Arizona Extreme Contingency Analysis 2009 & 2016
5th BTA Presentation

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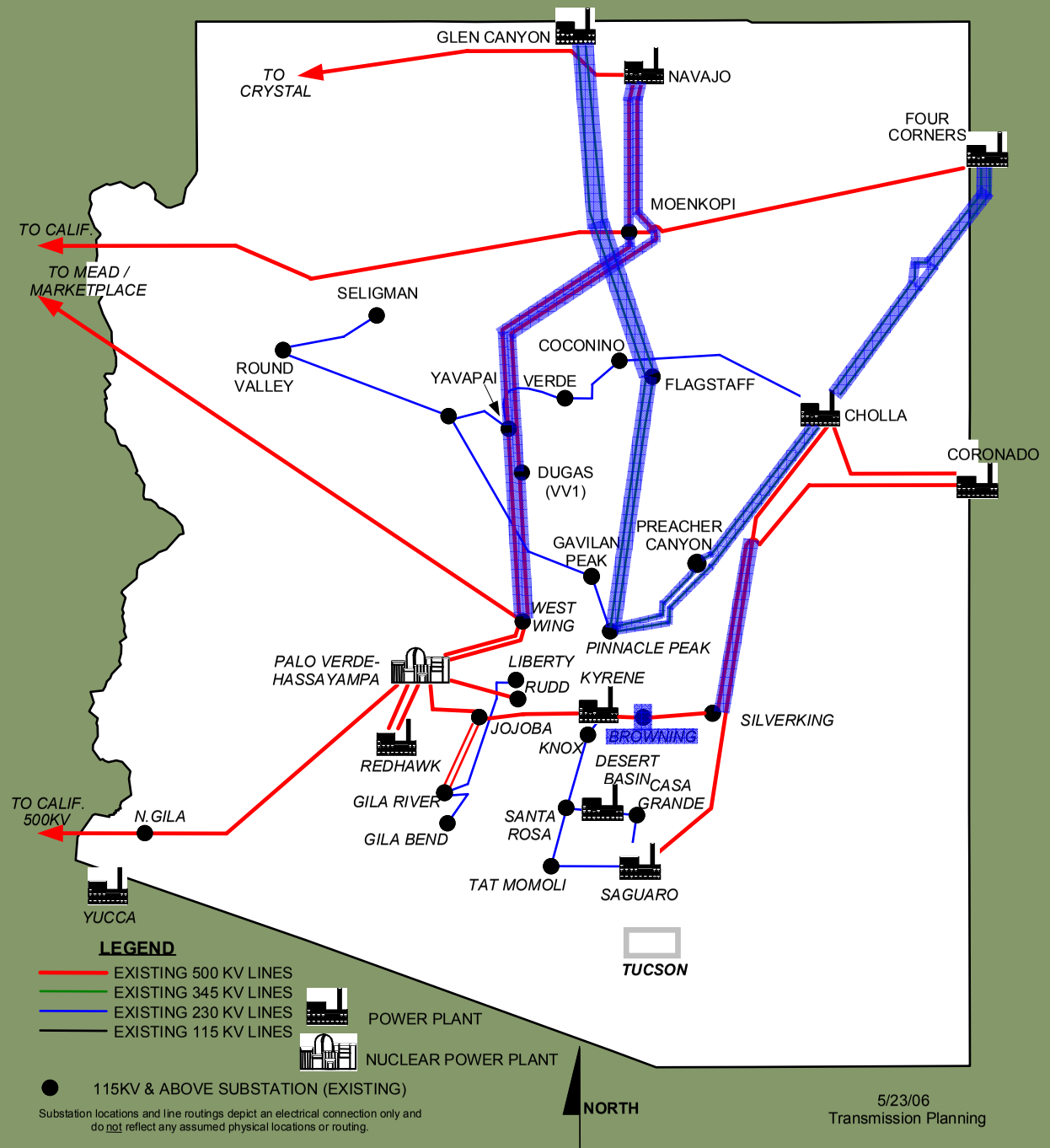
Study Assumptions

- Utilize the 2009 and 2016 heavy summer power flow cases
- The integrated Arizona power system is represented
- Corridors are chosen based upon exposure to forest fires and other extreme events
  - Cholla-Saguaro and Coronado-Silverking 500kV lines
  - Navajo South 500kV lines
  - Four Corners-Cholla-Pinnacle Peak 345kV lines
  - Glen Canyon-Flagstaff-Pinnacle Peak 345kV lines

ARIZONA STATE EHV MAP



Study Assumptions

- Transformer banks studied
  - Browning 500/230kV
- Transformer banks not studied
  - Rudd 500/230kV transformer outage
    - Equivalent to single contingency of Palo Verde-Rudd 500kV line
    - This outage is studied under the 10 year plan
  - Pinnacle Peak 345/230kV transformer outage
    - Equivalent to outages of the 345kV lines into Pinnacle Peak
    - This is already studied with the 345 kV lines into Pinnacle Peak outage in the extreme contingency study

SUMMARY OF RESULTS (2009)

- For all outages studied, all load can be served & local Phoenix reserve requirements met
  - Some outages from remote generation would require redispatching from other available sources
    - Maximum redispatch requirement is ~800MW @ Navajo
    - Generation made up or purchased from available AZ and CA units
  - Some outages would require some system reconfiguration to alleviate overloads
  - Without system reconfiguration, load reduction is required for outages of corridors into Pinnacle Peak

SUMMARY OF RESULTS (2016)

- Outages of the Cholla-Saguaro and Coronado-Silverking lines causes a reduction of Phoenix import capability
- For all other outages studied, all load can be served & local Phoenix reserve requirements met
  - Some outages from remote generation would require redispatch from other available sources
    - Maximum redispatch requirement is ~800MW @ Navajo
    - Generation made up or purchased from available AZ and CA units
  - Some outages would require some system reconfiguration to alleviate overloads

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