

SERC

Regional Reliability Plan

NERC Reliability Standard IRO-001



Revision History

Revision	Date	Comments
0	May 1998	Document origination
1	December 15, 2009 March 12, 2010	Update to the SERC Regional Reliability Plan dated May 1998. Approved by the SERC Operating Committee.
2	February 10, 2014	Three-year review cycle revision; reformatted to new SERC template standards and updated contents.

Responsible SERC Subgroup (RSS)

The SERC Reliability Coordinator Subcommittee (RCS) will serve as the RSS for this document.

Review and Re-Certification Requirements

This regional criteria document will be reviewed every three years or as appropriate by the RCS for possible revision. The existing or revised document will be re-certified and posted on SERC standards web site. Notice of the re-certification will be sent to SERC responsible entities and members of the SERC Operating Committee (OC).

SERC Reliability Coordinator Subcommittee (RCS) Membership:

Midcontinent ISO	Delta Subregion - MISO RC
TVA	Central Subregion – TVA RC
Midcontinent ISO	Gateway Subregion – MISO RC
Southern Company	Southeastern Subregion – SeRC
Duke Energy	VACAR Subregion – VACAR South RC
PJM	VACAR Subregion – PJM RC

TABLE OF CONTENTS

I.	EXECUTIVE SUMMARY.....	1
II.	SERC SUBREGIONS AND RCs.....	3
A.	Delta Subregion RC: TVA RC and MISO RC	3
B.	Central Subregion RC: TVA RC and PJM RC	3
C.	Gateway Subregion RCs: Midcontinent ISO RC and TVA RC	3
D.	Southeastern Subregion RC: Southeastern RC and MISO RC.....	3
E.	VACAR Subregion RCs: VACAR-South RC and PJM RC	4
III.	REGISTRATION AND REGIONAL OPERATING REQUIREMENTS FOR USERS, OWNERS AND OPERATORS OF THE BULK POWER SYSTEM.....	4
A.	SERC Registrations for Functional Entities	4
IV.	SUBREGIONAL RELIABILITY PLAN ATTRIBUTES	4
V.	REVIEW AND APPROVE PROPOSED CHANGES TO RELIABILITY COORDINATOR RELIABILITY PLANS	5
VI.	PROVIDE FOR THE EXCHANGE OF INFORMATION BETWEEN RELIABILITY COORDINATORS AND SERC STAFF	5

I. EXECUTIVE SUMMARY

The SERC Reliability Corporation's (SERC) Regional Reliability Plan (RRP) is in place to assure that all responsible entities within the SERC Region are properly identified and integrated into the SERC RRP to maintain the reliability of the bulk power system. The Reliability Coordinator (RC) is the highest-level authority and is authorized to take the necessary action to maintain reliability in its area of responsibility. The current plan replaces the original SERC RRP titled "Southeastern Electric Reliability Council (SERC) Regional Security Plan" dated January 1, 1998 and is consistent with the North American Electric Reliability Corporation (NERC) Regional Reliability Plan Guidelines. This plan identifies the five RCs established to monitor reliability and respond to emergency situations within the Region. In addition, the SERC RRP is consistent with the NERC Reliability Functional Model.

The SERC Region encompasses a 16-state area located within the central and southeastern United States. The SERC Region covers an area of approximately 560,000 square miles and is subdivided into five diverse subregions identified as Central, Delta, Gateway, Southeastern, and VACAR.

Geographic Boundaries

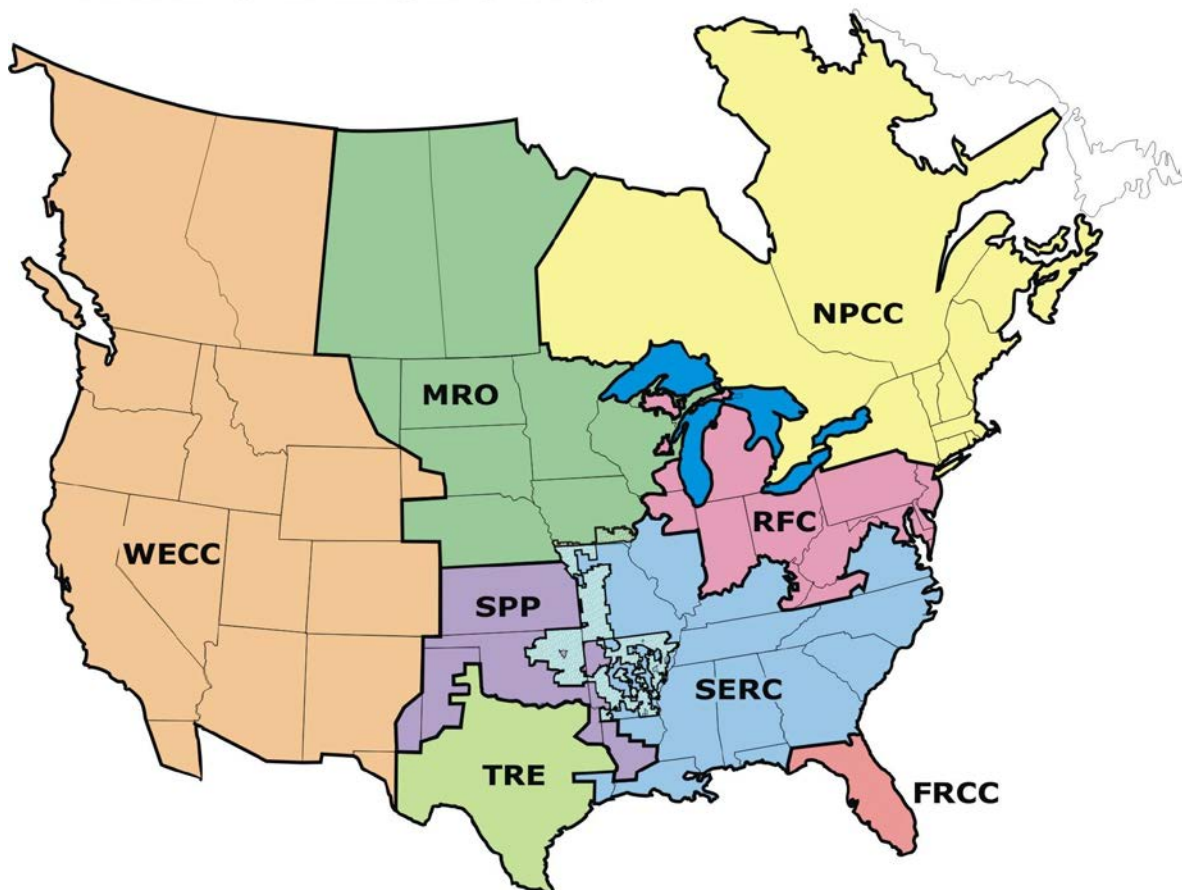
SERC's geographical boundaries are primarily determined by the appropriate state regulatory commissions. The following states are completely or partially within the SERC footprint: Alabama, Georgia, Mississippi, North Carolina and South Carolina, and portions of Arkansas, Florida, Illinois, Iowa, Kentucky, Louisiana, Missouri, Oklahoma, Tennessee, Texas, and Virginia. SERC membership is comprised of investor-owned utilities, municipal, cooperative, state and federal systems, merchant electricity generators, marketers, and RTO/ISO entities. In most cases, merchant generators and purchase selling entities do not serve a particular subregion.

SERC Subregional Model

In 1996, SERC chose to establish subregional RCs within the Region. The decision to use the subregional model was based on the following:

- Extremely large territory in which to maintain reliability.
- Cost effectiveness of implementation based on current facilities already in place.
- Existing coordination agreements.
- Maintain initial flexibility for an untried functional activity.
- Implement the plans in a timely manner.

SERC Regional Map



Background of SERC Subregional Development

The initial RRP for SERC included the establishment of five RCs in four subregions (VACAR, Southern, TVA, and Florida) with two RC's in VACAR: VACAR-South and VACAR-North. The Florida subregion of SERC established its own regional council in September 1996. On January 1, 1998, Entergy Corporation was granted membership in SERC as the Entergy subregion. In 2005, Dominion Virginia Power became part of the PJM RC footprint and Progress Energy rolled into VACAR South RC, thus dissolving the VACAR North RC. In 2006, following the formation of the SERC Reliability Corporation, three of the four subregions were renamed: Southeastern (formerly Southern), Central (formerly TVA), and Delta (formerly Entergy). In 2006, Gateway subregion was formed and granted membership into SERC.

Today, SERC is geographically divided into five diverse subregions that are identified as Central, Delta, Gateway, Southeastern, and VACAR. Five RCs have been established within the SERC Region: MISO RC, PJM RC, Southeastern RC, TVA RC and VACAR-South RC.

Objectives of the SERC RRP are as follows:

- Identify the five subregions within SERC and the responsible RC.
- Identify the entities within the SERC Region that are users, owners, and operators of the electric grid within the SERC Region and are thus responsible for complying with NERC Reliability Standards.
- Verify that each RC's reliability plan has adequate procedures and tools necessary to monitor and direct the real-time operation of the system and the ability to coordinate with their neighboring RCs.
- Coordinate the exchange of information between RCs and SERC staff when major events occur on the grid and facilitate the discussion of summer and winter seasonal operations.

II. SERC SUBREGIONS AND RCs

Below is an overview of each subregion. The current reliability plan of each SERC RC can be found at:

<http://www.nerc.com/comm/OC/ORS%20Reliability%20Plans%20DL/Forms/AllItems.aspx>

A. Delta Subregion RCs: MISO RC and TVA RC

TVA RC serves as the RC for Associated Electric Corporation, Inc., which is part of the Delta Subregion. MISO RC provides RC services to the remainder of the Delta Subregion which is primarily made up of Entergy

B. Central Subregion RC: TVA RC and PJM RC

The Tennessee Valley Authority (TVA) serves as the RC for the TVA Balancing Authority and Transmission Operator. TVA has also entered into Reliability Coordination Agreements (Agreements) with other Balancing Authorities and Transmission Operators to perform the NERC required RC function. The TVA RC area consists of the transmission and generation facilities within the metered boundaries of the Balancing Authorities listed in the NERC registry and referenced in the TVA Reliability Coordinator Reliability Plan. PJM RC provides RC services to Eastern Kentucky Power Cooperative (EKPC) in the Central Subregion.

C. Gateway Subregion RCs: Midcontinent ISO RC and TVA RC

The Midcontinent Independent System Operator (MISO) serves as the primary RC for the SERC Gateway subregion and others under coordination agreements. The MISO RC has certain defined responsibilities and directs the reliable operation of the bulk power system which is electrical generation resources, transmission lines, interconnections with neighboring systems, and associated equipment generally operating at voltages of 100 kV and higher. The TVA RC also serves as the RC for Electric Energy Inc. which is in the Gateway Subregion.

D. Southeastern Subregion RC: Southeastern RC and MISO RC

The majority of the Balancing Authorities and the Transmission Operators within the Southeastern subregion have entered into the Southern subregion Security Coordination Agreement (Agreement) to perform the NERC-required RC function. SERC recognizes Southern Company Services as the RC for the Southeastern subregion. The subregion

RC area consists of the subregion Balancing Authorities and Transmission Operators and the members listed in the NERC registry and referenced in the Southeastern subregion RCs reliability plan. MISO serves as the RC for South Mississippi Electric Power Association (SMEPA) in the Southeastern Subregion.

E. VACAR Subregion RCs: VACAR-South RC and PJM RC

The VACAR-South Reliability Plan includes the territories of the participating companies as listed in Appendix A of the VACAR South-Reliability Plan. The VACAR-South RC was established by contractual arrangement of the participating companies. “VACAR-South” is registered with SERC as the RC for the territories of the participating companies.

PJM Interconnection, LLC (PJM) serves as the RC for its transmission-owning members. Dominion Energy is physically located within the SERC Region and has established PJM as its RC (PJM is the Transmission Operator as defined in the NERC Reliability Functional Model and takes action through its Transmission Owners, who operate local control centers). PJM is responsible for regional system reliability, which includes responsibility for both the bulk power system and lower voltage facilities that have been turned over to PJM for operational control.

III. REGISTRATION AND REGIONAL OPERATING REQUIREMENTS FOR USERS, OWNERS AND OPERATORS OF THE BULK POWER SYSTEM

A. SERC Registrations for Functional Entities

Effective April 1, 2005, NERC introduced a new set of Reliability Standards. Each Regional Reliability Organization (RRO) was directed to initiate a process for the purpose of implementing the NERC Reliability Standards. This required the identification of functional entities within the SERC Region and the registration of those entities in order to comply with the requirements set forth in the Reliability Standards.

The SERC compliance registry provides a matrix identifying the Regional Entities that have registered with NERC in accordance with the NERC Reliability Functional Model and “Reliability Standards” which summarizes what operating functions will be performed by the Regional Entity. The SERC compliance registry can be found at: <http://www.serc1.org/Documents/Organization%20Registration/Organization%20Registration%20Webpage.htm>

A continuous regional review is in place to ensure that:

- Gaps do not exist where an entity has not assumed responsibility for a requirement identified in Reliability Standards;
- Overlaps of responsibilities for the same requirements do not exist.

IV. SUBREGIONAL RELIABILITY PLAN ATTRIBUTES

Each reliability plan within SERC should clearly identify reliability plan objectives and the delegation of any reliability coordinator tasks. To maintain the operational reliability of the SERC Region, RCs within SERC are required to:

- Plan for next-day operations, which include reliability analyses such as pre- and post-contingency thermal monitoring, operating reserves, area reserves, reactive reserves, voltage limits, stability, etc., that may identify operating conditions for which special procedures may be needed;
- Analyze current day operating conditions;
- Implement procedures to mitigate System Operating Limit (SOL) and Interconnection Reliability Operating Limit (IROL) violations on the transmission system. Regardless of the process, the RC is required to ensure that the transmission system is returned to within Interconnection Reliability Operating Limits;
- Monitor the wide area and observe the IROL.

V. REVIEW AND APPROVE PROPOSED CHANGES TO RELIABILITY COORDINATOR RELIABILITY PLANS

SERC Committees and Staff: SERC committees and staff have responsibilities in maintaining the reliability of the SERC Region by developing, implementing, and maintaining the necessary SERC regional standards, processes, and procedures. Each RC within SERC must have its reliability plan accepted by the SERC Operating Committee and the NERC Operating Reliability Subcommittee to maintain its status as an RC. In addition, proposed changes to an RC's reliability plan must be reviewed by the appropriate SERC subcommittee and duly taken to the SERC Operating Committee for acceptance. Once the reliability plan or any changes to the plan is accepted by the SERC Operating Committee and approved by the NERC Operating Reliability Subcommittee, the RC then has the authority to direct action to maintain reliability under the approved plan.

VI. PROVIDE FOR THE EXCHANGE OF INFORMATION BETWEEN RELIABILITY COORDINATORS AND SERC STAFF

SERC Hotline Communications: The SERC Hotline is used by RCs, Balancing Authorities, and Transmission Operators to communicate emergency situations, unusual operating conditions, and threats which may significantly affect the reliability of the bulk power system. The SERC Hotline is only used by operating personnel that can take direct action to implement decisions made to resolve real-time emergency situations. SERC staff may also participate on SERC Hotline calls during conditions of increased risk to the reliability of the bulk power system or as necessary. Use of the SERC Hotline is limited to RCs, Balancing Authorities, and Transmission Operators having signed the SERC Data Confidentiality Agreement. SERC RCs should use the hotline whenever necessary to ensure timely and adequate communications. Testing of the SERC Hotline shall be conducted on a periodic basis to ensure its availability for emergency situations.