Future Enhancements for Adequacy Assessments

RAAC Steering Committee Conference Call

May 1, 2015

Outline

- Gas Supply Limitations
- Electricity Market Supply Limitations
- Modeling Enhancements
- Review of Current Adequacy Standard

Gas Supply Limitations

- Current Assumption: no gas limitation

- Options
  1. Reduce gas availability by fixed amount when NW temperatures are extreme
  2. Make gas-fired generation availability a function of NW temperature
  3. Develop a metric (perhaps a combination of random variables) to assess when supply could be short and reduce gas-fired generation when this happens

Market Supply Limitations

- Intertie transfer capability
- Market Friction
  - Current Assumption – not modeled
  - Options
    1. Reduce availability of in-region and out-of-region markets during extreme temperatures
    2. Make availability of markets a function of temperature
    3. Develop a metric (perhaps a combination of random variables) to assess when supply could be short and reduce market availability when this happens

Modeling Issues

- 3-Node Configuration
  - Problem with hydro energy vs. peak correlation
  - May have to use multi-dam hourly logic
- Capacity Assessment
  - Is GENESYS a precise enough tool to properly assess capacity issues?
  - If not, should it be enhanced or should other methods be used?
- More explicit load forecasting in the hourly dispatch logic
- Moving to weekly hydro shapes
- Correcting the shoulder-hour curtailment anomalies

Review of Adequacy Standard

- LOLP may not be precise enough metric
- Consider using Expected Unserved Energy (EUE) and Loss of Load Hours (LOLH) both adopted by NERC to measure adequacy
- Will need to develop new thresholds for EUE, LOLH or both