Network Open Season Cluster Study
Generation and Load Assumptions

March 18, 2010

Cluster Study in Context

- Planning for new transmission infrastructure is challenging and requires making assumptions about how the future power and transmission system will develop and operate.
- In adopting NOS, BPA conducts a Cluster Study to assess infrastructure for newly requested service on the BPA network.
- One key component of the Cluster Study is the powerflow study which models the generation and load in the region. Generation must balance with load and exports in the powerflow study.
- The powerflow study is run on a set of assumptions for both generation and load; therefore the integrity of the powerflow study is subject to the accuracy and integrity of the assumptions.

History of NOS Cluster Study Assumptions

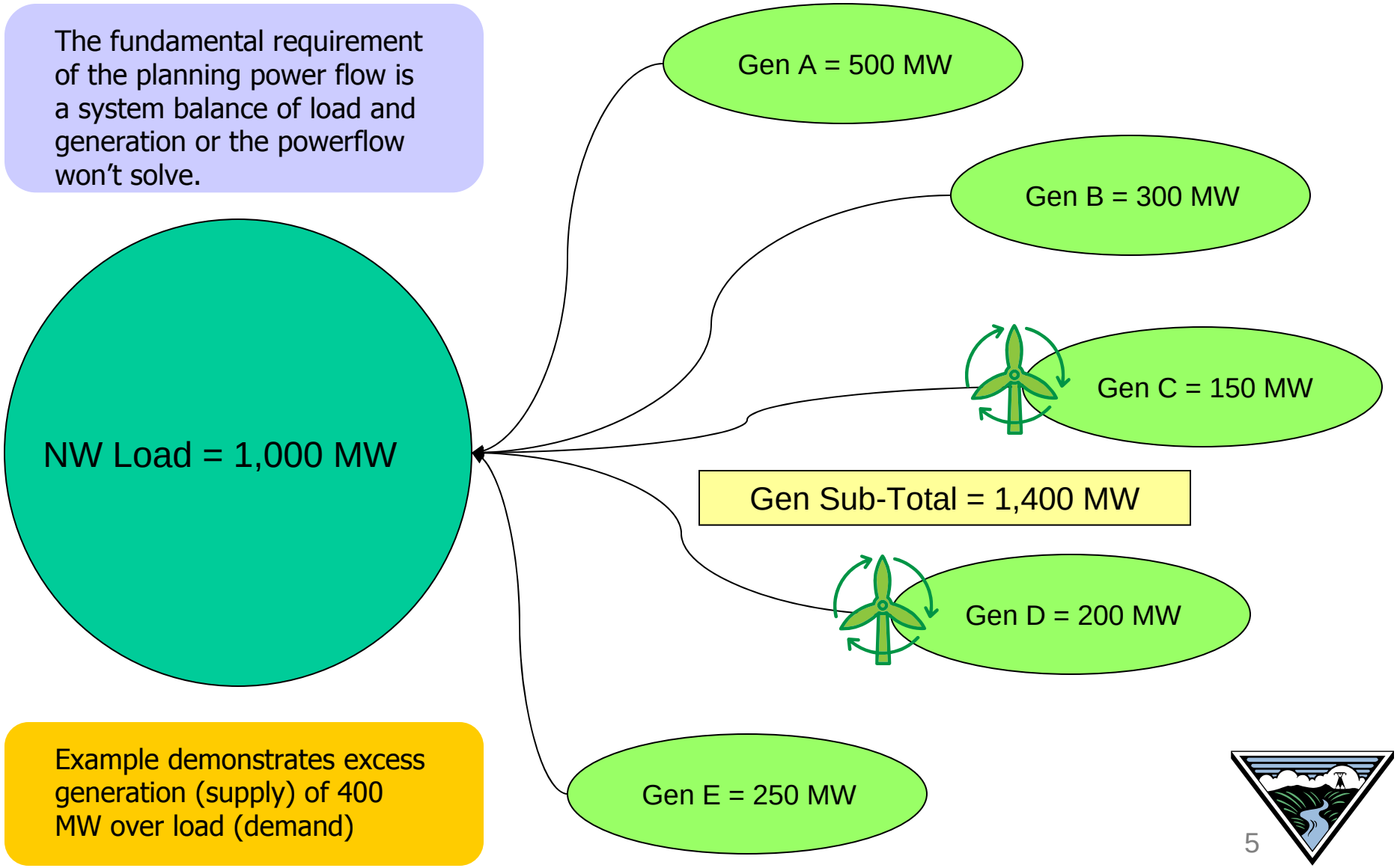
- Assumptions BPA made for the 2008 Cluster Study:
  - Generation Assumptions:
    - Generator dispatch patterns (from ATC Base Case)
    - FCRPS and Mid-C generation were backed off
  - Load Assumptions:
    - Load growth modeled through 2014
    - Southern interties at maximum export capability
  - Based on the above assumptions, the 2008 Cluster Study was able to balance load and generation to model the new transmission requests.
- In addition to the above assumptions, in the 2009 NOS customers were required to submit Exhibit B as part of the PTSA requirement.
  - Customers identified the specific generator tied to the TSR.
  - Customers were asked to provide non-binding load information related to sink.
  - Based on the above assumptions, the 2009 Cluster Study was able to balance load and generation to model the new transmission requests.

The Problem

- BPA is confident that the 2008 NOS findings, reached with regional consensus, were the right findings.
  - 2009 NOS has provided further validation of the 2008 NOS findings.
- New long-term firm transmission rights are being added to the BPA network:
  - For the 2008 NOS, BPA received requests for firm transmission service with a total demand of 6,410 MW
  - For NOS 2009, BPA received requests for firm transmission service with a total demand of 1,553 MW
- BPA has exhausted its ability to increase exports on the Southern Interties and is near the limit of its ability to back down hydro generation (on the Mid-C and FCRPS).
- Because of RPS, an increasing number of Load Serving Entities are accumulating transmission contracts which exceed their load – providing them with additional resources with a firm right to dispatch.
- In 2010, existing obligations and new requests add significantly more generation with a firm right to dispatch than there is load and export capability. BPA must make assumptions about how to balance resources and load.

Defining the Issue (continued)

The fundamental requirement of the planning power flow is a system balance of load and generation or the powerflow won't solve.



Example demonstrates excess generation (supply) of 400 MW over load (demand)

Defining Assumptions for Future Cluster Studies

Load Assumptions

- Out-year load model moved from 2014 to 2018/19/20
  - Tiered approach based on new commitments though PTSA (i.e. if 1,000 MW of PTSA then 2015, if 2,000 MW of PTSA then move to 2020)
- Other???

Generation Assumptions

- BPA-defined redispatch assumptions
  - Economic
  - Or SCADA data by season to inform generation decrements
- Modify modeling assumptions
  - Mid-C
  - FCRPS
  - Wind demand at 80% (of transmission request)
  - Gas and coal
- Customer-informed redispatch commitment
- Running multiple scenarios to inform the decision
- Other???

Next Steps

- TIPSC discussion and brainstorm – early April
- Internal Recommendation – mid-April
- Regional meeting on recommendation – end of April
- Internal Decision – April/May
- If necessary, incorporate into 2010 PTSA – early May
- Begin 2010 NOS – June 1