



# Application of the ATC Tool at the Bonneville Power Administration

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## Need for the ATC Tool

- Developed to automate the NI Study Process
- Existing process was very cumbersome and slow
  - Many system conditions (“Scenarios”) were analyzed
  - Each required its own basecase



## Northern Intertie Scenarios

- 15 Generation Patterns (PSE, SCL, SNH)
- 5 Temperatures (values depend on season)
- 2 Load Levels (Heavy and Light)
- Bi-Directional (N-S & S-N Transfers)
  
- 300 scenarios per study



## ATC Tool is Fast

- Makes use of the PTDF and LODF sensitivities to quickly estimate transfer limits
  - PTDF (Power Transfer Distribution Factor) sensitivity of an element due to transfers
  - LODF (Line Outage Distribution Factor) sensitivity of an element due to a contingency



## Ideal Tool for Analyzing Thermally Limited Paths

- Heavily used on other BPA Paths such as the I-5 Corridor
- Generation Integration Studies