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ATC Planning Criteria

Version 16 Change Summary

Change Agenda

- Revised NERC references to TPL-001-4
- Added criteria summary table
- Added maintenance plus in Category P1
- Added generator interconnection methodology
- Added transient thermal limit methodology
- Revised annual review requirement

ATC System reliability is paramount

TPL-001-4 Requirements

Requirement	Summary	Enforcement Date
1	Maintain System models	1/1/2015
2	Prepare an annual PA	1/1/2016
3	Perform steady state portion of the PA	1/1/2016
4	Perform Stability portion of the PA	1/1/2016
5	Have criteria for acceptable System response	1/1/2016
6	Have criteria to identify System instability conditions	1/1/2016
7	Identify PCs and TPs coordination responsibilities	1/1/2015
8	Distribute the PA to adjacent PCs and TPs	1/1/2016

Planning Assessment (PA)
Planning Coordinator (PC)
Transmission Planner (TP)

TPL-001-4 Table 1

- P0: System intact
- P1: Single outage
 - Prior maintenance + P1
- P2: Single initiating event
- P3: Loss of a generator plus next single outage
- P4: Fault plus stuck breaker
- P5: Fault plus relay failure
- P6: Two overlapping singles
- P7: Common structure

TPL-00x-0	TPL-001-4
A	P0
B	P1
C	P2 through P7
D	Extreme Events

Criteria Summary Table

Event	Voltage Level	Loss of Firm Transmission Service	Loss of Non-Consequential Load
P0	All	No	No
P1.1-1.5	All	No	No
P2.1	All	No	No
P2.2&2.3	EHV	No	No
	HV, Non-BES	Yes	Yes
P2.4	All	Yes	Yes
P3	All	No	No
P4.1-4.5	EHV	No	No
	HV, Non-BES	Yes	Yes
P4.6	All	Yes	Yes
P5.1-5.5	EHV	No	No
	HV, Non-BES	Yes	Yes
P6.1-6.4	All	Yes	Yes
P7.1&7.2	All	Yes	Yes

Maintenance Plus in Category P1

- Original

- TPL-002-0b states

R1.3.12. Include the planned (including maintenance) outage of any bulk electric equipment (including protection systems or their components) at those demand levels for which planned (including maintenance) outages are performed.

- Updated

- Planning Criteria v16 includes

...maintenance outage (planned single element outage excluding buss and breaker) followed by a P1 contingency” will be treated as any other P1 contingency...

Generator Interconnection Methodology

- AC solution methods
- Steady-state analysis generation dispatch:
 - Shoulder Levels
 - Summer Peak Levels
 - Seasonal Load Levels
- Dynamic stability studies
- Seasonal output

Transient Thermal Limit Methodology

- Transmission elements that experience loading in excess of applicable thermal emergency ratings for applicable **contingencies** should be evaluated in accordance with a Transient Thermal Limit (TTL) to determine the consequence of the contingent event.
- **Contingencies** is defined in three separate sections:
 1. NERC Category P1, P2, and maintenance outage (planned single element outage excluding buss and breaker) followed by a P1 contingency at appropriate load levels
 2. NERC Category P3 through P7 contingencies
 3. TPL-001-4 Table 1 NERC Steady State contingencies

Annual Review Requirement

- **Original**
 - This document will be reviewed annually.
- **Updated**
 - This document may be revised from time to time in response to changes in industry standards, new system conditions, new technologies and new operating procedures, as appropriate. Annually the need for a full review will be evaluated.

Conclusions

- Planning Criteria defines system needs threshold
- Planning Criteria changes to address industry changes
- Specific changes include the following
 - Revised NERC references to TPL-001-4
 - Added criteria summary table
 - Added maintenance plus in Category P1
 - Added generator interconnection methodology
 - Added transient thermal limit methodology
 - Revised annual review requirement

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Thank you for Participating

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