer of 2022 and/or in 2023. The following information was provided for each of the Microgrid Projects:

- Was granted FCDS as part of the CAISO's 2020 Transmission Plan Deliverability Allocation Process;
- Will participate, once online, in the CAISO market as a dispatchable resource;
- Will be self-scheduled by SDG&E, acting as the scheduling coordinator, to charge during periods of high renewable generation (or light load periods) and discharge during peak and net-peak periods;
- Will be capable of providing blackstart functionality;
- Will be designed to provide resiliency to all customers within the microgrid boundary, to the extent that it is safe to do so, when the project operates in islanded mode (e.g., electrically isolated from the macrogrid);
- Includes a mix of critical facilities, non-critical loads, and rate classes within the microgrid boundary;
- Would have a "worst-case" islanding duration of 1.5 to five hours when the state of charge of the energy storage (i.e., reserve) is at 20% and load is at its one-in-ten-year peak load hour of the peak load day;
- Will maintain a minimum state of charge of the energy storage ranging from five percent to 13 percent to ensure resiliency for critical loads during unplanned outages;[60]
- Determined the minimum state of charge using SDG&E's historical system-level System Average Interruption Duration Index (SAIDI) as a proxy for unplanned

[60] In SDG&E AL 3929-E-A, SDG&E recommended a reduced resiliency need of 33 minutes which would reduce the minimum state of charge of the energy storage to a range of approximately three percent to seven percent.

outage durations and using load estimates from the "worst-case" one-in-ten-year peak load hour of the peak day;[61]
- That SDG&E may choose to release the reserve for maintaining grid stability; and
- Identified the critical facilities that would be provided with resiliency from each of the four projects.

AL 3929-E, as supplemented by AL-3929-E-A, was approved by Energy Division disposition, and became effective March 3, 2022.

As directed in D.21-12-004 OP 9, SDG&E filed a Tier 2 AL (AL 3992-E) seeking approval of its ESA and LTSA contracts with Mitsubishi and its BOP contract with Morrow Meadows. The contracts are for four utility-owned circuit-level energy storage microgrids with a total of 39 MW of incremental storage capacity expected to be operational by August 1, 2023, and that can be dispatched to meet peak and net peak demand.

As required by D.21-12-004, AL 3992-E includes contract and cost information for the proposed Microgrid Projects. The provided information includes:

- Discussion of the procurement process and resources selected;
- Pricing and net market value analysis and summary of key contract terms;
- Showing of cost competitiveness to extent comparable data exist; and
- A demonstration that the resource has a path to deliver its online date.

We find SDG&E's proposed Microgrid Projects are consistent with the Commission's direction in Decision 21-12-004 to fill system capacity shortfalls anticipated in the summers of 2022 and/or 2023, will provide peak and net peak grid reliability benefits starting in the summer of 2023, and will provide islanding and resiliency capabilities in addition to reliability benefits.

[61] In SDG&E AL 3929-E-A, SDG&E modified its approach to determining the minimum state of charge, based partly on Cal Advocates protest of SDG&E AL 3929-E. SDG&E recommended the minimum state of charge be based on a 33-minute outage, which was the longest duration substation or transmission outage experienced by any of the circuits for the proposed Microgrid Projects in the last five years.

Energy Capacity of Proposed Microgrid Projects

Cal Advocates correctly stated the proposed Microgrid Projects are reserving 3% to 7% of the energy capacity for resiliency needs. Energy Division's approval of SDG&E AL 3929-E, as supplemented by AL 3929-E-A, approved this level energy capacity for resiliency purposes. SDG&E stated this level of energy capacity will provide 33 minutes of resiliency at peak load conditions and that 33 minutes represents the longest duration substation or transmission outage experienced by any of the circuits for the proposed Microgrid Projects over the last five years.[62]

As noted by SDG&E, the proposed Microgrid Projects provide both microgrid capability (resiliency) and necessary system capacity at peak and net peak times (reliability).[63] Because of this, the energy capacity of the proposed Microgrid Projects is larger than if it were meant to only serve resiliency needs and is sized primarily to meet the RA requirements that a resource be capable of providing a minimum of four hours of output at full power.

D.21-12-004 did not prescribe, in its Findings of Fact, Conclusions of Law, or Ordering Paragraphs, a specific power capacity or energy capacity for the proposed Microgrid Projects. SDG&E's chosen BESS design with upfront augmentation BOL energy capacity of 50.5 MWh for the Boulevard, Elliot, and Paradise projects results in an end-of-life energy capacity at or near 40 MWh. This design approach maintains RA values of nearly 10 MW for the entire term of the LTSA. A design approach with a BOL energy capacity of 40 MWh with neither upfront nor scheduled augmentation would result in declining RA values, dropping to approximately 8 MW at the end of the ten-year LTSA. SDG&E's cost analysis shows the TCO of the upfront augmentation provides more value than the scheduled augmentation. The CAISO's draft Flexible Capacity Needs

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[62] In SDG&E AL 3929-E at 4, SDG&E used System Average Interruption Duration Index (SAIDI) as a metric to determine a resilience need of 64 minutes and calculated an energy capacity reserve of approximately 5% to 13% would be sufficient. In SDG&E AL 3929-E-A at 2, SDG&E recommended use of 33 minutes as a resiliency need based on the longest duration substation or transmission outage experienced by any of the circuits for the proposed Microgrid Projects in the last five years. This change in resiliency need was based partly on Cal Advocates protest of SDG&E AL 3929-E and the use of SAIDI as a metric for determining the resiliency need. Reserving approximately 3% to 7% of the energy capacity of the proposed Microgrid Projects is sufficient to meet the resiliency need of 33 minutes.

[63] SDG&E AL 3992-E at 6.

Assessment for 2023 establishes "peak" and "super-peak" as five-hour periods that vary seasonally.[64] The CAISO "continues to show an increase in the need of peak category resources, due to the increasing growth of the secondary ramp during sunset."[65]

On balance the upfront augmentation BOL energy capacity of 50.5 MWh for the Boulevard, Elliot, and Paradise projects is acceptable because it maintains RA values at or near the awarded value across the ten-year term of the LTSA and ensures the projects will remain capable of providing peak and net peak grid reliability benefits, in addition to resiliency benefits, as reliability needs continue to evolve.

Competitive Solicitation Methodology, Evaluation, and Cost Reasonableness

SDG&E conducted several competitive solicitations via RFP for the proposed Microgrid Projects, detailing the circumstances that led to separate awardees for the ESA and LTSA contracts and the BOP contract. SDG&E identifies several reasons for an increasing pricing environment for energy storage projects. SDG&E compared both the capital and O&M costs of the proposed Microgrid Projects against prior approved utility-owned projects to assess the cost competitiveness of the projects.[66] Confidential Appendix M contains the results of the cost comparison. SDG&E asked for price reductions on both capital cost and O&M during negotiations to reduce the costs of the proposed Microgrid Projects.[67]

D.21-12-004 neither specified how an NMV analysis should be performed nor did it require an NMV analysis to be performed for the proposed Microgrid Projects. Nonetheless, SDG&E provided the Commission with an NMV analysis, including three scenarios, that was previously found to meet the requirements of D.21-12-015.

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[64] Draft Flexible Capacity Needs Assessment for 2023, p. 26, http://www.caiso.com/InitiativeDocuments/Draft2023FlexibleCapacityNeedsAssessment.pdf ("[T]he ISO establishes the specific five-hour period during which flexible capacity counted in the peak and super-peak categories will be required to submit economic energy bids into the ISO's market.")

[65] *Id.* at 18.

[66] SDG&E AL 3992-E at 6.

[67] *Id.*

The proposed Microgrid Projects provide both reliability and resiliency which complicates direct cost comparison with other utility-owned storage projects. We have reviewed SDG&E's price comparison analyses and on balance find costs of the ESA, LTSA, and BOP contracts are generally reasonable given the high demand for BESS projects and supply chain issues due to the COVID pandemic and other factors that are driving an increase in BESS capital costs. We find that SDG&E has provided the cost and contract information required by D.21-12-004 and performed NMV and cost competitiveness analyses demonstrating that the proposed Microgrid Projects are cost competitive. We find SDG&E's cost competitive analysis to be consistent with SDG&E's analysis performed in SDG&E AL 3913-E to evaluate bilateral energy storage which was deemed reasonable by the Commission in Resolution E-5193.[68] We find the total estimated cost (capital, operations, and construction) of the ESA, LTSA, and BOP contracts of $190.9 million present value revenue requirement to be reasonable given the rising prices of BESS due to high market demand. This Resolution does not authorize recovery of any actual costs of the utility-owned circuit-level energy storage microgrid projects that exceed this estimated amount. However, SDG&E is authorized, within 30 days upon the effective date of this Resolution, to submit a Tier 1 Advice Letter updating SDG&E's existing Microgrids Memorandum Account with a new subaccount titled "Circuit-Level Energy Storage Microgrid Projects Pursuant to Decision 21-12-004" for the purpose of recording any actual, incurred costs that exceed the total estimated cost of $190.9 million present value revenue requirement presented in SDG&E AL 3992-E. Any actual, incurred costs exceeding this estimate are subject to further reasonableness review in SDG&E's next general rate case.

Given the expedited development timeline, we direct SDG&E to regularly update the CAM Procurement Review Group on project milestones during development as well as on operations once the projects are online.

Cost Recovery

In D.21-12-004 OP 7, the Commission directed SDG&E to develop up to four utility-owned circuit-level energy storage microgrid projects with costs to be recovered

[68] SDG&E AL 3913-E requested relief by approval of its Tier 2 AL and Commission finding that the contracts contained therein were reasonable and complied with the requirements set forth in D.21-12-015 (Phase 2 Decision); approval of the contracts and counting them towards SDG&E's procurement requirements in the Phase 2 Decision; and authorization to recover the costs associated with the projects in rates.

through the CAM for utility owned storage previously adopted in Rulemaking 20-11-003. D.21-02-028 specified the parameters of CAM-based cost recovery for conforming procurement.[69] SDG&E's request and clarification to recover the costs of the proposed Microgrid Projects via CAM is reasonable because it meets the direction in D.21-12-004 to recover costs through CAM requirements adopted in Rulemaking 20-11-003. Those CAM requirements are specified in D.21-02-28, namely incremental energy storage capacity. In addition, D.21-12-015 affirmed cost recovery though CAM once a resource is connected to the transmission system and deliverable to CAISO.

> "Consistent with the principles of the Cost Allocation Mechanism (CAM) authority this Commission granted in Decision 21-02-028, once a resource authorized in this decision is connected to the transmission system and deliverable to California Independent System Operator markets, Investor-Owned Utilities shall no longer collect costs for the resources through distribution rates, and instead shall account for the net capacity costs and benefits through the CAM mechanism." (D.21-12-015 OP 79)

D.21-12-015 also extended the CAM authority granted in D.21-02-28 and D.21-03-56 to summer 2023 procurement.

> "The Cost Allocation Mechanism (CAM) authority granted in Decision (D.) 21-02-028 and D.21-03-056 is extended to the summer 2023 procurement ordered in this decision. If an Investor-Owned Utility (IOU) uses such procurement to meet its bundled service Resource Adequacy (RA) requirements, it shall not recover the costs of the resource through CAM, but rather from bundled service customers. After the emergency procurement period, during which an IOU procures incremental reliability resources on behalf of all customers, ends, the IOU shall allocate RA benefits of any resources whose contracts extend beyond the emergency procurement period consistent with their approved cost recovery mechanism." (D.21-12-015 OP 86)

SDG&E's proposed Microgrid Projects will be interconnected, participate in the CAISO wholesale market, and have previously been granted full capacity deliverability status by the CAISO. We agree with SDG&E that the Commission authorizes it to recover the cost of the proposed Microgrid Projects via CAM.

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[69] D.21-02-028 at 11.

Permitting

The Governor's July 30, 2021, Emergency Proclamation declared a State of Emergency due to risks to electricity reliability posed by extreme heat, drought, and fire.[70] In the Proclamation, the Governor requested that the Commission work with load serving entities to rapidly deploy new clean energy and storage projects.[71] Additionally, the Order addresses expedited permitting of projects and states that "these emergency circumstances may be deemed an unforeseen emergency situation."[72]

In response in part to the Emergency Proclamation, the Commission adopted, in D.21-12-015, several supply- and demand-side requirements to ensure electricity reliability for the summers of 2022 and 2023 should another extreme weather event occur. In D.21-12-015 Finding of Fact 10, we found that, "[i]f an extreme weather event were to occur, there is a need for contingency resources in the summers of 2022-2023 in the range of 2,000 MW to 3,000 MW."

In expedited Phase 1 of Track 4 of R.19-09-009, the Commission sought proposals that would help achieve enhanced summer 2022 and/or 2023 reliability benefits and that directly relate to microgrids and resiliency strategies. In D.21-12-004, we found that SDG&E's four circuit-level energy storage microgrid projects may address both local reliability and grid resiliency to address overall system capacity shortfalls.[73]

The proposed Microgrid Projects reduce the risk of further outages, safeguard the health and safety of Californians, and provide resiliency to critical facilities such as cool zones, police, fire, and telecommunications infrastructure.

We agree this is an emergency situation and that the exemption for emergency projects under GO 131-D apply. As SDG&E signed the ESA, LTSA, and BOP contracts in direct response to a Commission decision to expedite the proposed Microgrid Projects to ensure reliability in summer of 2023 in the face of extreme weather events, we find that the emergency provisions in CEQA do apply.

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[70] Gavin Newsom, Proclamation of a State of Emergency, July 30, 2021, at 1.
[71] *Id*. at Order 13.
[72] *Id*.
[73] D.21-12-004 FOF 6.

We agree with SDG&E that the proposed Microgrid Projects are exempt from GO 131-D compliance pursuant to GO 131-D, Section III.B.1.h, which governs the construction of projects by investor-owned utilities that are statutorily or categorically exempt pursuant to Section 15260 et seq. of the Guidelines adopted to implement CEQA, Title 14 of the California Code of Regulations Section 15000 et seq. Specifically, we find that the proposed Microgrid projects are subject to Section 15269(c) of the Guidelines, which exempts "actions necessary to prevent or mitigate an emergency." As such, SDG&E is not required to secure a Certificate of Public Convenience and Necessity, Permit to Construct, or notice of exempt construction from the Commission. However, the Commission is not setting precedent for future storage projects with regard to GO 131-D. These are exceptional circumstances and the process approved here is reliant upon the ability of the projects to prevent an emergency.

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 is neither waived nor reduced. Accordingly, this draft resolution was mailed to parties for comments on May 20, 2022.

Comments on the Draft Resolution were timely filed on June 9, 2022, by SDG&E. These comments are addressed in the revised discussion section above and briefly summarized below.

SDG&E – June 9, 2022 Comments on Draft Resolution

In its comments, SDG&E requests the Commission clarify the Draft Resolution's findings and ordering paragraphs to establish a regulatory pathway for further reasonableness review of any potential costs of the proposed Microgrid Projects that exceed the estimated costs presented in SDG&E AL 3992-E.

FINDINGS

1. On July 30, 2021, Governor Newsom proclaimed a state of emergency in California due to the increasing effects of climate change and their impact on the state's electric system.
2. The Emergency Proclamation requests that the Commission "work with the State's load serving entities on accelerating plans for the construction, procurement, and rapid deployment of new clean energy and storage projects to mitigate the risk of capacity shortages and increase the availability of carbon-free energy at all times of day."
3. Commission decision D.21-12-004 directed San Diego Gas & Electric Company to develop up to four utility-owned circuit-level energy storage microgrid projects, conditioned upon requirements that the projects provide peak and net peak grid reliability benefits starting in the summers of 2022 and/or 2023, that the projects demonstrate islanding and resiliency capabilities in addition to reliability benefits, and that any project pursued by San Diego Gas & Electric Company must have a commercial operation date no later than August 1, 2023.
4. San Diego Gas & Electric Company's four utility-owned circuit-level energy storage microgrid projects will provide peak and net peak grid reliability benefits starting in the summer of 2023.
5. San Diego Gas & Electric Company's four utility-owned circuit-level energy storage microgrid projects will provide islanding and resiliency capabilities in addition to reliability benefits.
6. San Diego Gas & Electric Company's request is consistent with the Commission's direction in Decision 21-12-004 to fill system capacity shortfalls anticipated in the summers of 2022 and/or 2023.
7. The cost competitive analysis performed by San Diego Gas & Electric Company in Advice Letter 3992-E is consistent with its methodology to evaluate bilateral energy storage procurement.
8. San Diego Gas & Electric Company's methodology to evaluate bilateral energy storage procurement is reasonable.
9. The total estimated cost (capital, operations, and construction) of $190.9 million present value revenue requirement for the utility-owned circuit-level energy storage microgrid project contracts is reasonable given recent increases in prices due to high demand for battery energy storage systems.
10. It is reasonable to authorize San Diego Gas & Electric Company to file a Tier 1 Advice Letter to establish a new subaccount titled "Circuit-Level Energy Storage Microgrid Projects Pursuant to Decision 21-12-004" in its existing Microgrid Memorandum Account, for the purpose of recording any actual, incurred costs that

exceed the total estimated cost of $190.9 million present value revenue requirement presented in SDG&E AL 3992-E.

11. It is reasonable to require San Diego Gas & Electric Company, if it seeks to recover any actual, incurred costs exceeding the total estimated cost of $190.9 million present value revenue requirement presented in SDG&E AL 3992-E, to submit the excess costs for further reasonableness review in its next general rate case.
12. It is reasonable for San Diego Gas & Electric Company to regularly update the Cost Allocation Mechanism Procurement Review Group on project milestones during development as well as on operations once the projects are online.
13. San Diego Gas & Electric Company's request to allocate costs consistent with the principles of the Cost Allocation Mechanism is consistent with the Commission's direction in Decision 21-12-004.
14. San Diego Gas & Electric Company's request to recover the costs of the utility-owned circuit-level energy storage microgrid projects through the Cost Allocation Mechanism is reasonable.
15. The utility-owned circuit-level energy storage microgrid projects are governed by Commission General Order 131-D as it relates to permitting electric facilities in California.
16. The development of the utility-owned circuit-level energy storage microgrid projects are necessary to maintain electricity service which is essential to the public health, safety, and welfare and are, therefore, statutorily exempt from the requirements of the California Environmental Quality Act pursuant to Section 15269, Title 14 of the California Code of Regulations (CEQA Guidelines). As such, section III.B.1.h of GO 131-D exempts the projects from the requirement to file an application with the Commission requesting authority to construct.
17. A Certificate of Public Convenience and Necessity, Permit to Construct, or notice of exempt construction from the Commission is not required for the utility-owned circuit-level energy storage microgrid projects identified in SDG&E AL 3992-E.

THEREFORE IT IS ORDERED that:

1. The request of the San Diego Gas & Electric Company to approve the utility-owned circuit-level energy storage microgrid contracts as requested in Advice Letter 3992-E is approved.
2. San Diego Gas & Electric Company is authorized to recover actual, incurred costs up to the total estimated cost (capital, operations, and construction) of $190.9 million present value revenue requirement presented in SDG&E AL 3992-E for the utility-owned circuit-level energy storage microgrid project contracts via the Cost Allocation Mechanism.

3. San Diego Gas & Electric Company is authorized to file, within 30 days upon the issuance of this Resolution, a Tier 1 Advice Letter modifying its electric preliminary statement to establish a new subaccount titled "Circuit-Level Energy Storage Microgrid Projects Pursuant to Decision 21-12-004" in its existing Microgrid Memorandum Account, for the purpose of recording any actual, incurred costs that exceed the total estimated cost of $190.9 million present value revenue requirement presented in SDG&E AL 3992-E. If San Diego Gas & Electric Company seeks to recover any of the actual, incurred costs that exceed the authorized amount, it shall do so in its next general rate case.
4. San Diego Gas & Electric Company shall regularly update the Cost Allocation Mechanism Procurement Review Group on project milestones during development as well as on operations once the projects are online.

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 June 23, 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