BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Rulemaking No.: R.12-03-014

Exhibit No.: _____

Witness: Jaleh Firooz

Order Instituting Rulemaking to Integrate and Refine Procurement Policies and Consider Long-Term Procurement Plans	Rulemaking 12-03-014

REBUTTAL TESTIMONY OF JALEH FIROOZ ON BEHALF OF THE CITY OF REDONDO BEACH

Dated: October 14, 2013

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Q1. Has any party in this proceeding presented testimony demonstrating that uncontrolled loss of load would be avoided if the resource additions analyzed in Track 4 were in place?

A1. No. For example, public information about the uncontrolled loss of load that took place on September 8, 2011 in southern California, Arizona and northern Baja, Mexico indicates that the outage was not caused by a shortage of generation in the San Diego Local Capacity Requirement (LCR) area or in the Western LA Basin LCR sub-area. At the time of the initiating outage event--the loss of the 500 kV Hassayampa-North Gila line--CAISO Balancing Authority was operating within the reliability standards set by NERC and CAISO. The outage was actually caused by a non-CAISO Balancing Authority whose system was not being operated in a state that would withstand the loss of the 500 kV Hassayampa-North Gila line without thermal overloads. Within minutes of the outage of the 500 kV Hassayampa-North Gila line, there were thermal overloads of non-CAISO Balancing Authority facilities. These facilities were automatically removed from service which initiated the cascading series of events leading to the wide-spread outage within a matter of minutes.

If the non-CAISO Balancing Authority had been operating in a state that could withstand the loss of the 500 kV Hassayampa-North Gila line, existing generation within the San Diego area and within the Western LA Basin sub-area would have been adequate to prevent the wide-spread blackout. The blackout would have been avoided without the resource additions discussed in this Track 4.

Q2. In Track 4, Local Capacity Requirements are being estimated assuming loads within the San Diego Local Capacity Requirement (LCR) area, and within the Western LA Basin LCR sub-area, are simultaneously at the one-year-in-ten level. Is this consistent with the approach used by CAISO in its annual Transmission Planning Process (TPP) for studying large electrical areas?

A2. No. CAISO's annual TPP uses a one-year-in-five load forecast to study "regional transmission facilities (*i.e.*, the bulk system)" and a one-year-in-ten load forecast to study local areas (*i.e.*, the "SCE service area", the "SDG&E service area" and the "PG&E service area").[1]

When the San Diego LCR area and the Western LA Basin LCR sub-area are combined for study purposes, we have effectively created a new electrical region that encompasses major portions of the bulk electric system. For example, the transmission facilities connecting the SDG&E and SCE distribution service areas are capable of transmitting several thousand megawatts in both directions; clearly these facilities are part of the "bulk system."

In addition, loads within the SDG&E and SCE distribution service areas typically do not peak in the same hour. Loads in the SDG&E distribution service area typically peak one to two hours ahead of loads in the SCE distribution service area. The coincident peak load for these two distribution service areas is therefore less than the sum of the non-coincident peak loads. One way to capture this difference in the LCR study work would be to use the sum of non-coincident one-year-in-five peak loads for the two areas, rather than the sum of non-coincident one-year-in-ten peak loads. Coincident one-year-in-five peak loads for the combined SDG&E and SCE distribution service areas are approximately 4% or 743 MW lower than the coincident one-year-in-ten peak loads for the combined areas.[2]

[1] March 2013 CAISO board approved 2012/2013 Transmission Plan, Page 43.

[2] The CEC's 2012 Integrated Energy Policy Report (IEPR) forecasts that the one-year-in-ten non-coincident peak demand for the combined SCE – LA Basin and SDG&E distribution service areas is 26,795 MW in year 2022. The IEPR forecasts that the one-year-in-five non-coincident peak demand for the combined SCE – LA Basin and SDG&E distribution service areas is 26,014 MW in year 2022, 3.9% below the one-year-in-ten forecast. According to SCE's Track 4 Testimony at page 31, the combined one-year-in-ten load forecast for the SONGS area in year 2022 is about 18,000 MW (Western LA LCR sub-area + San Diego LCR area = 13,101 + 5,483 = 18,584 MW). Four percent of 18,584 MW is 743 MW.

Q3. AES makes the following statement:

> ***"EPE's study also showed that the generation should be procured from OTC locations having the highest effectiveness factors; if generation were procured from alternate locations, significantly more MW's would be needed to reliability serve the Western LA Basin local capacity area."***

Has AES provided any evidence that there are no "alternate locations" with effectiveness factors that are higher than the OTC locations?

A3. No. I believe it quite likely that there are locations within the San Diego LCR area and within the Western LA basin LCR sub-area that have higher effectiveness factors relative to the location of the binding transmission constraint, than the OTC locations. Preferred resources at these locations would, on a megawatt-for-megawatt basis, be more effective in mitigating the binding transmission constraint than would generation at the OTC sites. These locations could be determined through basic power flow analysis and preferred resources targeted for those locations.

Q4. Were the preferred resources added in your analysis concentrated at the most effective locations?

A4. Generally no. In this sense my analysis is conservative. The Commission should recognize that because preferred resources have far fewer locational constraints than conventional generation, it should be possible to satisfy LCRs by adding fewer megawatts of preferred resources at the most effective locations than conventional generation at less-effective OTC locations. Unlike the conventional resources referenced by AES, incremental energy efficiency, demand response, and increased rooftop solar PV can be added almost anywhere within the San Diego LCR area and within the Western LA basin LCR sub-area.

Dated: October 14, 2013

Respectfully Submitted,

/s/
JALEH FIROOZ