

**UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION**

**18 CFR Part 141.300  
FERC Form No. 715  
Docket No. RM93-10-000  
Annual Transmission Planning and Evaluation Report**

**Part 1: Identification and Certification**

**Transmitting Utility:**

South Carolina Electric and Gas Company (SCE&G)  
601 Old Taylor Road  
Cayce, SC 29033

**Contact Person:**

H. C. Young III (Clay)  
Manager - Transmission Planning  
Office: (803) 217-2030  
Fax: (803) 933-7264  
Email: cyoung@scana.com

**Certifying Official:**

C. A. White  
VP - Transmission Services

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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**Part 2: Power Flow Base Cases**

South Carolina Electric & Gas Company (SCE&G) is a member of the SERC Reliability Corporation (SERC) and participates in its regional process for consolidating and sharing of power flow information. As such, the respondent authorizes the SERC Office to release to FERC, without conditions, the most current data for parts of the subject request as outlined in the following:

**Regional organization name, mailing address, contact person and title, telephone and facsimile numbers, and e-mail address:**

SERC Reliability Corporation  
2815 Coliseum Centre Drive  
Suite 500  
Charlotte, NC 28217

Kevin Berent  
Manager of Reliability Assessment

Telephone No. (704) 940-8237  
Facsimile No. (704) 357-7914  
E-Mail kberent@serc1.org

***SCE&G considers this data to be Critical Energy Infrastructure Information (CEII) and thus eligible for protection from public disclosure under FOIA Exemptions 2 and 4.***

The following cases are available and are hereby filed electronically with FERC:

1.	2011 Light Load	ERAG	8.	2012 Summer	ERAG
2.	2011 Fall	ERAG	9.	2012 Winter	ERAG
3.	2011 Spring	ERAG	10.	2016 Light Load	ERAG
4.	2011 Summer	ERAG	11.	2016 Summer	ERAG
5.	2011 Summer Shoulder	ERAG	12.	2016 Winter	ERAG
6.	2011 Winter	ERAG	13.	2021 Summer	ERAG
7.	2012 Spring	ERAG			

These cases are provided on the enclosed CDROM. The CDROM contains the following information: Input data in PTI (Power Technologies, Inc.) PSS/E Raw Data File (.RAW) format; corresponding output data files in ASCII format showing solved real and reactive power flows and other relevant output information; and a SERC Data Dictionary that cross-references bus names.

Areas outside SERC contain equivalent representations not intended for study of the transmission systems in those areas. In addition, some future transmission and generation facilities in these cases are for planning purposes only and have not been authorized for the individual systems. The databases provided are not detailed models of individual systems and may not be appropriate for individual system studies.

These files have been reviewed for accuracy; however, the integrity of such data cannot be guaranteed after its release due to the possible unintentional erroneous transfer of data from SERC's files or other external factors that may alter the data once it is downloaded to this storage medium. Although the disc was scanned by the originator using state-of-the-art anti-virus software, the recipient is responsible for taking steps to protect against any potential computer virus, defective disc-reading device, or other problems that may occur when reviewing this file.

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**Part 3: Transmitting Utility Maps and Diagrams**

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**Part 4: Transmission Planning Reliability Criteria**

**SOUTH CAROLINA ELECTRIC & GAS COMPANY**

**LONG RANGE PLANNING CRITERIA**

It is recognized that the reliability of power supply in local areas is the responsibility of the individual systems and that each system has internal criteria relating to the more common contingencies. It is further recognized that there are severe contingencies, which are credible, but of a low probability of occurrence, which may result in conditions such as islanding and/or loss of load. Such conditions are considered acceptable as long as they are controlled so as to limit the adverse impact of the disturbance and so as to leave the system or systems in such condition as to permit rapid load restoration and/or reconnection.

The requirements of the SCE&G “LONG RANGE PLANNING CRITERIA” will be satisfied if the system is designed so that during any of the following contingencies, only short-time overloads, low voltages and local loss of load will occur and that after appropriate switching and redispatching, all non-radial load can be served with reasonable voltages and that lines and transformers are operating within acceptable limits.

- a. Loss of any bus and associated facilities operating at a voltage level of 115kV or above.
- b. Loss of any line operating at a voltage level of 115kV or above.
- c. Loss of entire generating capability in any one plant.
- d. Loss of all circuits on a common structure.
- e. Loss of any transmission transformer.
- f. Loss of any generating unit simultaneous with the loss of a single transmission line.

Outages more severe are considered acceptable if they will not cause equipment damage or result in uncontrolled cascading outside the local area.

## **NORTH AMERICAN ELECTRIC RELIABILITY COUNCIL**

### **PLANNING STANDARDS**

SCE&G is an active member of the SERC Reliability Corporation (SERC). SERC has adopted the new NERC Reliability Standards as approved by the NERC Board of Trustees. SCE&G tests and designs its transmission system to be in compliance with the requirements as set forth in these standards.

The NERC Reliability Standards document is available at the NERC homepage  
<http://www.nerc.com/>

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**Part 5: Transmission Planning Assessment Practices**

SCE&G's transmission planning practices develop and coordinate a program that provides for timely modifications to the SCE&G transmission system to ensure an economical and reliable delivery of power. This program includes the determination of the current capability of the electrical network and a ten-year schedule of future additions and modifications to the network. These additions and modifications are required to support customer growth, provide emergency assistance, and maintain economic opportunities for our customers while meeting SCE&G and industry performance standards.

SCE&G conducts an ongoing process to determine the performance level of the SCE&G transmission system. Numerous internal studies are conducted that address the service needs for our customers including: load growth in existing retail customers (residential, commercial, and industrial), new residential, commercial, and industrial customers, wholesale customers, and transmission services provided.

SCE&G is a member of the Virginia-Carolinas (VACAR) Reliability Group and the SERC Reliability Corporation (SERC). As such, SCE&G subscribes to the SCE&G internal Long Range Planning Criteria (see Attachment B) and the NERC Reliability Standards (see Attachment C).

As a member of these reliability groups, SCE&G participates in the SERC Transmission Studies Process and the NERC Multi-area Modeling Working Group (MMWG) annual model development process. The NERC MMWG process develops computer models of the transmission grid across the VACAR area, SERC area, and other portions of NERC (Eastern Interconnection). All participants' models are merged together to produce current and future models of the integrated electrical network. Using these models, SCE&G evaluates its' current and future transmission system for compliance with the NERC Reliability Standards and the SCE&G Long Range Planning Criteria. Also, SCE&G participates in regional studies of the electrical network to determine its' existing and future capabilities and to ensure compliance of the regional grid with the NERC Reliability Standards.

The SCE&G transmission system is interconnected with the Progress Energy – Carolinas, Duke Power, South Carolina Public Service Authority, Georgia Power Company, Savannah Electric Power Company, and the Southeastern Electric Power Administration systems. These interconnections consist of 22 active interties.

The following documents were filed in hard copy and electronically by SERC in past years and have been on file at FERC and in the regional reliability organization office. The current revisions of these documents (Adobe Acrobat Format) are included in the current SERC filing.

1. SERC NTSG Procedural Manual approved March 16, 2011
2. SERC LTSG Procedural Manual approved March 16, 2011

The SERC Region has adopted the NERC Reliability Standards as its basis for planning the bulk electric power system. SERC supplements have been written to clarify and refine the requirements of the NERC Reliability Standards as they are applied to the SERC Region and its members. These supplements are posted on the SERC website ([www.serc1.org/documents/serc](http://www.serc1.org/documents/serc)).

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**Part 6: Evaluation of Transmission System Performance**

SCE&G participates in a number of joint regional and sub-regional studies designed to evaluate the performance of the integrated transmission system. These studies include both near-term reliability (operating) studies and long-term reliability (planning) studies. These following studies contain an evaluation of the SCE&G transmission system and have been completed in the past year.

*SCE&G considers this data to be Critical Energy Infrastructure Information (CEII) and thus eligible for protection from public disclosure under FOIA Exemptions 2 and 4.*

The following documents (reports) were filed by SERC (Adobe Acrobat Format) with FERC.

1. Transfer Capability Study: Florida/Southern Interface for 2011 Bulk Electric Supply Conditions (October 2010)
2. 2010 Summer MRO-RFC-SERC WEST-SPP Inter-regional Transmission System Reliability Assessment (May 2010)
3. 2010-2011 Winter RFC-NPCC Interregional Transmission System Reliability Assessment final report (November 2010)
4. 2010 Summer SERC EAST-RFC Interregional Transmission System Reliability Assessment (May 2010)
5. SERC Intra-regional Near-term Study Group (NTSG) 2010 Summer Reliability Study of Projected Operating Conditions (May 2010)
6. SERC Intra-regional Near-term Study Group (NTSG) 2010/2011 Winter Reliability Study of Projected Operating Conditions (October 2010)
7. SERC Intra-regional Long-term Study Group (LTSG) 2016 Summer Future Year Study (December 2010)

In addition, SCE&G conducts evaluations of its' own system to insure conformance to applicable NERC and internal planning criteria. These reports are available through the contact person identified in Part 1.