

Transient Stability Impact

Columbia Generating Station

Columbia Power Plant

- Work to be completed in 2006
 - Conversion of existing Columbia – North Madison 138 kV line to 345 kV operation
 - Addition of new 345 kV terminal and high-side 345 kV transformer protection
 - Reconfiguration of line terminations
- Compliant with ATC stability criteria except
 - Two scenarios are compliant with less stringent NERC Planning Standards criteria

Columbia Power Plant

- Transient stability impact of three of the proposed Access projects
 - Adams – Columbia 345 kV line
 - Byron – North Madison 345 kV line
 - Salem – North Madison 345 kV line
- All three (3) projects result in
 - Improved stability margins at Columbia
 - Compliance with ATC stability criteria

Impact on Columbia

Based on 2010 50% Peak Load Model

Project	Worst Primary Contingency	Worst Breaker Failure Contingency
Base Case	4 cycles	8 cycles
W. Middleton – N. Madison	6 cycles	9 cycles
Adams – Columbia	6 cycles	11 cycles
Byron – N. Madison	7 cycles	10 cycles
Salem – N. Madison	6 cycles	9 cycles

Transient Impact Summary

- Completing the 345 kV loop around Madison provides an adequate stability margin for Columbia
- A new 345 kV circuit directly into Columbia has the greatest improvement for the most severe contingency
- Circuit to Byron improves Columbia stability slightly over Madison loop