Oversupply Management Protocol, Version 4

Effective: 05/13/13

Bonneville Power Administration (BPA) has filed Attachment P, "Oversupply Management Protocol" and an associated Open Access Transmission Tariff (OATT) revision with the Federal Energy Regulatory Commission (FERC). BPA will implement its Oversupply Management Protocol (OMP) only as a last resort and after exhausting other available tools. The agency's intent is to use OMP only for the period when it is absolutely necessary. The OMP Business Practice (BP) will remain in effect through the term of BPA's Attachment P, which terminates on September 30, 2015.

Version 4 includes updates to the BPA Power Services Trading Floor contacts in step E.4.

A. Purpose of Oversupply Management Protocol

1. OMP is designed to ensure the Federal Columbia River Power System (FCRPS) is operated consistently with the "Clean Water Act" and the "Endangered Species Act" obligations, as well as BPA's obligations under the "Pacific Northwest Electric Power Planning and Conservation Act," (under specific hydro and load conditions) and after all available mitigation measures, such as those described in section 2 of Attachment P, have been implemented. When these conditions exist, BPA will issue orders to generators and replace scheduled generation in BPA's Balancing Authority Area (BAA) with Federal hydropower.

B. Generators Subject to Oversupply Management Protocol

1. All generators with a nameplate of 3 MW or greater generating capacity in BPA's BAA are subject to OMP, except those generators operating and scheduling output under a Bonneville Transmission Services pseudo tie agreement.

C. Establishing Minimum Generation Levels for Oversupply Management

1. BPA has posted the Establishing Minimum Generation Levels and the Maximum Ramp Rates for establishing the minimum generation levels for oversupply management.

D. Submitting Cost Information for Oversupply Management Protocol

1. In accordance with Attachment P of BPA's OATT, a Customer[1] may submit the cost of displacing each of its generating facilities with Federal hydropower, and supporting data

[1]Any customer taking service under Use of Facilities (UFT), Formula Power Transmission (FPT), Integration of Resources (IR), Part II or Part III of the OATT.

and documentation of such costs, to an independent evaluator selected by BPA. The costs and supporting data and documentation can be submitted here: https://oversupply.accionpower.com. Using the submitted cost information, the independent evaluator will build a Least-Cost Displacement Cost Curve (Cost Curve), which will be the basis for displacing generators during OMP events. See section I, below.

2. Generators have an opportunity to update their displacement costs at any time, and the updated costs will take effect the first day of the second month after submission.

3. If Customers do not submit displacement costs and supporting data and documentation for specific generating facilities, the displacement cost for these generating facilities shall be deemed to be $0/MWh.

E. Oversupply Management Actions Prior to Implementing Oversupply Management Protocol

1. BPA will take all available actions that BPA determines will reduce or avoid the need for displacement, such as those actions listed in section 2 of Attachment P.

2. BPA, in coordination with the US Army Corps of Engineers and Bureau of Reclamation, already establishes minimum generation levels for Federal generation to minimize Total Dissolved Gas (TDG) on a system basis. These levels will be implemented as part of the mitigating measures to ensure Federal generation fully participates in mitigating the system conditions.

3. BPA Power Services is also offering to make advance arrangements with Transmission Customers for waiving In-Kind Real Power Loss Return[1] obligations to reduce spill. Once the Transmission customer has made arrangements with the BPA Power Services Trading Floor, BPA Power will contact the Transmission Customer prior to implementing the OMP to request the Transmission Customer reduce their Transmission Loss Returns e-Tags, if the e-Tags have been previously submitted.

4. Customers interested in making advance arrangements may initiate contact with the BPA Power Services Trading Floor. Trading Floor Contacts

Day-Ahead and Real-Time Manager: (503) 230-3183 or e-mail rcjohnson@bpa.gov
Day-Ahead Power Marketing Desk: (503) 230-5763 or e-mail dkdernovsek@bpa.gov
Trading Floor: (503) 230-3144 or e-mail nle@bpa.gov

F. Curtailment of E-Tags

1. All generators are subject to curtailment of e-Tags at all times for system reliability and other reasons as described in the Curtailment and Redispatch Business Practice. If the curtailment reduces the sum of remaining e-Tags originating at the generator to a level that is less than the OM minimum generation level then the generator must fully comply with the curtailment and reduce generation regardless of the established OM minimum generation level.

G. Notification that Oversupply Management Protocol is Imminent

1. Transmission Dispatch will make a posting with the category of “Curtailment” on the Notices page of BPA Transmission Services’ Open Access Same-Time Information System

[1]The return of Real Power Losses which were replaced with federal generation.

(OASIS[1]) that implementing OMP is imminent. The posting may include the expected duration of the OMP event. The message will read, in part:

a. Subject: Oversupply Management Imminent

b. Subject: Oversupply Management Imminent

2. Resources should continue to schedule their forecast power output, including scheduled loss returns for the hour when an OMP event is imminent. Continued accurate scheduling when an OMP event is imminent and during an OMP event is critical for the success of these efforts.

H. Allocation of Oversupply Management Protocol Quantity

1. BPA Hydro Operations will determine the need to implement OM and will determine the amount of generation reduction required for each hour during the event. When OM Protocol is implemented, schedules from the generators will remain intact, but generation must be reduced.

2. BPA will use the "Cost Curve" to displace generation located in BPA's Balancing Authority Area. The "Cost Curve" will be based on the cost of displacement for each facility, and includes both non-Variable Energy Resource (VER)[2] and VER generators. BPA will displace generation in order of cost, from the least-cost facility to the highest-cost facility, until the required displacement quantity as determined by BPA is achieved. If the highest-cost facility that BPA displaces in an hour to achieve the required displacement quantity has the same cost as one or more other facilities, BPA will displace all such facilities on a pro-rata basis. The pro-rata reduction for each facility is calculated by: (Sum of Schedules for the generator)/(Sum of Schedules for the group) *required reduction.

I. Notification that Oversupply Management Protocol is in Effect

1. Transmission Dispatch will make a posting with the category of 'Curtailment' on the Notices page of BPA Transmission Services' OASIS that the OMP is in effect. The message will read, in part:

[1]Open Access Same-Time Information System

[2]An electric generating facility that is characterized by an energy source that: (1) is renewable; (2) cannot be stored by the facility owner or operator; and (3) has variability that is beyond the control of the facility owner or operator. This includes, for example, wind, solar thermal and photovoltaic, and hydrokinetic generating facilities. This does not include, for example, hydroelectric, biomass, or process steam generating facilities.

a. Subject: Oversupply Management Ongoing

b. Message: BPA is implementing Oversupply Management Protocols.

2. BPA will post information on the OMP on the publicly-accessible Transmission Wind Operations web site with near-real time updates.
   a. The "BPA Balancing Authority Total Wind Generation & Wind Basepoint[1]" link will provide information on the total amount of the OMP reduction.
   b. The "BPA Wind State" link will provide information on the OMP state.

3. During an OMP event, the imbalance signals to Customers' self-supplying balancing reserves under the Customer Supplied Generation Imbalance (CSGI) Pilot will be offset by the amount of the CSGI Customer's share of the OMP requirement plus the amount of regulation and load following service being provided by BPA to the CSGI Customer. The CSGI Customer will control its resources down so the total error for the Customer including the OMP requirement, regulation and load following offset is less than or equal to zero.

4. Electronic notification will be sent to generators to indicate that OMP is in effect.
   a. During the implementation of OMP, Dispatch Orders will be communicated via iCRS[2] Generation Advisor and generators will receive the alarms and Limit Targets. A message of "OMP: LIMIT GENERATION" and "OMP: RAMP TO NEW LIMITS" will be indicated on iCRS Generation Advisor with the alarm that OMP is in effect. Generators must reduce generation to within 2% of the nameplate capacity of the generating facility, or 4 MW of the generation Limit Target, whichever is greater,, which will be at or below the generator's schedule for that hour. During the "OMP: RAMP TO NEW LIMITS" period, VERs with D20 RTUs will have their Limit Targets modified in a linear fashion during the ramp period (20 minutes at the top of the hour if OMP is for an entire hour or five minutes if it is a within-hour change), while all other generators will get a step change to the Limit Targets (at the top of the hour if OMP is for an entire hour, or at the beginning of the five-minute ramp if it is a within-hour change).
   b. Generators and their agents may request to receive a notice via email indicating that OMP is in effect. Generators must reduce generation to minimum levels or to the Limit Target provided via iCRS GA or other electronic signal.

[1] A generator estimate which is normally held constant during the hour except during the ramp period from ten minutes before the hour to ten minutes after the hour, when plant-operating schedules for the next hour are changed to match the plant transmission schedules. Plants used for provision of Ancillary or Control Area Services will receive more frequent adjustment to their Basepoint, in response to BPAT control signals.

[2] BPA's Integrated Curtailment and Redispatch System, as implemented through BPA's Generation Advisor web application.

c. VERs will also receive notification that OMP is in effect via the same electronic signal they currently receive for a DSO 216 Limit Level 1 Alarm. Generators receiving this signal via ICCP or a Remote Telemetry Unit (RTU) will receive the OMP alarm and generation Limit Target directly. Generators that do not reduce (and maintain) output to within 2% of the nameplate capacity of the generating facility, or 4 MW of the generation Limit Target, whichever is greater, within 10 minutes, or consistent with established ramp rates, are subject to the Failure to Comply Penalty[1]. In the event there is multiple dispatch orders within an operating hour, a generator must follow the lowest limit order in effect. Specific questions about a dispatch order should be directed to BPAT Generation Dispatcher.

5. Customers that net their VER facilities for DSO216 response purposes may net their facilities for an OMP response. However, BPA will compensate the netted facilities based on the cost curve for the OMP displacement amount allocated to specific facilities within the netted group.

[1]The consequences of non-compliance as defined in the Failure to Comply Business Practice in effect at the time.

J. Notification that an Oversupply Management Event has Ended

1. If system conditions improve to the point where the OMP is no longer required, the alarm status in iCRS Generation Advisor will revert to normal functionality for DSO 216 limits. This will be preceded by an informational message of "OMP: PREPARE FOR NORMAL" during the ramp. This information will also be visible on the publicly accessible Transmission Wind Operations website.

2. When system conditions improve to the point where the OMP is no longer required, those on the email list will receive a notice that OMP has concluded. Generators may return to their scheduled operation.

3. When system conditions improve to the point where the OMP is no longer required, Transmission Dispatch will make a posting with the category of "Curtailment" on the Notices page of BPA Transmission Services' Open Access Same-Time Information System (OASIS) that OMP is over. The message will read:

   a. Subject: Oversupply Management Concluded

   b. Message: BPA has concluded implementation of Oversupply Management Protocols.

K. Adjustments to Energy and Generation Imbalance Accounting During an Oversupply Event

1. For the hours when the OMP is in effect, the Generation Imbalance accounting, including Persistent Deviation is disabled for all Generating Customers that are issued an order to modify generation for the OMP.

2. For the hours when the OMP is in effect, if a Load Serving Entity[1]'s (LSE) behind the meter resource is ordered to reduce generation to Minimum Generation level, BPA will increase the LSE's scheduled load amount by the difference between the generation estimate for the behind the meter resource and the minimum generation level. BPA will serve the increased load with Federal hydropower.

L. Short Distance Discount for Displaced or Redispatched Resources

1. When the OMP is imminent or in effect, Network (NT) Customers that have resources that qualify for a short-distance discount and reduce generation in response to requests

[1] A load, generator, generation provider, Transmission Customer, or other party.

from Power Services or a Dispatch Order[1] from Transmission Services will continue to receive an adjustment to their NT base charge as if the generator was serving the load.

2. When OMP is imminent or in effect, Point-to-Point (PTP) reservations that would otherwise receive the PTP Short-Distance Discount will continue to receive the discount when the generator for the POR[2] of the reservation reduces generation in response to requests from Power Services or a Dispatch Order from Transmission Services.

[1]Order or directive from Transmission Services to dispatch, curtail, redispatch, limit output, or shed load. Dispatch Orders may be communicated by various methods including, but not limited to: phone call (e.g. to redispatch generation up or down); electronic signal (e.g. via direct telemetry or private web application to limit generation according to DSO216); or NERC e-Tagging system (e.g. to curtail transmission schedules and the generation using those schedules).

[2]Point of Receipt is an interconnection on the Transmission Provider's Transmission System where capacity and energy will be made available by the Delivering Party; An OASIS field on a TSR that is the scheduling POR.

M. Adjustments to DERBS Charges

1. For the hours when the OMP is in effect and a resource subject to Dispatchable Energy Resource[1] Balancing Service (DERBS) is issued an order to reduce generation to Minimum Generation level, the DERBS charge for that hour for that generator will not be assessed.

[1]Any non-federal thermally-based generating resource 3 MW or greater that schedules its output or is included in BPA's Automatic Generation Control system. This includes generation behind the meter where a generation estimate is used as the resource schedule.

N. Loss Returns and Obligations During an OMP Event

1. BPA will provide power for redispatched schedules, including scheduled loss returns, during an OM event. Generating Customers are responsible for loss return obligation incurred for the schedules submitted during an OMP event.

O. Generating Customers' Operating Reserve Obligation During an OM Event

1. Generating Customers are responsible for the Operating Reserve Obligation for the schedules they submit during an OMP event.

P. Additional Information

Policy References

- BPA OATT Attachment P

Related Business Practices

- Establishing Minimum Generation Levels for Oversupply Management
- Failure to Comply
- Generation Imbalance Service[1]
- Operating Reserves[2]
- Real Power Loss Return
- Redispatch and Curtailment

Version History

Version 4	05/13/13 Version 4 includes updated BPA Power Services Trading Floor contacts in step E.4.
Version 3	4/2/13 This Business Practice was updated to reflect changes in Attachment P and to reflect BPA's automated process for signaling non-VERs (Variable Energy Resource) to go to their minimum generation level. BPA also removed Oversupply Management Displacement from the Business Practice. Version 3 includes the following specific changes: Introduction: Updated dates.

[1]The Generation Imbalance component of Variable Energy Resource Balancing Service (VERBS).
[2](Also called Contingency Reserves) The combination of Operating Reserve-Spinning Reserve Service and Operating Reserve-Supplemental Reserve Service. Fifty percent of Operating Reserves Services must be Spinning Reserves Services.

	Section A • Step A.1: Added "all available mitigation measures, such as those described in section 2 of Attachment P" Section D • Step D.1: Added "and supporting date and documentation" and "Using the submitted cost information, the independent evaluator will build a Least-Cost Displacement Cost Curve (Cost Curve), which will be the basis for displacing generators during OMP events. See section I, below." • Step D.2-4: Deleted and replaced with new Step D.2 • Step D.5: Deleted "cost information", "BPA will assume" and "is zero". Added "Costs and supporting data and documentation" Section E: Deleted section Section F (changed to Section E) • Step F.1: Added step • Step F.2: Deleted step • Step F.4: Added "Day-Ahead Power Marking Desk" to list Section H (Changed to Section G) • Step H.2: Changed "Vers" to "Resources" and deleted "If OM Protocol is implemented, all under-generation relative to schedules will be provided by Federal hydropower." Section I (Changed to Section H) • Step I.2: Deleted step • Step I.2: Deleted "If reductions from non-VER generators that do not opt in and submit displacement costs are insufficient to provide the required reductions, then"; "information"; "Customer-submitted"; "in order to moderate TDG levels in the Coumbia River"; and "list". Added "and includes both non-VER and VER generators". Section J (Changed to Section I) • Step J.4a-b: Deleted steps • Step J.4: Deleted "VERs will receive" and added Step 4, 4.a; and rewrote 4.b • Step J.5: Deleted step Section K (Changed to Section J)

	• Step K.1: Deleted "OM for VERs" and added "the OMP". Deleted "in iCRS Generation Advisor" and "This will be preceded by an informational message of "OMP: PREPARE FOR NORMAL" during the ramp." • Step K.2: Deleted "for non-VERS" and "Transmission Dispatch will also contact by phone non-VERs that had been issued a Dispatch Order to reduce generation and advise them to return generation to schedule."
Version 2	4/10/12 Changes clarify the order of displacement of non- VER generators that submit or do not submit Displacement cost data.
Version 1	3/31/12 New business practice. The Oversupply Management Protocol, Version 1 was preceded by the Environment Redispatch, Version 3 now located in the Business Practice archive.