



Business Practice: Supplying Operating Reserves

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Revision No.: 0

1. Purpose

Provide guidelines specifying the criteria Transmission Customers must meet to fulfill the requirement set forth in Section 3 and Schedules 5 & 6 of the OATT to acquire Operating Reserves either from PGE Transmission & Reliability Services, by self-supply, or from a third party supply.

2. Policy Reference

2.1. The regional Reliability Standard BAL-002-WECC-2 applies to balancing authorities and reserve sharing groups in the WECC Region and is meant to specify the quantity and types of contingency reserve required to ensure reliability under normal and abnormal conditions.

3. Definitions

3.1. Operating Reserve — That capability above firm system demand required to provide for regulation, load forecasting error, equipment forced and scheduled outages and local area protection. It consists of spinning and non-spinning reserve.

3.2. Operating Reserve – Spinning — The portion of Operating Reserve consisting of:

- Generation synchronized to the system and fully available to serve load within the Disturbance Recovery Period following the contingency event; or
- Load fully removable from the system within the Disturbance Recovery Period following the contingency event.

3.3. Operating Reserve – Supplemental — The portion of Operating Reserve consisting of:

- Generation (synchronized or capable of being synchronized to the system) that is fully available to serve load within the Disturbance Recovery Period following the contingency event; or
- Load fully removable from the system within the Disturbance Recovery Period following the contingency event.

4. Practice

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4.1. Spinning and Supplemental Services

4.1.1.A Transmission Customer must satisfy its obligation to acquire Operating Reserves through one of the following alternatives:

- Purchase from PGE Transmission & Reliability Services
- Self-Supply
- Third Party Supply

4.1.2.A Transmission Customer must use the same supplier to meet all of its Operating Reserves obligations to PGE, even if such obligations arise under more than one transmission service agreement. However, the supplier does not have to necessarily use the same resource to supply all required reserves.

4.1.3.Selection of an Operating Reserves Supplier

4.1.3.1. At the time a Transmission Customer makes its initial request for transmission service with PGE Transmission & Reliability Services, it must indicate its provider for Operating Reserves Services.

4.1.3.2. PGE Transmission & Reliability Services is the default provider under any of the following conditions:

- 4.1.3.2.1. No election was made by the Transmission Customer.
- 4.1.3.2.2. The designated supplier fails to perform to its obligation.
- 4.1.3.2.3. The supply arrangements the Transmission Customer has made are not comparable to purchasing Operating Reserve Services from PGE Transmission & Reliability Services.
- 4.1.3.2.4. The designated supplier or PGE Transmission & Reliability Services have not completed implementing and testing the necessary interfaces, systems, or software required in order to comply with this Business Practice by the start of the ensuing calendar year.

4.1.4.Each year Transmission & Reliability Services will allow Transmission Customers to change their supplier of Operating Reserves for the following calendar year. A Transmission Customer desiring to change its supplier of Operating Reserves must make its one-year election in writing or by email to PGE Transmission & Reliability Services no later than September 1 prior to the start of the next calendar year, and stating whether the Transmission Customer intends to:

- Obtain Operating Reserves from a Third Party.
- Self-supply Operating Reserves.
- Purchase Operating Reserves from PGE Transmission & Reliability Services.

4.1.4.1. If the Transmission Customer does not intend to change its supplier of Operating Reserves, no action is required.

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- 4.1.4.2. If the Transmission Customer elects to change its supplier,
- 4.1.4.2.1. PGE Transmission & Reliability Services will review the Transmission Customer's proposed arrangements for supplying Operating Reserves to assure that they meet North America Electric Reliability Council (NERC) and the WECC reliability requirements and that they will be able to meet the requirements of this Business Practice.
 - 4.1.4.2.2. PGE Transmission & Reliability Services will notify the Transmission Customer no later than October 1 prior to the start of the calendar year, whether the proposed supply arrangements are acceptable.
 - 4.1.4.2.3. If PGE Transmission & Reliability Services is unable to implement the Transmission Customer's proposed arrangements by January 1 following the election period, PGE Transmission will provide the Transmission Customer with an approximate date on which PGE Transmission & Reliability Services will implement the Transmission Customer's arrangements.
 - 4.1.4.2.4. If conditions change such that the Transmission Customer is no longer able to meet its obligation to supply Operating Reserves by self-supply or third-party supply, or if a supplier becomes unable to meet the Eligibility Criteria for suppliers section below, PGE Transmission & Reliability Services will notify the Transmission Customer that PGE Transmission & Reliability Services will be the default provider for the time remaining in the election period.
- 4.1.5. If a Transmission Customer elects to self-supply or acquire services from a third-party supplier, the Transmission Customer is responsible for all costs necessary to meet its obligation to supply Operating Reserves, including costs for the acquisition, installation and maintenance of communications and control equipment, and systems into PGE's operating control center systems.
- 4.1.6. The Transmission Customer's third party supplier may use a resource in another Balancing Authority to supply Operating Reserves provided that the resource's deployment signal is automated and that PGE Transmission & Reliability Services can observe a distinct measurable response.
- 4.1.7. PGE Transmission & Reliability Services will determine the amount of energy delivered when Operating Reserves Services is called upon.
- 4.1.8. PGE Transmission & Reliability Services follows the NW Power Pool Reserve Sharing Program (NWPP RSP) for energy settlement of exchanges outside of PGE's Balancing Authority. This program document is available at the following web address: <http://www.nwpp.org/>.
- 4.1.9. The most recent NWPP RSP settles all transactions for reserve deliveries financially. PGE Transmission & Reliability Services will use the market index described in the NWPP Procedures.
- 4.1.10. A supplier must be registered with WECC. PGE Transmission & Reliability Services may require the supplier to provide copies of its entity registration filing with WECC.

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4.2. Eligibility Criteria for Suppliers

- 4.2.1. The supplier must be capable of delivering the amount of capacity that the Customer is obligated to provide under Schedules 5 & 6 of the PGE OATT.
- 4.2.2. The supplier's Energy Management System (EMS) for deployment of reserves must be able to communicate with PGE Transmission & Reliability Services' Control Center.
- 4.2.3. The supplier's EMS must be staffed 24 hours a day, 7 days a week to assure dispatch contact is available.
- 4.2.4. The supplier must comply with applicable WECC or NERC (or successor organizations) standards except where the WECC standards are in conflict with local regulatory requirements, in which case the local regulatory requirements apply. The applicable WECC or NERC (or successor organizations) standards include but are not limited to the following:
 - 4.2.4.1. WECC Standard BAL-002-WECC-2 - Operating Reserves or its successor.
 - 4.2.4.2. NERC BAL-002-1 or its successor.
- 4.2.5. The Transmission Customer must be able to demonstrate that it can satisfy all of the requirements of this Business Practice.
- 4.2.6. The supplier must have a written agreement with PGE Transmission & Reliability Services prior to becoming a supplier.

4.3. Customer and Supplier Performance

- 4.3.1. If the Transmission Customer is unable to deliver energy or set aside capacity, it will be responsible for any penalties, or costs incurred by PGE as a result of the Transmission Customer's failure to meet its obligations under the OATT and this Business Practice.
- 4.3.2. PGE Transmission and Reliability Services reserves the right to immediately suspend the supplier and revoke a Customer's permission to self-supply or use a third-party supply should the Transmission Customer or its supplier fail to meet the requirements of the OATT or this Business Practice or in the case of an emergency.
- 4.3.3. The Operating Reserves must be available at all times; fully deliverable within 10-minutes after PGE Transmission & Reliability Services sends a signal for Operating Reserves; and sustainable for 60 minutes.
- 4.3.4. PGE Transmission & Reliability Services will perform unannounced capability tests to assure that capacity is fully available within 10-minutes.
 - 4.3.4.1. If the Transmission Customer fails the capability test, the supplier could be subject to suspension and/or penalties, and any costs incurred by PGE Transmission.
 - 4.3.4.2. If the Transmission Customer is not carrying the full amount of its Operating Reserve Requirement, the supplier could be subject to suspension and/or penalties, and any costs incurred by PGE Transmission.

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4.3.4.3. If the Transmission Customer fails to fully meet its Operating Reserve Deployment requirement, the supplier could be subject to suspension and/or penalties, and any costs incurred by PGE Transmission.

4.3.5. The Transmission Customer shall be required to demonstrate that it has adequate, firm, transmission available to deliver the reserves to PGE Transmission & Reliability Services across associated paths of all impacted Balancing Authorities. If the supplier does not have firm transmission available to deliver its reserves obligation the supplier could be subject to suspension and/or penalties, and any costs incurred by PGE Transmission.

4.3.6. If firm transmission is not available, the Transmission Customer must arrange an alternative delivery to PGE Transmission & Reliability Services. These alternatives include the following:

4.3.6.1. Carrying reserves on resources not affected by the posted constrained path.

4.3.6.2. Using transmission capability from the supplier's existing rights.

4.3.6.3. Acquiring transmission rights.

4.3 **Communication to PGE's Control Center**

4.3.1. Deployment of the supplier's resources must be accomplished using automated response to electronic signals from PGE Transmission & Reliability Services.

4.3.1.1. The resource(s) may be system rather than individual resources.

4.3.1.2. System resources require independent response verification information.

4.3.2. The supplier shall exchange real-time data with PGE Transmission & Reliability Services using the ICCP data link between PGE's control center and the supplier's EMS (or resource).

4.3.3. The supplier shall exchange other types of data, such as schedules, generation estimates, meter readings, etc., with PGE Transmission & Reliability Services using the WECC Electronic Industrial Data Exchange (EIDE) protocol or Transmission Customer Data Entry (CDE).

4.3.4. Real-time data exchange shall conform to WECC standards for inter-utility data exchange, including availability, bandwidth, security, and reliability.

4.3.5. Real-time data exchange and control signals must have a periodicity of 10 seconds

4.3.6. The supplier shall provide the following data to PGE Transmission & Reliability Services for its resources internal to the PGE Balancing Authority:

4.3.6.1. The maximum, minimum, and spinning generating capability available within the NERC defined Disturbance Recovery Time Period and actual instantaneous generation refreshed (updated) within 10 seconds. Operating Reserves shall be held available at all times until a contingency occurs.

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4.3.6.2. Status of the supplier's EMS. (An EMS that is out of service usually means the supply cannot be provided so PGE Transmission & Reliability Services will automatically default to PGEM for additional Operating Reserves.)

4.3.7. A supplier providing system responses shall provide the following data to PGE Transmission & Reliability Services:

4.3.7.1. Submit and update a Request for Interchange of its response to the PGE Transmission & Reliability Services Operating Reserve deployment.

4.4. Communication to the Supplier

4.4.1. PGE Transmission & Reliability Services will determine the supplier's Operating Reserve Requirement for the current hour and an estimate for the next hour.

4.4.2. In the event of a contingency, the megawatt amount of reserve energy the supplier must deliver will be sent from PGE Transmission & Reliability Services over a data link to the supplier's resources or through the supplier's control center. The megawatt amount of reserve energy that the supplier must deliver will be sent from PGE Transmission & Reliability Services to the supplier's control center.

4.4.3. PGE Transmission & Reliability Services will send a signal to the supplier representing the setpoint for 60 minutes to deliver Operating Reserves Services by the supplier.

4.4.3.1. A verification status flag confirming that the new setpoint represents a valid Operating Reserve delivery request. The setpoint is limited to the basepoint plus the supplier's requirement.

4.4.4. During non-contingency conditions, PGE Transmission & Reliability Services will send to the supplier a setpoint request signal with the PGE Transmission & Reliability Services deployment requirement equal to zero except when testing.

4.4.5. The supplier recovery error must reach zero or positive MW prior to 10-minutes after receiving the plant request or dynamic schedule and continuing through the end of the Operating Reserve restoration period.

4.4.5.1. The supplier recovery error equals actual generation in MW, minus the setpoint in MW, measured over the disturbance recovery time period.

4.4.5.2. The supplier recovery error, in MW, will be recorded accurate to 1/10 MW. If the performance does not reach 100% plant compliance factor, the supplier could be subject to suspension and/or penalties, and Transmission Customer will be liable for penalties or costs incurred by PGE as a result of the Transmission Customer's failure to meet its obligation under this Business Practice.

4.4.6. PGE Transmission & Reliability Services will notify each supplier of the MWh of reserve energy, and any additional information that both parties agree to, it delivered for each hour of contingency either through the EIDE.

4.4.6.1. The notification will occur shortly after the conclusion of the hour of the contingency.

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4.4.6.2. PGE Transmission & Reliability Services will coordinate the energy settlement for reserve energy deliveries among appropriate suppliers. Refer to section 4.1.9 above.

5. Revision History

Revision	Date	Change Summary
0	July 15, 2014	<ul style="list-style-type: none">Initial Draft Posting
0	August 27, 2014	<ul style="list-style-type: none">Business practice posted with October 1, 2014 effective date.