## SDG&E Comments on the Sept. 21-22, 2016 CAISO Stakeholder Meeting

See the presentation, "San Diego Gas & Electric Bulk Transmission Preliminary Reliability Assessment Results", slide #8. The 230 kV line between Sycamore Canyon and Palomar will be looped into a new Artesian 230 kV/69 kV substation in 2019. It is not clear if the study year for the load flow case represented in this diagram should have the Artesian project.

See the presentation, "San Diego Gas & Electric Bulk Transmission Preliminary Reliability Assessment Results", slide #9. SDG&E strongly recommends against an SPS to mitigate the loss of the ECO-Miguel 500 kV line that would open the only remaining 500 kV path into the San Diego load center. Under some system conditions, this SPS would then trigger the "safety net" load shed scheme and shed up to 1000 MW of load. Note that previous iterations of the TPP relied on bypassing series capacitors upstream Suncrest to mitigate this and other overloads; however, that mitigation is no longer effective, and as SDG&E has stated repeatedly, is not an appropriate planning response for a chronic, long-term system constraint.

See the presentation, "San Diego Gas & Electric Bulk Transmission Preliminary Reliability Assessment Results", slide #11. The thermal overload identified on this slide is a NERC category P3, and cannot be mitigated with controlled load shedding. The same contingency is the limiting factor determining the LCR requirement for the Greater IV/San Diego area. This constraint is forcing the procurement of generation capacity in this area; this allows the market to mitigate this contingency, but at a cost. A better approach is to mitigate the transmission constraint with a transmission solution, and allow the market to procure the required resources system-wide, rather than forcing procurement in a limited area and allowing the continuation of a constrained local market indefinitely.

See the presentation, "San Diego Gas & Electric Bulk Transmission Preliminary Reliability Assessment Results", slide #12. SDG&E has the delegated task of maintaining voltage control at Suncrest according to the CAISO's FERC-approved tariff, and is unlikely to cede control of the shunt device at Suncrest. However, SDG&E is open to exploring options to mitigate the high-voltage concerns at Suncrest identified by the CAISO, including taking control of and issuing voltage set points for the Suncrest SVC.

See the presentation, "50% Special Study and Interregional Coordination Update", slide #4. What was the selection criteria for testing the potential benefits of SWIP North and the Cross-tie project without out of state renewables? SDG&E urges CASO to investigate the benefits of all four projects both with and without out-of-state renewables. Also, was the SunZia project included in the baseline assumptions for the 50% RPS special study?

See the presentation, "50% Special Study and Interregional Coordination Update". SDG&E agrees that the 50% renewables study should be evaluated using the ACDC line conversion project Renewable Energy Express (REX), as proposed to ISO in the current transmission plan. We support the CAISO's efforts to evaluate the benefits of this and other interregional projects and how they support the new RPS goal.

See the presentation, "Characteristics of Slow Response Local Capacity Resources Special Study". SDG&E agrees with the need to look at Demand Response and other slow-response resources as part of a short term studies and analyze the impact of these resources in our system from an operational flexibility perspective and not as a congestion mitigation tool. The precision of the forecast of the Demand Response program does not exactly follow physics laws; as it there is the need to trust that customers will participate when needed. Our recommendation is to set an upper limit of DR to be counted for local RA, or it should not be relied on at all.

See the presentation, "Gas-Electric Coordination Summer 2017 Transmission Planning Assessment for Various Gas Curtailment Scenarios with the Aliso Canyon Gas Storage Outage". During the CAISO's assessment for various gas curtailment scenarios involving the Aliso Canyon gas storage constraints, a series of reliability concerns were identified. SDG&E agrees that current approved infrastructure upgrades and rearrangements (e.g. Mesa Rim Loop-in) in the Southern California area need to be approved and built in order to avoid some of the risk involved in the Aliso Canyon Gas Storage Outage.

See the presentation, "Frequency Response Assessment-Generation Modeling Special Study – Update". SDG&E is currently participating in most of the WECC efforts to upgrade the model of the generators in our system. We are current in all their requests to provide data needed to achieve this goal..

See the presentation, "A Bulk Energy Storage Resource Case Study with 50% RPS". SDG&E is currently working to meet the CA 2013 mandate to procure

energy storage for our system in all three levels of operation including transmission, distribution and behind the meter sites. Potential sites for Bulk Energy Storage could be at locations where transmission infrastructure is available and renewable generation plants are close by (e.g. Imperial Valley). Dispatch and operation of these units have been discussed for a while now and they seem to add a significant benefit to congestion management and resource adequacy for LCR studies, but further investigation needs to be done in the power flow and dynamic stability areas.