

Exhibit 1



ORA

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Date: September 7, 2016

**To: President Michael Picker, Commissioner Michel Peter Florio,
Commissioner Catherine J.K. Sandoval, Commissioner Carla J. Peterman, and
Commissioner Liane M. Randolph**

**Subject: South Orange County Reliability Enhancement Project –
Application 12-05-020**

Dear Commissioners,

On May 18, 2012, San Diego Gas & Electric Company (SDG&E) submitted an application for a Certification of Public Convenience and Necessity (CPCN) to the Commission, under Application (A.)12-05-020, to construct the Southern Orange County Reliability Enhancement Project (SOCREP or Proposed Project) in order to improve power supply flexibility and reliability for the South Orange County (SOC) area. In support of its application, SDG&E asserts that there are configuration problems at Talega Substation that could result in a power outage to the SOC area and that SDG&E cannot reconfigure the Talega Substation within its footprint. In order to correct the Talega configuration problems, SDG&E asserts that it needs to upgrade the Capistrano Substation from 138 kilovolt (kV) to 230 kV, so that the Capistrano Substation can act as the second power supply source to the SOC area. After this upgrade, SDG&E will then use the Capistrano Substation to supply power to the SOC area while reconfiguring the Talega Substation.

The Office of Ratepayer Advocates (ORA) is actively involved in this proceeding and would like to provide additional clarity on SDG&E's Proposed Project and ORA's proposed Project Alternatives, which are more electrically efficient and cost effective than SDG&E's proposal.

The main components of the Proposed Project include:

- 1) Upgrade the Capistrano Substation from 138 kV to 230 kV. Capistrano Substation is located in the center of the City of San Juan Capistrano.
- 2) Disconnect the 138 kV sub-transmission line (TL13835) from Laguna Niguel Substation. Using TL13835's right of way, SDG&E would: (1) build the first circuit by disconnecting the existing San Onofre-Talega line (TL23007) from Talega Substation and then extend it to Capistrano Substation, (2) build the second circuit and tap it to the existing Escondido-Talega line (TL23030). This double-circuit transmission line will be approximately 7.5 miles long. (Please see Figure 1.)

SDG&E's estimated cost of the project is approximately \$400 million, which would be charged to California's customers including SDG&E's customers.¹

ORA has concerns with SDG&E's Proposed Project. Under the Proposed Project, there would be three 230 kV transmission lines supplying power to the SOC area. There would be no increase in power supply flexibility to the SOC area. In fact, the Proposed Project could lead to a decrease in power supply flexibility and raise environmental issues in the SOC area for the following reasons:

1. The Escondido-Talega-Capistrano transmission line (TL23030) would be a non-standard 3-terminal line. Compared to the existing 2-terminal line that connects Talega and Escondido only, the 3-terminal line would be more vulnerable to outages.² A fault at any one of the three branches of the 3-terminal line would trigger the outage of the entire 3-terminal line, which leads to the elimination of two power supply sources to the SOC area.
2. The San Onofre-Capistrano transmission line (TL23007) has two sections. For the section between San Onofre and Talega, TL23007 would share towers with San Onofre-Talega transmission line (TL23052); for the section between Talega and Capistrano, TL23007 would share towers with the 3-terminal line (TL23030). This configuration could result in all three lines (TL23007, TL23052, and TL23030) being out at the same time, and the entire SOC area could lose power completely.³ When this type of outage occurs, SDG&E cannot guarantee restoration of service within 24 hours.⁴
3. SDG&E proposes to disconnect TL13835 to Laguna Niguel Substation and upgrade TL13835 from 138 kV to 230 kV. Instead of Laguna Niguel substation having two existing power supply sources to it (one from San Mateo Substation and the other from Capistrano Substation), Laguna Niguel would be supplied by the Capistrano Substation only, therefore cutting off one power source to Laguna Niguel. This design would result in a power service reliability decrease to Laguna Niguel Substation. Although there are still two 138 kV transmission lines serving Laguna Niguel, because the two 138 kV transmission lines are derived from the same 138 kV bus system at Capistrano Substation, an outage at the Capistrano 138 kV bus system could lead to a complete

¹ Since this is a high voltage line (greater than 200 kv) the costs are socialized to all California ratepayers, including San Diego customers.

² Reporter's Transcript (RT) at 1402-1403. ORA Witness Charles Mee testified that with non-standard configuration, reliability will be deteriorated.

³ ORA-200, Corrected Prepared Testimony of Charles Mee on SOCREP, page 10.

⁴ RT at 920—921. SDG&E's witness Mr. Karl Ilijev testified that they would not guarantee power supply restoration under these circumstances.

power supply interruption to Laguna Niguel customers. SDG&E argued that under this circumstance, SDG&E could dispatch an emergency crew to install a temporary jumper to restore power supply to Laguna Niguel Substation. However, the feasibility of the jumper installation depends on the outage situation and it could take hours, if not days, to install the jumper. More importantly, the Proposed Project would deteriorate the power supply reliability, limit the power supply flexibility and lead to load shedding. The load shedding issue cannot be addressed with the jumper installation.⁵ Based on the above issues, it can be concluded that the Proposed Project, which would cost approximately \$400 million, would decrease the power supply reliability to Laguna Niguel customers.

4. The Proposed Project could lead to loop flow⁶ problems in the SOC area. Under the Proposed Project, the SOC area would be served simultaneously by two power supply resources: one from Talega Substation, and the other from Capistrano Substation. Under some plausible operating scenarios, the SOC 138 kV system could be forced to act as part of the bulk electric system to deliver power wheeling between Escondido Substation and San Onofre Substation, which could cause loop flow and over loading issues in the SOC 138 kV system. When asked about this potential loop flow problem, SDG&E testified that it had not studied such concerns yet.⁷
5. The Capistrano Substation is located in the center of the City of San Juan Capistrano and surrounded by many housing units. The environmental impact of the 230 kV towers, which would be 170 feet high,⁸ would be significant. A general practice is to locate a 230 kV substation at the edge of a community rather than at the center of the community. Constructing a 230 kV substation in the center of a community is not sound environmental planning.

To address these concerns associated with the Proposed Project, ORA proposes two alternatives for the Commission's consideration, which are described below. Both alternatives increase power supply reliability and flexibility. The Reconfiguration Alternative would specifically address the current reconfiguration problems with minimal impact to the surrounding area at low cost. The Alternative J with Electrical Modification proposal would provide a second power supply source to the SOC area with less environmental and cost impacts than the Proposed Project.

⁵ RT at 1151. SDG&E's witness Mr. Cory Smith testified that even with the jumper installation there is a good possibility to shed load under this situation.

⁶ Loop flow in this case means use the 138 kV local network to carry power flow of the bulk electric power system unintentionally. This could result in overloading of the local network.

⁷ RT at 1243—1246. SDG&E's witness Mr. Cory Smith said he would explore the concern.

⁸ SDG&E PEA Appendix 3-B, Typical structure diagrams and photographs.

1. Reconfiguration Alternative: Reconfigure the Talega Substation within its existing footprint to improve power supply reliability for Talega Substation⁹ which would rectify the configuration problems of Talega Substation within its footprint. Talega Substation's footprint is large enough to correct the configuration problems. In fact, after submitting its application, SDG&E conducted major construction within Talega Substation and had plenty of space and accessibility to conduct this major construction.¹⁰ SDG&E can rectify the configuration problems within the Talega Substation footprint. The cost to reconfigure the Talega Substation would be approximately \$20 million,¹¹ which is approximately 95% less than SDG&E's Proposed Project and saves ratepayers approximately \$380 million. Also, this alternative provides less administrative burden since SDG&E would not need to file a Certificate of Public Convenience and Necessity (CPCN) application to implement this alternative per General Order (G.O.) 131-D.¹²

2. Alternative J with Electrical Modification: The Final EIR identified Alternative J as the environmentally superior alternative over the Proposed Project. If the Commission elects to provide a second power supply resource to the SOC area, ORA recommends Alternative J with Electrical Modification. (See Figures 2, 3, and 4)¹³ ORA recommends the Commission adopt this alternative for the following reasons:
 - a. This alternative will provide five 230 kV transmission lines to the SOC area, with three transmission lines connected to Talega Substation and the other two to the Trabuco Substation. The two power supply sources – Talega and Trabuco Substations - would be electrically independent and about 10 miles apart from each other.¹⁴ The Talega Substation will be supplied by the Escondido and San Onofre Substations, while the Trabuco Substation would be supplied by San Onofre and Santiago Substations. As a result of these electrical arrangements, the power supply reliability and flexibility in the SOC area would be significantly increased.

⁹ ORA-200, Corrected Prepared Testimony of Charles Mee on SOCREP, at page 7.

¹⁰ RT at 892-915. SDG&E's witness Mr. Karl Ilive testified that SDG&E, in the past five years, installed 230 kV synchronous condenser, and 138/69 kV transformer bank.

¹¹ RT at 1116. SDG&E's witness Mr. Cory Smith testified that replacing two aging transformers at Talega Substation will cost between \$15 to 20 million.

¹² G.O. 131-D, Section III.B.

¹³ The Recirculated Draft EIR considered ORA's recommendation and identified the Trabuco Alternative as Alternative J. ORA further proposed electrical modification to Alternative J, with one-breaker-and-a-half configuration, one transformer, and one transformer position for future upgrade. Since this electrical modification can fit in the footprint of the AT&T parking lot, environmental impact would be the same as the Alternative J. The Final EIR identified Alternative J as the environmentally superior alternative.

¹⁴ ORA-200, Corrected Prepared Testimony of Charles Mee on SOCREP, at page 17.

- b. This alternative will enable SGD&E to set some of the Trabuco Substation circuit breakers to “normal open” in order to avoid the “loop flow” concerns that may be caused by the Proposed Project. It is common practice for utilities to set some circuit breakers to “Normal Open”,¹⁵ so power supply can be flexible.
- c. This alternative will keep the two power supply sources for Laguna Niguel Substation unaffected and would maintain power supply reliability and flexibility to Laguna Niguel customers.
- d. Unlike Capistrano Substation, Trabuco Substation is located at the edge of the community.¹⁶ Upgrading Trabuco Substation from 138 kV to 230 kV would minimize the environmental impact. The Final EIR identified this alternative as the environmentally superior alternative.
- e. This alternative is more economical compared to the Proposed Project. According to a cost estimate from Bay Area Municipal Transmission Group (BAMx), the total cost of Alternative J would be approximately \$95 million¹⁷ compared to the Proposed Project of over \$400 million.

In conclusion, ORA recommends that the Commission approve one of ORA’s Project Alternatives.

Sincerely,

/s/ Linda Serizawa
Linda Serizawa, Deputy Director

Attachments: Figures 1, 2, 3 and 4

¹⁵ Many utilities set some circuit breakers that connect the backup sources to “Normal Open”, so backup sources can be ready to serve under emergency situations. Under normal circumstances, customer load is supplied by the main power supply source since the backup power supply source behind the “Normal Open” circuit breakers is not interconnected, there are no loop flow concerns. When outages (planned or forced) happen and the main power supply source is interrupted, operators can switch the “Normal Open” circuit breakers to “Close”, so the backup source can be connected to the customer load immediately and start to supply power to the customer load. When the main source is restored and capable to serve, operators will switch the “Normal Open” circuit breakers to the “Open” position again, and let the main power supply serve.

¹⁶ ORA-201, at page 4.

¹⁷ BAMx June 28, 2016 Ex Parte Notice, at page 13.