

ATTACHMENT 7



Memorandum

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To: Grid Reliability/Operations Committee
From: Terry M. Winter, Chief Operating Officer
CC: ISO Board, ISO Executives
Date: November 12, 1998
Re: *Ancillary Service Import Limit*

EXECUTIVE SUMMARY

At the last Board meeting, the 25% limit imposed on acquiring operating reserves outside the control area was questioned. Based upon the operating experience and limitations discussed below, the ISO management feels the 25% limit is a reasonable compromise between reliability concerns and market participation and should be retained.

ISSUE STATEMENT

Should the ISO limit the total purchase of Operating Reserves outside the control to 25%.

DESCRIPTION OF ISSUE

After the implementation of software changes made to acquire Ancillary Services (A/S) from resources outside the ISO Control Area, the ISO identified several issues that resulted in the ISO limiting the total purchases of Operating Reserves outside the Control Area to 25%. The following is intended to outline the risk and implementation issues for limiting Operating Reserve (Spin and Non-Spin to 25% procurement).

It should be noted that Replacement Reserves are not currently limited and may be procured in an amount up to 100% of the ISO's total requirement.

OPTIONS TO DEAL WITH THE ISSUE

1. The ISO could increase the 25% to some higher number.
2. The ISO could continue to use the 25% limit.

ATTRIBUTES FOR COMPARING OPTIONS

The main overriding attribute is whether or not the reliability of the system can be maintained with greater than 25% of the reserves acquired outside the control area.

PROS AND CONS OF EACH OPTION

Option 1

If the ISO were to increase the percent of operating reserves it could acquire outside the control area, it could increase the depth of the market and thereby possibly reduce costs for operating reserves.

The increase above 25% could have a negative impact on system reliability in the following ways:

1. The practical implementation of Operating Reserves (Spin and Non-Spin) from adjacent Control Areas within the WSCC-required 10 minutes response time does not currently appear feasible. Operating Reserves for the ISO range from approximately 1700 to 3000 MW daily. To provide the reserves the adjacent Control Area would need to make an immediate emergency interchange scheduled to ramp for MW bid within the prescribed timeframe (10 minutes). To schedule, get instruction to the units, and have the units react in 10 minutes is unlikely.
2. The potential of all Reserves (Operating and Replacement) being scheduled on a single intertie is also an issue. The ISO could experience curtailments that would cut the A/S Imports, leaving the ISO with no mechanism to replace the Operating Reserve capacity in real time (similar to the BEEP real-time function for Energy). The ISO would then have to replace the reserve via Supplemental Energy, where available, or dispatch RMR units (if available) immediately. Since Replacement Reserves are a sixty-minute quantity, this would likely only partially fill the reliability requirement needs of MORC.
3. Loss of an intertie creates even more of a problem since this would mean the loss of the energy scheduled on the tie as well as the A/S scheduled on the intertie. Consequently, each intertie would need to have a specified limit of A/S procurement that would establish the next credible outage on each intertie that would not exceed the MORC Operating Reserve requirements (5-7% OR largest single contingency). Presently, the ISO ASM software only specifies a total control area percentage for A/S. To implement this remedy the software would need to be changed to allow an A/S rating at each intertie point.
4. Repeated non-compliance with BEEP requests to import Spin/Non-Spin from external Control Areas. External Control Areas wish the ISO would conform to the WSCC standard times for schedule changes, (i.e., on the hour normally and on the quarter and half for emergencies) and thus have been slow to conform to the ISO's required BEEP calls which are made every 10 minutes. This was anticipated prior to implementation due to the reluctance to make mid-hour changes in intertie schedules. Implementation by the external SC of routine schedule changes every 10 minutes, every hour of every day, due to a potential Spin quantity magnitude of 1500 MW appears impractical.

5. When the software for external tie A/S was changed, the ISO was not purchasing A/S based on final schedules, but rather, the ISO bought based on Initial Preferred Schedules. This created many difficulties for the ISO dispatchers in evaluating available Operating Reserves due to the CONG adjustments.
6. Under the current system design, A/S have a lower priority than energy on interties. When any curtailment takes place, all A/S are reduced first before any energy schedules are changed. This further exposes the ISO to a condition of insufficient Operating Reserves and argues for a limit to this risk.

As a result of these risks and possible other unidentified problems associated with external A/S procurement, the ISO made the decision to limit the purchases outside the Control Area to a maximum of 25% for Operating Reserves and 100% for Replacement Reserves.

Option 2

The pros for this option are listed as the cons for Option 1. The con for this issue is that the ISO may be paying more for operating reserves than it would pay if the market were extended in a higher percent to other control areas. This, however, is somewhat mitigated by the fact that replacement reserves can be acquired from outside the control area and seem much more accomplishable within the 60 minute criteria which allows for the necessary coordination to occur.

POSITIONS OF THE PARTIES

Those outside the control area and many marketers want the limit raised. The ISO being concerned with reliability is against raising the percentage at this time.

MANAGEMENT RECOMMENDATION

Based upon the limited experience the ISO has had over the last couple of months and the uncertainty of having the operating reserve available because of the possibility for congestion, line outages, and greater than 10 minute time required to obtain the operating reserve outside the control area, the ISO management feels that the 25% limit is a reasonable compromise between reliability and market depth and recommends that the 25% be retained. Continued review of this limit should be undertaken as more operating experience and market behavior is observed.