

FAC-013-2 WHITEPAPER

Through FERC Orders 693 (paragraphs 782 and 794) and 729 (paragraphs 278, 279, 289, 290 and 291), FERC directed NERC to establish a standard requiring Planning Coordinators to calculate transfer capability in the planning horizon and communicate the results. In the FERC Order approving the MOD standards related to ATC/AFC calculations (MOD-001, MOD-028, MOD-029, and MOD-030), FERC did not approve NERC's request to withdraw FAC-012-1, nor did they approve the retirement of FAC-013-1. With respect to these two Reliability Standards, the Commission disagreed with NERC that they are wholly superseded by the MOD Reliability Standards.

- The Commission noted that, under FAC-012-1, Reliability Coordinators and Planning Authorities would be required to document the methodology used to establish inter-regional and intra-regional transfer capabilities and to state whether the methodology is applicable to the planning horizon or the operating horizon.
- The Commission also noted that, under FAC-013-1, Reliability Coordinators and Planning Authorities are required to establish a set of inter-regional and intra-regional transfer capabilities that are consistent with the methodology documented under FAC-012-1, which could require the calculation of transfer capabilities for both the planning horizon and the operating horizon.
- The Commission posited that these FAC Reliability Standards were necessary because the proposed MOD Reliability Standards provide only for the calculation of available transfer capability and its components, including total transfer capability, in the operating horizon. Thus, the Commission stated, the proposed MOD Reliability Standards do not govern the calculation of transfer capabilities in the planning horizon, i.e., beyond 13 months in the future.
- The Commission also noted, that the calculation of transfer capabilities in the planning horizon (years one through five) may not be so accurate to support long-term scheduling of the transmission system but that such forecasts will be useful for long-term planning, in general, by measuring sufficient long-term capacity needed to ensure the reliable operation of the Bulk-Power System.
- The Commission stated that the responsibility for calculation of transfer capabilities in the planning horizon would be appropriately assigned to the Planning Coordinator and not the Reliability Coordinator.

Consistent with the above philosophy and to address FERC's concerns, FAC-013-2 requires that Planning Coordinators have a current documented methodology for use in performing an annual assessment of Transfer Capability in the Near-Term Planning Horizon (Transfer Capability Methodology). FAC-013-2 is only applicable to the Planning Coordinator. The

purpose of the standard is to add to the Planning Coordinator's "portfolio of knowledge" for planning for future reliable operation of the Bulk Electric System (BES). The TPL standards define the studies to be performed, the performance requirements for the BES and the details of the required assessments. FAC-013-2 is intended to identify potential future weaknesses in the system by performance of tests - application of bulk energy transfers to stress the system. FAC-013-2 adds to the understanding of system performance obtained through application of the TPL standards, providing knowledge of potential facilities requiring additional focus and analysis.

Identification of new System Operating Limits is not the intent of FAC-013-2. Known System Operating Limits associated with facility ratings, transient stability ratings, voltage stability ratings, and system voltage limits that have been identified in other planning and operating studies must be respected in performing the assessment. In addition, this information is not intended in any way to be associated with the granting or denial of transmission service. FAC-013-2 assessments of transfer capability are also not intended to supersede nor replace calculations done to meet FAC-010 and FAC-014 requirements related to calculation of System Operating Limits (SOL). SOL calculations are performed according to the specific requirements of FAC-010 and FAC-014. FAC-013-2 allows the Planning Coordinator to develop its Transfer Capability Methodology based on knowledge of its system's sensitivity to transfers and significance of Facilities to reliability, within the framework provided by FAC-013-2.

Additionally, the standard is not intended to supersede nor replace transfer tests performed as part of specific planning processes internal to a Balancing Authority, such as generation or load deliverability tests which are not specifically addressed by this standard.

Requirement R1, Part 1.4 requires a description of several elements that must be included in the Transfer Capability Methodology. This description is intended to provide context for the assessment results. Knowledge of these details of the Transfer Capability Methodology will allow those receiving assessment data to better understand the assessments and their potential impact on BES reliability. Some guidance is provided for each of the required elements:

Generation dispatch should include a discussion of how generation outages are included in the models used for the assessment; whether known outages are included or other methods (e.g. Monte Carlo) are used to represent outages of generation, and if any generation related operating guides are utilized. It should also identify if generation retirements are modeled and if new/proposed generation is included in the models.

Transmission system topology should include a discussion of how transmission outages are included in the models used for the assessment; whether known outages are included or other methods are used to represent transmission outages. Additionally, identification of whether transmission facility retirements are modeled and if new/proposed transmission facilities are included in the models.

System demand should include a description of the models used (e.g. MMWG, regional, other), seasons, load levels and conditions selected calculation.

Current and projected transmission uses should include a description for how firm and non-firm transmission service is modeled.

Any parallel path impacts (loop flows) that are added to the base models or affect study results should be explained.

A description of the contingencies evaluated should be provided to explain the types of contingencies (e.g. N-1, N-1-1) that drive the study results.

A description of the facilities monitored should be provided to explain the areas monitored and the kV level of the facilities.

Requirement R1, Part R1.3 “A statement that the assumptions and criteria used to perform the assessment are consistent with the Planning Coordinator’s planning practices.”, is intended to provide consistency in the performance of the assessment of transfer capability and the planning practices used in the evaluation of the reliability of the BES.

Requirements R2 and R3 are intended to facilitate the necessary communication of the Transfer Capability Methodology and ensure an understanding of the methodology by those NERC registered functional entities having a reliability related need – primarily the Transmission Planners in the Planning Coordinator’s area and neighboring Planning Coordinators.

Requirements R4 through R6 ensure an annual assessment of transfer capability is performed and that the data and results are communicated to those same entities that have a reliability related need for those results. Communication and response to comments on the methodology and comments on the annual assessment provide for coordination of planning between the affected entities.

The application of FAC-013-2 will provide an assessment of the robustness of the future transmission system and facilitate communication between adjacent Planning Coordinators. FAC-013-2 addresses FERC's concerns regarding transfer capability in the planning horizon and provides important information that Planning Coordinators will be able to apply in their efforts to reliably plan the BES.