

## **White Paper Self-Tracking Metering Requirements**

The RTO West Stage II filing allows for Scheduling Coordinators to self-track for regulation and frequency response, load following up and load following down ancillary services. This paper is concerned with the metering, control and communications requirements only. The requirements for a Scheduling Coordinator to continue as a self-tracking provider are not addressed. The definition as defined in the Stage II filing document Appendix G entitled “RTO West Ancillary Services Model” is

“Self-tracking” means that Scheduling Coordinators use their own resources or resources under contract to meet their needs for Regulation and Frequency Response Service and Load Following (Up and Down) Services in order to be exempt from all or a part of RTO West charges for those services. Self-tracking Scheduling Coordinators must demonstrate their capability to match generation and loads over an RTO West-defined time period before receiving certification for self-tracking. A Scheduling Coordinator that has chosen self-tracking can choose to self-provide the other ancillary services or acquire them through the RTO West ancillary services procurement process. Scheduling Coordinators who choose to self-track are responsible for congestion charges associated with the use of their resources for self-tracking. To the extent the Scheduling Coordinator has provided Catalogued Transmission Rights or Financial Transmission Options, these charges will be offset by the credit associated with the Catalogued Transmission Rights or Financial Transmission Options as described in the RTO West Congestion Management Model.

A self-tracking Scheduling Coordinator can either balance individually metered load and resource points or it can balance loads and resources within a metered boundary. All self-tracked loads and resources must be within the RTO West control Area. In either case, the following requirements need to be meant:

1. Metered interconnection points should meet the requirements for interchange metering.
2. Meters are auditable by the RTO.
3. Summation of interconnection points can be verified.
4. Generation responsive to a signal needs to be metered when not within the metered boundary.
5. Sufficient communications to reliably telemeter the metered interconnection points and responsive generation data, when not within the metered boundary, to the Scheduling Coordinators generation control system.
6. Sufficient communications to provide RTO West with the information it requires for settlement.
7. Polling rates for the generation control system must meet NERC/WECC requirements.
8. Generation control system will accommodate frequency bias settings and time error correction. The Frequency bias obligation and time error settings will be determined by the RTO.

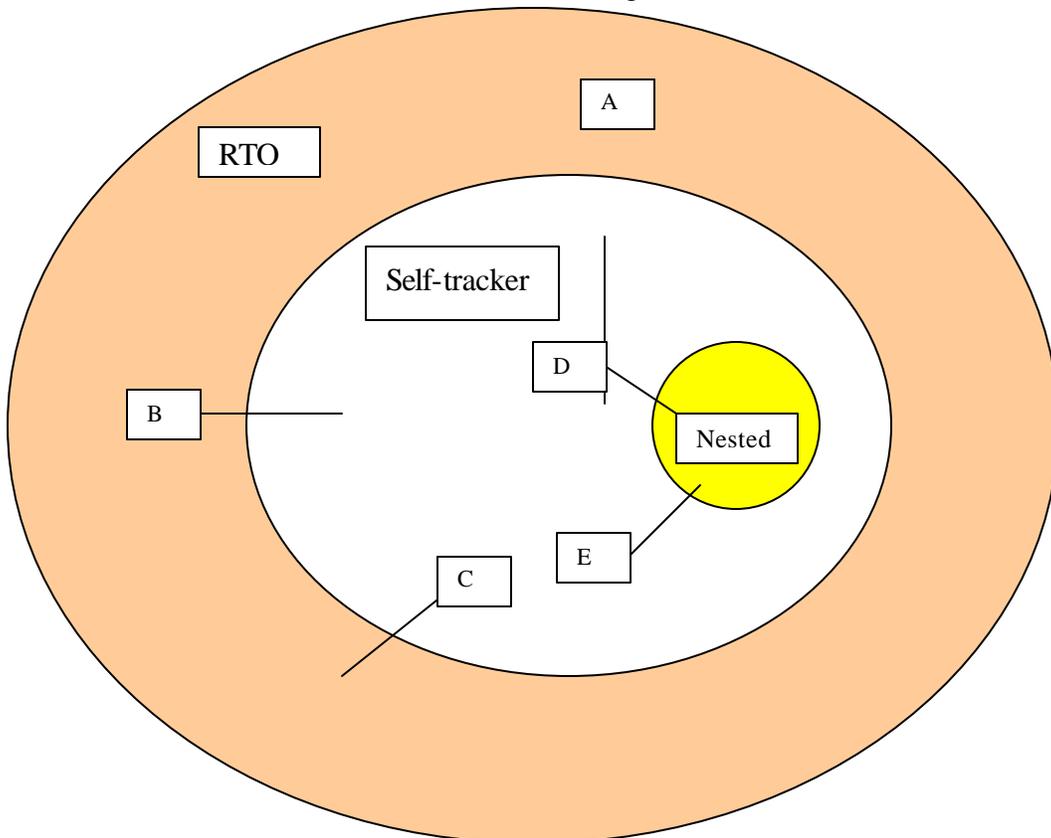
The energy imbalance calculations will take into consideration the contributions made by the self-tracking Scheduling Coordinator to maintaining the system frequency and time as

appropriate. However, the two options for self-tracking, a metered boundary or individually metered loads and resources, each has its own unique characteristics for control.

### Metered Boundary

A metered boundary self-tracking area resembles a control area that is nested within a larger control area. For control purposes, this scheduling coordinator will need to establish a net interchange schedule for its boundary. The RTO will need to agree to the net interchange schedule. This schedule will take into account transactions scheduled into and out of the metered area. The AGC will be the same as today's AGC for a control area with the RTO establishing the appropriate bias and time error correction obligations of the area. As a minimum the total interchange, ACE, output of generators responsive to AGC, and scheduled interchange will need to be telemetered to the RTO at a rate specified by the RTO.

What happens if another Scheduling Coordinator contained within the area established by a metered boundary prefers to take its ancillary services from another provider? The nested Scheduling Coordinator interconnection points with the self-tracking Scheduling Coordinator will need to be metered and included as tie points in the self-tracking Scheduling Coordinator's AGC. This effectively removes the nested Scheduling Coordinator from the self-tracking Scheduling Coordinator's area. There will not be a need to establish a schedule as such to the nested Scheduling Coordinator since its transactions will be an in and out for the other scheduling coordinator.



In the above example the self-tracking Scheduling coordinator has interconnection points A, B, and C with the RTO and interconnection points D and E with a nested Scheduling Coordinator. The AGC for the self-tracking Scheduling Coordinator would sum the flows at interconnection points A, B, C, D, and E and compare that value to its scheduled interchange. The resulting control error would be used to increment up or down its resources under generation control automatically.

### **Individually Metered Loads**

For the self-tracking Scheduling Coordinator that has individually metered loads, a revenue quality meter will be needed at its interconnections with the RTO for each of its loads and generators providing the self-tracked ancillary services. Since this Scheduling Coordinator is not metering a boundary but individual loads, a scheduled interchange is not required to determine a control error. However, an aggregate load estimate will need to be made for purposes of determining transmission use and imbalance energy costs. The RTO will need to receive the summation of the load meters, summation of resource outputs from those resources supplying energy to the load, the output of each resource supplying the ancillary services, and an error signal which is made up of the difference between the resources serving these loads and the loads, frequency bias obligation and time error correction.