

SERC
RELIABILITY REVIEW SUBCOMMITTEE
(RRS)
PROCEDURAL MANUAL



Revision History

Revision	Date	Comments
4	February 8, 2008	Revisions were made to the document to update it for post-Regional Delegation Agreement compliance activities as well as general changes over time. Document is issued as Revision # 4 and is the first version to go through the SERC Standing Committee Document development process.
5	October 6, 2011	Revisions were made to the document to update the latest responsibilities of the RRS, including the addition of NERC post-seasonal assessments and the removal of compliance review of SERC entities with the NERC TPL and other standards. Some changes were made to provide clarity and reflect the latest changes to NERC definitions, NERC procedures, and RRS assessment schedules. The document was also updated to reflect changes to the relationships with other SERC Groups.
6	October 2, 2018	Revisions made to align the RRS with the SERC Technical Committee Structure and Subregional Segmentation.

Responsible SERC Subgroup and Region Review Group

Reliability Review Subcommittee (RRS)

Review Requirements

This procedure will be reviewed every three years or as appropriate by the RRS for possible revision in accordance with the Standing Committee documents process.

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I. Introduction

The SERC Reliability Corporation (SERC) was created to augment bulk power reliability in the southeastern United States. In performing its reliability objectives, the entities within SERC exchange information with one another regarding the planning and operation of their systems. This ensures the continued reliability of the interconnected systems and facilitates periodic review of reliability-related activities within the Region.

SERC membership is drawn from representatives from the systems that oversee supply and delivery of the power needs within the geographic territory encompassed by SERC. SERC is currently divided into six diverse subregions. These subregions are SERC Central, SERC East, SERC MISO-Central, SERC MISO-South, SERC PJM, and SERC Southeast.

SERC is governed by a Board of Directors. The SERC Engineering Committee (EC) was established to assist SERC's Board Executive Committee (BEC) in carrying out the purposes of the organization as they relate to the planning and engineering issues facing the entities. Recognizing the need for a regional review of reliability matters on a continuing basis by knowledgeable individuals, the EC formed the Reliability Review Subcommittee (RRS). The RRS conducts seasonal and annual reliability assessments of the SERC Region by reviewing the data and studies submitted by NERC-registered entities in the SERC footprint, and performing related tasks in the assessment of the reliability of the interconnected Bulk Electric System (BES) of the SERC Region.

The SERC RRS conducts reviews of Regional and subregional assessment practices and procedures; assesses the adequacy and reviews the security of each of the SERC subregions; and reports its findings to the EC.

Occasionally, the EC requests that the RRS undertake special assignments to further EC or NERC objectives. Similarly, the RRS may self-initiate special assessments of the Region as conditions warrant. RRS activities are covered by an EC-approved scope document. The current, approved RRS scope and a roster of RRS membership may be found on the SERC web site.

The purpose of this document is to record the reliability assessment processes within SERC; and in particular, the data sources, timing, and analysis used by the RRS in conducting reliability assessments. In addition, this document defines certain expectations of the subcommittee members, provides for an administrative framework in which subcommittee business is performed, and describes processes by which some of the more salient objectives of the subcommittee are achieved.

II. Reliability Review Subcommittee Administration

A. Membership

The RRS consists of the following non-marketing function representatives, as defined in FERC regulations¹ and the FERC Standards of Conduct, from Transmission Planner (TP) or Planning Coordinator (PC) member companies. Each RRS member must be a signatory to the SERC confidentiality agreement:

¹ 18 CFR 358 <hyperlink to web location here>
SERC RRS Procedural Manual
SERC EC approved on October 2, 2018

A. Voting members:

One representative or alternate from each of the following subregions, such that the same voting member company shall not represent multiple subregions at the same time:

- I. SERC Central
- II. SERC East
- III. SERC MISO Central
- IV. SERC MISO South
- V. SERC PJM
- VI. SERC Southeast

Alternate representatives may participate in the discussion but are not eligible to vote unless the Subregion representative is not in attendance.

B. Non-voting members:

Representatives from SERC TP and PC member companies can join as non-voting members. In addition, the following member representatives should participate in RRS meetings and activities:

- Liaison to SERC Planning Coordinator Subcommittee (PLCS)
- Liaison to the NERC Reliability Assessment Subcommittee (RAS)
- SERC Operating Committee representative
- Resource Adequacy Working Group chair

Each subregion shall develop a process to appoint a member representative and up to two alternates for a term of two (2) years, and can re-appoint former representatives. Terms should be staggered, when possible, to permit the presence of experienced RRS representatives and alternates.

The EC Chair shall appoint an RRS Voting member representative to serve as Chair and an RRS Voting representative to serve as Vice Chair. Chair rotations among and within the Voting subregions will follow a pre-established rotation table agreed upon by RRS member representatives. The Chair and Vice Chair shall serve for a term of two (2) years that commences on November 1 of the appointment year and ends on October 31 of the second year. The Vice Chair will normally succeed the Chair.

B. Participant Expectations

Meetings of the RRS (both in person and via teleconference/WebEx) are held as needed to conduct specific business. It is therefore expected that all RRS participants attend all RRS meetings fully cognizant of the meeting topics to be discussed. (Reference the SERC Organization and Procedures Manual for SERC Technical Committees regarding subgroup membership participation). This will, at times, include the reading of meeting materials, preparation of discussion topics, synthesis of data, and submittal of written materials for inclusion in RRS publications and assessments. Due to the nature of the tight deadlines often involved in the RRS' deliverables, active participation and prompt responses are crucial elements of success.

Despite the best efforts of the subcommittee participants - in a collaborative process - to set meeting dates which are mutually acceptable among all RRS participants, it is inevitable that one or more of the RRS participants will be unable to attend a given meeting or function. However, absences should be kept to a minimum and subregional attendance should be managed to maximize representation from each of the subregions at all subcommittee meetings. A member and an alternate member typically represent subregions. This arrangement facilitates a more consistent subregional participation even when one of the two members (full or alternate) is unable to attend. Therefore, it is expected that both member and alternate member attend all meetings, so that both remain cognizant and fully aware of activities and previous discussions held within the subcommittee.

III. Relationships with Other SERC Groups

A. SERC Engineering Committee (EC)

The SERC EC promotes the reliability and adequacy of the Bulk Electric System (BES) within SERC, as related to the planning and engineering of electric systems, and provides a mechanism for coordination of activities in the areas of planning and engineering. The chair (or designee) of the SERC EC represents SERC on the NERC Planning Committee (PC).

The EC oversees the activities of the RRS. In that role, the EC receives the assessment reports prepared by the RRS, receives periodic status reports from the RRS, and provides guidance to the RRS. In addition, the EC may assign special duties to the RRS that further the EC's objectives.

B. Planning Coordination Subcommittee (PLCS) and its working groups

The SERC Regional Studies Groups consists of the Planning Coordination Subcommittee and its working groups. These are the Dynamics Working Group (DWG), the Long-Term Working Group (LTWG), the Near-Term Working Group (NTWG), and the Short Circuit Database Working Group (SCDWG). These groups are responsible for the development of models and associated studies to ensure that planning assessments in SERC are coordinated. The SERC PLCS provides a liaison member to the SERC RRS.

C. SERC Operating Committee (OC)

The SERC Operating Committee (OC) promotes the reliability and adequacy of the BES within SERC as related to the operation of electric systems, through the development of SERC Regional Reliability Standards and other engineering/planning documents. The SERC OC provides a mechanism for coordination of interconnected operations. The SERC OC provides a liaison member to the SERC RRS.

IV. SERC Seasonal, Long-Term and Special Reliability Assessments

One function of the RRS is to assist in the development of reliability assessments of the Region for incorporation into NERC seasonal, long-term, and special assessment reports. NERC initiates these assessments with a data request to each region prior to the season being assessed. SERC staff and the NERC RAS representative receive these requests, and will solicit assistance from the RRS in completing the written assessments. The process for the development of the written seasonal assessments is outlined in the following subsections.

A. NERC Requests

The NERC RAS submits a request for information to each of the NERC regions and reporting areas prior to each summer and winter peak season. These requests typically require the submittal of a detailed resource and transmission reliability assessment with capacity, demand and energy data, generation and transmission additions, and transmission transfer capabilities. A sample seasonal data request from NERC is contained within the NERC Reliability Assessment Procedures.

Upon receipt of the NERC request, SERC staff forwards the request to SERC Registered Entities specifying a date when the data is due to the SERC office.

Occasionally, special assessments may be requested by NERC to address areas of special interest to reliability of the bulk electric system. In the event that a NERC special assessment is applicable to the SERC Region, SERC staff forwards the special assessment request to the chairs of the SERC EC and OC for further appraisal.

B. SERC Responsibilities

The SERC Region performs the following activities:

- SERC shall annually conduct seasonal (winter and summer of current year) and long-term planning horizon reliability assessments of its existing and planned regional BES, including generation and transmission facilities.
- SERC will conduct ongoing interregional assessments (example: pulling the RF-NPCC-SERC working group under ERAG) to ensure that the regional BES are planned and developed on a coordinated or joint basis.
- SERC shall include reliability results of system simulation testing in its regional and interregional reliability assessments
- SERC shall conduct special reliability assessments as requested by the NERC Planning Committee (PC). These special reliability assessments are evaluated on a case-by-case basis. In general, the SERC EC, SERC OC, and the SERC representative to the NERC RAS evaluate the scope of the special assessment and assign a particular SERC subgroup(s) to perform the assessment.
- SERC shall provide data to NERC as outlined in the *NERC Reliability Assessment Procedures* document, the *NERC Reliability Standards* and the *NERC Rules of Procedure Section 800*.

C. Data Requirements

SERC staff annually submits data requests to Registered Entities in response to data requests from SERC, NERC, and the U.S. Energy Information Administration (EIA). This includes data collections needed for the NERC seasonal, Long Term Reliability Assessment (LTRA), and Form EIA-411 “Coordinated Bulk Power Supply Program Report.” The SERC office then aggregates the data by subregion and into a SERC composite. The data typically requested by NERC in tabular format includes:

- Actual Peak and All-Time Peak Demands
- Forecast Peak Demands and Capacity Resources
- Generating Facility Additions, Retirements, and Re-ratings
- Transmission Facility Additions, Retirements, and Re-ratings (100 kV and above)

D. Written Assessment for the SERC Reporting Areas

The SERC Registered Entities submit written responses to the questions, as required, to SERC staff. SERC staff and the SERC RRS develop written narratives for the reporting areas of the Region. The narratives should be candid in discussing any situations that could reasonably be expected to impact the reliability of the Region during the coming peak season. This assessment

should be based on the narrative responses and also be a qualitative assessment of the Region’s reliability, using the quantitative data submitted as support.

F. SERC Submittal to NERC

SERC staff submits the official response to NERC after the tabular data is compiled on a regional basis and the written assessment is complete.

G. SERC Seasonal Assessment Schedules

The following schedules provide an approximate time frame for conducting seasonal assessments:

Summer Season Assessment Schedule

December	SERC distributes a SERC data request for SERC members through the RA Data Collection Contact List
January	NERC letter to regions for data and written assessments
February	Registered Entities submit data and written assessments to SERC staff
March	SERC staff compiles subregional data and written assessments into regional format for RRS and NERC
March	SERC staff submits data and regional assessment to NERC

Winter Season Assessment Schedule

July	SERC distributes a SERC data request for SERC members through the RA Data Collection Contact List
July	NERC letter to regions for data and written assessments
August	Registered Entities submit data and written assessments to SERC office
September	SERC staff compiles subregional data and written assessments into regional format for RRS and NERC
September	SERC staff submits data and regional assessment to NERC

V. SERC Annual Long-Term Reliability Assessment

Long Term Reliability Assessment Schedule

December	SERC sends out a request to entities before SERC receives the official NERC request to allow entities ample time to respond
February	SERC entities submit completed LTRA and summer assessment data to SERC.
April	SERC submits LTRA data and self-assessment to subregional representatives.
June	SERC submits aggregated preliminary LTRA data to NERC.
July	NERC sends a notice to SERC for required data corrections.

A. NERC/EIA Data Request

SERC's annual reliability assessment process focused on the long-term planning horizon normally begins with the receipt of the annual request for data for the NERC RAS. This request is normally received by the SERC staff annually in December or January.

Upon receipt of the NERC data request, SERC staff forwards a request for this data to Registered Entities, specifying a date when the data is due to SERC staff. The data typically requested includes:

- Actual monthly peak demand and net energy for the previous year
- Projected monthly peak demand and net energy for the next three years
- Projected seasonal peak demands for the current year and the next 10 years
- Projected annual net energy for the current year and the next 10 years
- Existing power plant data
- Planned generation additions and retirements for the next 10 years
- Projected seasonal sales/purchases for the next 10 years
- Proposed bulk transmission additions for the next 10 years

Bulk transmission system maps (a separate request distributed in May with a due date in June. Submitted to EIA in July).

B. SERC RRS Analysis of Data

1. Actual and Forecast Demand and Energy Data

The SERC RRS annually reviews the historical growth rates for reported seasonal (summer) peak demand and annual energy consumption on a regional and subregional basis for the previous 10-year period. These historical growth rates are then compared to the projected growth rates for the next 10-year period. It is recognized that the peak demand data for both the historical and forecast periods reported is coincident on a control area (Planning Authority) basis but is non-coincident on a subregion or region basis. Additionally, the historical demand data includes any load management that may have been implemented at the time of the actual peak. Nonetheless, the reported data is judged to be a suitable indicator of the actual and projected growth in electrical peak demand and energy within the region.

The forecast data reported includes the level of load management and distributed energy resources (DER) that is expected to be available at the time of the seasonal peak. The RRS reviews the level of peak shaving available from reported load management on a regional and subregional basis. The forecast demand data is plotted both with and without load management to observe trends in the percentage of load management available and the peak shaving bandwidth.

The NERC-registered entities within SERC are expected to provide the basis for their forecast demand assumptions to the RRS upon request.

2. Installed and Planned Resource Data

The RRS annually performs a resource adequacy assessment (both on a regional and subregional basis). The demand and resource capacity data is reviewed for completeness and assessed in the context of the overall resource capacity needs. The RRS makes an independent assessment of the ability of the Region and subregions to serve their obligations given the demand growth projections, the amount of non-committed or contracted capacity, etc. The RRS also determines if the resource information submitted represents a reasonable and attainable plan.

C. SERC RRS Review of Transmission Assessments

The RRS annually performs a transmission assessment based on regional, and subregional reliability assessments. The assessments are reviewed and analyzed. If any additional studies are required, the RRS requests the appropriate group (e.g., the SERC PLCS) to perform the study. The assessment provides a judgment on the ability of the transmission systems within SERC to operate securely under the expected range of operating conditions over the assessment period as required by the NERC Reliability Standards (Table I of TPL-001-4 or applicable version of the standard). In addition, the assessment may consider unusual but possible operating scenarios and how the system is expected to perform. If there are areas within the SERC Region or facilities that are especially critical to the reliable operation of the transmission systems within SERC, these facilities or areas are reviewed and addressed in the assessment.

Reliability assessment reports that are typically reviewed as part of this effort include:

1. Regional reliability assessments:
 - a. Peak season power flow studies from the NTWG
 - b. Future year power flow studies from the LTWG
 - c. Stability studies (if any), from the DWG

D. Reliability Issues

The RRS annually addresses general issues related to reliability in the SERC Region. This is done as part of the annual assessment process. A list of reliability issues is developed and discussed by the RRS. Written discussions of three to five major reliability issues may be prepared for inclusion in the RRS Annual Report.

E. SERC RRS Regional Process Review

An important function of the SERC RRS is to periodically review the effectiveness of the Region's annual reliability assessment process. In addition to the data provided by the NERC-registered entities, the RRS may periodically conduct special assessments as directed by the SERC EC or SERC Board of Directors to identify any reliability issues.

F. SERC RRS Reporting of Annual Assessment Results

Upon completion of the annual assessment, the RRS prepares an annual report. The report includes (both on a regional and subregional basis) a resource adequacy assessment, a transmission assessment, and a discussion of significant reliability issues impacting the SERC Region. While the report has evolved over the years, it has generally had a format similar to the NERC RAS LTRA, but focused on the SERC Region. This has led to a variety of EC and/or Board initiatives over the years addressing reliability in the SERC Region. An outline for the RRS Annual Report is given in Appendix E.

Appendix D describes a general schedule for completion of the RRS Annual Report and its associated assessments. When the report is completed by the RRS, it is approved by the SERC EC prior to publication. The report is then published and distributed to the SERC members, the NERC RAS, and other interested parties. In general, the data that supports the RRS Annual Report to the SERC EC is the same data that supports SERC's section of the NERC RAS LTRA.

VI. Responsible SERC Subgroup (RSS).

For standards that require an assessment or a SERC submittal to NERC, the RRS acts as the Responsible SERC Subgroup (RSS) to develop the appropriate filings. These filings include SERC Standing Committee documents, databases, and assessments. Documents and databases are updated as necessary to include the latest information and to align with the latest versions of the Reliability Standards. New assessments are completed on a regular schedule, or as requested by NERC.

Appendix A: Rotation Schedule for RRS Chair

Rotation Schedule for RRS Chair

The SERC EC chair will appoint the RRS chair from the RRS members. The RRS chair will serve a two-year term, which will begin November 1 of odd numbered years. Listed below are past RRS chairs and the subregion they represented.

Years	Subregion	Chair
1979 – 1981	TVA	Lewis McKenzie
1981 - 1983	VACAR	Bill Reinke
1983 - 1985	Southern	Jim Maughn
1985 - 1987	Florida	Bob Proctor & Gary Tipps
1987 - 1989	TVA	Gary Hasty
1989 - 1991	VACAR	Bill Sutton & Clay Young
1991 - 1993	Southern	Sam Daniel
1993 - 1995	Florida	Gary Brinkworth
1995 - 1997	Southern	Sam Daniel
1997 - 1999	VACAR	Pat Huntley
1999 - 2001	TVA	Dennis Chastain
2001 - 2003	Entergy	Brian Thumm
2003 - 2005	Southern	Rod Hardiman
2005 - 2007	VACAR	Jim Peterson
2007 - 2009	Central	Ian Grant
2009 - 2011	Gateway	Curt Stepanek
2011 - 2013	Delta	Joe Payne
2013-2015	Southeastern	Matt Hart
2015-2017	VACAR	Rick Thornton
2017-2019	Central	Marjorie Parsons

Appendix B: RRS Chair Annual Presentations

RRS Annual Presentations

- Spring SERC-EC/OC/Critical Infrastructure Protection Committee (CIPC) meeting (status update to EC)
- Spring SERC EC Executive Committee meeting (upon request)
- Spring SERC Board of Directors meeting (as requested)
- Summer Regional Studies meeting
- Fall SERC-EC/OC/CIPC meeting (status update to EC)
- Fall SERC EC Executive Committee meeting (upon request)
- SERC Compliance seminar (as requested)

Appendix D: RRS Meeting Schedule

RRS Meeting Schedule

Listed below are the times that the RRS typically meets and the major items of business conducted at the meetings. The details of the NERC seasonal, post-seasonal, and long-term reliability assessments are determined by NERC on an annual basis. The RRS meeting schedule is tailored to meet the deadlines established in the NERC request to the regions.

Meeting 1 (January)

- Develop the annual workplan and schedule for the RRS
- Review format for the RRS Annual Report
- Issues discussion
- Develop plans for the presentation at the Spring SERC EC/OC meeting

Meeting 2 (March)

- Review draft outlines of issues discussion
- Review results of Generation Plant Development and Transmission Development Surveys
- Review data from NERC-RRS data requests

Meeting 3 (May)

- Review status and continue work on RRS Annual Report
- Review first drafts of issues discussion
- Review first draft of NERC assessments (post winter and summer)

Meeting 4 (July - one WebEx and face-to-face at summer regional meetings)

- Review status and draft RRS Annual Report
- Review first draft of NERC LTRA

Meeting 5 (September)

- Incorporate comments into the RRS Annual Report in preparation for approval by the EC
- Review annual report presentation for the Fall SERC EC/OC meeting

Meeting 6 (November)

- Review data first draft of NERC assessments (post summer and winter)
- Critique of RRS Annual Report
- Initial brainstorming of reliability issues for RRS Annual Report

Other (as needed)

- Address any unfinished business from previous meetings
- Address any special assignments to the RRS from the SERC EC
- Address any compliance review issues
- Prepare for Compliance seminar, if requested

Status reports presented at RRS meetings

- SERC/NERC reports
- NERC RAS report
- Reports from other SERC or NERC groups as appropriate

Appendix E: RRS Annual Dashboard Outline

1.0 PREFACE

2.0 EXECUTIVE SUMMARY

2.1 RECOMMENDATIONS

2.2 DETAIL REVIEW OF APPLICABLE YEAR'S FINDINGS

2.2A DASHBOARDS: RESERVE MARGIN ANALYSIS

2.2B DASHBOARDS: REFERENCE MARGINS LEVEL (RAWG INPUT)

2.2C DASHBOARDS: RESOURCE MIX COMPARISON OF CURRENT AND LAST YEAR

2.2D DASHBOARDS: TRENDING RETIREMENTS AND ADDITIONS

2.2E DASHBOARDS: DEMAND PROJECTIONS

2.2F DASHBOARDS: TRANSMISSION ADDITIONS

2.2G DASHBOARDS: LONG/NEAR-TERM TRANSMISSION NON-PUBLIC SUMMARY

2.3 SPECIAL TOPICS AS IDENTIFIED BY THE RRS

2.4 ASSESSMENT AREA DASHBOARDS/SUMMARIES

2.5 DATA CONCEPTS AND ASSUMPTIONS