Network Integration Transmission (NT) Service Redispatch

Customer Forum 36

October 25, 2012

Tariff Guidance on NT Redispatch

- Section 30.5 of BPA's Tariff states –
  - "Except as provided in Attachment M, as a condition to receiving Network Integration Transmission Service, the Network Customer agrees to redispatch its Network Resources as requested by the Transmission Provider pursuant to Section 33.2"
- Section 33.2 of BPA's Tariff states –
  - "Except as provided in Attachment M, to the extent the Transmission Provider determines that the reliability of the Transmission System can be maintained by redispatching resources, the Transmission Provider will initiate procedures pursuant to the Network Operating Agreement to redispatch all Network Resources and the Transmission Provider's own resources on a least-cost basis without regard to the ownership of such resources."

Tariff Guidance on NT Redispatch

- BPA has relied on Attachment M to redispatch only the Federal hydro system (the FCRPS) to provide NT Redispatch.
- Reduction in FCRPS flexibility.
  - Due to non-power constraints placed on the FCRPS for flood control, fish and wildlife, navigation, recreation, and other special operations, the ability to move/adjust federal generation has become more limited since the inception of Attachment M in 2001.
  - Balancing Authority Area (BAA) requirements such as additional balancing reserves for variable generation have further reduced FCRPS flexibility.
- Additional resources for NT Redispatch are needed to maintain reliable service to Network Loads during transmission congestion.

NT Redispatch – Alternatives

- BPA is currently considering the following alternatives to the status quo for providing NT Redispatch:
  - *Alternative 1* – A subset of the federal hydro system and non-federal Designated Network Resources would be eligible for use to provide NT Redispatch, *if available*, to maintain Firm NT transmission schedules during transmission congestion events on internal flowgates.
  - *Alternative 2* – The subset of the federal hydro system, under Attachment M, and redispatch rights purchased from generators through prearranged bilateral agreements would be available for providing NT Redispatch, to maintain Firm NT transmission schedules, during transmission congestion events on internal flowgates.

NT Redispatch - Summer Activities

- Refinement of criteria for inclusion of DNR's in NT Redispatch program.
- Estimation of current DNR's ability to effectively relieve flowgate congestion.
- Estimation of option premium for market-based NT Redispatch.
- Resolution of type of communication needed by BPA Dispatchers to efficiently call on NT Redispatch resources.

Alternative 1 - Proposed Criteria

- Any DNR meeting the following three criteria would be subject to NT Redispatch:
  1. Effectiveness and Dispatchability: Over a ten minute period, effectiveness of 3 MW or greater on at least one flowgate (relative to FCRSP resource); AND
  2. Controllability: Resource is either manned or generation levels can be adjusted remotely such that the ramp rates assumed in Criteria #1 above are achievable; AND
  3. Cost: Communications/equipment cost per MW of ten-minute effectiveness is less than the cost per MW of effectiveness of the estimated option premium for bilateral redispatch.
- Behind-the-meter resources would be subject to NT Redispatch if they meet the three criteria above.
- Off-system resources (out of BPA's BAA) may also be included in NT Redispatch.

Alternative 1 – Analysis of DNR's

- BPA applied these three criteria to each long-term DNR for purposes of analyzing the costs of Alternative 1.
- These results will be used ONLY for the cost analysis of the alternatives. If BPA implements NT Redispatch of non-federal DNR's, each resource will be analyzed using unit-specific information provided by NT customers.
- The controllability criteria was applied to all DNR's that met the Effectiveness and Dispatchability criteria.
- The DNR's meeting the Effectiveness and Dispatchability criteria were all manned and/or remotely controlled.
- The cost of incremental communication equipment and /or programming was minimal on all DNR's meeting the first two criteria.

Alternative 1 – Systems Costs

- The application of Alternative 1 proposed criteria to DNR's yielded 39 DNR's that would be viable for NT Redispatch.
- These 39 DNR's already had the type of communication equipment necessary to receive and send NT Redispatch-related information.
- A minor amount of programming changes to these devices would be required to facilitate NT Redispatch.
- BPA estimates the one-time costs of such programming are approximately $2,000 to $4,000 per resource (includes both BPA and customer programming). This results in total costs of less than $100,000 for the 39 DNR's identified in the initial criteria application.

Alternative 2 – Estimation of Option Premium

- Staff estimated the cost of a day-ahead option with a strike price a few dollars above market.
- A range of input assumptions was used and included several different market scenarios of price and volatility.
- In all cases, a Mid-C market, Stanfield gas and a simple-cycle combustion turbine with a 8.5 heat rate were assumed.
- The estimated option premium for a day-ahead option of this nature is $8 to $12 per kW-month. This equates to $9.6 to $14.4 million per year for 100 MW of options.

Comparison of Costs Alternatives 1 and 2

- It is important to appreciate the fact that the costs of Alternatives 1 and 2 are not directly comparable.
- Alternative 1, NT Redispatch from DNR's, creates a pool of NT Redispatch resources with no obligation to provide NT Redispatch if the resource is not capable of responding to the Redispatch request.
- Under Alternative 2, however, the resources would be under a contractual obligation to provide Redispatch whenever requested by BPA to do so.
- The costs of the two alternatives reflect the difference in "firmness" of the Redispatch resource.
- The relevant question is whether the commitment of the resource to provide Redispatch under Alternative 2 is worth the much higher cost.

Next Steps

- November 14: Staff recommendation to Management.
- November 15 through December 15: Management review of recommendation.
- By December 31: Management determination of preferred alternative.