



EKPC Local Planning Assumptions for 2014 RTEP

January 2014

East Kentucky Power Cooperative

- EKPC integrated into PJM on June 1, 2013
- Generation & Transmission cooperative serving mainly rural portions of eastern two-thirds of KY
- Total Miles of Transmission Line = 2890
 - 122 miles @ 345
 - 370 miles @ 161
 - 419 miles @ 138
 - 1979 miles @ 69 kV
- PJM has functional control of EKPC's 138 kV and above system
- EKPC Forecasted Net Peak Demand (50/50 Probability)
 - 2014 Summer – 2337 MW
 - 2014-15 Winter – 3017 MW
 - 2019 Summer – 2493 MW
 - 2019-20 Winter – 3196 MW

EKPC Powerflow Models

- EKPC participates in annual SERC LTSG DBU process
 - Develops near-term and long-term cases to be used by SERC NTSG and LTSG
 - This case set includes annual models for the ERAG MMWG base case development
- EKPC presently jointly develops internal base cases with LGE/KU in spring of the year for internal studies
 - EKPC and LGE/KU have 54 free-flowing interconnections
 - EKPC has 55 distribution delivery points connected to the LGE/KU system (587 MW at peak)
 - LGE/KU has 17 distribution delivery points connected to the EKPC system (109 MW at peak)
 - Beginning in 2013, EKPC is effectively utilizing the same EKPC representation for the SERC LTSG process, PJM planning processes, the joint LGE/KU-EKPC process, and the EKPC internal process.
- EKPC participating in development of PJM RTEP 2019 case
 - Incremental updates have been provided for the 2019 case – only one significant change was made from the 2018 RTEP case
 - Addition of a 3rd 161 kV tie between the EKPC and TVA Summershade substations .

EKPC Planning Criteria

- EKPC plans its system to meet:
 - NERC Reliability Standards requirements
 - SERC Regional criteria
 - EKPC transmission planning criteria – posted on PJM website
- EKPC identifies different categories of projects:
 - Reliability projects to address planning criteria violations
 - Other projects to address items such as equipment condition, operational enhancements, outage reductions, improved service restoration, etc.
 - Interconnection projects to provide facilities for connection of new generation, transmission, and/or distribution facilities

EKPC Planning Criteria (cont.)

- EKPC planning criteria similar to Table I of the existing NERC TPL Standards in most respects
 - Primary difference – EKPC considers loss of a line, transformer, or generator in conjunction with loss of a generator to be a single-contingency (Category B) event.
 - EKPC planning criteria posted at <http://www.pjm.com/planning/planning-criteria/to-planning-criteria.aspx>
- EKPC has shifted to voltage criteria at transmission-level busses rather than distribution level busses.
 - No longer model distribution transformers in power flow models

EKPC/PJM Coordination

- EKPC continues to become familiar with the PJM planning processes and is actively participating
 - Participation in TEAC and PC meetings
 - Monthly RTEP project status meeting
- EKPC will continue to develop and modify its planning processes as it becomes more familiar with PJM process to ensure enhanced coordination and cooperation in assessments
- EKPC will continue assessment of its system to supplement and verify PJM's assessments
 - Focus will be on testing against EKPC criteria

EKPC/PJM Coordination (cont.)

- EKPC will share its assessment results with PJM and will review PJM results to validate
- EKPC will work with PJM to develop appropriate upgrades/mitigation plans for identified violations
- EKPC will present identified projects, planning criteria, and processes at PJM TEAC and sub-regional RTEP meetings as necessary to allow stakeholder input and feedback

EKPC RTEP Projects

- EKPC has 31 RTEP projects identified in the 2014-2018 period.
 - One at 161 kV, 2 at 138 kV, remainder at 69 kV
 - 29 are baseline projects
- Most significant EKPC RTEP projects
 - Uprate of JK Smith-Lake Reba Tap and JK Smith-Dale 138 kV lines
 - Addition of a 3rd EKPC-TVA tie between the Summershade substations



Questions and Discussion