NERC Standard – FAC-013-2

Assessment of Transfer Capability for the Near-Term Transmission Planning Horizon
For
Associated Electric Cooperative, Inc.

Effective Date: April 4, 2016

Engineer:	Brad Haralson Print Name	Brad Haralson Signature
Supervisor:	Tony Gott, PE Print Name	Tony Gott Signature

NOTE: WHEN REVISING THIS PROCEDURE ENSURE THE LATEST REVISION IS UPLOADED TO THE PUBLIC OASIS SITE AND NOTIFICATIONS ARE SENT TO EACH ADJACENT OR OVERLAPPING PLANNING COORDINATOR AND EACH TRANSMISSION PLANNER IN AECI'S AREA, PRIOR TO THE REVISIONS EFFECTIVE DATE, AS DESCRIBED IN SECTION R2 BELOW.

Revision No.	Revision History	Date
0	Original Issue	05/02/2007
1	Addition clarification and addition of participation in ERAG study groups	4/9/2010
2	Modified to make compliant with upcoming FAC-013-2	4/30/2011
3	Minor revisions and updated removed effective date for FAC-013-2 standard, will revise again before FAC-013-2 is implemented	3/16/2012
4	Removed references to FAC-012-1 and FAC-013-1, added clarification of SERC LTSG study year, removed reference to parallel path adjustments evaluated in regional reliability studies	3/11/2013
5	Incorporated internal audit recommendations to more clearly address long term transmission outages, additions, and retirements	11/24/2014
6	Changed reference to MOD-032 and reliability study groups. Revised language for parallel path adjustments. Added note above the revision table. Reformatted to conform to Standard.	4/1/2016

Purpose

To establish Associated Electric Cooperative, Inc's (AECI) methodology for identifying potential future transmission system weaknesses and limiting facilities that could impact the Bulk Electric System's (BES) ability to reliably transfer energy in the Near Term Transmission Planning Horizon.

Applicability

As a NERC registered Planning Coordinator (PC), FAC-013-2 is applicable to AECI.

Requirements

R1 AECI shall annually assess its transfer capability in the Near-Term Planning Horizon by participating in regional reliability study groups. This is currently accomplished by participating in the regional study groups listed in R4 below.

R1.1 Transfers will be selected so that transfers are studied across all of AECI's adjacent borders on at least a SERC subregional-subregional basis.

R1.2 AECI's, and its SERC subregional Transfer Capabilities shall respect all known System Operating Limits (SOLs). AECI's SOLs are developed in accordance with its FAC-010 methodology.

R1.3 The assumptions and criteria used to perform the assessment are consistent with AECI's planning practices.

R1.4 The following assumptions and criteria are used in performing the assessment:

R1.4.1 *Generation Dispatch*: The base models have AECI's generation economically dispatched. The Wind generators connected to AECI's system are modeled at 10% of their total capacity in the summer, summer shoulder, and light load models and 40% for the other seasonal models. Any expected generator outage, retirement, or additions are included in the base model commensurate with the particular year and season.

R1.4.2 *Transmission System Topology*: AECI participates in the SERC Long Term Study Group (LTSG) Power Flow Data Bank Update process and contributes to preparing steady-state modeling data representing the SERC Region through these LTSG activities. The steady-state modeling data from the LTSG Data Bank is submitted to and retained in the NERC/MMWG data bank of operating and planning power flow models. Additional details on AECI's steady state modeling methodology can be found in their procedural document for NERC Reliability Standard MOD-032. These models are used for the inter-regional and intra-regional reliability and transfer capability studies performed by the various regions of the eastern interconnection.

R1.4.3 *System Demand:* AECI's coincident loads in the regional models are developed in its Electric Load Forecast (ELF) which is updated every other year.

R1.4.4 *Current approved and projected transmission uses*: AECI models all long term firm transmission, generation contracts and long term transmission outages, additions, and retirements, to the extent possible, in the coordinated regional models.

R1.4.5 *Parallel Path (loop flow) Adjustments*: No specific adjustments are made to model or re-direct parallel path or loop flows when determining transfer capability. It is recognized that parallel flows may result in transmission limitations in systems other than the transacting areas. To help screen for possible limitations in adjacent systems, AECI submits appropriate study files that monitor all ties to its system. This same screening methodology is also included as a quality control recommendation for all study group members in the SERC LTSG Procedural Manual. It is also very likely that adjacent facilities are being monitored by their owners, who are participating in the reliability study.

R1.4.6 *Contingencies*: AECI tests a minimum of all single and multi-terminal breaker-to-breaker contingencies at 100 kV and above, and all ties to AECI.

R1.4.7 *Monitored facilities*: AECI monitors a minimum of all 100 kV and above AECI facilities, and all ties to AECI.

R1.5 To model transfers AECI uses an economic dispatch to model exports and a generator outage scenario to model imports. Wind generators are not dispatched to model transfers. AECI will include load reduction to model exports when sufficient generation is not available to model the full transfer test amount desired. This load reduction is limited to no more 30% of AECI's total load, as this represents the lower limit of the shoulder load definition by SERC and MMWG guidelines.

R2 AECI shall issue its Transfer Capability Methodology (TCM) and any revisions, prior to its effective date, to:

R2.1 Each adjacent or overlapping Planning Coordinator and each Transmission Planner in AECI's area.

R2.2 Each functional entity that has a reliability related need for the Transfer Capability and submits a request for this methodology. AECI will respond within 30 calendar days of receiving such a written request.

R3 *This requirement was retired effective 1/21/2014.*

R4 Each calendar year AECI participates in the SERC Long-Term Study Group (LTSG) reliability study, which is performed for the Near-Term Planning Horizon. In order to cover all its interfaces with the various regions, AECI also participates in other regional reliability study groups:

- SERC Near Term Study Group (NTSG) which performs two seasonal reliability studies per year
- ERAG which performs various reliability studies as directed by the ERAG Management Committee.

The transmission transfer capability simulations and calculations performed by these study groups are in accordance with NERC's May 1995, Transmission Transfer Capability reference document. Additional information regarding base case development and transfer capability study guidelines can be found in each respective study group's procedural manuals.

R5 *Assessment Availability*: Through participation in LTSG, NTSG, and ERAG regional studies, SERC, Reliability Coordinators, and other Planning Coordinators (including those adjacent to AECI) are provided the regional study reports which serve as AECI's Transfer Capability assessment. These regional study reports are also circulated within 45 days of their posting, to AECI's system operators and transmission planning staff.

R6 If a recipient of a Transfer Capability assessment requests data to support the assessment results, AECI shall provide such data to the requesting entity within 45 calendar days of the receipt of such request. The data provided shall be subject to the legal and regulatory obligations of AECI's area regarding the disclosure of confidential and/or sensitive information.