Revised 2021 Resource Adequacy Assessment for the PNW

# DRAFT Outline

## Where have we been adequacy-wise (last year’s assessment)

* Power supply should be adequate through 2020 (LOLP about 5% in 2020)
* Est. for 2021 LOLP 8.3% due to loss of Boardman and Centralia 1 (1,330 MW)
* Primarily a winter capacity shortfall
* Estimated capacity need by 2021 about 1,150 MW (med load growth)

## What has changed since last year’s 2021 assessment

* 2021 annual average load forecast slightly lower – will slightly lower LOLP
* New load forecasting model (hybrid) – higher winter peaks will increase LOLP
* Added regional INC/DEC (instead of BPA only) – will increase LOLP
* Includes 7th plan EE target of 1,400 aMW by 2021 instead of 6th plan target – neutral effect to LOLP
* 6th plan EE hourly shapes same as load shape, whereas 7th plant EE hourly shapes not tied to load shapes – should lower LOLP

## Where are we now?

* Current 2021 LOLP is 10% (medium load growth)
* In spite of lower annual average load forecast, increased balancing reserves and revised peak-load forecast made LOLP estimate grow
* Capacity need range:  
  0 MW low load growth, 1,040 MW med growth, 2,230 MW for high growth

## Added uncertainty – Colstrip 1 & 2 will close no later than July 2022

* Loss of 307 MW of regionally committed nameplate capacity
* Other half of Colstrip 1 & 2 capacity is assumed to not be available for regional use
* If closed for 2021, LOLP rises to 13.2%
* Capacity need range:  
  30 MW low growth, 1,360 MW med growth, 2,560 MW for high growth

## What is being planned?

* Utilities
  + About 550 MW of planned capacity (prior to announcement of Colstrip retirements)
  + Utilities are actively planning to replace lost coal capacity
* 7th plan
  + Robust result for DR as a cost-effective way to mitigate adequacy issues, results indicate a cost-effective range from 600 to over 2,700 MW
    - Examine the effect in the PNW of programs such as w/ Ameren and Commonwealth Edison that incent customers demand based upon forecasted next day hourly prices. AURORA can be used for this purpose.
  + But processes to develop DR have not been thoroughly developed
    - Idendtify which programs (timing and magnitude) can be practically implemented. Identify hurdles to implementation and remedies.
  + New RPS requirements do not help with winter capacity problems

## What actions should we take?

* No need to panic – Assessment satisfied the objective to warn the region that taking no actions would lead to an inadequate supply – but actions are being planned
* Utilities are actively involved in IRP processes and considerations for replacing lost coal capacity are ongoing
* Continued acquisition of EE is a high priority
* If needed, additional generating capacity can be acquired in time
* Continue to review status on an annual basis
* Examine alternative measure of LOLP
  + Additional to EUE and LOLH, measure the EUE that is non-discretionary load (load that would not otherwise be demanded corresponding to prevailing marginal costs (market clearing price). Again, AURORA useful in this measure. Run assessments that w/ increased consumer price incentives that shift energy use away from periods w/ resource insufficiencty (high marginal prices) that reduce the amount of unserved non-discretionary load.

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