

# Memorandum

- To: ISO Board of Governors
- From: Keith Casey, Vice President of Market & Infrastructure Development
- Date: September 7, 2012
- Re: Decision on Conditional Approval to Extend Certain Existing Reliability Must-Run Contracts for 2013 and New Reliability Must-Run Designation for Huntington Beach Units 3 and 4 for Voltage Support

This memorandum requires Board action.

### **EXECUTIVE SUMMARY**

Although total capacity and the number of resources under reliability must-run contracts with the California ISO has been significantly reduced since the implementation of the state's resource adequacy program and the addition of new grid facilities, reliability must-run contracts remain an important backstop instrument to ensure reliability when other alternatives are not viable. This year, the ISO requests that the Board grant Management the authority to extend, through calendar year 2013, the reliability must-run contract for the Dynegy Oakland, LLC generating units listed in *Attachment 1*, and enter into a new reliability must-run contract for the Huntington Beach Units 3 and 4 for voltage support.

Management will exercise this authority to extend a reliability must-run contract or designate a reliability must-run resource under the following conditions.

- A load serving entity does not purchase the capacity needed to satisfy local reliability criteria in the ISO 2013 Local Capacity Technical Analysis through a resource adequacy contract; or
- The load serving entity purchases the necessary local reliability capacity under a resource adequacy contract, but Management needs a reliability must-run contract to:
  - 1. Obtain from the unit a reliability service, such as voltage support, black start or dual fuel capability; or
  - 2. Mitigate local market power; or
  - 3. Protect availability of a given resource that could be jeopardized or reduced without a reliability must-run contract.
- A resource is otherwise needed to meet local reliability service including voltage support, black start or dual fuel capability and is not under a resource adequacy contract.

Where a reliability must-run contract augments a resource adequacy contract, Management will ensure that any fixed cost recovery payment will compensate the unit owner only for the incremental costs of providing reliability must-run services. This will guarantee the owner is not paid twice for its capacity.

Without the San Onofre Nuclear Generating Station (SONGS) units 2 and 3, currently on an extended forced outage with an unknown return to service date, the Los Angeles Basin and San Diego local areas could experience a high level of resource deficiencies, even if all required available resources are purchased under resource adequacy (RA) contracts, mainly due to voltage support needs in the southern Orange County and San Diego areas. In order to increase voltage support, the ISO is seeking Board authorization to enter into a reliability must-run contract for Huntington Beach units 3 and 4 for the 2013 contract year. Although these units may not be available for generation purposes after November 1, 2012 due to the transfer of air emission credits to Edison Mission Energy's 500 MW Walnut Creek Energy Park, the units can provide necessary voltage support by converting them to synchronous condensers. Synchronous condensers do not require air permits as they do not emit pollutants. The ISO requests that the Board of Governors grant Management the authority to enter into a new reliability must-run contract with Huntington Beach units 3 and 4, wherein both Southern California Edison Company and San Diego Gas and Electric Company will be identified as responsible utilities. The conversion to synchronous condensers can be accomplished under the contract.

Moved, that the ISO Board of Governors authorizes Management to extend reliability must-run contracts for any of the reliability must-run units listed on Attachment 1, consistent with the criteria described in the memorandum dated September 7, 2012; and

Moved, that the ISO Board of Governors authorizes Management to designate Huntington Beach units 3 and 4 for reliability must-run service contingent upon execution of a reliability must-run contract with rates, terms and conditions acceptable to Management, as described in the memorandum dated September 7, 2012.

### DISCUSSION AND ANALYSIS

Management requests authority to extend the existing reliability must-run contracts (up to 165 MW of capacity) listed in *Attachment 1*. Management also seeks approval to enter into a reliability must-run contract for voltage support from Huntington Beach units 3 and 4. If Management later determines additional resources are needed for reliability must-run service, we will seek further Board approval to enter into additional reliability must-run contracts to ensure all local capacity and reliability requirements are met. The attachment also identifies resources that currently have agreements for black start (1835 MW of capacity) and dual fuel (163 MW of capacity) at zero capacity cost<sup>1</sup>, which the ISO may also extend for the 2013 contract year.

Under long-established provisions of the existing *pro forma* reliability must-run contract, by October 1, the ISO must notify a reliability must-run unit owner that the ISO will extend the existing contract from January 1 through December 31 of the following year. If the notice is not provided by October 1, the reliability must-run unit may not be designated again for one full year unless:

- The unit is needed due to an extended outage of another unit or a transmission element not known at the time of the contract expiration; or
- The unit is selected through a competitive process in which the unit owner participated.

<sup>&</sup>lt;sup>1</sup> Zero cost dual fuel and black start agreements are within Management's authority.

Because the California Public Utilities Commission aims to coordinate and reduce the number of ISO reliability must-run designations, it requires its jurisdictional load serving entities to provide, by September 17, 2012, a *preliminary resource adequacy* showing to the ISO for any reliability must-run contract potentially avoiding an unnecessary contract extension. These showings are preliminary because the CPUC jurisdictional load serving entities have until October 31 to submit their final year-ahead resource adequacy showings. The final showings must demonstrate compliance with all CPUC imposed year-ahead procurement targets (i.e., 100% local capacity area resources and 90% of the load serving entities demand forecast and reserve margin for the months of May through September).

Due to the timing required for extension of the reliability must-run contracts, Management requests Board authorization to extend the term of the contracts for an additional year and to delegate to Management the discretion to do so based on review of the preliminary resource adequacy showings. Management will brief the Board as to the results of reliability must-run contract extension at the November Board meeting.

#### The Need for Huntington Beach Units 3 and 4 for Voltage Support

The ISO has undertaken a detailed study of the reliability impacts in anticipation of San Onofre Nuclear Generating Station (SONGS) units 2 and 3 being unavailable for the summer of 2013. The results of this study have been communicated to stakeholders through an Addendum to the 2013 Local Capacity Technical (LCT) analysis report<sup>2</sup> and the ISO's 2012-2013 Preliminary Reliability Results<sup>3</sup>. Furthermore the ISO conducted a stakeholder conference call on August 29, 2012, to inform stakeholders of the study results.

In the Addendum to the 2013 Local Capacity Technical analysis report, the ISO evaluated the need for local capacity in the San Diego sub-area and LA Basin. Based on the post-transient voltage stability analysis, the San Diego sub-area and LA Basin were found to have deficient local generating resources to mitigate identified post-transient voltage stability concerns in San Diego and low voltage at San Onofre switchyard<sup>4</sup> under a critical overlapping outage of the loss of the Imperial Valley – Suncrest 500 kV line, system readjusted, followed by the loss of the Imperial Valley-Miguel 500 kV line, or vice versa. Currently, Huntington Beach units 3 and 4 have provided voltage support. Although the units are currently scheduled to lose their air emission permits by November 2012, the units can be converted to synchronous condensers and continue to provide substantial dynamic voltage support. However, an additional 320 MVAR of static reactive support is also required to meet applicable reliability standards by the summer 2013 time frame in lieu of relying on load shedding. If Huntington Beach units 3 and 4 are converted to synchronous condensers,<sup>5</sup> the resources will be able to meet the South Coast Air Basin's emission standards as the operation of synchronous condensers for voltage support does not require air emission credits.

<sup>&</sup>lt;sup>2</sup> http://www.caiso.com/Documents/Addendum-Final2013LocalCapacityTechnicalStudyReportAug20\_2012.pdf

<sup>&</sup>lt;sup>3</sup> http://www.caiso.com/planning/Pages/TransmissionPlanning/2012-2013TransmissionPlanningProcess.aspx

<sup>&</sup>lt;sup>4</sup> NERC NUC-001 Standards require a minimum voltage of 218 kV at San Onofre switchyard be maintained after a major disturbance; if the voltage falls below 213 kV after a major disturbance, it must recover to a voltage greater than 216 kV within 80 seconds.

<sup>&</sup>lt;sup>5</sup> Conversion of an existing generating unit to a synchronous condenser will require the turbine to be decoupled from the generator and the generator rotor to operate as a synchronous motor to provide reactive (i.e., voltage) support to the grid.



## Attachment 1: 2013 Reliability Must-Run, Black Start and Dual Fuel Contract Status

Any Extended RMR Contracts will be effective danuary 1, 2013 thru December 31, 2013   Any Released RMR Contracts will terminated effective Midnight on December 31, 2012   Owner RMR Contract Unit MW <sup>6</sup> State	tus	
Owner RMR Contract Unit MW <sup>6</sup> Sta	tus	
Oakland, Unit 1 55	TBD	
Dynegy Oakland, LLC Oakland Oakland, Unit 2 55 TE		
Oakland, Unit 3 55		
Black Start Units Extension Status		
Any Extended Black Start Contracts will be effective January 1, 2013 thru December 31, 2013		
Any Released Black Start Contracts will be terminated effective Midnight on December 31, 2012		
Owner Contract Unit MW' Sta	tus	
Humboldt Bay, Unit 3 32.6 TE	SD	
Pacific Gas and Electric Company Kings River Watershed II Units 298.6 TE	<u>D</u>	
San Joaquin Watershed Units 140.0 TE	D	
Hoover 525	TBD	
Big Creek Physical 368.9		
Southern California Edison Barre Peaker 47 TE		
Center Peaker 47		
Grapeland Peaker 46		
Mira Loma Peaker 46		
Miramar Energy Facility Unit 1 47.6 TE	D	
Miramar Energy Facility Unit 2 48.6 TE	D	
Orange Grove Unit 1 49.85 TE	range Grove Unit 1 49.85 TBD	
Orange Grove Unit 2 49.85 TE	D	
Cabrillo Power I, LLC Cabrillo I Encina CT 14 TE	D	
Kearney 2A CT 14	TBD	
Kearney 2C CT 14		
Cabrillo Power II, LLC Cabrillo II Kearney 3A CT 15 TE		
Kearney 3C CT 14		
Miramar 1A 17		
Dual Fuel Agreement Units Extension Status		
Any Released Duel Fuel Contracts will be terminated effective Midnight on December 31, 2012		
Owner Contract Unit MW Sta	tus	
Humboldt Bay, Unit 1 48.8	TBD	
Pacific Gas and Electric Humboldt Bay Humboldt Bay, Unit 2 48.8 TE		
Humboldt Bay, Unit 3 65.1		

<sup>&</sup>lt;sup>6</sup> Capacity values shown indicate the summer maximum net dependable capacity values for the combustion turbines. <sup>7</sup> Capacity values shown indicate the summer maximum net dependable capacity values for the combustion turbines with both summer and winter maximum net dependable capacity values specified in the Cabrillo I and Cabrillo II contracts.