

VERBS Supplemental Service Workshop

May 9, 2011



VERBS Supplemental Service Workshop

- The quantity of balancing reserves provided under basic VERBS is limited and when the need exceeds the reserves available, BPA implements DSO 216. Wind generators are concerned that the frequency of DSO 216 schedule curtailment events may result in wind generation not being considered firm.
- Two approaches to address these "tail events" have been discussed:
 - 1) Wind generators would be offered the choice to purchase **supplemental energy** to offset the DSO 216 curtailments. This presentation focuses on the characteristics of the VERBS Supplemental Service.
 - 2) For a few wind events per year that met specific criteria, Northwest parties seem to be moving toward agreement that **contingency reserves** could be used in very limited circumstances. The last few slides in this presentation explain the proposed definition of a qualifying wind event and frequency limits for use of contingency reserves.

Not all DSO216 events would qualify for use of contingency reserves, and not all qualifying wind events would occur during a DSO 216 event.



VERBS Supplemental Service

- VERBS Supplemental Service is an optional service under the VERBS rate. Customers taking VERBS Supplemental Service would purchase or have BPA purchase non-Federal balancing reserve capacity in addition to the balancing reserves provided by BPA BAA.

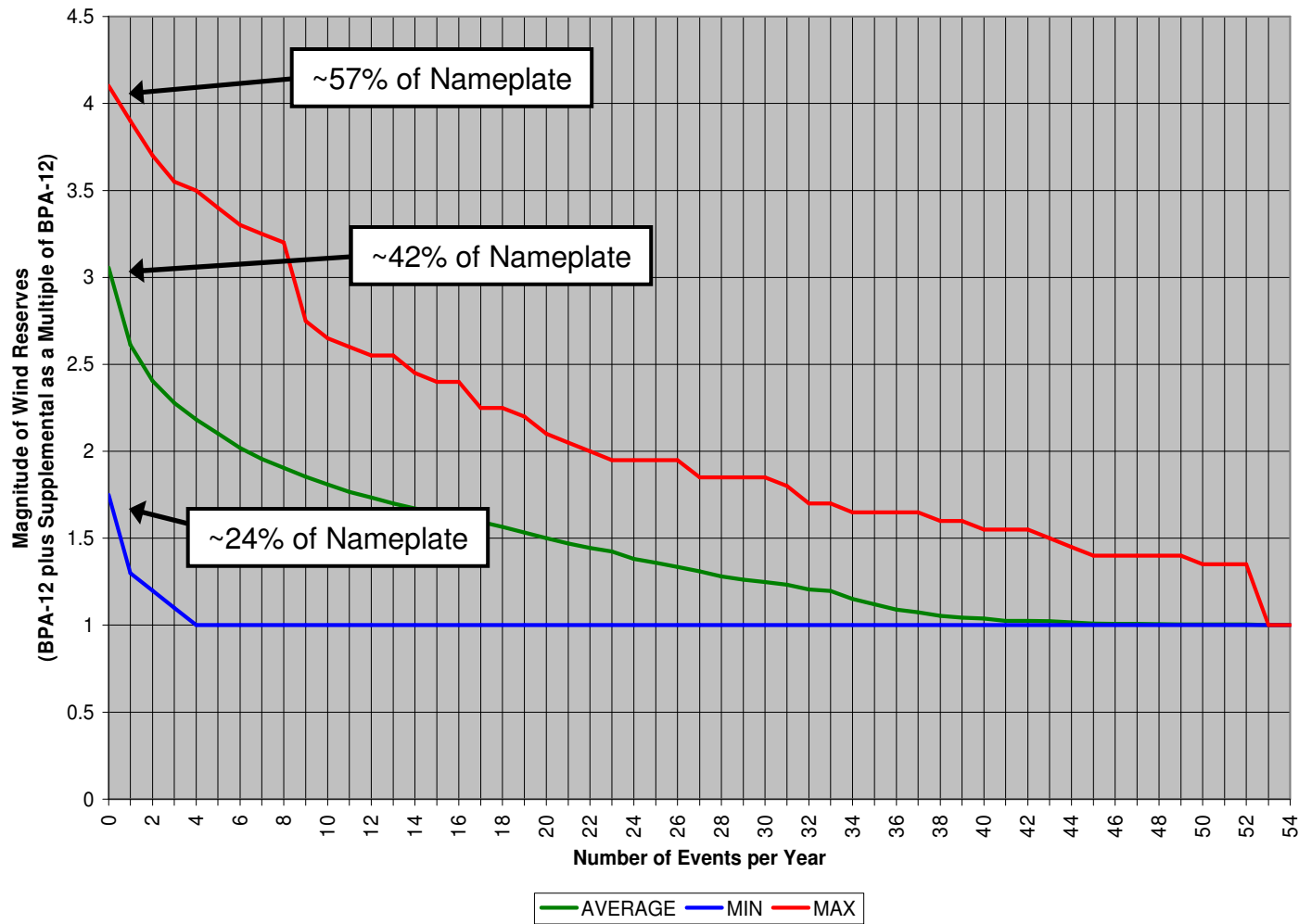


VERBS Supplemental Service

- Must respond within 10 minutes – 2 minutes to call, 8 minutes to ramp to capacity
- Activation will be 15 to 90 minutes, depending on the time of activation within the hour
- Point of integration must be approved by Transmission Services
- Quantity (% of Nameplate) needed depends on which parties request the service
- Initially, will be for 3-6 months. Time period may shorten, as we gain experience integrating new resources.
- BPAT will activate the supplemental service when balancing reserves usage has reached between 87-90%.



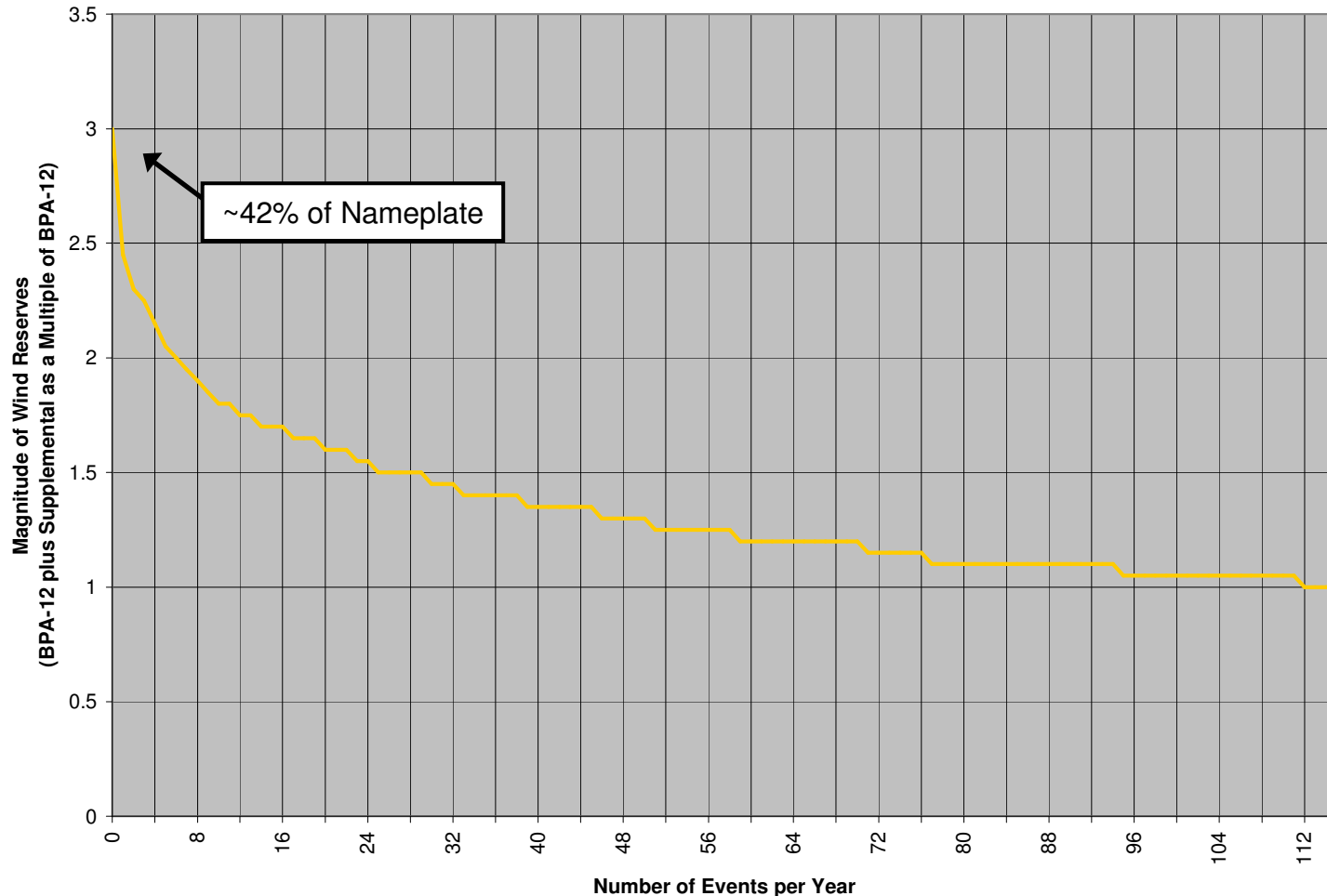
Quantifying the benefits of VERBS Supplemental Service for Individual DSO 216 Mitigation



NOTE: This calculation is for Under-Generation Tag Curtailments Only.



Quantifying the benefits of VERBS Supplemental Service for BPA Fleet DSO 216 Mitigation



NOTE: This calculation is for Under-Generation Tag Curtailments Only.



Quantifying the benefits of VERBS Supplemental Service

- Should the Supplemental Service Reserves amount be defined at the individual plant level or the subset of participating plants pooled together?
 - The need for Supplemental Service Reserves to reduce the exposure to DSO 216 curtailments varies by plant.
 - The Supplemental Service Reserves needed to reduce the exposure to DSO 216 curtailments for the entire BPA fleet is significantly less.



Transmission Impacts of VERBS Supplemental Service

- Supplemental Service will be required to be an On-Demand product.
 - The Supplemental Reserve Service consists of supplemental capacity and energy.
- On-Demand does not require DTC
 - One change per hour.
 - Infrequent use of the system.
 - All Supplemental Service will be activated simultaneously.
 - Requires a Firm Transmission Reservation.



Transmission Impacts of VERBS Supplemental Service (cont'd)

- Proposed Supplemental Service resources will be evaluated through Transmission Impact Screening
 - Depending on supplemental service resource location, impacts may need to be identified through powerflow analysis by increasing resource and decreasing wind plant and/or FCRPS balancing resources.
 - Specific resource(s) will need to be identified for each Supplemental Service request.
 - Identification of the generation plant(s) will be required.
 - Identifying a BAA will not be sufficient.



Treatment of Energy Provided Under the VERBS Supplemental Service

- When BPA calls on supplemental energy, BPA will measure the amount of energy provided.
- If the customer has self provided the supplemental energy, this amount of energy will be treated as self-provided imbalance energy.
- This energy will be added to the actual generation of the wind plants supported by the supplemental service in the calculation of the periodic amounts of generation imbalance.
- If BPA has purchased the supplemental energy on behalf of the customer, BPA will pay the supplier for capacity and energy provided. BPA will recover it's costs from the customer using 1) the VERBS charge for Supplemental Service for BPA's capacity costs, and 2) the energy costs will be recovered through energy imbalance payments made by the customer to BPA .



NWPP

Work in Progress

- Firm Energy (G-F) is “firm for the hour” or “firm for the scheduling increment” not across hours.
- Firm Contingent (G-FC) may only be curtailed within the NWPP if it is a NWPP “qualifying event”.
- Interruptible is only an energy tag that is recallable for reserves. For interruptible tags, the load (sink) balancing authority must carry 100% reserves.
- “Contractually Defined” (still waiting for the exact name) is an energy transaction that if curtailed, the load (sink) balancing authority may not use its’ or the NWPP shared CRO. (Energy Product may be Firm Provisional or Nonfirm.) If the gen (source) balancing authority takes load responsibility, the source balancing authority “may” use contingency reserves if it is a “qualifying event”.



NWPP Proposal

Qualifying Wind Generation Event (QWGE)

- Contingency Reserves may be used within the NWPP for wind events when the
 - Actual (not scheduled) wind output within a BA falls more than 25% of installed nameplate capacity below a persistence based threshold
 - The persistence based threshold is established 45 minutes prior to the operating hour (T-45 minutes)
- A BA may only use Contingency Reserves a maximum of 4 times per month and 10 times per (rolling) year
- Each event will be reported and analyzed quarterly during the trial period in NWPP



Next Steps

- Phase 1: Define Requirements—On going
 - Define and Communicate operational requirements for balancing resources providing supplement reserves service
 - Develop term sheet for participation
 - Identify eligibility criteria for non-federal generators
- Phase 2: Summer 2011
 - Draft a Supplemental Reserve Service Business Practice
 - Post for Comment
 - Modify other Business Practices to conform to new policy and post for comment, if needed
 - Identify interested parties
- Phase 3: Timeline to be determined
 - Develop Participant agreements
 - Identify acquisition method for balancing resources
 - Term Sheet depending on phase 1 results.
- Phase 4 – Implement—Spring 2012



VERBS Supplemental Service Pilot Business Practice Draft Outline

- Purpose and Scope (DSO 216 relief)
- Definitions
- Eligibility
- Transmission Requirements (e.g., firm)
- Define timeline
- Define Rules
 - Customer commits to acquire or BPA acquires resource
 - BPA operates in either case
 - Customer pays costs
- Limitations
- Performance metrics
- Technical requirements (e.g. telemetry)
- Participation Agreement provisions
- Miscellaneous

