Energy Imbalance Service

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This Business Practice describes Energy Imbalance Service and the associated accounting for the difference between hourly energy scheduled and hourly energy delivered to that load. Related bulletins, which provide additional specific information that impact this Business Practice, are listed in section D below.

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A. Energy Imbalance Service

1. Energy Imbalance is an Ancillary Service taken by Transmission Customers with loads in the BPAT Control Area when there is a difference between actual energy delivered to a load and the energy scheduled to that load during a scheduling period. The treatment of this deviation between scheduled and actual loads depends upon which deviation band is applicable or if it is Persistent Deviation. The Energy Imbalance Service is described in the Transmission and Ancillary Services Rate Schedules, Ancillary and Control Area Services Rates (ACS Rate Schedule).
2. Transmission Customers are responsible for providing Energy Imbalance Service unless they are a Bonneville Power Administration power Customer receiving Load Following Service.
3. Some Load Serving Entities (LSE) may be served by more than one Customer. If the LSE is a Transmission Customer it will be responsible for any Energy Imbalance. If the LSE is not a Transmission Customer, one of the Customers serving the LSE must be designated as the party responsible for Energy Imbalance Service.
4. For the hours when Oversupply Management is in effect, if a Load Serving Entity's 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.
5. Energy Imbalance Accounting for Generation Behind the Meter
   a. If the generation is dedicated to serving the LSE load, Energy Imbalance accounting will include the generation in the actual load (net of load and generation behind the meter). Energy supplied for a contingency of generation behind the meter will be included in the scheduled load. See the Generation Imbalance Business Practice for additional explanation of generation behind the meter.
6. Energy Imbalance Deviation Bands
   a. The Energy Imbalance Deviation Bands and settlements are described in the ACS Rate Schedule, Section II.D. Transmission Customers are responsible for

keeping track of their imbalances and scheduling energy transactions with BPAT.

7. Transmission Customer Selection of Energy Imbalance Provider
   a. At the time a Transmission Customer makes its initial request for Transmission Service with BPAT, it must indicate its provider for Energy Imbalance Service. BPAT is the default Energy Imbalance Service provider under the following circumstances: a) no election was made by the Transmission Customer; b) the designated supplier fails to perform to its obligation; c) the supply arrangements the Transmission Customer has made are not comparable to purchasing Energy Imbalance from BPAT; or d) the designated supplier or BPAT 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 fiscal year (FY).
   b. The Transmission Customer may reaffirm its election, or must make a new election, in writing or by email to BPAT no later than July 1, to obtain Energy Imbalance Services from a third party or to self-supply Energy Imbalance Services for the ensuing fiscal year (October through September). BPAT assumes that any Customer who does not reaffirm its election by July 1 intends to continue its existing arrangement for acquiring Energy Imbalance Services through the next fiscal year contingent on step A.67.d below.
   c. The Transmission Customer is responsible for costs of the arrangements to put the required communications and control equipment and systems in place. Unless provisions for a Dynamic Schedule of the resource by BPAT already exist, it may take a year or more to put the required infrastructure in place. The Customer's project plan requires approval by BPAT to assure that North America Electric Reliability Council (NERC) and the Western Electric Coordinating Council (WECC) reliability standards will be met when the plan is implemented.
   d. BPAT will continually evaluate the Transmission Customer's ability to supply Energy Imbalance based on changing conditions to BPAT's system. If conditions change such that the Transmission Customer is no longer able to supply Energy Imbalance, BPAT will notify the Customer and BPAT will be the default provider and notify the Customer.
   e. BPAT will notify the Transmission Customer no later than September 1 of the fiscal year in which the Customer’s election or reaffirmation is made whether the proposed supply arrangements are comparable to purchasing Energy Imbalance Services from BPAT, and whether the Customer’s selection can be implemented, with an estimate of when the ability to supply Energy Imbalance could be implemented.
8. Energy Imbalance Deviation Accounting
   a. The Energy Imbalance amount is equal to the actual energy delivered to load minus the energy scheduled to load (Scheduled Load) in each scheduling period. If all the schedules for a load are hourly the imbalance accounting will be on an hourly basis. If there is an intra-hour schedule for the load, imbalance accounting will be on the shortest schedule period submitted during the hour. For example, if one 15-minute schedule is submitted within an hour then all of the scheduling increments for the hour will be broken into 15 minute schedule periods. Likewise, if a 30 minute schedule is submitted within the hour then the hour will be broken into two 30 minute scheduling periods.
   b. b. Actual energy delivered to load means kilowatt-hours of metered load. The measurement interval is a clock hour for all hourly schedules and the

scheduling period when an intra-hourly schedule is used. For example, the 60-minute period ending at HH:00:00 the 30-minute periods ending at HH:00:00 or HH:30:00, or 15-minute periods ending at HH:00:00, HH:15:00, HH:30:00, or HH:45:00.

c. Scheduled Load means the sum of energy delivery schedule arrangements or transmission schedules. This should be equal to the load estimate minus Payback Schedules. The Customer enters the hourly load estimate through the Customer Data Entry (CDE) to BPAT. BPAT uses this estimate as a check on the Scheduled Load and to research billing errors. The Customer does not need to revise the load estimate for intra-hour schedules.

d. For NT Customers with Slice/Block Power Sales Agreements whose Block product deliveries are not scheduled via e-tag, BPAT shall deem such Block product amounts as scheduled energy to load (Scheduled Load) in the determination of the Energy Imbalance amounts in accordance with section 8.a.

e. Separate accounts will be maintained for Heavy Load Hour (HLH) and Light Load Hour (LLH). As defined in the ACS Rate schedule, when the Energy Index is negative BPAT will give Customers no credit for positive deviations (actual energy delivered is more than scheduled).

9. Energy Imbalance Deviation Reduction Schedules Within Deviation Band 1

a. For each Transmission Customer serving load in the BPAT Control Area the following scheduling procedures for reducing the Deviation Band 1 account balances shall apply:

i. The Transmission Customer submits transmission schedules to serve load in the BPAT Control Area. In addition, the Transmission Customer may submit a separately identified schedule for reducing deviation Band 1 account balances. These are called Payback Schedules. Payback Schedules must be separately identified and submitted in the CDE as hourly schedules in accordance with the BPAT's Business Practice for Scheduling Transmission Service. Payback Schedules are not included in the interchange checkout procedures. Customers will not receive credit for Payback Schedules during a Spill Condition.

ii. When the Transmission Customer has a positive Deviation Band 1 account balance, the Transmission Customer may return energy to BPAT to reduce the Customer's balance from a positive number toward zero. In the CDE this is entered in the account for payback of under-estimate of load (U/L), where the actual load has been greater than the sum of transmission schedules. This Payback Schedule is always negative.

iii. When the Transmission Customer has a negative Deviation Band 1 account balance, the Transmission Customer may schedule energy from BPAT to the Customer to reduce the Customer's balance from a negative number toward zero. In the CDE this is entered in the account for payback of over-estimate of load (O/L), where the actual load is less than the estimate. This Payback Schedule is always positive.

iv. Subject to approval by BPAT, the Transmission Customer may schedule energy as many times as necessary during the month to bring the Deviation Band 1 accounts to zero. The Payback Schedules to reduce the deviation accounts toward zero may not exceed one and one-half percent (1-1/2%) of the hourly Scheduled Load or + or - 2 MW, whichever is larger. Within Band 1, account imbalances will be tracked separately for HLH and LLH. Deviations must be returned in like hours (either HLH or LLH).

10. Spill Conditions
    a. The settlement for days that the Federal System is in Spill Condition is described in Section II.D.2.b of the ACS Rate Schedule.
11. Persistent Deviation
    a. Persistent Deviation is defined in the ACS Rate Schedule. The Rate Schedule definition provides performance metrics that determine when a Persistent Deviation event occurs. In addition to the specific performance metrics, the ACS rate schedule definition recognizes that “A pattern of under or over delivery or over or under use of energy occurs generally or at a specific time of day” can constitute a Persistent Deviation. An example of such a pattern would be a significant bias during peak or heavy load hours or during light load hours, or a non-random pattern of schedule error. Persistent Deviation will result in a financial penalty as described in the ACS Rate Schedule and will apply to deviations in all bands.
    b. Persistent Deviation will be determined on the shortest scheduling period submitted during the hour.
12. A Customer may request a reduction or waiver of a Persistent Deviation Penalty by sending a written request to the Customer's BPAT Account Executive. The request must include documentation of the action or circumstance that is justification for granting the waiver. If a waiver is approved for a Persistent Deviation penalty, the Customer will be charged the standard Energy Imbalance rate without Persistent Deviation.
13. Customers must submit a waiver request for a Persistent Deviation event within 90 days of the first day of the month that follows the month in which BPA billed the Customer for the Persistent Deviation event.
    a. Upon receipt of a waiver request, BPA will evaluate and decide whether to grant the waiver within 90 days. BPA will inform the Customer within this timeframe of any approved waiver requests. If BPA does not inform the Customer that its request for waiver is approved within the 90 day timeframe, the request is considered denied.

B. Energy Imbalance Self-Supply

1. Conditions for Self-Supply of Energy Imbalance
    a. Self-supply of Energy Imbalance Service allows a Transmission Customer that is a Load Serving Entity to make available an amount of generation capacity to the BPAT Control Area, in return for assurance that the Transmission Customer will not incur Energy Imbalance Service for energy used in excess of the Transmission Customer's Scheduled Load, up to the amount of capacity made available (above the Customer's schedule). The Transmission Customer may self-supply an amount of Energy Imbalance Service by meeting the following conditions:

        i. The Transmission Customer must make available to the BPAT for deployment an amount of generation that it wishes to designate for self-supply of Energy Imbalance Service. The difference that may occur between scheduled and actual hourly load before BPAT's Energy Imbalance Service is used is equal to the amount of generation made available by the Transmission Customer for this purpose. If the amount made available is not sufficient to cover the difference between the actual and the scheduled amount of energy, or the self-supply resource does not

perform, BPAT's Energy Imbalance Service will be provided to cover the amount of deficiency in accordance with the ACS Rate Schedule, or its successor, and posted business practices.

ii. The amount made available must be in whole megawatts, and must be symmetrical. For example, to self-supply 6 MW of energy imbalance the self-supplier must make available an amount of capacity 6 MW higher than its energy schedule, and capable of being deployed to 6 MW lower than its schedule.

iii. The amount of generation the Transmission Customer wishes to use to self-supply Energy Imbalance Service must be deployable by BPAT through electronic/automatic means to meet a portion of the control area imbalance needs.

iv. The failure of a self-supply resource to perform will be grounds for termination of the self-supply arrangement.

v. Energy used in the self-supply band will be netted against energy supplied by the self-supply resource, to arrive at a net self-supply deviation amount for each HLH and LLH. Settlement of this net deviation amount is described below in section 5 on settlement.

2. Energy Imbalance Self-Supply Limitations
   a. The amount of Energy Imbalance self-supply cannot exceed is 6% of the scheduled energy delivery to load or 2 MW, whichever is greater. This is four times the BPAT Energy Imbalance Deviation Band 1 percentage in the ACS Rate Schedule, and should allow adequate Customer risk reduction while still assuring operational reliability and reasonably good scheduling practices.
   b. BPAT will audit the generating resources from which a Transmission Customer self-supplies its Energy Imbalance for responsiveness to assure that the resource is accurately delivering the energy in response to the control signal sent by the BPAT Control Area. Correlating the hourly generator output and the BPAT control signal input will do this. Six failures by a generating resource to accurately deliver the Energy Imbalance energy obligation may result in the suspension of the self-supply option for the remainder of the fiscal year.
   c. The ability to self-supply from Slice resources will not be available beginning October 1, 2011 due to changes in the Slice product.
3. Failure to Perform
   a. Failure to perform by a Transmission Customer who self-supplies Energy Imbalance from its generating resource shall constitute a strike as specified in Energy Imbalance Self-Supply Limitations above.
4. Notification Regarding Strikes and Termination of self-supply rights
   a. BPAT will notify the Transmission Customer by email of a potential violation that may lead to a strike, including the date and time of the occurrence. BPAT will review the details of the potential strike with the Customer prior to determining if the occurrence results in a strike.
   b. In the event BPAT determines a strike occurred pursuant to criteria in Failure to Perform above, BPAT will notify the Transmission Customer by email no later than 30 days after the occurrence that a strike has been assessed.
   c. Six strikes during a fiscal year will result in the suspension of a Transmission Customer's ability to supply Energy Imbalance Services for the remainder of the fiscal year unless the Customer can demonstrate it has taken corrective action to eliminate the reason for the suspension such as automation, employee training, or equipment upgrades

d. BPAT will notify the Transmission Customer by email of the effective date of the suspension of its right to Self-supply Energy Imbalance for the remainder of the fiscal year.

5. Settlement
   a. BPAT will determine the net amount of energy in HLH and in LLH and post the amounts in the Transmission Customer's deviation accounts.
   b. Transmission Customers must schedule transactions to bring the self-supply energy accounts to zero at the end of each month. Failure to do so may result in loss of the Customer's energy credits, or charges for BPAT's costs. BPAT's costs are determined using the same methodology as used for Deviation Band 1.
6. Relief from Strikes
   a. Under appropriate circumstances, BPAT may waive a strike to a Transmission Customer on a non-discriminatory basis. A Transmission Customer seeking a waiver must demonstrate good cause for relief, including a demonstration that the event which resulted in the strike

      i. Was the result of an equipment failure or outage that could not reasonably have been foreseen by the Customer; or
      ii. Was inadvertent;
      iii. Could not have been avoided by the exercise of reasonable care; and
      iv. Was not part of a recurring pattern of conduct by the Transmission Customer.
7. Procedures for Self-Supply of Energy Imbalance
   a. The Transmission Customer's self-supply arrangements shall be specified in an implementation document between BPAT and the Transmission Customer. The following parameters must be met in order for a Customer to self-supply Energy Imbalance:

      i. The Transmission Customer must demonstrate it has the ability to self-supply with a qualified resource having the appropriately responsive performance, and required communication with BPAT's control centers at Dittmer and Munro in a manner that enables BPAT to conform to the criteria and standards specified by NERC, the WECC, and the Northwest Power Pool (NWPP).
      ii. The Transmission Customer must make available to BPAT for deployment (via a 2-way control signal) the megawatt amount of generation that it has designated for self-supply.
      iii. The resource designated for self-supply can be a system (aggregated to provide the requested response), a generation resource, or both, provided the resources respond to BPAT control in accordance with the Customer's prescheduled participation factor (the sum of the Transmission Customer's participation factors is 100%). BPAT must be able to observe the performance of the self-supply resource(s) at all times.
      iv. The Energy Imbalance self-supply amount provided to BPAT cannot be used by the Transmission Customer for any other purpose.
      v. The self-supply amount must be available, observable, and responsive when BPAT requests it via a control signal.

C. Third-Party Supply Of Energy Imbalance

1. Transmission Customers may have a third party supply the Transmission Customer's Energy Imbalance. The Transmission Customer must arrange for the third party to place generation resources at BPAT's control, subject to the requirements described in the Energy Imbalance Self-Supply section above. The supplier may be required to sign an agreement with BPAT describing the operation protocols associated with providing Energy Imbalance Service, and including other commercial terms and conditions as necessary.

D. Energy Indices

1. The energy index for energy settlement of Energy Imbalance is the Powerdex Mid-Columbia Hourly Index.