

SPLITTING OF OPERATING RESERVE AND IMBALANCE ENERGY

1. PROBLEM DESCRIPTION

In the current Ancillary Service (AS) Market, Operating Reserves (OR) energy bids are combined with Supplemental Energy and Replacement Reserve Energy in the Imbalance Energy (IE) stack. The past several months have highlighted a situation of capacity shortages where in order to preserve OR all energy bids from Spin and Non-Spin awards might be skipped on a daily basis. Also, Ancillary Service suppliers that are capacity rich but energy limited are reluctant to bid into the AS market due to the possibility of frequent energy dispatches irrespective of contingencies. A typical example of energy-limited resources are hydro units that can provide large capacity on reserve with fast ramp rates, units with high emergency ramp rates that are far higher than normal operating ramp rates and emission-limited resources that can only generate for a limited amount of time. All these units could provide OR energy for outages and contingencies, but not for IE procurement. This design has resulted in lower AS supply creating a serious reliability concern.

2. PROPOSED SOLUTION

The ISO proposes to separate Operating Reserve from the IE stack. Operating Reserve would consist of Spinning Reserve and Non-Spinning Reserve. However, a flag will be provided in the OR bid templates to allow the participant to indicate whether or not the specific resource bid should or should not be used for Imbalance Energy. An OR bid that has been flagged for IE participation will be used, as is done today, for Imbalance Energy needs. An OR bid that has not been flagged for IE participation will be set aside from the IE stack and only dispatched under contingency or emergency conditions. Contingency would constitute the loss of a generating resource or a transmission line. Emergency would constitute the imminent shedding of firm load to avert transmission path overload or voltage collapse. After Operating Reserve is dispatched, the associated resources would be returned to their pre-contingency or pre-emergency state as soon as possible.

For those OR bids that have not been flagged for participation in the IE stack an additional modification to the bid template will be made such that the participant can indicate the number of hours of available energy behind the specific OR bid. This information will not be used in the procurement process, but will be used as operational information by the ISO in real-time. It will be at the discretion of the ISO to utilize the awarded OR based on this information as well as the energy cost associated with the bid in the event it is necessary to dispatch OR.

3. ADDITIONAL CONSIDERATIONS

The proposed change would not affect the AS bid evaluation, which would still be based on the capacity reservation bid. However, the OR must be separated from Replacement Reserve in terms of service substitution in the current Rational Buyer. Since Operating Reserve will not be normally dispatched for Imbalance Energy, as opposed to Replacement Reserve, Spinning and

Non-Spinning Reserve will no longer be used as a substitute of Replacement Reserve. Therefore, The ISO proposes to modify the Rational Buyer so that AS substitution may only take place as shown in the figure below:

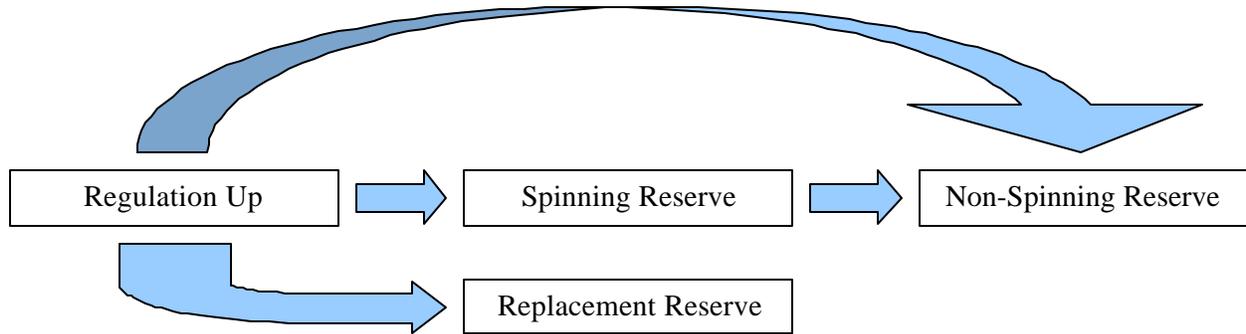


Figure 1. Proposed Rational Buyer Ancillary Services substitution

4. IMPLEMENTATION

The ISO proposes to address this situation with an interim solution to be implement in mid March and then with a final solution to be implemented prior to the 2001 summer season.

4.1. Interim Solution – Mid March 2001

Utilizing the existing BEEP software the ISO will implement a hard split of the OR from the IE stack. The hard split will set aside all spinning and non-spinning reserve for contingency and emergency use only. OR will not be dispatched for IE needs. An interim process will be established to facilitate reporting to the ISO of the available energy behind specific OR resources.

Alternatively, the ISO is investigating the possibility of a process by which participants may elect to specify their desire to continue to participate in the IE stack during the interim. However, this would be a one-time election during the interim period and is contingent upon the ability to develop such a process in a timely manner.

4.2. Final Solution – Prior to Summer 2001

- Implementation of the final solution requires modification to the SI and SA Market Software and will involve internal ISO testing and Market Simulation. The details of the final solution are provided in section 2 above.