

# Constrained Output Generator (COG)

RDRP could be modeled as a COG, with certain, limited modifications to the model by 2012. A COG could model a Firm Service Level type of DR resource. Following are some of the CAISO tariff provisions concerning a Constrained Output Generator (COG):

## 27.7 Constrained Output Generators.

### 27.7.1 Election of Constrained Output Generator Status.

A Scheduling Coordinator on behalf of a Generating Unit eligible for COG status must make an election to have the resource treated as a COG before each calendar year by registering the resource's PMin in the Master File as equal to its PMax less 0.01 MW ( $P_{Min} = P_{Max} - 0.01 \text{ MW}$ ) within the timing requirements specified for Master File changes described in the applicable Business Practice Manual. Generating Units with COG status will be eligible to set LMPs in the IFM and RTM based on their Calculated Energy Bids.

As with all Generating Units, a Scheduling Coordinator on behalf of a COG must elect either the Proxy Cost option or the Registered Cost option, as provided in Section 30.4, for determining its Start-Up Costs and Minimum Load Costs. A COG's Calculated Energy Bid will be calculated based on this election. Whenever a Scheduling Coordinator for a COG submits an Energy Bid into the IFM or RTM, the CAISO will override that Bid and substitute the Calculated Energy Bid if the submitted Bid is different from the Calculated Energy Bid.

### 27.7.2 Election to Waive COG Status.

A Scheduling Coordinator on behalf of a Generating Unit eligible for COG status may elect to waive COG status. If such Generating Unit has a non-zero operating range ( $P_{Max}$  greater than  $P_{Min}$ ), it is eligible to participate in the CAISO Markets like any other resource.

### 27.7.3 Constrained Output Generators in the IFM.

In the IFM, resources electing COG status are modeled as though they are not constrained and can operate flexibly between zero (0) and their PMax. A COG is eligible to set IFM LMPs based on its Calculated Energy Bid in any Settlement Period in which a portion of its output is needed as a flexible resource to serve Demand. A COG is not eligible for recovery of Minimum Load Costs or BCR in the IFM due to the conversion of its Minimum Load Cost to an Energy Bid and its treatment by the IFM as a flexible resource. A COG is eligible for Start-Up Cost recovery based on its Commitment Period as determined in the IFM, RUC, HASP, STUC or RTUC.

### 27.7.5 Constrained Output Generators in the Real-Time Market.

A COG that can be started up and complete its Minimum Run Time within a five-hour period can be committed by the STUC. A COG that can be started up within the Time Horizon of a RTUC run can be committed by the RTUC. The RTD will dispatch a COG up to its PMax or down to zero (0) to ensure a feasible Real-Time Dispatch. The COG is eligible to set the RTM LMP in any Dispatch Interval in which a portion of its output is needed to serve Demand, not taking into consideration its Minimum Run Time constraint. For the purpose of making this determination and setting the RTM LMP, the CAISO treats a COG as if it were flexible with an infinite Ramp Rate between zero (0) and its PMax, and uses the COG's Calculated Energy Bid. In any Dispatch Interval where none of the output of a COG is needed as a flexible resource to serve Demand, the CAISO shall not dispatch the unit. In circumstances in which the output of the COG is not needed as a flexible resource to serve Demand, but the unit nonetheless is online as a result of a previous commitment or Dispatch Instruction by the CAISO, the COG is eligible for Minimum Load Cost compensation.