

Application No.: A.23-06-XXX

Exhibit No.: _____

Witness: Kevin M. Counts

PREPARED DIRECT TESTIMONY OF

KEVIN M. COUNTS

ON BEHALF OF

SAN DIEGO GAS & ELECTRIC COMPANY

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**



JUNE 1, 2023

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ACRONYM GLOSSARY

**PREPARED DIRECT TESTIMONY OF
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I. INTRODUCTION

This testimony presents San Diego Gas & Electric Company’s (“SDG&E”) compliance with the California Public Utility Commission’s (“Commission”) Good Utility Practice, as discussed below, and reasonable manager standards as defined in Decision (“D.”) 02-12-069,¹ with respect to Utility Owned Generation (“UOG”) resources planned and unplanned outages during the record year period of January 1, 2022 through December 31, 2022.

II. DESCRIPTION OF SDG&E-OWNED GENERATION

SDG&E owns and operates two combined-cycle generating facilities: the Palomar Energy Center in Escondido, California and the Desert Star Energy Center in Boulder City, Nevada. SDG&E owns and operates two peaking plants: Miramar Energy Facility in San Diego, California and Cuyamaca Peak in El Cajon, California. SDG&E also owns and operates five battery energy storage system projects: 30 MW/120 MWh Escondido Battery Energy Storage System (“BESS”), 7.5 MW/30 MWh El Cajon BESS, 30MW/120 MWH Top Gun Energy Storage, 20MW/40 MWH Kearny BESS, and 2 MW/8 MWH Miguel Vanadium Redox Flow (“VRF”).² Lastly, SDG&E owns and operates a solar energy project located in Ramona, California that can produce up to 4.32 MW using smart inverters and fixed photovoltaic panels.

A. Palomar Energy Center (“PEC”)

The Palomar Energy Center (PEC) is a 588 megawatt gas-fired combined-cycle plant with 2 GE 7FA model combustion turbines and a GE steam turbine. The plant is equipped with

¹ See D.02-12-069, Attachment A-3 at 5.

² The MW ratings used in this Testimony are electric generation ratings and may differ from plant interconnect ratings used elsewhere.

1 inlet-air chillers and a thermal energy storage tank that allows the plant to produce energy at its
2 capacity during the summer months. Recycled water is used for cooling plant equipment.

3 **B. Desert Star Energy Center (“DSEC”)**

4 The Desert Star Energy Center³ (DSEC), located in Boulder City, NV, is a 480 megawatt
5 gas-fired combined-cycle plant with 2 Siemens 501-FC model combustion turbines and a
6 Westinghouse steam turbine. This plant was acquired by SDG&E in October 2011 pursuant to
7 D.07-11-046. This Decision permitted SDG&E to exercise an option to purchase the facility
8 from El Dorado Energy, LLC, a subsidiary of Sempra Energy.

9 **C. Miramar Energy Facility (“MEF”)**

10 The Miramar Energy Facility (MEF) is a peaking plant with two GE LM6000 model
11 turbines that together produce 92 megawatts (MEF-1 and MEF-2). This site also provides black
12 start services used for restoration of the electric grid. Operations and maintenance personnel
13 based out of the Palomar Energy Center provide all plant services to this facility.

14 **D. Cuyamaca Peak Energy Plant (“CPEP”)**

15 The Cuyamaca Peak Energy Plant (CPEP) is a peaking plant with a Pratt & Whitney FT8
16 model turbine generator set that produces 45 megawatts. This site also provides black start
17 services used for restoration of the electric grid. Operations and maintenance personnel based
18 out of the Palomar Energy Center provide all plant services to this facility.

19 **E. Escondido Battery Energy Storage System (“Escondido BESS”)**

20 The Escondido Battery Energy Storage System (BESS) is a 120 megawatt-hour energy
21 storage system with a maximum output of 30 megawatts for up to 4 hours. The energy storage

³ The current lease agreement expires in 2027, but SDG&E is exploring a potential lease extension, along with alternatives to convert the plant to a clean dispatchable resource. If these initiatives move forward, additional filings would be made in the future to seek applicable regulatory approvals.

1 system uses lithium-ion batteries. The project construction began Q4/2016 and began to operate
2 commercially Q1/2017. Pursuant to CPUC Resolution E-4791 on May 26, 2016⁴, SDG&E
3 developed expedited energy storage projects to alleviate reliability issues associated with Aliso
4 Canyon. CPUC approval was requested via Tier 3 Advice Letter 2924-E. The Advice Letter
5 was approved in its entirety in CPUC Resolution E-4798 on August 18, 2016. Operations and
6 maintenance personnel based out of the Palomar Energy Center provide all plant services to this
7 facility.

8 **F. El Cajon Battery Energy Storage System (“El Cajon BESS”)**

9 The El Cajon BESS was developed and constructed under the same authorization as the
10 Escondido battery project and uses lithium-ion technology for the energy storage system. This
11 energy storage system is rated at 30 megawatt-hours with a maximum output of 7.5 megawatts
12 for up to 4 hours. Operations and maintenance personnel based out of the Palomar Energy
13 Center provide all plant services to this facility.

14 **G. Top Gun Battery Energy Storage System (“Top Gun BESS”)**

15 The Top Gun BESS was constructed pursuant to AB 2514 and uses lithium-ion battery
16 technology energy storage.⁵ This energy storage system is rated at 120 megawatt-hours with a

⁴ Resolution Authorizing Expedited Procurement of Storage Resources to Ensure Electric Reliability in the Los Angeles Basin due to Limited Operations of the Aliso Canyon Storage Facility), issued May 31, 2016. Available at: <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M162/K850/162850315.PDF>

⁵ Assembly Bill (AB) 2514 (Skinner, Chapter 469, Statutes of 2010), amended by Assembly Bill 2227 (Bradford, Chapter 606, Statutes of 2012), was designed to encourage California to incorporate energy storage into the electricity grid, as codified at Public Utilities Code § 2835-2839 and § 9506. Energy storage can provide a multitude of benefits to California, including supporting the integration of greater amounts of renewable energy into the electric grid, deferring the need for new fossil-fueled power plants and transmission and distribution infrastructure, and reducing dependence on fossil fuel generation to meet peak loads.

1 maximum output of 30 megawatts for up to 4 hours. Operations and maintenance personnel
2 based out of the Palomar Energy Center provide all plant services to this facility.

3 **H. Kearny Battery Energy Storage System (“Kearny BESS”)**

4 The Kearny BESS was developed and constructed as part of SDG&E’s Integrated
5 Resource Plan. This energy storage system uses two lithium-ion battery systems each rated at 40
6 megawatt-hours with a maximum output of 10 megawatts for up to 4 hours. The combination
7 provides a total of 80 megawatt-hours with a maximum output of 20 megawatts for up to 4
8 hours. Operations and maintenance personnel based out of the Palomar Energy Center provide
9 all plant services to this facility.

10 **I. Miguel Vanadium Redox Flow (“Miguel VRF”)**

11 The Miguel Vanadium Redox Flow (VRF) BESS was constructed as a demonstration
12 project in partnership with Sumitomo, Japan’s New Energy, and Industrial Technology
13 Development Organization (NEDO) and GO-Biz and uses flow technology. This energy storage
14 system is rated at 8 megawatt-hours with a maximum output of 2 megawatts for up to 4 hours.
15 Operations and maintenance personnel based out of the Palomar Energy Center provide all plant
16 services to this facility.

17 **J. Ramona Solar Energy Project (“RSEP”)**

18 The Ramona Solar Energy Project was developed and constructed pursuant to D.10-09-
19 016 and SDG&E’s Advice Letter 2374E-A. The project is built with fixed photovoltaic panels
20 and can produce up to 4.32 megawatts. Operations and maintenance personnel based out of the
21 Palomar Energy Center provide all plant services to this facility.

22 **III. COMMISSION STANDARDS RELATED TO SDG&E-OWNED GENERATION**

23 During the record period, SDG&E operated and maintained its UOG resources (Palomar,
24 Desert Star, Miramar, and Cuyamaca; collectively, SDG&E’s “UOG units”) in a reasonable and

1 prudent manner, consistent with “Good Utility Practice” and the reasonable manager standard.⁶

2 The Commission defined “Good Utility Practice” in D.02-12-069:⁷

3 [A]ny of the practices, methods and acts engaged in or approved by a
4 significant portion of the electric utility industry during the relevant time
5 period, or any of the practices, methods and acts which, in the exercise of
6 reasonable judgment in light of the facts known at the time the decision
7 was made, could have been expected to accomplish the desired result at a
8 reasonable cost consistent with good business practices, reliability, safety
9 and expedition. Good Utility Practice does not require the optimum
10 practice, method, or act to the exclusion of all others, but rather is intended
11 to include acceptable practices, methods, or acts generally accepted in the
12 Western Electric Coordinating Council region.

13 Consistent with “Good Utility Practice,” during 2021, SDG&E followed an established
14 maintenance program to maximize the availability of the units as a primary “desired result.”

15 Specifically, this maintenance program factors in a number of considerations, including
16 manufacturer guidelines, appropriate power industry practices, safety considerations, and good
17 engineering and technical judgment to allocate resources most effectively to maximize
18 availability of its UOG resources. Additionally, the SDG&E maintenance program incorporates
19 practices that are generally accepted within the electric power generation industry and the
20 Western Electricity Coordinating Council (“WECC”) and the North American Electric
21 Reliability Corporation (“NERC”).

⁶ The Commission has explained the “reasonable manager” standard in ERRR compliance cases, as follows: Under the “reasonable manager standard, utilities are held to a standard of reasonableness based on the facts that are known or should have been known at the time. The act of the utility should comport with what a reasonable manager of sufficient education, training, experience, and skills using the tools and knowledge at his or her disposal would do when faced with a need to make a decision and act.” D.14-05-023 at 15. By meeting the “Good Utility Practice” standard and other Commission requirements stated herein, SDG&E maintains that likewise has met the “reasonable manager” standard during the 2022 record period. The Appendices to this testimony further provide SDG&E’s primary showing with respect to both standards. In addition, the Commission recently has confirmed that the compliance review to which various SDG&E accounts are subject in ERRR compliance proceedings are not “reasonableness reviews.” D.17-03-016 at 3 and Finding of Fact 2.

⁷ See D.02-12-069, Attachment A-3 at 5.

1 Additionally, SDG&E is required to comply with the Commission’s General Order
2 (“GO”) 167 - Enforcement of Maintenance and Operation Standards for Electric Generating
3 Facilities.⁸ Sections 10.0 and 11.0 of GO 167 specifically outline each generator owner’s
4 obligation to provide information and cooperate with Commission audits, investigations and
5 inspections. In addition, each outage may warrant the creation of internal documentation,
6 including but not limited to, equipment affected, parts replaced, work required to accomplish
7 outage-related tasks, costs of repairs, other recommended actions that may be taken to mitigate a
8 repeat of the failure, change to operating procedures required to address component or plant
9 issues, changes to maintenance practices to improve reliability, communications with an original
10 equipment manufacturer, and implementation of upgrades to improve reliability. Evidence of the
11 above may be found in parts of the Computerized Maintenance Management System (“CMMS”)
12 ordering documents, as well as work orders, vendor invoices, investigation reports, management
13 of change documents, and communications with vendors.

14 GO 167 also requires SDG&E to meet specific maintenance and operations standards,
15 which also suggest guidance detailed for maintenance and operations programs. These standards
16 and guidance are based on accepted power industry good practices. SDG&E is required to
17 document and certify to these standards every two years and submit the documentation to the
18 Commission Electric Safety and Reliability Branch (“ESRB”). The certification documentation
19 includes a summary list of maintenance, operations and safety procedures that describe the
20 programs and processes used in generation.

⁸ Public Utilities Commission of the State of California, General Order No. 167 Enforcement of Maintenance and Operation Standards for Electric Generating Facilities (Effective September 02, 2005). Available at http://docs.cpuc.ca.gov/PUBLISHED/GENERAL_ORDER/108114.htm.

1 **IV. ADDITIONAL REVIEW OF UOG OPERATIONS**

2 Additional review of SDG&E’s UOG operations is provided through Sempra Energy
3 Internal Audit Department’s audits of SDG&E’s generating facilities. Consistent with auditing
4 standards and industry best practices, the frequency and nature of such audits is determined
5 based on the Internal Audit Department’s annual risk assessment, which determines the areas of
6 the company, including utility operations, to be audited. This risk-based analysis may change
7 from year to year.

8 Further, SDG&E’s Insurance Risk Consultants conduct site inspections to review and
9 evaluate the plant’s physical condition, maintenance, and operations processes. These
10 inspections are performed from a risk perspective and cover maintenance practices, operations
11 practices, material condition, and fire protection. The report may offer recommendations for
12 improvement to systems, facilities, and processes.

13 SDG&E is also required to meet certain electric reliability standards from the NERC and
14 WECC. NERC and WECC perform periodic audits of SDG&E to ensure compliance with the
15 reliability standards.

16 Furthermore, SDG&E generation plants are subject to site visits from various regulators
17 concerning implementation of permits. There are periodic onsite inspections and data requests
18 concerning the implementation of requirements for air permits, water permits, and water
19 discharge permits. SDG&E’s Palomar Energy Center is also required to meet permit conditions
20 detailed in the California Energy Commission (“CEC”) Operating Permit.

21 SDG&E’s Generation personnel have communicated with the following agencies in 2022:

- 22 • California Energy Commission (“CEC”)
- 23 • California Public Utilities Commission (“CPUC”)
- 24 • California Air Resource Board (“CARB”)

- 1 • U.S. Energy Information Administration (“US EIA”)
- 2 • Environmental Protection Agency (“EPA”) Region 9
- 3 • Clark County Department of Air Quality (“DAQ”)
- 4 • Nevada Division of Environmental Protection (“NDEP”)
- 5 • San Diego Air Pollution Control District (“APCD”)
- 6 • Regional Water Quality Control Board (“RWQCB”)
- 7 • CA-EPA State Water Board
- 8 • City of Escondido
- 9 • Western Electricity Coordinating Council (“WECC”)
- 10 • North American Electric Reliability Corporation (“NERC”)
- 11 • Certified Unified Program Agencies (“CUPA”)

12 **V. OUTAGES - UTILITY OWNED GENERATION**

13 Many preventive and corrective maintenance work activities require planned outages,
14 whereas unplanned corrective maintenance is performed under short-notice or forced outages.

15 Appendix A, below, provides narratives for forced outages greater than 24 hours for all
16 facilities 25 MW or larger. Appendix B, below, provides narratives for planned outages that are
17 greater than 24 hours for all facilities 25 MW or larger, where the outage was extended by two
18 weeks or fifty percent longer, whichever is greater, from its planned schedule. The narratives
19 address, as applicable, the following points:

- 20 1. The nature of the outage.
- 21 2. The cause(s) of the outage, if known.
- 22 3. Possible steps to prevent similar occurrences.
- 23 4. Whether the outage may have prevented (or minimized the duration of) a future
24 outage.

1 **VI. CONCLUSION**

2 My testimony describes SDG&E’s UOG resources located in San Diego County and
3 Nevada. SDG&E consistently followed the Commission’s guidance and “Good Utility Practice”
4 and met the “reasonable manager” standard during the 2022 record period.

5 This concludes my prepared direct testimony.

1 **VII. QUALIFICATIONS**

2 My name is Kevin M. Counts. My business address is 2300 Harveson Place, Escondido,
3 CA 92029. I am currently employed by SDG&E as Operations Manager for Palomar Energy
4 Center, Miramar Energy Facility and Cuyamaca Peak Energy Plant. My responsibilities include
5 overseeing a staff that operates these power plants.

6 I began employment at SDG&E in 2005 as an Operations Technician for Palomar Energy
7 Center and Miramar Energy. My experience prior to employment at SDG&E (approximately 11
8 years) includes various positions in the US Nuclear Navy and with Reliant Energy at the Bighorn
9 Generating Station.

10 I hold a Bachelor of Science degree in Business from the University of Phoenix.

11 I have previously testified before the Commission.

APPENDIX A

SDG&E'S 2021 UOG FORCED OUTAGES GREATER THAN 24 HOURS FOR FACILITIES 25 MW OR LARGER

1. Palomar Energy Center ("PEC") Steam Turbine Exciter Sensing Line Fault forced outage – May 7, 2022, through May 10, 2021 – 3.3 Days

During a plant shutdown on May 7, 2022, the Steam Turbine experienced an exciter fault indicated by alarms on the control system. Upon investigation damaged wires were found that connect resistors to each other and to capacitors inside the exciter. Plant was placed in a forced outage to conduct repairs. Parts were replaced and the plant was released from the outage.

2. Cuyamaca Peak Energy Plant ("CPEP") Excitation Diode Failure forced outage – August 17, 2022, through August 22, 2022 – 4.8 Days

During a run on August 16, 2022, the operators received alarms indicating a failure of an exciter diode. On August 17, 2022, the unit was placed in a forced outage to troubleshoot and perform repairs. A vendor was brought out to disassemble the rectifier and perform electrical tests of the unit. Through this testing they verified that there was a diode that had failed. The diode wheel was removed, cleaned, and reassembled using all new diodes. Following the repair, the unit was run, and the outage was ended.

3. Dessert Star Energy Center ("DSEC") Unit 2 start failure forced outage – September 16, 2022, through September 19, 2022 – 2.9 days.

On September 16, 2022, during start up, the CT2 generator field voltage would not increase, and the unit was shut down. Once troubleshooting took place, it was determined that the field flashing relay was faulty. The Faulty 31TD field flashing relay was replaced and tested, and the outage was ended.

4. Palomar Energy Center (“PEC”) Unit 1 and 2 HP Bypass Valve Leak By – November 3, 2022, through November 6, 2022 – 3.58 Days

During operation on October 31, 2022, there was indication of high temperatures downstream of the High Pressure (HP) Steam Bypass Valves indicating possible leak by on the valves. The plant load was reduced to lower the temperature downstream of the valves while SDG&E prepared to perform repairs on the valves. On November 3, 2022, the plant was shut down and placed in a force outage. Both valves were disassembled, inspected, and rebuilt. Following the repair, the plant was released from the outage.

APPENDIX B

PLANNED OUTAGES DURING 2021 THAT WERE 24 HOURS OR LONGER FOR ALL FACILITIES 25 MW OR LARGER THAT WERE EXTENDED BY TWO WEEKS OR FIFTY PERCENT LONGER, WHICHEVER IS GREATER, FROM ITS PLANNED SCHEDULE

1. Cuyamaca Peak Energy Plant (“CPEP”) Engine A partially backed out bolt repair – September 23, through October 17 – 24.7 Days

A borescope inspection of Engine A identified a retaining bolt had partially backed out.

A 10 day outage was scheduled to address the bolt. After the outage was scheduled, it was determined that the engine repair could not be performed on site and would require the engine to be removed and sent to the original equipment manufacturer for repair. On September 23, 2022, the plant started a planned outage and Engine A was removed and sent to the depot. The engine was repaired and returned to the site for installation. Following the reinstallation of the engine, the plant was released from the outage.

ACRONYM GLOSSARY

APCD	San Diego Air Pollution Control District
BESS	Battery Energy Storage System
CARB	California Air Resource Board
CEC	California Energy Commission
CMMS	Computerized Maintenance Management System
CPEP	Cuyamaca Peak Energy Plant
CPUC	California Public Utilities Commission
CT	Combustion Turbine
CTG	Combustion Turbine Generator
CUPA	Certified Unified Program Agencies
GE	General Electric
D	Decision
DAQ	Clark County Department of Air Quality
DSEC	Desert Star Energy Center
ERRA	Energy Resource Recovery Account
ESRB	Electric Safety and Reliability Branch
GO	General Order
HRSRG	Heat Recovery Steam Generator
LP	Low Pressure
MEF	Miramar Energy Center
MW	Megawatt
MWh	Megawatt hour
NDEP	Nevada Division of Environmental Protection
NERC	North American Electric Reliability Corporation
NO _x	Nitrous Oxides
OEM	Original Equipment Manufacturer
ORA	Office of Ratepayer Advocates
PEC	Palomar Energy Center
RSEP	Ramona Solar Energy Plant
RWQCB	Regional Water Quality Control Board
SCR	Selective Catalytic Reduction
SDG&E	San Diego Gas & Electric
STG	Steam Turbine Generator
UOG	Utility Owned Generation
US EIA	U.S. Energy Information Administration
WECC	Western Electricity Coordinating Council