BONNEVILLE POWER ADMINISTRATION

Transmission Services

DRAFT – NT Redispatch Protocols (For Customer Comment)

The following Draft NT Redispatch protocols are available for customer review and comment from February 12 to March 5, 2014.

A. Eligibility Criteria for Designated Network Resources (DNR)

Designated Network Resources (DNR) meeting all the criteria below will be deemed eligible for participating in the NT Redispatch program:

1. *Effectiveness and Dispatchability* – Over a 10-minute period, effectiveness of 3 MW or greater on at least one flowgate (relative to FCRPS resource);
2. *Controllability* – Resource is either staffed or generation levels can be adjusted remotely such that the ramp rates assumed in criteria #1 above are achievable; AND
3. *Cost* – Communication/equipment cost per MW of 10-minute effectiveness is less than the cost per MW of effectiveness of the estimated option premium for bilateral redispatch.

B. Exceptions to DNR Eligibility Criteria

1. A DNR may be exempted from participating in the NT Redispatch program if it does not meet any one of the criteria listed in section A.
2. A customer may potentially demonstrate "non-dispatchability" of a DNR if:
    a. The resource is a "base load" DNR.
        i. Customer is required to demonstrate that the resource is operated as a base load resource (minimal variation in generation level across a 24-hour period), based on historical use.
        ii. DNR may be exempted from providing INC capacity.
    b. Moving the resource (INC or DEC) in any manner outside of its normal operating parameters/curve would damage the plant or cause it to violate operating/regulatory restrictions.
        i. Demonstrate through provision of generator operating specifications/manual and any other supporting information.

C. Types of Eligible DNRs

The following types of DNRs are eligible to participate in the NT Redispatch program.

1. Long-Term On-System (In BPA Balancing Authority Area) DNRs
    a. Eligible to provide INC capacity

b. Eligible to provide DEC capacity

2. Long-Term Off-System (In BPA Balancing Authority Area) DNRs
   a. Eligible to provide INC capacity
   b. Eligible to provide DEC capacity
3. Short-Term DNRs (gradual inclusion)
   a. Eligible to provide INC capacity
   b. Eligible to provide DEC capacity
4. Market Purchase DNR[1]
   a. Not eligible to provide INC capacity
   b. Eligible to provide DEC capacity
5. Variable DNR (Wind, etc…)[2]
   a. Not eligible to provide INC capacity
   b. Eligible to provide DEC capacity

D. DNR Informational Requirements

For DNRs deemed eligible to participate in the NT Redispatch program, the following information will be required:

1. 10-minute response capability (if applicable, at various generation levels);
2. Future generation forecast (if available)
   a. Currently, provided on an hourly basis.
3. Real-time generator output information;
   a. BPA currently has the capability to view real-time operation of DNRs located in BPA's Balancing Authority Area.
4. Forecasted (anticipated) INC or DEC capacity and/or minimum and maximum generation levels.
   a. Customer will be required to update this information on a regular basis over a system interface.
5. Forecasted INC or DEC cost information
   a. Customer will be required to update this information on a regular basis over a system interface.
6. Real-time response from generator/operator on whether NT Redispatch can be provided from DNR when requested.

[1] These are DNRs that are not associated with an individual resource, but are more akin to arrangements for generation made with Mid-C BAAs, WSPP Schedule C purchases.

[2] Can be both an off-system or on-system DNR.

E. Compensation Mechanism

The customer will be held whole financially for providing NT Redispatch.

1. Hydro Generation
    a. INC Pricing
        i. Opportunity costs based on the highest price of the 24-hour period starting with the hour for which NT Redispatch is requested (based on Powerdex Mid-C index).
    b. DEC Pricing
        i. Opportunity costs based on the lowest price of the 24-hour period starting with the hour for which NT Redispatch is requested (based on the Powerdex Mid-C index).
        ii. If the hydro is in spill condition or negative prices for any hour of the day, the cost is zero.
2. Thermal Generation
    a. INC Pricing
        i. Higher of opportunity cost vs. actual cost.
        ii. Opportunity costs is based on the Hourly index price of generation for the hour in which NT Redispatch was requested.
    b. DEC Pricing
        i. Net of actual costs and savings.
3. Variable Generation
    a. INC Pricing
        i. Not applicable.
    b. DEC Pricing
        i. Net of actual costs and savings.
4. Market Purchases
    a. INC Pricing
        i. Not applicable.
    b. DEC Pricing
        i. Net of actual costs and savings.
5. Determining “Actual Costs”
    a. Actual Costs may include:
        i. Cost of fuel
        ii. Variable operation and maintenance expense
        iii. Start-up costs

iv. Costs of additional operating reserves

v. Costs related to minimum run times

vi. Other related verifiable and quantifiable costs

6. Determining Net of Actual Costs and Savings

a. Actual Savings may include:

i. Avoided fuel costs

ii. Other verifiable and quantifiable costs

b. Actual Costs may include:

i. Costs identified in E.5.a

ii. Lost tax credits, renewable credits

iii. Liquidated damages, penalties (if applicable)

iv. Other related verifiable and quantifiable costs

F. Communicating an NT Redispatch Request

An NT Redispatch request to a DNR may be communicated in the following manners:

1. Communicating NT Redispatch to DNRs in BPA's Balancing Authority Area

a. Signal via Integrated Curtailment and Redispatch System (iCRS)

i. Web-based signal to generator.

ii. Systems is currently installed and available to all generators.

b. Signal via SCADA/ICCP System

i. Will be available to generators who currently have the system installed.

2. Communicating NT Redispatch to Market Purchase DNRs

a. Via curtailment of transmission schedule (e-tag)

i. Market purchase DNRs are eligible to provide DEC capacity, and the transmission e-tag will be curtailed if necessary.

ii. Despite the curtailment of e-tag, the NT Customer load will be met by INC from another DNR through NT Redispatch.

3. Communicating NT Redispatch to DNRs outside of BPA's Balancing Authority Area

a. Two potential mechanisms:

i. Via creation of Emergency E-Tags

1. Effectuates necessary impact to account for interchange between Balancing Authority Areas

2. Requires approval of source and sink Balancing Authority Areas.

ii. Via Dynamic Signal

1. Immediate signal to generator.

4. Following a request to the DNR for NT Redispatch, the customer/generator will be required to provide a response on whether redispatch can be provided as requested.
    a. DNR will have 5-minutes to respond on whether redispatch can be provided as requested from the time of the original request.
5. Potential reasons for why a DNR may not be "available" to provide NT Redispatch, among others:
    a. DNR used to make a third-party sale.
        i. Sales for less than one year.
    b. Damage to generator.
        i. Moving DNR will cause damage to the plant.
    c. DNR is shut down for maintenance.
    d. Lack of water, fuel.
6. Customers must demonstrate supporting documentation, after the fact, for not providing NT Redispatch as requested.