SOUTHERN CALIFORNIA EDISON
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California Energy Commission
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California Energy Commission
Docket Office, MS-4
Re: Docket No. 14-IEP-1E
1516 Ninth Street
Sacramento, CA 95814-5512
docket@energy.ca.gov

Re: *Southern California Edison Company's Comments on the California Energy Commission Docket No. 14-IEP-1E: Southern California Electricity Reliability*

Dear Commissioner Scott:

As part of the IEPR Update process, on August 20, 2014, the California Energy Commission (Energy Commission) held a Lead Commissioner Workshop on Southern California Electricity Reliability ("the Workshop). Southern California Edison (SCE) participated in the Workshop and appreciates the opportunity to provide these written comments.

During the Workshop, SCE representatives, Ron Nichols and Dana Cabbell, provided updates on SCE's efforts to support the Joint Agencies'[1] Southern California Reliability Plan. Following the retirement of San Onofre Nuclear Generating Station (SONGS) in June 2013, and in anticipation of the of the closure of several power plants utilizing Once-through Cooling (OTC) technology, SCE engaged in a number of efforts to ensure reliability in Southern California. Those efforts included the construction of electricity infrastructure upgrades and additions, the procurement of resources to meet local capacity requirements (LCR), and the development of a Preferred Resource Pilot (PRP). As discussed at the Workshop, SCE is progressing with these efforts, and looks forward to continuing its collaboration with the Joint Agencies in support of future Southern California reliability needs.

This letter elaborates on specific questions that SCE received during its presentations and panel discussion, and provides additional comments and recommendations regarding the presentations and the Joint Agencies' comments during the Workshop. In particular, this letter describes how the PRP and related efforts may inform agencies' policy decisions regarding how Preferred Resources and Advanced Smart Grid Technologies might contribute to LCR needs in the future. This letter also clarifies matters relating to the OC Reliability Support – Synchronous

[1] "Joint Agencies" means the California Public Utilities Commission (CPUC), California Energy Commission (Energy Commission or CEC), California Independent System Operator (CAISO), California Air Resources Control Board (CARB), South Coast Air Quality Management District (SCAQMD), and the State Water Resources Control Board (SWRCB).

Condensor Project at SCE's Santiago Substation. Finally, this letter expresses SCE's support for the Energy Commission's Contingency Mitigation Planning to ensure reliability in Southern California.

A. SCE's PRP and Irvine Smart Grid Demonstration May Yield Information that Will Inform the Grid of the Future

As discussed during the Workshop, SCE's PRP is in progress. The objective of the PRP is to acquire and evaluate information regarding the performance of energy efficiency (EE), demand response (DR), renewable energy, and energy storage (ES)[2] in the transmission-constrained area of South Orange County served by SCE's Johanna and Santiago (J-S) substations. More specifically, PRP will obtain "grid-level" measurements to determine the degree to which preferred resources can be relied upon to meet LCR, address peak needs and reliability concerns, and minimize the need for gas-fired generation in the J-S area. As discussed by Mr. Nichols, because the PRP will test the performance EE, DR, ES and renewable resources when they are used in an integrated manner, SCE hopes that the information it gleans from the PRP will help to inform the clean energy grid of the future.

Like the PRP, SCE's Irvine Smart Grid Demonstration (ISGD) is also a targeted real world test of the actual performance of Preferred Resources using meter data. ISGD is being performed in Irvine, California at the University of California, Irvine and in Newport Beach, CA at the MacArthur substation. The U.S. Department of Energy ("DOE"), as part of the American Recovery and Reinvestment Act of 2009, awarded SCE $40 million in matching funds to conduct the ISGD project.

The ISGD project is an end-to end demonstration of numerous Smart Grid technologies to assess the interoperability and interaction between various elements of the grid, from the transmission level through the distribution system and into the home. The ISGD project will allow SCE, project participants, and the DOE to verify the viability of Smart Grid technologies to operate effectively and with adequate cyber security measures when deployed in an integrated framework. The project will also help to quantify the costs and benefits of these technologies in terms of overall energy consumption, operational efficiencies, system reliability and societal and environmental benefits. Finally, the ISGD project will also allow SCE to test and validate the applicability of demonstrated Smart Grid elements for the Southern California region and the nation as a whole.

The scope of ISGD includes the following sub-projects:

- Zero Net Energy ("ZNE") Homes through Smart Grid Technologies
- Solar Shade-enabled Plug-in Electric Vehicle ("PEV") Charging
- Distribution Circuit Constraint Management with Energy Storage

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[2] This list is distinguishable from the resources the Loading Order defines as Preferred Resources. For instance, ES is not yet a resource that is included in the Loading Order's list of Preferred Resource. ES, however, is included as a PRP resource because it may help to address the intermittency issues associated with renewable resources.

- Advanced Volt/VAR Control ("AVVC")
- Self-Healing Distribution Circuits
- Deep Grid Situational Awareness
- Interoperability and Cyber Security: Secure Energy Network ("SENet"), and Substation Automation System
- Workforce of the Future

SCE hopes that the PRP, ISGD project, and similar research and development projects will provide data to inform policy decision-making efforts to develop the grid of the future.

B. SCE's Infrastructure Projects

In addition to its PRP and acquisition of LCR resources in the current LCR RFO, SCE has undertaken a number of electricity infrastructure upgrades and additions to ensure system reliability in Southern California, including the Tehachapi Renewable Transmission Project (TRTP), the Mesa Project, and the Santiago Synchronous Condensors Project in Orange County.

As discussed during the Workshop, SCE is implementing the Orange County Reactive Support- Santiago Substation Synchronous Condensors project, which was originally identified by the CAISO in its 2013-2014 Transmission Planning Process (TPP) to address the need for dynamic reactive support in the SONGS vicinity by 2017. The CAISO approved the installation of 225 MVAR (half of the 450 MVAR) of reactive support in the Santiago Substation in SCE's service territory. The project at Santiago Substation does not require a Certificate of Public Convenience and Necessity (CPCN) or a Permit to Construct (PTC) from the CPUC because the work will be limited to the current substation footprint.

C. The Joint Agencies' Contingency Mitigation Planning Efforts

SCE appreciates the Energy Commission's presentation and proposed efforts for Contingency Mitigation Measures. Contingency planning for Southern California reliability is an important backstop to ensure reliability. SCE looks forward to the Joint Agencies' direction on potential short and long-term mitigation efforts going forward.

In conclusion, SCE appreciates the Energy Commission's consideration of these comments and looks forward to its continuing collaboration with the Energy Commission. Please do not hesitate to contact me at (916) 441-2369 with any questions or concerns you may have. As always, I am available to discuss these matters further at your convenience.

Very truly yours,

/s/ Manuel Alvarez

Manuel Alvarez