

Application No: R.12-03-014
Exhibit No: _____
Witness: John M. Jontry

**PREPARED TRACK 4 REBUTTAL TESTIMONY OF
SAN DIEGO GAS & ELECTRIC COMPANY (U 902 E)**



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

October 14, 2013

TABLE OF CONTENTS

I.	PURPOSE.....	1
II.	RECOMMENDATIONS.....	1
III.	PURPOSE OF TRANSMISSION PLANNING STUDIES IN THIS PROCEEDING	2
IV.	PURPOSE AND APPLICABILITY OF NERC STANDARDS AND SDG&E’S COMPLIANCE OBLIGATION	3
V.	CLASSIFICATION OF CONTINGENCIES	4
VI.	PRUDENT LONG TERM PLANNING	5
VII.	GRID SECURITY vs. SERVICE RELIABILITY	6

1 **PREPARED REBUTTAL TESTIMONY**

2 **OF JOHN M. JONTRY**

3 **I. PURPOSE**

4 The purpose of my testimony is to respond to intervener testimony regarding the
5 transmission planning criteria used by San Diego Gas & Electric Company (SDG&E) to
6 determine the minimum generation resources required for the San Diego area for the year 2022
7 in the absence of generation at the San Onofre Nuclear Generating Station (SONGS) and the
8 retirement of the coastal power plants that currently use “Once Through Cooling” (OTC)
9 technologies. Specifically, I respond below to the testimony of Bill Powers submitted on behalf
10 of Sierra Club California (SCC) and Robert Fagan submitted on behalf of the Division of
11 Ratepayer Advocates (DRA) concerning use by SDG&E and the California Independent System
12 Operator (CAISO) of an N-1-1 contingency with no allowance for controlled load shedding in
13 determining local capacity requirement (LCR) need for the San Diego area.

14 **II. RECOMMENDATIONS**

15 SDG&E and the CAISO are in agreement that load shedding is not a proper or prudent
16 mitigation for the contingency event in this proceeding (the N-1-1 of the ECO-Miguel portion of
17 the 500 kV Southwest Powerlink, followed by the Ocotillo Express-Suncrest portion of the
18 500 kV Sunrise Powerlink). This recommendation is reflected in SDG&E’s procurement
19 authorization request, which is based on the “no load shed” scenario. Controlled load shedding
20 may be appropriate as short-term mitigation or in certain specific, localized instances, but it is
21 not appropriate for the contingency event at issue in this proceeding.

1 **III. PURPOSE OF TRANSMISSION PLANNING STUDIES IN THIS PROCEEDING**

2 The purpose of the transmission planning analyses presented in my prepared Track 4
3 direct testimony was to present information regarding the difference in resource requirements for
4 the two sets of planning criteria at issue – *i.e.*, G-1/N-1 versus N-1-1. These studies were
5 intended to provide a frame of reference for the Commission’s consideration of the impact of
6 each set of criteria, and to attempt to address concerns that the impact of the stricter criteria
7 would be to require many hundreds or even thousands of megawatts of additional generation in
8 the San Diego load center. The fact that SDG&E studied the mitigation measures required by
9 the G-1/N-1 planning criteria does not signify that SDG&E categorically supports controlled
10 load shedding in every N-1-1 event. Nor does it mean that SDG&E believes, in this particular
11 instance, that the G-1/N-1 planning criteria (which assumed controlled load-shedding to mitigate
12 the N-1-1 of the ECO-Miguel portion of the 500 kV Southwest Powerlink, followed by the
13 Ocotillo Express-Suncrest portion of the 500 kV Sunrise Powerlink) is the criteria that should
14 determine the amount of dependable capacity that should be available in the San Diego LCR
15 area.

16 The determination as to whether use of controlled load shedding as mitigation for a
17 particular event is appropriate must be made on a case-by-case basis. For the contingency event
18 at issue in this proceeding, I believe the amount and types of load that would be dropped would
19 result in potentially severe economic and civil consequences. Not only would there be direct and
20 indirect economic losses as a result of a power outage, there could be a wide-range of adverse
21 civil consequences given that the outages would take place in densely populated urban areas.
22 Moreover, as can be seen from comparing the results in Tables 1 and 2 in my prepared direct
23 testimony, the difference that results in this case from application of each set of criteria with
24 regard to the resource needs for San Diego LCR area for the generation-only solution is 150

1 MW, a relatively modest difference. To provide a sense of proportion, 150 MW of additional
2 generation represents less than 3% of the forecast peak load in the San Diego area, and is
3 reasonable and prudent mitigation for San Diego customers.

4 **IV. PURPOSE AND APPLICABILITY OF NERC STANDARDS AND SDG&E'S**
5 **COMPLIANCE OBLIGATION**

6 The objective of the NERC, Western Electricity Coordinating Council (WECC) and
7 CAISO reliability criteria is to ensure that electric systems are being developed to meet projected
8 load growth, prevent overloads and cascading outages, and maintain service reliability over a
9 wide range of operating conditions. These criteria gauge system performance following a
10 contingency to measure the performance of the system in question. In particular, NERC
11 standards TPL-003-0b¹ and TPL-004-0a² define acceptable performance levels for different
12 categories of system events and as shown on Table I of the standards. All of these standards and
13 criteria together require that G-1/N-1 and N-1-1 contingency events must be studied and
14 mitigated regardless of how improbable those events may be. Under CAISO's current
15 deterministic approach to contingency analysis, every conceivable N-1, G-1/N-1 and N-1-1
16 overload must be mitigated regardless of its probability, consequence and cost. CAISO and
17 SDG&E must also analyze ways to preserve system reliability even in the event of multiple
18 critical contingencies, occurring on high load days such as during the highest peak period of the
19 summer.

¹ Table I, Category C3.

² Table I, Category D7.

1 Compliance with WECC and CAISO planning and operating standards is mandatory for
2 SDG&E.³ WECC is the Regional Entity recognized by NERC as responsible for coordinating
3 and promoting Bulk Electric System reliability in the Western Interconnection. WECC is
4 responsible for certifying compliance with NERC planning standards and has the authority to
5 impose reliability criteria that go above and beyond that imposed by NERC. Ultimately, the
6 CAISO is the Transmission Planning Authority for the San Diego transmission system, and has
7 the responsibility to implement minimum planning criteria established by WECC or NERC, and
8 the authority to exceed those minimum planning criteria where appropriate.

9 **V. CLASSIFICATION OF CONTINGENCIES**

10 An area of discussion that requires clarification is how the contingencies discussed by
11 SDG&E and CAISO are classified under NERC/WECC guidelines. The simultaneous or
12 “double” outage (N-2) of the ECO-Miguel and Ocotillo Express-Suncrest 500 kV lines was re-
13 classified as a Category D contingency based on the WECC common-corridor standard TPL-
14 001-WECC-CRT-2, which re-classified these circuits as non-adjacent based on tower line
15 separation.⁴ The overlapping (*i.e.*, sequential) N-1-1 contingency of ECO-Miguel and Ocotillo
16 Express-Suncrest 500 kV lines has always been a Category C contingency and as such, CAISO

³ Section 7.3.1 of the CAISO’s Fifth Replacement FERC Electric Tariff provides:

7.3.1 Criteria For CAISO's Operational Control

The CAISO shall exercise Operational Control over the CAISO Controlled Grid to meet planning and Operating Reserve criteria no less stringent than those established by WECC and NERC as those standards may be modified from time to time, and Local Reliability Criteria that are in existence on the CAISO Operations Date and have been submitted to the CAISO by each Participating TO pursuant to Section 2.2.1(v) of the TCA. *All Market Participants and the CAISO shall comply with the CAISO Reliability Criteria, standards, and procedures.* (Emphasis added)

⁴ See SCC/Powers, p. 3, citing Supplemental Testimony of Robert Sparks on Behalf of the CAISO in A.11-05-023 (“SDG&E told the ISO that the newly revised WECC criterion for common corridor circuit outages would result in a reclassification of the Sunrise/IV Miguel (Southwest Powerlink) **double outage** as a Category D contingency . . .”) (emphasis added). Ocotillo Express-Suncrest is a segment of the Sunrise Powerlink transmission line; ECO is under construction and ECO-Miguel will be a segment of the Southwest Powerlink transmission line.

1 and SDG&E are required to study this contingency and have a plan in place to meet system
2 performance following the overlapping loss of both lines.⁵

3 **VI. PRUDENT LONG TERM PLANNING**

4 The NERC reliability standards specify that for a Category C contingency – in this case,
5 the overlapping N-1-1 outage of the ECO-Miguel and Ocotillo Express-Suncrest 500 kV lines –
6 controlled load shedding “may be necessary” to maintain the overall reliability of the
7 interconnected transmission systems. However, this statement does not signify that load
8 shedding is required or is even the best solution to mitigate Category C contingencies. Rather, it
9 is simply the minimum allowable performance requirement for system planning. As I explain
10 above, the determination as to whether use of controlled load shedding as mitigation for a
11 particular event is appropriate must be made on a case-by-case basis. It is the responsibility of
12 system planners to determine the magnitude of the impact of load shedding on its customers and
13 communities and to factor that consideration into the long-term transmission planning process.
14 Under present conditions, a long-term transmission plan relying on load shedding to mitigate an
15 N-1-1 outage of the ECO-Miguel and Ocotillo Express-Suncrest 500 kV lines would be
16 inconsistent with prudent transmission system planning. Accordingly, CAISO and SDG&E have
17 determined as a policy matter that the public interest is best served by development of a long-
18 term transmission plan that does not rely on a load-shedding SPS to mitigate the N-1-1 of the
19 ECO-Miguel and Ocotillo Express-Suncrest 500 kV lines.

20 In light of the recently-announced closure of SONGS, there is a renewed focus by the
21 State of California, its agencies, and the utilities on preserving service reliability. This concern
22 regarding reliability is evident in workshops the California Energy Commission has hosted, as

⁵ Mr. Powers refers to this N-1-1 event as a Category D event. (SCC/Powers, p. 9). This is incorrect. Under NERC rules, an N-1-1 event is a Category C event.

1 well as the “Preliminary Reliability Plan for LA Basin and San Diego” (Plan) prepared by the
2 Staffs of the California Public Utilities Commission, California Energy Commission, and
3 CAISO. As the Plan notes, “the closure of San Onofre creates unprecedented challenges for
4 maintaining reliable electric service to consumers located in the southern region of California.”⁶
5 Besides the loss of 2200 MW of generation that is now unavailable to serve load, the loss of
6 SONGS has severely impacted the ability of the electric grid to move power between the
7 SDG&E and Southern California Edison Company (SCE) systems.

8 Plainly, California must have a robust electric system capable of flexibility and resiliency
9 to meet the growing needs of its residents. Given the significant negative impact on customers,
10 communities and the region’s economy, it is not acceptable for the State’s long-term
11 transmission planning process to rely on a major disruption of electric service to customers as a
12 solution, when in fact there are alternate solutions, including preferred and conventional
13 resources and transmission infrastructure, that can help to ensure a reliable grid. As transmission
14 planners, CAISO and SDG&E are responsible for meeting NERC reliability criteria, but must
15 also ensure through the planning process that the system is capable of serving customers in a
16 future with a variety of unknowns.

17 **VII. GRID SECURITY vs. SERVICE RELIABILITY**

18 The testimony of DRA witness, Mr. Fagan, draws a distinction between “service
19 reliability” and “grid reliability,” and appears to suggest that while the transmission planning
20 approach taken by SDG&E and the CAISO should seek to ensure the transmission grid can be
21 operated within applicable limits, preservation of electric service reliability to end-use consumers
22 is of less importance. He implies that a long-term transmission planning approach that relies on

⁶ *Preliminary Reliability Plan for LA Basin and San Diego*, August 30, 2013, p. 1.

1 service interruptions is tolerable.⁷ Mr. Fagan’s argument appears to be premised on the
2 assumption that electric service outages would have a limited impact on customers and therefore
3 that the cost of preventing such service interruptions is not justified.

4 I disagree with Mr. Fagan’s narrow view of the objectives underlying transmission
5 planning and his suggestion that it should be the policy of the State to deemphasize electric
6 service reliability. While grid reliability is clearly an important goal, service reliability must not
7 be disregarded. The Commission has acknowledged the importance of reliable electric service to
8 the State’s 11.5 million electric customers, observing that “California’s economy depends on the
9 infrastructure the California Public Utilities Commission (CPUC) and utilities provide. For
10 almost 100 years, the CPUC has worked to protect consumers and ensure the provision of *safe,*
11 *reliable utility service* and infrastructure at reasonable rates, with a commitment to
12 environmental enhancement and a healthy California economy.”⁸ Likewise, SDG&E’s approved
13 2012 long-term procurement plan (LTPP) provides that “[t]he objective of SDG&E’s LTPP is to
14 provide *reliable electric supply* to customers at the lowest possible cost, while simultaneously
15 meeting the State’s preferred loading order for resources and reducing the GHG emissions
16 associated with the portfolio.”⁹

17 In my experience, customers, regulators and system planners place very high importance
18 on maintaining service reliability. While, as discussed above, service interruption through a load
19 shedding SPS may be appropriate under certain circumstances, a key consideration in
20 determining whether load shedding is appropriate mitigation for a particular contingency is the

⁷ DRA/Fagan, p. 7.

⁸ Commission Fact Sheet “The California Public Utilities Commission Regulating Essential Services” located at http://www.cpuc.ca.gov/NR/rdonlyres/9834890A-FA9F-49C1-9043-FA06BDE45E3D/0/AboutCPUC0410_rev2.pdf.

⁹ SDG&E 2012 Long-Term Procurement Plan, § III.A, p. 88 (emphasis added).

1 magnitude of the negative impact on customers. If it is contemplated that the load shedding
2 undertaken as part of an SPS to mitigate an identified contingency will have a limited negative
3 impact on customers, such load shedding may be appropriate. If, on the other hand, permitting
4 load shedding as a mitigation measure will have a significant negative impact on customers such
5 load shedding is not reasonable. As I explain above, for the contingency event at issue in this
6 proceeding, I believe the amount and types of load that would be dropped would result in
7 potentially severe economic and civil consequences. Power outages in densely populated urban
8 areas would cause direct and indirect economic losses and would likely give rise to a wide-range
9 of adverse civil consequences.

10 Ultimately, the determination as to whether load shedding is appropriate to mitigate a
11 particular contingency event requires application of informed judgment and balancing of
12 competing policy imperatives. Mr. Fagan admits that he is “not in a position to fully evaluate”
13 whether load shedding should be permitted by the CAISO to mitigate an N-1-1 event, noting
14 further that “[o]nly the CAISO and the affected utilities have all the relevant information and
15 experience to carefully and comprehensively assess all dimensions of the issue.”¹⁰ As I
16 explained above, while controlled load shedding may be appropriate under certain specific
17 circumstances, it is not appropriate for the contingency event at issue in this proceeding. This
18 determination is premised on the belief that, contrary to Mr. Fagan’s suggestion, ensuring service
19 reliability is a fundamental goal of long-term transmission planning.

20 This concludes my rebuttal testimony.

¹⁰ DRA/Fagan, p. 10.