

Hour-Ahead Market in each Zone shall be calculated based upon the ratio of metered Demand (excluding exports) by each Scheduling Coordinator in each identified Zone for that Settlement Period to the total metered Demand (excluding exports) for that Settlement Period in that Zone.

**ASRP 4.4**

**Standard for Regulation: Control**

The ACE will be calculated by the ISO EMS. Control signals will be sent from the ISO EMS to raise or lower the output of Generating Units or System Resources providing Regulation when ACE exceeds the allowable ISO Control Area dead band for ACE. Use of dynamic schedules to provide Regulation from System Resources must be certified and approved by the ISO.

- ASRP 4.4.1            Dynamic Scheduling of Regulation from External Resources**
- Scheduling Coordinators are allowed to bid or self-provide their Regulation obligation in whole or in part from resources located outside the ISO Control Area by dynamically scheduling such resources; if it can be demonstrated that the control function will use dedicated communication links (either directly or through EMS computers) for ISO computer control and telemetry to provide this function in accordance with the ISO's standards and procedures posted on the ISO Home Page.
- ASRP 4.5                Standard for Regulation: Procurement**
- ASRP 4.5.1            Procurement of Non Self-Provided Regulation**
- Regulation necessary to meet ISO requirements not met by self-provided Regulation will be procured by the ISO as described in the ISO Tariff.
- ASRP 4.5.2            Certification and Testing Requirements**
- Each Generating Unit and Generating Units which an EOE intends to include in any System Unit used to bid Regulation or used to self provide Regulation must have been certified and tested by the ISO using the process defined in Appendix A to this Protocol.
- ASRP 4.5.3            [Not Used]**
- ASRP 4.5.4            [Not Used]**
- ASRP 5                 OPERATING RESERVE STANDARDS**
- The ISO needs, as a minimum, Operating Reserve, consisting of Spinning Reserve and Non-Spinning Reserve, sufficient to meet WSCC MORC. The Operating Reserve requirement shall be equal to (a) 5% of the Demand (except the Demand covered by firm purchases from outside the ISO Control Area) to be met by Generation from hydroelectric resources, plus 7% of the Demand (except the Demand covered by firm purchases from

**ASRP 9.1 Compliance Testing for Regulation**

The ISO may test the capability of any Generating Unit or System Resource providing Regulation by using the ISO EMS to move that Generating Unit's or System Resource's output over the full range of its Regulation capacity within a ten-minute period.

**ASRP 9.2 Compliance Testing for Spinning Reserve**

The ISO may test the capability of any Generating Unit, System Unit or external import of a System Resource providing Spinning Reserve by issuing unannounced Dispatch instructions requiring the Generating Unit, System Unit or external import of a System Resource to ramp up to its stated ten minute capability in accordance with the Scheduling Coordinator's Bid. Such tests may not necessarily occur on the hour. The ISO shall measure the response of the Generating Unit, System Unit or external import of a System Resource to determine compliance with its stated capabilities.

**ASRP 9.3 Compliance Testing for Non-Spinning Reserve**

**ASRP 9.3.1 Compliance Testing of a Generating Unit, System Unit or System Resource**

The ISO may test the Non-Spinning Reserve capability of a Generating Unit, System Unit or an external import of a System Resource by issuing unannounced Dispatch instructions requiring the Generating Unit or System Unit to come on line and ramp up or, in the case of a System Resource, to affirmatively respond to real-time interchange schedule adjustment; all in accordance with the Scheduling Coordinator's bid. Such tests may not necessarily occur on the hour. The ISO shall measure the response of the Generating Unit, System Unit or external import of a System Resource to determine compliance with its stated capabilities.

**ASRP 9.3.2 Compliance Testing of Curtailable Demand**

The ISO may test the Non-Spinning Reserve capability of a Load providing Curtailable Demand by issuing unannounced Dispatch instructions requiring the operator of the Load to report the switchable Demand of that Load actually being served by the operator at the time of the instruction. No Load will be disconnected as part of the test.

**ASRP 9.7.2 Penalties for Failure to Pass Compliance Testing**

The Scheduling Coordinator whose resource fails a compliance test shall be subject to the financial penalties provided for in the ISO Tariff. In addition, the ISO shall institute the sanctions described in ASRP 11.

**ASRP 10 PERFORMANCE AUDITS FOR STANDARD COMPLIANCE**

In addition to testing under ASRP 9, the ISO will periodically audit the performance of resources providing Ancillary Services to confirm the ability of such resources to meet the applicable Ancillary Service standard for performance and control.

**ASRP 10.1 Performance Audit for Regulation**

The ISO will audit the performance of a Generating Unit providing Regulation by monitoring its response to ISO EMS control or, in the case of an external import of a System Resource providing Regulation, by monitoring the dynamic interchange response to ISO EMS control around its Set Point within its rated MW/minute capability over the range of Regulation capacity scheduled for the current Settlement Period.

**ASRP 10.2 Performance Audit for Spinning Reserve**

The ISO will audit the performance of a Generating Unit or external import of a System Resource providing Spinning Reserve by auditing its response to Dispatch instructions and by analysis of Meter Data associated with the Generating Unit. Such audits may not necessarily occur on the hour. A Generating Unit providing Spinning Reserve shall be evaluated on its ability to respond to a Dispatch instruction, move at the MW/minute capability stated in its bid, reach the amount of Spinning Reserve capacity scheduled for the current Settlement Period within ten minutes of issue of the Dispatch instruction by the ISO, and respond to system frequency deviations outside the allowed frequency deadband. An external import of a System Resource providing Spinning Reserve shall be evaluated on its ability to respond to a Dispatch instruction, move at the MW/minute capability stated in its bid, reach the amount of Spinning Reserve capacity scheduled for the current settlement Period within ten minutes of issue of the Dispatch instruction by the ISO.

**ASRP 10.3**

**Performance Audit for Non-Spinning Reserve**

The ISO will audit the performance of a Generating Unit, Load, or System Resource providing Non-Spinning Reserve by auditing its response to Dispatch instructions, and by analysis of Meter Data associated with the resource. Such audits may not necessarily occur on the hour. A Generating Unit providing Non-Spinning Reserve shall be evaluated on its ability to respond to a Dispatch instruction, move in accordance with the time delay and MW/minute capability stated in its bid, and reach the amount of Non-Spinning Reserve capacity under the control of the ISO scheduled for the current Settlement Period within ten minutes of issue of the Dispatch instruction by the ISO. An external import of a System Resource providing Non-

