

Application No.: A.22-06-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, 2022**

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WHICHEVER IS GREATER, FROM ITS PLANNED SCHEDULE

ACRONYM GLOSSARY



1           **A.     Palomar Energy Center (“PEC”)**

2           The Palomar Energy Center (PEC) is a 588 megawatt gas-fired combined-cycle plant  
3 with 2 GE 7FA model combustion turbines and a GE steam turbine. The plant is equipped with  
4 inlet-air chillers and a thermal energy storage tank that allows the plant to produce energy at its  
5 capacity during the summer months. Recycled water is used for cooling plant equipment.

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

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

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

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

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

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

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<sup>4</sup> 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           **E.       Escondido Battery Energy Storage System (“Escondido BESS”)**

2           The Escondido Battery Energy Storage System (BESS) is a 120 megawatt-hour energy  
3 storage system with a maximum output of 30 megawatts for up to 4 hours. The energy storage  
4 system uses lithium-ion batteries. The project construction began Q4/2016 and began to operate  
5 commercially Q1/2017. Pursuant to CPUC Resolution E-4791 on May 26, 2016<sup>5</sup>, SDG&E  
6 developed expedited energy storage projects to alleviate reliability issues associated with Aliso  
7 Canyon. CPUC approval was requested via Tier 3 Advice Letter 2924-E. The Advice Letter  
8 was approved in its entirety in CPUC Resolution E-4798 on August 18, 2016. Operations and  
9 maintenance personnel based out of the Palomar Energy Center provide all plant services to this  
10 facility.

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

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

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

18           The Top Gun BESS was constructed pursuant to AB 2514 and uses lithium-ion battery  
19 technology energy storage.<sup>6</sup> This energy storage system is rated at 120 megawatt-hours with a

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<sup>5</sup> 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>

<sup>6</sup> 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.

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

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

### 10 **I. Ramona Solar Energy Project (“RSEP”)**

11 The Ramona Solar Energy Project was developed and constructed pursuant to D.10-09-  
12 016 and SDG&E’s Advice Letter 2374E-A. The project is built with fixed photovoltaic panels  
13 and can produce up to 4.32 megawatts. Operations and maintenance personnel based out of the  
14 Palomar Energy Center provide all plant services to this facility.

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

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

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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 prudent manner, consistent with “Good Utility Practice” and the reasonable manager standard.<sup>7</sup>

2 The Commission defined “Good Utility Practice” in D.02-12-069:<sup>8</sup>

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”).

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<sup>7</sup> The Commission has explained the “reasonable manager” standard in ERRa 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 2018 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 ERRa compliance proceedings are not “reasonableness reviews.” D.17-03-016 at 3 and Finding of Fact 2.

<sup>8</sup> 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.<sup>9</sup> 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.

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<sup>9</sup> 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](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 2021:

- 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 24 hours or longer for all  
16 facilities 25 MW or larger. Appendix B, below, provides narratives for planned outages that are  
17 24 hours or longer 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 2021 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 not previously testified before the Commission.

**APPENDIX A**

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

## APPENDIX A

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

**1. Palomar Energy Center (“PEC”) Unit 1 and 2 Heat Recovery Steam Generator (“HRSG”) Preheater Vent Piping Leaks: Full plant forced outage – February 19, 2021, through February 20, 2021 – 1.4 days**

On February 19, 2021, operations noted indications of leaks in the area of the HRSG1 and HRSG2 Low Pressure (“LP”) Preheater sections while the plant was shut down. The plant was placed in a forced outage to enter the HRSGs and investigate the source of the leak and perform repairs. Leaks were identified in the LP Preheater vent line area of both units. Repairs were made and the unit was released for service on February 20, 2021.

**2. Dessert Star Energy Center (“DSEC”) Unit 1 Generator Trip: Combustion Turbine 1 (“CT1”) forced outage – April 12, 2021, through April 13, 2021 – 1.4 days**

On April 12, 2021, during plant steady state operation, the unit 1 generator tripped, causing a CT1 forced outage. Combustion Turbine 1 was shutdown safely to investigate the trip, which was determined to be caused by a broken 65-ohm resistor in the feed line to one of the potential transformers (“PTs”). The broken resistor was replaced and satisfactorily tested. On April 13, 2021, at 14:30 repairs were completed, and the forced outage was ended.

**3. Palomar Energy Center (“PEC”) Hydraulic Leak on the Steam Turbine Main Stop and Control Valve (“MSCV”) – May 1, 2021, through May 6, 2021 – 4.7 Days**

On May 1, 2021, while the plant was in a shutdown condition, a hydraulic leak was identified on the STG Main Stop and Control Valve and a small fire started near the area of the leak. The hydraulic system was shut down to stop the leak and fire was extinguished. The plant was placed in a forced outage to investigate the source of the leak and perform repairs. The hydraulic leak was repaired and tested. Following the repair, the plant was released for service on May 6, 2021.

**4. Desert Star Energy Center (“DSEC”) Steam Turbine inlet valve failure: Full Plant forced outage – August 27, 2021, through September 7, 2021 – 10.9 Days**

On August 27 during plant start up, the steam turbine would not increase load. It was determined that there was a probable internal issue with one of the 2 HP turbine inlet valves. The plant was shut down for a full plant outage to cooldown the valves and components for inspection and repair. The steam turbine inlet governor valve plug was found to be separated from the stem and guide. A new valve stem and guide were installed and assembled, and satisfactorily tested. On September 7, 2021, at 12:00 repairs were completed, and the forced outage was ended.

**5. Palomar Energy Center (“PEC”) Unit 2 Heat Recovery Steam Generator (“HRSG”) Preheater Drain Piping Leak – August 20, 2021, through August 22, 2021 – 2.5 Days**

On August 15, 2021, a leak in the area of Low Pressure (“LP”) Preheater section of HRSG2. Plans were made to take a forced outage the following weekend. On August 20, 2021, the plant was placed in a forced outage to investigate the leak and perform repairs. The plant identified the leak in the LP Preheater drain area near the HRSG penetration. The piping was cut out and replaced to repair the leak and the unit was released for service on August 22, 2021.

**6. Palomar Energy Center (“PEC”) HRSG1 Reheat Desuperheater Control Valve Repair – September 15, 2021, through September 16, 2021 – 1.6 Days**

During a plant startup on September 6, 2021, the HRSG1 Reheat Desuperheater control valve stuck at approximately 33%. The plant was able to get the valve to close but was not able to get full function back on the valve without an outage to make repairs. The plant was able to stay online until a more opportune time to take the plant down for repair. During this time, the plant was limited to operating above 500MW where the Reheat Desuperheater control valve would not normally operate. On September 15, 2021, the plant was placed in a forced outage and

performed repairs on the valve. Following the repairs, the plant was returned to service on September 16, 2021.

**7. Desert Star Energy Center (“DSEC”) Unit 2 Heat Recovery Steam Generator (“HRSG”) IP bypass attemperator leak: Full Plant forced outage – November 2, 2021, through November 5, 2021 – 2.7 Days**

On November 2, 2021, during steady state operation, the ST tripped on faulty #2 bearing Y vibration signal. During steam bypass operation due to the ST trip, a steam leak was discovered from a crack in the downstream weld on #2 IP Bypass valve. The plant was shut down for a full plant outage to access and repair the damage. The crack was repaired and satisfactorily tested. On November 5, 2021, at 12:00 repairs were completed, and the forced outage was ended.

**8. Palomar Energy Center (“PEC”) Combustion Turbine Generator 1 (“CTG1”) Exhaust Leak – November 6, 2021, through November 7, 2021 – 1.9 Days**

On November 6, 2021, CTG1 was placed in forced outage to investigate the failure of some exhaust thermocouples. During the outage, the unit was cooled, and entrance made into the exhaust area of the turbine to investigate the issue. Cracks were identified in the diffuser section area near multiple exhaust thermocouples. The cracks were repaired, insulation replaced and CTG1 was returned to service on November 7, 2021.

**9. Palomar Energy Center (“PEC”) High Pressure (“HP”) Drum Level Indicator Isolation Valve Leak – December 28, 2021, through December 29, 2021 – 1.1 Days**

On December 28, 2021, the Combustion Turbine Generator 1 (“CTG1”) was placed in a forced outage to repair a steam leak on the High Pressure (“HP”) Drum Level Indicator isolation valve. During the outage the HP Drum was depressurized, the isolation valve was removed, and a new valve installed in its place. Following the installation of the new valve, CTG1 was returned to service on December 29, 2021.



**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**

## 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. Desert Star Energy Center (“DSEC”) Unit 1 Generator Major Overhaul and Rotor Replacement Planned Outage – October 1, 2021, Through October 25, 2021 (24.6 Days), and Extended – October 25, 2021, Through November 8, 2021 (14.3 Day Extension)**

On October 1, 2021, the plant was shut down for planned maintenance, including Unit 1 Generator Major Overhaul and Rotor Replacement. During the replacement of the rotor, several issues emerged that delayed completion including: a generator bearing not passing inspection for reuse and needing to be sent off site for remanufacture; mitigating collector to generator coupling thread damage; and adjusting generator bearing to bearing saddle alignment and clearance. Also, during the generator Major Overhaul, several issues emerged that delayed completion including: stator wedge tightness repair; and stator core blocking replacement. The added time used to complete this work was necessary to complete the overhaul, and if not completed, it could have resulted in a future forced outage condition.

## 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 <sub>x</sub>	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