California ISO
Shaping a Renewed Future

California Independent System Operator Corporation

Keith E. Casey, Ph.D.
VP, Market and Infrastructure Development

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Mr. Eric Pendergraft
President
AES Southland
690 N. Studebaker Road
Long Beach, CA 90803

Dear Mr. Pendergraft:

Per your request, the ISO has examined the grid reliability implications of a business transaction that results in retiring Huntington Beach units 3 & 4 and designating the proposed Walnut Creek Energy Center (WCEC) as its replacement, thereby allowing WCEC to utilize the offset exemption right under the SCAQMD Rule 1304(a)(2) and receive its final air permit. The total Net Qualifying Capacity (NQC) for HB Units 3 and 4 is 452 MW. We understand that the Walnut Creek Energy Center has approximately 500 MW of NQC capacity. Based on these assumptions and our assessment, we have concluded that the loss of Huntington Beach units 3 & 4 coupled with the addition of Walnut Creek Energy Center would not create any reliability concerns.

This conclusion is based on power flow simulations by the ISO where the Huntington Beach units 3 & 4 were removed from the generation base case and replaced with the Walnut Creek Energy Center with no other changes to existing generation resources. These simulations showed that under certain double outages of transmission facilities (N-2, or N-1-1) in the vicinity of the Huntington Beach generation facility, transmission overloads or voltage issues can be resolved through re-dispatching other generation or in some cases through utilizing existing SPS load dropping procedures. The following are our findings regarding two reliability issues from ISO's 2015 long-term LCR study.

- Potential overload of Serrano – Villa Park #1 230 kV line following Serrano – Lewis #1 230 kV line and Serrano – Villa Park #2 230 kV line outage (N-1-1 contingency).

  Without Huntington Beach #3 and #4, approximately 600 MW of capacity from other units in Western LA Basin (beyond what would be available from Alamitos) will be needed to mitigate the Serrano – Villa Park overload. There is adequate generation to mitigate this overload.

- Potential voltage collapse for Barre – Ellis 230 kV line out (N-1) followed by common mode San Onofre – Santiago #1 and #2 230 kV lines (N-2) contingency.

  In the 2015 long-term LCR study, it has been identified that a minimum of **two** Huntington Beach units (450 MW of capacity) plus 1,600 MW of capacity from other Western LA Basin market units, in addition to QF/Muni units, can mitigate the voltage collapse. There is adequate generation and existing SPS load dropping procedures to mitigate this potential voltage issue.

In the event that Huntington Beach units 3 & 4 retire, the ISO will incorporate the change into the unified planning assumptions used in the ISO's transmission planning process. This change would also be reflected in the study assumptions that will be used in analyzing the reliability implications of the once through cooling (OTC) compliance plans, which generators are required to file with the State Water Resources Control Board on April 1, 2011 and in performing the study required by AB1318 regarding emission reduction credits in the South Coast Air Basin, which will be conducted in conjunction with the State Air Resources Board (ARB) and the State energy agencies (i.e., California Public Utility Commission and California Energy Commission). Please do not hesitate to contact me should you have further questions.

Sincerely,

Keith E. Casey, Ph.D.
Vice President, Market and Infrastructure Development

Cc: K. Edson