SERC Reference Document

Regional Transmission Assessment Study Processes within SERC

Revision History

Revision	Date	Comments
0	November 3, 2006	Initial approval of document
1	September 20, 2007	Clarify the document's intent to describe the regional transmission assessment study processes within SERC as opposed to a SERC planning process

Responsible SERC Subgroup

The SERC Reliability Corporation (SERC) EC Regional Studies Executive Committee (RSEC) will maintain this document.

Review and Re-Certification Requirements

This document will be reviewed and re-certified at least every 5 years and distributed to all members by the SERC Engineering Committee.

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I Introduction / Purpose

The Regional Transmission Assessment Study Processes within SERC supplement the Local Transmission Assessment Study Processes utilized by SERC member systems. The purpose of these regional processes is to further augment the reliability of each party's bulk power system through improved coordination of the planning of the bulk electric system.

Member systems within SERC utilize an approach of coupling local transmission assessment activities with facilitated and regional coordinated transmission assessment study processes. Joint study efforts involving two or more parties are utilized as necessary to maintain coordination among systems and along system interfaces. The facilitated and regional coordinated processes may also involve Regional Transmission Organizations (RTOs) participation.

The purpose of this document is to describe in general terms how bulk electric transmission assessment studies within SERC are accomplished.

II Regional Transmission Assessment Study Processes

A. Background

Within the SERC region, each transmission planner prepares a transmission expansion plan for its own area to meet the needs of its native load customers as well as OATT customers (Long-term Point–to–Point and Network Service). All transmission planners coordinate with interconnected systems by sharing and assessing these transmission expansion plans with each other to determine if they are simultaneously feasible and to ensure that consistent assumptions and data are used in identifying system enhancements required to meet reliability standards. All transmission planners within SERC participate in the Regional Transmission Assessment Study Processes to ensure this coordination encompasses the entire region.

The interconnected bulk electric system is comprised of many individual systems, each with their own electrical characteristics, set of customers, and geographic, weather, and economic conditions, as well as with differing regulatory, business and political climates. Over the years, these individual systems have established electrical interconnections with one or more other systems to provide enhanced service reliability, reserve sharing and emergency assistance, as well as to facilitate electric power purchases and sales.

As these interconnections developed, so did the need for each of the interconnected systems to cooperate and coordinate in the assessment of the overall interconnected network. Coordination in these assessments is required because the plans and planning activities of each interconnected system can

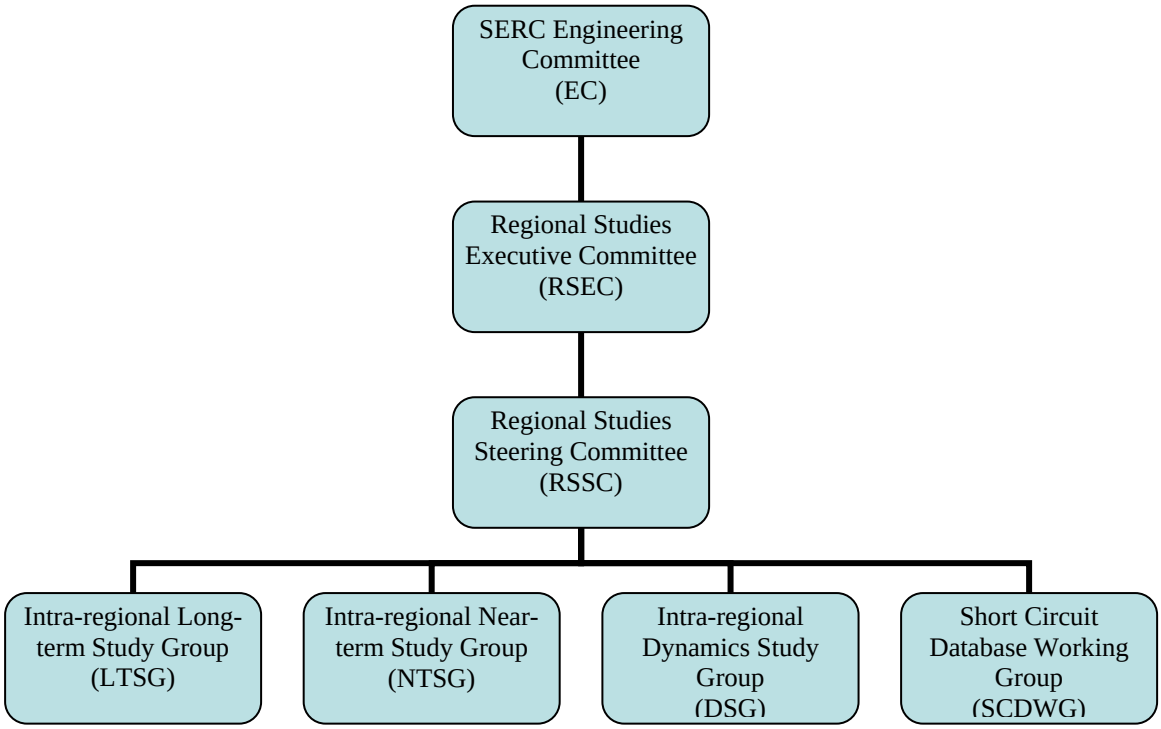
affect, to varying degrees, the other systems to which it is connected. Each electric system within SERC has detailed reliability planning criteria and guides that are unique to its circumstances while adhering to the NERC Reliability Standards. Because of each system's potential to impact the other interconnected systems, extensive and detailed processes for coordinating transmission assessment activities have evolved. The member systems of SERC, in addition to following their individual criteria and guides, plan their systems in accordance with national and regional reliability standards and coordinate the assessment of their individual systems. The coordination does not diminish the rights and responsibilities of individual systems in developing their business plans and in tailoring service to their customers, and as such each participating system retains responsibility for the planning of its system.

B. Regional Transmission Assessment Studies Committees

Intra-regional transmission assessment study activities within the SERC region are established and governed by the following committees: SERC Regional Studies Executive Committee**;** SERC Regional Studies Steering Committee (RSSC); Intra-regional Long-Term Study Group (LTSG); Intra-regional Near-Term Study Group (NTSG); Intra-regional Dynamics Study Group (DSG); and Short Circuit Database Working Group (SCDWG).

These committees are organized under the SERC Engineering Committee.

Regional Transmission Assessment Studies Committees - Organizational Chart



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SERC Regional Studies Executive Committee (RSEC)

The RSEC is responsible for overseeing the SERC intra-regional studies processes and coordinating inter-regional reliability study processes.

This committee consists of one representative and an alternate from each SERC member that is registered with NERC as either a Transmission Operator, Transmission Planner, or Planning Authority; and SERC Staff Member(s). In addition, membership is open to two representatives each from the Cooperative, Municipal, and Customer sectors of the SERC membership. Liaison is also maintained with the Chairs of the Engineering Committee subgroups, as appropriate.

The following is a list of RSEC responsibilities and routine activities:

Responsibilities

1. Has overall responsibility for intra-regional reliability study process and coordinating inter-regional reliability study processes.
2. Establishes and maintains policies for conducting intra-regional studies and provides direction for inter-regional studies.
3. Promotes consistency in intra-regional and inter-regional studies.

Activities

1. Provides direction to Regional Studies Steering Committee and Inter-Regional Study Group Executive Committees.
2. Receives and reviews status reports from Regional Studies Steering Committee and Inter-Regional Study Group Executive Committees
3. Provides status reports to SERC Engineering Committee

SERC Regional Studies Steering Committee (RSSC)

The RSSC is responsible for directing the SERC intra-regional studies processes.

This committee consists of one representative and a maximum of two alternates from each subregion and SERC Staff Member(s). The subregional representatives will be recommended by the subregion and appointed by the Regional Studies Executive Committee (RSEC). The RSSC representatives must be from SERC members that are registered with NERC as a Transmission Operator, Transmission Planner, or Planning Authority.

The following is a list of RSSC responsibilities and routine activities:

Responsibilities

1. Directs reliability study process in SERC region
2. Receives requests for needed studies from other SERC groups
3. Determines studies to be performed by intra-regional study groups

Activities

1. Assigns studies and provides scopes to intra-regional Study Groups
2. Resolves conflicts on intra-regional Study Groups

3. Approves reports compiled by intra-regional Study Groups and authorizes their release
4. Coordinates with representatives on inter-regional study Steering Committees and Working Groups to insure consistency
5. Receives status reports from intra-regional study groups
6. Provides Status reports to RSEC and SERC Engineering Committee

Intra-regional Long-Term Study Group (LTSG)

The SERC Engineering Committee (EC) Intra-regional Long-Term Study Group (LTSG) is responsible for conducting longer-term intra-regional reliability assessment studies.

This committee consists of one representative and an alternate from each SERC member that is registered with NERC as either a Transmission Operator, Transmission Planner, or Planning Authority.

The following is a list of LTSG responsibilities and routine activities:

Responsibilities

1. Creates SERC regional power flow base cases and provides SERC data for Eastern Interconnection Reliability Assessment Group (ERAG)-MMWG
2. Conducts longer-term reliability assessment studies as directed by Regional Studies Steering Committee (RSSC)

Activities

1. Conducts annual data base update to create regional power flow base cases
2. Reviews regional power flow base cases before they are submitted to ERAG-MMWG
3. Fine tunes power flow base cases for longer term reliability studies
4. Performs power flow and transfer capability studies
5. Summarizes results of the studies
6. Assembles necessary data and prepares study reports
7. Provides status reports to the Regional Studies Steering Committee (RSSC)

Intra-regional Near-Term Study Group (NTSG)

The Intra-regional Near-Term Study Group (NTSG) is responsible for conducting near term intra-regional seasonal reliability and OASIS support studies.

This committee consists of one representative and an alternate from each SERC member that is registered with NERC as either a Transmission Operator, Transmission Planner, or Planning Authority.

The following is a list of NTSG responsibilities and routine activities:

Responsibilities

1. Conducts summer and winter reliability studies as directed by Regional Studies Steering Committee (RSSC)
2. Conducts seasonal OASIS support studies

Activities

1. Fine tunes base cases for seasonal and OASIS support studies
2. Performs power flow and transfer capability studies
3. Summarizes results of the studies
4. Assembles necessary data and prepares study reports
5. Provides status reports to the Regional Studies Steering Committee (RSSC)

Intra-regional Dynamics Study Group (DSG)

The Intra-regional Dynamics Study Group (DSG) maintains SERC regional dynamics data and conducts special dynamics studies as needed.

This committee consists of one representative and an alternate from each SERC member that is registered with NERC as either a Transmission Operator, Transmission Planner, or Planning Authority.

The following is a list of DSG responsibilities and routine activities:

Responsibilities

1. Prepares SERC regional dynamics base cases for submission to ERAG-MMWG
2. Reviews dynamics studies performed by member companies and subregions
3. Performs other dynamics related tasks as directed by the Regional Studies Steering Committee (RSSC).

Activities

1. Conducts annual dynamics data base update process to create regional dynamics base cases for submission to ERAG-MMWG.
2. Fine tunes base cases for assigned dynamics studies
3. Performs dynamics runs for studies

4. Summarizes results of the studies
5. Assembles necessary data and prepares study reports
6. Conducts Under Voltage Relay studies as directed by RSSC
7. Conducts Under Frequency Relay studies as directed by RSSC
8. Provides status reports to RSSC

Short Circuit Database Working Group (SCDWG)

The Short Circuit Database Working Group (SCDWG) is responsible for maintaining the SERC regional short circuit database.

This committee consists of one representative and an alternate from each SERC member that is registered with NERC as either a Transmission Operator, Transmission Planner, or Planning Authority.

The following is a list of SCDWG responsibilities and routine activities:

Responsibilities

1. Compiles short-circuit data supplied by member companies into a SERC short circuit data base

Activities

1. Establishes procedures for collecting short circuit data from SERC companies and adjacent non-SERC companies
2. Collects short circuit data from companies and makes it available in a standard format
3. Provides status reports to the Regional Studies Steering Committee (RSSC)

C. System Modeling

SERC is a Member of the Eastern Interconnection Reliability Assessment Group (ERAG) along with the Florida Reliability Coordinating Council, Inc., the Midwest Reliability Organization, the Northeast Power Coordinating Council, Inc., ReliabilityFirst Corporation, and the Southwest Power Pool.

To facilitate coordinated planning and operating assessments, ERAG administers the development of a library of power-flow base case models for the benefit of ERAG members. This activity is handled by the ERAG Multi-regional Modeling Working Group (MMWG) and includes direct representation from each NERC region in the Eastern Interconnection (FRCC, MRO, NPCC, RFC, SERC and SPP) as well as liaison representation from ERCOT, WECC and the NERC office.

The SERC data required for base case models developed by MMWG is updated and assembled each year at the SERC Data Bank Update. In addition to developing power-flow models for the MMWG, additional models are developed as directed by the SERC Regional Studies Steering Committee (RSSC). The RSSC considers which power flow models will be needed for use by the various study groups in the following year to continue to meet the goals of the SERC organization. Generally, the SERC Data Bank library contains power flow models for each summer period of the next ten years, plus selected winter models and any special models that may be required.

D. Inter-Regional Assessment Studies

ERAG also augments the reliability of the bulk-power system through periodic reviews of generation and transmission expansion programs and forecasted system conditions within the regions served by ERAG members.

The ERAG Agreement states that:

1. The Parties shall cooperate on the development and procedures employed to conduct power system analysis, studies and evaluations among the Parties.
2. Each Party agrees to participate, as necessary, in reliability assessment efforts of the other Parties, including case development, studies, contingency selection, review of results, and meetings when it is determined that the Party may impact or be impacted.
3. In developing the reliability assessments and studies, the Parties shall use appropriate methods to appraise the ability of the interregional network to meet the requirements set forth in Reliability Standards, to include but not be limited to, TPL-001-0, TPL-002-0, TPL-003-0, and TPL-004-0 and such applicable Regional Criteria, as they may be modified from time to time.
4. Whenever appropriate, the Parties will make use of the investigations made by the Parties or by individual systems to avoid duplication of effort.

Studies will be based on the most up-to-date plans of the individual systems.

5. The Parties shall ensure that the reliability assessments and studies that are adopted by the Parties are as consistent as possible and ensure reliability in the Joint Area or applicable sub areas of the Joint Area.
6. The Parties recognize that two or more Parties to this Agreement may enter into separate Reliability Assessment Agreements, and such Agreements do not fall under the purview of this Agreement.
7. Each Party to this Agreement shall maintain confidentiality of information shared consistent with its confidentiality requirements. This Agreement shall not impose requirements to disclose information to third parties that violate terms of each Party's confidentiality requirements.

As part of the ERAG interregional study process, SERC participates in the SERC East-RFC and MRO-RFC-SERC West-SPP Studies. Each Study has a Steering Committee and Seasonal and Short/Long Term Study Groups. SERC East includes the VACAR and Central Subregions and SERC West includes the Central, Gateway, and Delta Subregions. Also, SERC's Southeastern Subregion has a similar study process with FRCC.