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NOV 23 2016

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Docket Nos.: 50-321 50-348 50-424
50-366 50-364 50-425

NL-16-2486

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

Joseph M. Farley Nuclear Plant; Edwin I. Hatch Nuclear Plant;
Vogtle Electric Generating Plant; Quality Assurance Topical Report

Ladies and Gentlemen:

On June 30, 2016, Southern Nuclear Operating Company (SNC) submitted, to NRC, (Ref. ADAMS ML16187A263) Version 15.0 of the SNC Quality Assurance Topical Report (QATR) for the Joseph M. Farley Nuclear Plant, the Edwin I. Hatch Nuclear Plant, and the Vogtle Electric Generating Plant (Enclosure 1). A summary of changes incorporated in Version 15.0 of the SNC QATR was provided in Enclosure 2. Changes incorporated into the previous Version 14.0 of the SNC QATR were not marked as required in the submittal.

In accordance with the requirements of 10 CFR 50.54(a)(3), Southern Nuclear Operating Company (SNC) is submitting Version 15.0 of the SNC Quality Assurance Topical Report (QATR) for the Joseph M. Farley Nuclear Plant, the Edwin I. Hatch Nuclear Plant, and the Vogtle Electric Generating Plant (Enclosure 1). Enclosure 1 of this submittal includes revision marks in the right hand margin of the SNC QATR. The revision marks denote changes for Version 14.0 and 15.0 of the SNC QATR. A summary of changes incorporated in Version 14.0 and 15.0 of the SNC QATR is provided in Enclosure 2.

These changes were evaluated in accordance with 10CFR50.54(a) and do not reduce SNC's commitments previously approved by the NRC (Ref. ADAMS ML071510506). This submittal of the SNC QATR does not require review or approval by the NRC.

This letter contains no NRC commitments. If you have any questions, please contact Ken McElroy at 205.992.7369.

Respectfully Submitted,

A handwritten signature in black ink that reads "C. R. Pierce".

C. R. Pierce
Regulatory Affairs Director

CRP/OCV

Enclosure: 1. SNC QATR Version 15.0
2. SNC QATR Summary of Changes

cc: Southern Nuclear Operating Company
Mr. S. E. Kuczynski, Chairman, President & CEO
Mr. D. G. Bost, Executive Vice President & Chief Nuclear Officer
Ms. C. A. Gayheart, Vice President – Farley
Mr. D. R. Vineyard, Vice President – Hatch
Mr. D. R. Madison, Vice President – Fleet Operations
Mr. M. D. Meier, Vice President – Regulatory Affairs
Mr. B. K. Taber, Vice President – Vogtle 1 & 2
Mr. B. J. Adams, Vice President – Engineering
Ms. P. Reister, Vice President – Nuclear Oversight
Ms. T. D. Honeycutt, Nuclear Oversight Manager
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Mr. D. D. Sutton, Regulatory Affairs Manager – Vogtle 1 & 2
RType: Farley=CFA04.054; Hatch=CHA02.004; Vogtle=CVC7000

U. S. Nuclear Regulatory Commission

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Mr. E. T. Coffman, Senior Resident Inspector – Vogtle 1 & 2
Mr. P. K. Niebaum, Senior Resident Inspector – Farley

Joseph M. Farley Nuclear Plant; Edwin I. Hatch Nuclear Plant
Vogtle Electric Generating Plant

Enclosure 1

SNC QATR Version 15.0

SOUTHERN NUCLEAR OPERATING COMPANY, INC.

Joseph M. Farley Nuclear Plant Unit 1 Docket No. 50-348

Joseph M. Farley Nuclear Plant Unit 2 Docket No. 50-364

Edwin I. Hatch Nuclear Plant Unit 1 Docket No. 50-321

Edwin I. Hatch Nuclear Plant Unit 2 Docket No. 50-366

Alvin W. Vogtle Electric Generating Plant Unit 1 Docket No. 50-424

Alvin W. Vogtle Electric Generating Plant Unit 2 Docket No. 50-425

Joseph M. Farley Nuclear Plant Independent Spent Fuel Storage Installation
Docket 72-42

Edwin I. Hatch Nuclear Plant Independent Spent Fuel Storage Installation
Docket 72-36

QUALITY ASSURANCE TOPICAL REPORT

SNC-1

Version 15.0

SOUTHERN NUCLEAR OPERATING COMPANY, INC

POLICY STATEMENT

Southern Nuclear Operating Company, Inc. (SNC) shall maintain and operate nuclear plants in a manner that will ensure the health and safety of the public and workers. Facilities shall be operated in compliance with the requirements of the Code of Federal Regulations (CFR), the applicable Nuclear Regulatory Commission (NRC) Facility Operating Licenses, and applicable laws and regulations of the state and local governments.

The SNC Quality Assurance Program (QAP) described in the SNC Quality Assurance Topical Report (QATR) and associated implementing documents provides for control of SNC activities that affect the quality of safety related nuclear plant structures, systems, and components and includes all planned and systematic activities necessary to provide adequate confidence that such structures, systems, and components will perform satisfactorily in service. The QAP may also be applied to certain equipment and activities that are not safety related, but support safe plant operations, or where other NRC guidance establishes program requirements.

The QATR is the top-level policy document that establishes the manner in which quality is to be achieved and presents SNC's overall philosophy regarding achievement and assurance of quality. Implementing documents assign more detailed responsibilities and requirements and define the organizational interfaces involved in conducting activities within the scope of the QATR. Compliance with the QATR and implementing documents is mandatory for personnel directly or indirectly associated with implementation of the SNC QAP.

Signed: Original signed by Stephen E. Kuczynski
S. Kuczynski
President and Chief Executive Officer
Southern Nuclear Operating Company, Inc.

SOUTHERN NUCLEAR OPERATING COMPANY, INC.

QUALITY ASSURANCE TOPICAL REPORT

SNC-1

Version 15.0

Approved by:

Original signed by D. G. Bost
Danny G. Bost
Executive Vice President
and Chief Nuclear Officer

06/27/2016
Date

Original signed by Penny Reister
Penny Reister
Vice President Nuclear Oversight

06/22/2016
Date

Effective Date: 06/28/2016

SOUTHERN NUCLEAR OPERATING COMPANY, INC.
QUALITY ASSURANCE TOPICAL REPORT

Version Number	Revision Description Table
1.0	QATR approved and implemented 12/15/07.
2.0 – 13.0	Refer to previous versions of the QATR for complete descriptions of these changes. Previous versions can be found in Documentum.
14.0	<p>The changes listed below were made to incorporate miscellaneous administrative and/or organizational changes. These changes have been evaluated in accordance with 10CFR50.54 (a) and did not reduce SNC's commitments previously approved by the NRC (Ref. ADAMS ML071510506)</p> <ul style="list-style-type: none"> • Cover page: Penny Reister replaced Todd Youngblood as Vice President Nuclear Oversight. • Part II, Section 1.2: Deleted reference to Figures II.1-1 and II.1-2. The actual figures were deleted during Version 13.0. • Part II, Section 1.2.1.1.1.2.3: Added "provides expertise in the area of dry spent fuel storage." • Part II, Section 1.2.1.1.1.2.7: The "senior manager responsible for industrial safety" is now the "senior manager responsible for health and safety." • Part II, Section 1.2.1.1.1.2.7.1: Title was the "senior manager responsible for industrial safety." • Part II, Section 1.2.1.1.1.4: Clarified that the VP – Engineering is responsible for providing technical directions to the senior manager responsible for supply chain. • Part II, Section 1.2.1.1.1.4.1: Deleted "dry spent fuel storage." • Part II, Section 1.2.1.1.1.4.4: Clarified that the senior manager responsible for supply chain reports directly to the VP Supply Chain Southern Company while providing matrix accountability to the VP – Engineering. • Part II, Section 1.2.1.1.2.1 and 1.2.1.1.2.1.1: Removed fleet access as a responsibility of the senior manager responsible for human resources and senior manager responsible for medical and fitness for duty. Fleet access is the responsibility of the senior manager responsible for fleet security. • Appendix A: Provided for the Plant Review Board to advise the plant manager rather than the vice president site. • Appendix A: Provided for the plant manager to appoint members of the PRB rather than appointments to be made by the vice president site.
15.0	<p>The changes listed below were made to incorporate miscellaneous administrative and/or organizational changes. These changes have been evaluated in accordance with 10CFR50.54 (a) and did not reduce SNC's commitments previously approved by the NRC (Ref. ADAMS ML071510506)</p> <ul style="list-style-type: none"> • Part I, Section 1.1: Incorporated the applicability of 10CFR50.69, "Risk-Informed Categorization and Treatment of Structures, Systems, and Components for Nuclear Power Reactors." This change is applicable to Vogtle Units 1&2 only. • Part II, Section 1.2: Deleted last sentence that read, "The described organizations are depicted in organization charts that are a part of this QATR." Organization charts were deleted during changes in Version 13.0. • Part II, Section 1.2.1.1: Vice president human resources was human resources director. Change brings this title into agreement with assigned position. • Part II, Section 1.2.1.1.2: The vice president human resources is not responsible for compliance, employee concerns, and communications. These are standalone functions that report directly to, or are matrix to, the president and CEO. • Part II, Section 1.2.1.1.2.1.1: The senior manager responsible for medical and

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	<p>fitness for duty is not responsible for compliance, employee concerns, and communications. These are standalone functions that report directly to, or are matrix to, the president and CEO.</p> <ul style="list-style-type: none"> • Part II, Sections 1.2.1.1.3 and 1.2.1.1.3.1: Senior manager responsible for regulatory affairs was manager responsible for nuclear licensing. • Part I, Section 1.4: Restated commitment involving "Definitions of terms..." for clarity. • Part II, Section 1.1: Clarified that design and construction is complete for Farley, Hatch, and Vogtle Units 1 & 2. • Part II, Section 1.2: Last paragraph, deleted sentence that read, "Portions oforganizations are described in following paragraphs." This sentence is redundant to the first sentence of the paragraph. Also, deleted last sentence of the paragraph that referred to organization charts that depict the organization. • Part II, Section 1.2.1.1: The "vice president and general counsel" no longer reports to the president/CEO. Responsibilities of the "vice president and general counsel" for "compliance, employee concerns, and communications" are now directed by the "vice president of human resources." Previous responsibility for "environmental compliance" activities is now directed by the "vice president regulatory affairs." Added the "senior manager responsible for communications" as a function reporting to the president/CEO. Also, the "vice president human resources" was the "human resources director." • Part II, Section 1.2.1.1.1: Clarified that the paragraph defines responsibilities of the "chief nuclear officer/executive vice president" or "chief nuclear officer" throughout. Also, deleted the word "support" from the title for the "vice president – fleet operations" both here and throughout the QATR. • Part II, Section 1.2.1.1.1.1: The "senior manager responsible for training" was titled the "site training manager." The "senior manager responsible for engineering" was "engineering director." • Part II, Section 1.2.1.1.1.2: Deleted the word "support" from the title of the Vice President Fleet Operations. Clarified titles and/or positions reporting to the Vice President – Fleet Operations. Added that the Vice President - Fleet Operations provides matrix oversight for cyber security and Enterprise Solutions Support. • Part II, Section 1.2.1.1.1.2.1: Clarified title of the position as "senior manager responsible for fleet operations." • Part II, Section 1.2.1.1.1.2.2: Added clarification concerning responsibilities. • Part II, Section 1.2.1.1.1.2.3: Added clarification concerning responsibilities. • Part II, Section 1.2.1.1.1.2.5: Added clarifications concerning responsibilities. Also, deleted responsibility for cyber security and Enterprise Solutions from the senior manager responsible for fleet security. These functions are now in the purview of the "senior manager responsible for projects" and the "vice president – fleet operations" respectfully. • Part II, Section 1.2.1.1.1.2.6: Added clarifications concerning responsibilities. • Part II, Section 1.2.1.1.1.2.7: This section previously described responsibilities of the "senior manager responsible for environmental affairs, chemistry, and radiological services." These functions have been subdivided into three separate functions and are discussed in sections 1.2.1.1.1.2.7, 1.2.1.1.1.2.8, and 1.2.1.1.1.2.9; Section 1.2.1.1.1.2.7 now describes the responsibilities of the "senior manager responsible for environmental affairs." • Part II, Sections 1.2.1.1.1.2.8 through 1.2.1.1.1.2.11: Added new sections to address functions and responsibilities created by realignment of organizations reporting to the vice president – fleet operations. • Part II, Section 1.2.1.1.1.2.10: This paragraph was previously listed as 1.2.1.1.1.2.7.1. Deleted responsibility for managing the "safety and industrial hygiene staff at each nuclear plant." Each nuclear plant now has a position of
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	<p>"Manager of Environmental and Health and Safety" that has this responsibility.</p> <ul style="list-style-type: none"> • Part II, Section 1.2.1.1.1.4: Revised description of the position of Vice President Engineering. • Part II, Section 1.2.1.1.1.4.1: The "senior manager responsible for fleet engineering" was the "fleet engineering director." • Part II, Section 1.2.1.1.1.4.2: Added "cyber security" as a responsibility of the "senior manager responsible for projects." • Part II, Section 1.2.1.1.1.4.3: Expanded position responsibilities. Position now has responsibility for fleet nuclear fuel and risk-informed engineering analysis. • Part II, Section 1.2.1.1.1.4.5: The position of "senior manager responsible for risk-informed engineering" no longer reports to the Vice President Engineering. This position is now a part of the "senior manager responsible for fleet nuclear fuel and analysis." • Part II, Section 1.2.1.1.2: Revised the responsibilities of the Vice President Human Resources to include responsibilities of the "senior manager responsible for human resources." The position of the "senior manager responsible for human resources" no longer exists and the position's responsibilities have been assumed by the Vice President Human Resources. The Vice President Human Resources now directs the "senior manager responsible for medical and fitness-for-duty" activities. • Part II, Section 1.2.1.1.2.1: This section addressed activities of the "senior manager responsible for human resources." The position of "senior manager responsible for human resources" was rolled into and is a part of the position of the "Vice President Human Resources." Section 1.2.1.1.2.1 now addresses activities of the "senior manager responsible for medical and fitness for duty." • Part II, Section 1.2.1.1.2.1.1: This section number has been deleted due to organizational realignment. • Part II, Section 1.2.1.1.3: Changed the term "nuclear licensing" to be "regulatory affairs." • Part II, Section 1.2.1.1.3.1: Revised position title, was "senior manager responsible for nuclear licensing." Deleted redundant wording used to describe reporting relationship of the "senior manager responsible for regulatory response" and the "senior manager responsible for licensing." • Part II, Section 1.2.2.1: Added "senior manager responsible for environmental health and safety" as a position that reports to the Plant Manager. • Part II, Section 1.2.2.1.1: Replaced the word "assigned" with the word "peer." • Part II, Section 1.2.2.1.4: "Radiation protection" was "health physics." • Part II, Section 1.2.2.1.6: Added to address a new position of "senior manager responsible for safety and health" at each plant site. • Part II, Section 1.2.2.2: Re-formatted title and description; was Regulatory Affairs Manager (RAM). • Part II, Section 1.2.2.2.2: Deleted description of the "senior manager responsible for emergency preparedness." This position is a "supervisor" position which is considered below the level of detail of positions described in this QATR. • Part II, Section 1.2.2.3.1: "Fleet engineering director" was "chief engineer." • Part II, Section 1.2.2.4: Revised to state, "Implementation of initial and continuing non-accreditation training programs is the responsibility of applicable non-licensed departmental managers and supervisors." • Part II, Section 1.3, NQA-1-1994 Commitment: Identified that the "organizational structure" was a commitment from Part II, Basic Requirement 1 and Supplement 1S-1, of NQA-1-1994. • Part II, Pages II.1-13 and II.1-14: Blank pages deleted • Part II, Section 2.3: In the last paragraph, "years' experience" was "year's
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	<p>experience.”</p> <ul style="list-style-type: none">• Part II, Section 7, Paragraph 7.2: Added “ACCLASS Accreditation Services (ACCLASS), International Accreditation Service (IAS), and Laboratory Accreditation Bureau (L-A-B)” as accrediting bodies in support of NQA-1-1994, Supplement 7S-1. Also, added “dated June 1988” to clarify applicable date of EPRI NP-2652. <p>.....</p> <p>As part of the changes to Version 15.0, changes to Part II, Sections, 1.2.1.1 and subparagraphs were made at the discretion of the Vice President Nuclear Oversight to address changes in SNC management and organizational alignments that occurred in 2016. These changes have been evaluated in accordance with 10CFR50.54 (a) and did not reduce SNC’s commitments previously approved by the NRC (Ref. ADAMS ML071510506) and did not affect the independent reporting of Nuclear Oversight.</p>
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PART I INTRODUCTION

SECTION 1 GENERAL

This Southern Nuclear Operating Company, Inc., (SNC) Quality Assurance Topical Report (QATR) is the top-level policy document that establishes the quality assurance policy and assigns major functional responsibilities for plants operated by SNC. The QATR describes the methods and establishes quality assurance program and administrative control requirements that meet 10 CFR 50, Appendix B. The QATR is organized and formatted to conform to NRC Standard Review Plan (NUREG 0800) Sections 17.1 and 17.2 (Revision 2 – July 1981) and is based on the requirements of ASME NQA-1-1994, "Quality Assurance Requirements for Nuclear Facility Applications," Parts I and II, except as specified in this QATR.

The Quality Assurance Program (QAP) is defined by the NRC approved regulatory document that describes the quality assurance program elements (the QATR), along with the associated corporate, fleet, and site specific implementing documents. Corporate Policies and Guidelines establish high level responsibilities and authority for carrying out important administrative functions which are outside the scope of the QAP. Nuclear fleet wide procedures establish practices for certain activities which are common to all SNC organizations performing those activities such that the activity is controlled and carried out in a manner that meets QAP requirements. Site or organization specific procedures establish detailed implementation requirements and methods, and may be used to implement Corporate Policies and Guidelines and nuclear fleet wide procedures or be unique to particular functions or work activities.

1.1 Scope / Applicability

This QATR applies to activities affecting the quality and performance of safety-related structures, systems, and components, including, but not limited to:

Designing	Receiving	Refueling
Constructing	Storing	Operating
Procuring	Erecting	Training
Fabricating	Installing	Inspecting
Cleaning	Modifying	Testing
Handling	Maintaining	
Shipping	Repairing	

Safety related systems, structures, and components, under the control of the QATR, are identified for each plant. In addition, systems, structures, and components important to safety, associated with the Independent Spent Fuel Storage Installation (ISFSI), are identified for each plant (if applicable). The technical aspects of these items are considered when determining program applicability, including, as appropriate, the item's design safety function. The QAP may be applied to certain activities where regulations other than 10 CFR 50 establish QA program requirements for activities within their scope. Thus, selected elements of this QATR are applied to the "important to safety" activities of radioactive waste shipping and independent spent fuel storage, as defined in 10 CFR 71 Subpart H and 10 CFR 72 Subpart G, respectively, as allowed, by 10 CFR 71.101.f and 10 CFR 72.140.d. Accordingly, application of the elements of

this QATR for ISFSI is as defined in the respective 10 CFR 72.212 report for each site, as applicable.

Plant Vogtle Units 1&2 have been licensed to use 10CFR50.69, "Risk-Informed Categorization and Treatment of Structures, Systems, and Components for Nuclear Power Reactors." Within the provisions of this voluntary regulation, alternative approaches for establishing the requirements for treatment of a structure, system, or component, using a risk informed method of categorization according to safety significance are allowed. The applicability and scope of this regulation is as specified in 50.69 (b)(1), and includes Appendix B to 10CFR50. The policy of SNC is to assure a high degree of availability and reliability of its nuclear plants while ensuring the health and safety of its workers and the public. To this end, selected elements of the Quality Assurance Program are also applied to certain equipment and activities that are not safety related or important to safety, but support safe, economic, and reliable plant operations, or where other NRC guidance establishes program requirements. These include, but may not be limited to, emergency preparedness, security, radiation protection, and fire protection. Implementing documents establish program element applicability.

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1.2 Responsibilities

SNC personnel engaged in activities described in this QATR shall comply with the requirements of the Quality Assurance Program. Contractors, or other organizations supporting SNC, are required to comply with the QAP established by this QATR, or with their own programs determined by SNC to include sufficient controls to meet the applicable requirements of 10 CFR 50, Appendix B. All facilities shall be operated in compliance with the applicable Code of Federal Regulations, NRC Operating Licenses, and the applicable laws and regulations of the state and local governments in which the facility is located.

Quality assurance personnel have the authority to stop work actions or plant operations when they perceive that work is not progressing in a manner that meets the quality assurance program.

1.3 Interfaces with Owners

Operating service agreements exist between Southern Nuclear Operating Company, Inc. and the nuclear power plant owner organizations to establish responsibilities and authorities, consistent with each facility's NRC Operating License, for the operation and maintenance of said facilities. These agreements designate SNC as the exclusive licensee authorized to operate Joseph M. Farley Nuclear Plant, Edwin I. Hatch Nuclear Plant, and Alvin W. Vogtle Electric Generating Plant in accordance with the terms and conditions of their respective licenses.

1.4 NQA-1-1994 Commitments

In establishing, implementing, and maintaining the QATR, SNC commits as described in this QATR to compliance with ASME NQA-1-1994. QATR revisions are reviewed by SNC Senior Management and approved by the SNC Chief Nuclear Officer. Changes to this QATR will be governed by and made in compliance with 10 CFR 50.54(a).

Definitions of terms used in this QATR and not contained in the NQA-1-1994 list of definitions are shown in Appendix D to this QATR.

PART II QUALITY ASSURANCE PROGRAM DETAILS

SECTION 1 ORGANIZATION

This Section describes the SNC organizational structure, functional responsibilities, levels of authority and interfaces for establishing, executing, and verifying QAP implementation. The organizational structure includes corporate functions and onsite functions for each plant. The applicable site Final Safety Analysis Report (FSAR) and implementing documents assign more specific responsibilities and duties, and define the organizational interfaces involved in conducting activities and duties within the scope of this QATR. As the top-level document describing QA program requirements, generic titles are used in the QATR to describe required elements and organization structure, as necessary to maintain appropriate independence of the QA organization, and are not intended to reflect specific titles within the organization. Specific titles identifying individuals responsible for implementation of QA program elements are provided in the conduct of operations described in Chapter 13 of the applicable site FSAR. Management gives careful consideration to the timing, extent and effects of organizational structure changes.

1.1 Organizational Structure (Design and Construction)

Design and Construction phases of the Farley Nuclear Plant, the Hatch Nuclear Plant, and the Vogtle Electric Generating Plant Units 1 & 2 (collectively "Plants") are complete.

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1.2 Organizational Structure (Operations Phase)

The nuclear operations organization, under the direction of the president and CEO, has direct responsibility for the operation and maintenance of the Plants. The president and CEO report to the SNC Board of Directors.

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The SNC corporate organization is responsible for assuring the availability of and providing technical support for the Plants. Support capability is available through the efforts of the SNC corporate staff. In addition to being the licensee, SNC also serves as its own architect/engineer.

The structure of the nuclear operations organization is described in the following paragraphs.

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1.2.1 CORPORATE ORGANIZATION

This Section provides information concerning functions, responsibilities, and organizational structure of the corporate staff responsible for the management and technical support of the Plants. These corporate organizations provide support for operations and maintenance of the plants including general management, licensing, design configuration, design basis maintenance, procurement, testing, quality assurance, emergency planning, and security of the plant during the operations phase of the Plants. SNC management is responsible for directing activities of the Plant organizations, as well as the corporate support organizations. The corporate organizations function in a support role to the Plants.

1.2.1.1 President and CEO

The SNC President and Chief Executive Officer (president/CEO) is responsible for all aspects of operation of Southern Company's nuclear plants, including employment decisions. The president/CEO is also responsible for all technical and administrative support activities provided by SNC and non-affiliated contractors. The president/CEO directs the chief nuclear officer/executive vice president, the vice president of regulatory affairs and the senior manager responsible for communications in fulfillment of their responsibilities. The president/CEO provides day to day technical directions to the vice president human resources. The president/CEO reports to the SNC Board of Directors with respect to all matters.

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1.2.1.1.1 Chief Nuclear Officer / Executive Vice President

The chief nuclear officer/executive vice president (chief nuclear officer) is responsible for the safe, reliable, and efficient operation of the Joseph M. Farley Nuclear Plant (FNP), the Edwin I. Hatch Nuclear Plant (HNP), and the Alvin W. Vogtle Electric Generating Plant (VEGP). The chief nuclear officer directs the vice president - site for each SNC-licensed facility, the vice president – fleet operations, the vice president engineering and the vice president of nuclear oversight. The chief nuclear officer has overall responsibility for establishing quality policy and implementation of the quality program. The authority to accomplish quality assurance functions is delegated to the staff as necessary to fulfill the identified responsibilities.

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SNC maintains an offsite review board, the Nuclear Safety Review Board (NSRB), to independently assess the effectiveness of the quality assurance program. The NSRB, which is described in more detail in Appendix B to this QATR, advises the chief nuclear officer on matters related to nuclear power plant safety for all SNC plants and corporate activities.

1.2.1.1.1.1 Vice President – Site

The vice president - site for each Plant reports to the chief nuclear officer regarding operation issues and support matters, and is responsible for operation, maintenance, and technical support of the respective Plant over which they have authority. A vice president – site directs the plant manager, the regulatory affairs manager, the senior manager responsible for training, the senior manager responsible for projects, the senior manager responsible for security, and the senior manager responsible for engineering for each respective plant. The vice president – site has overall responsibility for the execution of the administrative controls and quality assurance program at the respective plant to assure nuclear safety for that plant.

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1.2.1.1.1.2 Vice President – Fleet Operations

The vice president – fleet operations reports to the chief nuclear officer and is responsible for identifying and resolving fleet issues and utilizing trends, operating experience, and industry best practices to improve fleet performance. The vice president – fleet operations directs the senior manager responsible for fleet operations, the senior manager responsible for fleet outage services, the senior manager responsible for fleet training, the senior manager responsible for fleet outages, and the senior manager responsible for fleet security. In addition, the vice president – fleet operations is responsible for ensuring management oversight and support of the senior managers responsible for information technology, fleet maintenance, fleet work management, fleet radiation protection, fleet chemistry, environmental affairs, and fleet safety and health. The vice president – fleet operations is also responsible for environmental

compliance activities for SNC. The vice president – fleet operations provides matrix oversight for “cyber security” and “Enterprise Solutions Support (ESS).”

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1.2.1.1.1.2.1 Senior manager responsible for fleet operations

The senior manager responsible for fleet operations is responsible for governance, oversight, and support of nuclear plant operations and related functions. The senior manager responsible for fleet operations also establishes policy level guidance, provides strategic direction to plant operations departments regarding operating practices and standards, evaluates programs for conformance to industry best practices, and drives performance improvements where needed.

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1.2.1.1.1.2.2 Senior manager responsible for fleet maintenance

The senior manager responsible for fleet maintenance is responsible for overall governance, oversight, and support of nuclear plant maintenance and related functions. These responsibilities include conducting activities in a manner that reflects ownership and commitment to the safe and world-class operation of each nuclear station by employing sound principles and quality practices that achieve high reliability, preservation, availability of structures, systems, and components. The senior manager responsible for fleet maintenance also establishes policy level guidance, provides direction to plant maintenance departments regarding maintenance practices, and drives performance improvements where needed.

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1.2.1.1.1.2.3 The senior manager responsible for fleet work management

The senior manager responsible for fleet work management is responsible for governance, oversight, and support that promotes nuclear safety and operational focus through equipment reliability by facilitating timely identification, screening, scoping, planning, scheduling, coordination, and execution of work necessary to maximize the availability and reliability of plant equipment and systems . The senior manager responsible for fleet work management establishes policy level guidance, provides direction to plant staffs regarding on-line work management controls, evaluates programs for conformance to industry best practices, provides expertise in the area of dry spent fuel storage, and drives performance improvements where needed.

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1.2.1.1.1.2.4 Senior manager responsible for fleet training

The senior manager responsible for fleet training is responsible for overall governance, oversight, and support of training and qualification related functions. The fleet training manager establishes policy level guidance, provides direction to nuclear plant training departments regarding practices and standards, evaluates programs for conformance to industry best practices, and drives improvements where needed.

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1.2.1.1.1.2.5 Senior manager responsible for fleet security

The senior manager responsible for fleet security is responsible for establishing and maintaining a regulation-based, physical protection program which will provide high assurance that all site activities involving special nuclear materials are not contrary to the common defense nor constitute an unreasonable risk to the public. The SNC security program must assure effective physical, tactical and administrative controls in order to prevent radiological sabotage and to thwart the theft of special nuclear materials at SNC’s nuclear facilities.

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1.2.1.1.1.2.6 Senior manager responsible for information technology

The senior manager responsible for information technology is responsible to provide systems development, infrastructure, and support for systems that provide nuclear quality related functions. This position is also responsible for providing strategic direction, guidance, and support of information technologies used by SNC that ensure a cost-effective, available, and reliable telecommunications and computing infrastructure.

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1.2.1.1.1.2.7 Senior manager responsible for environmental affairs

The senior manager responsible for environmental affairs is responsible for providing supervision and direction for the environmental implementation of the governance, oversight, support and performance model as related to environmental, transportation, navigation, endangered species, Radiological Environmental Monitoring Programs (REMP), and the Environmental Protection Plans. This position also evaluates programs for conformance to industry standards and formalizes this into governing procedures where needed, monitors and reports performance results to assure functional area expectations are met, and manages external relationships with regulatory and industry oversight agencies, utility and industry peers, industry groups and other advisory groups.

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1.2.1.1.1.2.8 Senior manager responsible for chemistry

The senior manager responsible for chemistry is responsible for providing governance, oversight, and support of plant chemistry. This position evaluates programs for conformance to industry standards and formalizes this into governing procedures where needed, monitors and reports performance results to assure functional area expectations are met, and manages external relationships with regulatory and industry oversight agencies, utility and industry peers, industry groups and other advisory groups. This position also provides expertise and oversight in PWR and BWR primary chemistry, secondary chemistry, closed cooling water chemistry, make-up water treatment, auxiliary systems chemistry, corrosion control, EPRI chemistry standards, INPO chemistry requirements and radiochemistry.

1.2.1.1.1.2.9 Senior manager responsible for radiation protection

The senior manager responsible for radiation protection is responsible for providing governance, oversight and support of the radiation protection program for each nuclear station by minimizing radiation exposure to plant personnel, contractors, members of the public, and the environment to levels as low as reasonable achievable (ALARA) while supporting safe, reliable, and effective power generation. This position is also responsible for supporting industry benchmarking, implementing special projects, and providing technical support.

1.2.1.1.1.2.10 Senior manager responsible for safety and health

The senior manager responsible for safety and health is responsible for creating a safe work environment for employees, contractors, and the public in a high performing and effective manner. This position is also responsible for ensuring fleet consistency by developing

aggressive actions to improve safety and industrial hygiene and to improve the overall standardization of the function of plant safety.

1.2.1.1.1.2.11 Senior manager responsible for fleet outages

The senior manager responsible for fleet outages is responsible for governance, oversight, and support of the outage work control process. The senior manager responsible for fleet outages establishes policy level guidance, procedures, provides oversight to plant staffs regarding outage preparation, establishes the common approach for the execution of refueling outages, evaluates programs for conformance to industry best standards, and drives performance improvements where needed.

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1.2.1.1.1.3 Vice President Nuclear Oversight

The vice president nuclear oversight, who is the senior individual responsible for nuclear oversight, reports to the chief nuclear officer/executive vice president. This individual is responsible for SNC nuclear oversight activities using staffs located at corporate headquarters and at each of the operating plants. Activities include performance of independent assessments and ensuring implementation of the QA program in accordance with regulatory commitments. The vice president nuclear oversight directs the fleet oversight managers. The nuclear oversight organization provides comprehensive independent audits of safety-related activities to verify that they are in compliance with the quality assurance program. The nuclear oversight organization also performs QA Surveillance activities as described in Appendix C of this QATR.

1.2.1.1.1.4 Vice President – Engineering

The vice president – engineering is responsible for providing plant specific and generic engineering support, fleet governance and oversight, nuclear fuel, oversight of design engineering for plant modifications, risk informed engineering, project management for improvement projects, supply chain activities, assuring that specialized engineering expertise is available as needed for normal operations and emergency situations, ensuring the fleet is prepared to respond safely to a severe accident, assessing nuclear industry issues through contact with owners and ad hoc groups, nuclear utility interfaces, assuring that documentation and records of design activities are properly maintained. The vice president – engineering directs the senior manager responsible for fleet engineering, the senior manager responsible for projects, and the senior manager responsible for nuclear fuel and analysis. The vice president – engineering provides day to day technical directions to the senior manager responsible for supply chain.

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1.2.1.1.1.4.1 Senior manager responsible for fleet engineering

The senior manager responsible for fleet engineering is responsible for governance and oversight of the creation, revision, and retention of calculations, domestic documents, vendor drawings, and other design basis material. Additional responsibilities include governance and oversight of corporate support to the plants in matters related to component engineering, maintenance testing and inspections, inservice testing and inspection programs, equipment operability and reliability issues, seismic and stress analysis, fire protection, and environmental qualification. The individual manages the engineering systems, engineering programs, and

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design organizations. The senior manager responsible for fleet engineering is responsible for standardization, long-term resource planning, and promoting best practices.

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1.2.1.1.1.4.2 Senior manager responsible for projects

The senior manager responsible for projects is responsible for governance and oversight of long range project planning and project management services and cyber security.

1.2.1.1.1.4.3 Senior manager responsible for fleet nuclear fuel and analysis

The senior manager responsible for fleet nuclear fuel and analysis is responsible for governance and oversight, support, and perform for the safety analysis group, nuclear fuel, and risk-informed engineering. Additional responsibilities include governance and oversight of nuclear fuel procurement, nuclear fuel and core design, nuclear fuel reload licensing, nuclear fuel performance, dry cask storage fuel selection, nuclear fuel vendor oversight, and risk-informed initiatives affecting plant sites and the corporate office.

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1.2.1.1.1.4.4 Senior manager responsible for supply chain

The senior manager responsible for supply chain reports directly to the vice president – supply chain management – Southern Company and is responsible for providing matrix day to day accountability to the vice president – engineering in the areas of procurement, procurement document control, development of sources of supply including the selection of suppliers to be awarded purchase orders or contracts, and materials management activities.

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1.2.1.1.2 Vice President Human Resources

The vice president human resources provides matrix accountability to the president/CEO for matters related to human resources and medical and FFD issues. The vice president human resources is responsible for ensuring the delivery of human resources and medical and FFD services to the nuclear operating company.

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1.2.1.1.2.1 Senior manager responsible for medical and fitness for duty

The senior manager of SNC medical and fitness-for-duty is responsible for overall coordinating and management of the SNC fitness-for-duty (FFD) program, SNC medical services/case management program, and medical and FFD staff at the corporate headquarters and at each of the SNC nuclear plants.

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1.2.1.1.3 Vice President Regulatory Affairs

The vice president responsible for regulatory affairs is responsible for licensing and interface activities with the Nuclear Regulatory Commission for the fleet, including Vogtle 3 and 4. The vice president responsible for regulatory affairs provides organizational support and management oversight of the plants to ensure prompt and proper disposition of regulatory issues, develops regulatory positions and advises senior management on priorities and activities affecting regulatory issues at the nuclear sites. Other responsibilities include developing policies and standardized processes and procedures for the maintenance of the licensing basis, the preparation of submittals to the NRC and other regulatory organizations, and the dissemination of regulatory and operational experience information.

1.2.1.1.3.1 Senior manager responsible for regulatory affairs

The senior manager responsible for regulatory affairs directs the senior manager responsible for licensing, the senior manager responsible for licensing programs, and their staffs. The senior manager responsible for licensing and the senior manager responsible for licensing programs are responsible for providing corporate support to Plants in matters related to licensing and regulatory compliance. Responsibilities include:

- A. Primary interface with the Nuclear Regulatory Commission (NRC), evaluating regulatory information, and translating NRC requirements.
- B. Maintaining the Final Safety Analysis Report (FSAR), Technical Specifications, Security Plan, and other licensing documents for each Plant.

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1.2.1.1.3.2 Senior manager responsible for fleet performance improvement

The senior manager responsible for fleet performance improvement is responsible for overall governance, oversight, and support for fleet performance improvement activities, procedures and records management. The fleet performance improvement manager establishes policy level guidance, provides direction to nuclear plant performance improvement staffs regarding practices and standards, evaluates programs for conformance to industry best practices, and drives performance improvements where needed. The fleet performance improvement manager is also responsible for administration of the corrective action program in the corporate headquarters.

1.2.1.1.3.3 Senior manager responsible for emergency preparedness

The senior manager responsible for emergency preparedness is responsible for the corporate emergency preparedness programs (including the common Emergency Operations Facility) and Emergency Plans. The emergency preparedness manager also has responsibility for site emergency response communication.

1.2.2 STANDARD PLANT ORGANIZATION

The onsite operating organization shall provide, as part of the normal duties of plant supervisory personnel, timely and continuing monitoring of operating activities to assist the vice president - site in keeping abreast of general plant conditions and to verify that the day-to-day operating activities are conducted safely and in accordance with applicable administrative controls. The onsite Operating organization shall include one or more individuals knowledgeable in the following fields: nuclear power plant operation; nuclear power plant, mechanical, electrical and electronic systems; nuclear engineering; chemistry and radiochemistry; radiation protection; and quality assurance.

1.2.2.1 Plant manager

The plant manager (PM) is responsible for direct management of the plant, including operations, maintenance, refueling, and technical and administrative activities. The PM is responsible for:

- A. Compliance with the requirements of the operating license, Technical Specifications, and quality assurance program, and
- B. Approval, prior to implementation, of each proposed test, experiment, or modification to systems or equipment that impact nuclear safety.

The PM directs the senior manager responsible for maintenance, senior manager responsible for operations, senior manager responsible for chemistry, senior manager responsible for radiation protection, the senior manager responsible for work management, and the senior manager responsible for environmental health and safety.

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SNC plants maintain a plant review board (PRB) at each plant to review overall plant operations, and advise plant site management on matters related to nuclear safety. Appendix A provides a detailed description of these PRBs.

1.2.2.1.1 Senior manager responsible for maintenance

The senior manager responsible for maintenance directs the maintenance personnel in performance of preventive maintenance, repair of plant equipment, performance of peer quality control measures, and maintenance support utilizing contractor craft personnel.

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1.2.2.1.2 Senior manager responsible for operations

The senior manager responsible for operations is responsible for the safe and reliable operation of the plant. This includes unit operations; day-to-day planning; technical support; preparation for and conduct of outage related activities; and overseeing outage work activities, surveillances, and tests.

In addition, operating personnel responsibilities include:

- The reactor operator's authority and responsibility for shutting down the reactor when it is determined that the safety of the reactor is in jeopardy or when operating parameters exceed any of the reactor protection system set-points and automatic shutdown does not occur.

- The responsibility to determine the circumstances, analyze the cause, and determine that operations can proceed safely before the reactor is returned to power after a trip or an unexplained or unscheduled power reduction.
- The senior reactor operator's responsibility to be present at the plant and to provide direction for returning the reactor to power following a trip or an unscheduled or unexplained power reduction.
- The responsibility to believe and respond conservatively to instrument indications unless they are proved to be incorrect.
- The responsibility to adhere to the plant's Technical Specifications.
- The responsibility to review routine operating data to assure safe operation.
- The responsibility to take action to minimize personnel injury or damage to the facility and to protect the health and safety of the public in the event of an emergency not covered by approved procedures.

1.2.2.1.3 Senior manager responsible for chemistry

The senior manager responsible for chemistry is responsible for chemical and radiochemical activities at the plant; chemistry related engineering activities including filter / demineralizer control and hydrogen water chemistry; administrative control of effluent releases from the plant to ensure that the releases are maintained as low as reasonably achievable (ALARA) and within the required limits; and implementing primary, secondary, and component cooling water chemistry programs.

1.2.2.1.4 Senior manager responsible for radiation protection

The senior manager responsible for radiation protection is responsible for the radiation protection and for the maintenance of all required radiation exposure records of plant support and visiting personnel; and provides radiation surveys and minimization of occupational radiation exposure (ALARA program); manages the shipping and receiving of all byproduct, source, and special nuclear material except fuel; manages the radwaste management program including radwaste cleaning / processing performed by operations; and manages the personnel dosimetry and respiratory protection programs.

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1.2.2.1.5 Senior manager responsible for work management

The senior manager responsible for work management is responsible for ensuring maximum advantage is taken of forced outages and load reductions to do needed repair, replacement, modification, and inspection work; working with Maintenance to ensure management control of work is accomplished through the use of an effective priority system; preparing Outage Safety Assessments in support of scheduled refueling outages; and conducting ongoing outage risk assessments.

1.2.2.1.6 Senior manager responsible for environmental health and safety

The senior manager responsible for environmental health and safety is responsible for overseeing all environmental and safety programs. The position provides oversight for environmental and safety staff at the plant and ensures environmental compliance and safety compliance per local, state and federal environmental and OSHA regulations.

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1.2.2.2 Senior manager responsible for regulatory affairs

The senior manager responsible for regulatory affairs is responsible for supporting the operations and maintenance of the plant. This includes providing direction for emergency preparedness, directing activities of the procedure writing group including document control, directing activities of performance improvement, and directing activities of the licensing group.

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1.2.2.2.1 Senior manager responsible for performance improvement

The senior manager responsible for performance improvement is responsible to administer the plant corrective action program; lead analyses; develop and implement plans that work to identify and to close key performance gaps; coordinate problem solving teams to focus plant performance improvements; and develop and maintain plant performance monitoring, action tracking and communications to monitor and communicate progress in performance changes.

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1.2.2.3 Senior manager responsible for engineering

The senior manager responsible for engineering serves as the engineering lead for the respective site and is responsible for equipment reliability, engineering programs, systems engineering, design engineering, reactor engineering, plant modifications and the rapid response team. The senior manager responsible for engineering is responsible for standardization, long-term resource planning, and promoting best practices.

1.2.2.3.1 Senior manager responsible for design

The senior manager responsible for design serves as the primary design and project lead and is responsible for site preparation of design changes, configuration management, and emergent plant engineering issues. In this capacity, the design manager interfaces with the senior manager responsible for fleet engineering and design support organizations to assure modifications are consistent with the design basis. The design manager is responsible for standardization, long-term resource planning, and promoting best practices.

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1.2.2.3.2 Senior manager responsible for engineering systems

The senior manager responsible for engineering systems is responsible to oversee technical and engineering projects in support of maintenance and operations, including but not limited to evaluate nuclear, thermal, and hydraulic performance of reactor and turbine systems; provide systems engineering; fuel issues; and provide reviews for potential 10 CFR 21 reportability.

1.2.2.3.3 Senior manager responsible for engineering programs

The senior manager responsible for engineering programs is responsible for providing technical direction and support for plant technical activities in the areas of predictive maintenance, component engineering, program management, quality control inspections, and plan for contractor activities involving steam generators and reactor vessels.

1.2.2.4 Senior manager responsible for training

The senior manager responsible for training is responsible for developing and maintaining a training / retraining program for plant personnel that meets requirements for INPO accreditation and that meets the security plan and emergency response plans; and maintaining the training simulator. Implementation of initial and continuing non-accreditation training programs is the responsibility of applicable non-licensed departmental managers and supervisors.

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1.2.2.5 Senior manager responsible for security

The senior manager responsible for plant security is responsible to maintain the security department in accordance with the security plan, training and qualification plan, and contingency plan for the Plant; control safeguards material; maintain interfaces with offsite agencies; and coordinate the security drill and exercise program. The senior manager responsible for plant security reports to the site vice president.

1.2.2.6 Senior manager responsible for projects

The manager of site projects is responsible for providing oversight of project activities by ensuring outage activities are integrated and supported, budgets are maintained, and schedules and objectives are met including severe accident management related projects.

1.3 NQA-1-1994 Commitment

In establishing its organizational structure, SNC commits to compliance with NQA-1-1994, Part II, Basic Requirement 1 and Supplement 1S-1.

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SECTION 2 QUALITY ASSURANCE PROGRAM

SNC has established the necessary measures and governing procedures to implement the QAP as described in the QATR. SNC is committed to meeting this QAP in all aspects of work that are important to the safety and reliability of the nuclear plants as described and to the extent delineated in this QATR. Further, SNC ensures through the systematic process described herein that its suppliers of safety related equipment or services meet the applicable requirements of 10 CFR 50, Appendix B. Senior management is regularly apprised of audit results evaluating the adequacy of implementation of the QAP through the audit functions described in the Audit Section of this QATR.

2.1 Responsibilities

Personnel who work directly or indirectly for SNC are responsible for the achievement of acceptable quality in the work covered by this QATR. This includes those activities delineated in Part I, Section 1.1 of this QATR. SNC personnel performing verification activities are responsible for verifying the achievement of acceptable quality. Activities governed by the QAP are performed as directed by documented instructions, procedures and drawings that are of a detail appropriate for the activity's complexity and effect on safety. Instructions, procedures and drawings specify quantitative or qualitative acceptance criteria as applicable or appropriate for the activity, and verification is against these criteria. Provisions are established to designate or identify the proper documents to be used in an activity, and to ascertain that such documents are being used. The senior manager responsible for quality assurance is responsible to verify that processes and procedures comply with QATR and other applicable requirements, that such processes or procedures are implemented, and that management appropriately ensures compliance.

2.2 Delegation of Work

SNC retains and exercises the responsibility for the scope and implementation of an effective QAP. Positions identified in the Organization Section of this QATR may delegate all or part of the activities of planning, establishing, and implementing the program for which they are responsible to others, but retain the responsibility for the program's effectiveness. Decisions affecting safety are made at the level appropriate for its nature and effect, and with any necessary technical advice or review.

Delegated responsibilities may also be performed under a supplier's or principal contractor's quality assurance program, provided that the supplier or principal contractor has been approved as a supplier in accordance with the QATR. Periodic audits and assessments of supplier QA programs are performed in accordance with Section 18 of the QATR to assure compliance with the supplier's or principal contractor's quality assurance program and implementing procedures. In addition, routine interfaces with project personnel assure that quality expectations are met.

2.3 Personnel Qualifications

Personnel assigned to implement elements of the QAP shall be capable of performing their assigned tasks. To this end SNC establishes and maintains formal indoctrination and training

programs for personnel performing, verifying, or managing activities within the scope of the QAP to assure that suitable proficiency is achieved and maintained. Plant and support staff minimum qualification requirements are as delineated in each site's Technical Specifications. Other qualification requirements may be established but will not reduce those required by Technical Specifications. Sufficient managerial depth is provided to cover absences of incumbents. When required by code, regulation, or standard, specific qualification and selection of personnel is conducted in accordance with those requirements as established in the applicable SNC procedures. Indoctrination includes the administrative and technical objectives, requirements of the applicable codes and standards, and the QAP elements to be employed. Training for positions identified in 10 CFR 50.120 is accomplished according to programs accredited by the National Nuclear Accrediting Board of the National Academy of Nuclear Training that implement a systematic approach to training. Records of personnel training and qualification are maintained.

The minimum qualifications of the senior manager responsible for quality assurance are that the manager holds an engineering degree, or a degree in a related science, and has a minimum of five years' experience in the areas of engineering, field construction, or plant operations. Two of these five years must involve working under a nuclear quality assurance program.

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2.4 NQA-1-1994 Commitment

- In establishing qualification and training programs, SNC commits to compliance with NQA-1-1994, Basic Requirement 2 and Supplements 2S-1, 2S-2, 2S-3 and 2S-4, with the following clarifications and exceptions:
 - NQA-1-1994, Supplement 2S-1
 - SNC Supplement 2S-1 will include use of the guidance provided in Appendix 2A-1 the same as if it were part of the Supplement. The following two alternatives may be applied to the implementation of this Supplement and Appendix:
 - In lieu of being certified as Level I, II, or III in accordance with NQA-1-1994, personnel performing operations phase independent quality verification inspections, examinations, measurements, or tests of material, products, or activities will be required to possess qualifications equal to or better than those required for performing the task being verified; and the verification is within the skills of these personnel and/or is addressed by procedures. These individuals will not be responsible for the planning of quality verification inspections and tests (i.e., establishing hold points and acceptance criteria in procedures, and determine who will be responsible for performing the inspections), evaluating inspection training programs, nor certifying inspection personnel.
 - A qualified engineer may be used to plan inspections, evaluate the capabilities of an inspector, or evaluate the training program for inspectors. For the purpose of these functions, a qualified engineer is one who has a baccalaureate in engineering in a

discipline related to the inspection activity (such as electrical, mechanical, civil) and has a minimum of five years engineering work experience with at least two years of this experience related to nuclear facilities.

- NQA-1-1994, Supplement 2S-2
 - In lieu of Supplement 2S-2, for qualification of nondestructive examination personnel, SNC will follow the applicable standard cited in the version(s) of Section III and Section XI of the ASME Boiler and Pressure Vessel Code approved by the NRC for use at SNC sites.
- NQA-1-1994, Supplement 2S-3
 - The requirement that prospective Lead Auditors have participated in a minimum of five (5) audits in the previous three (3) years is replaced by the following, "The prospective lead auditor shall demonstrate his/her ability to properly implement the audit process, as implemented by SNC, to effectively lead an audit team, and to effectively organize and report results, including participation in at least one nuclear audit within the year preceding the date of qualification."

SECTION 3 DESIGN CONTROL

SNC has established and implements a process to control the design, design changes and temporary modifications (e.g. temporary bypass lines, electrical jumpers and lifted wires, and temporary setpoints) of items that are subject to the provisions of this QATR. The design process includes provisions to control design inputs, outputs, changes, interfaces, records and organizational interfaces. These provisions assure that design inputs (such as design bases and the performance, regulatory, quality, and quality verification requirements) are correctly translated into design outputs (such as analyses, specifications, drawings, procedures, and instructions) so that the final design output can be related to the design input in sufficient detail to permit verification. Design change processes and the division of responsibilities for design related activities are endorsed by the SNC design authority. The design control program includes interface controls necessary to control the development, verification, approval, release, status, distribution and revision of design inputs and outputs. Design changes and disposition of nonconforming items as “use as is” or “repair” are reviewed and approved by the SNC design organization or by other organizations so authorized by the design authority.

In addition, temporary design changes (temporary modifications), such as temporary bypass lines, electrical jumpers and lifted wires, and temporary trip-point settings, are controlled by procedures that include requirements for appropriate installation and removal verifications and status tracking.

3.1 Design Verification

SNC design processes provide for design verification to ensure that items and activities subject to the provisions of this QATR are suitable for their intended application, consistent with their effect on safety. Design changes are subjected to these controls, which include verification measures commensurate with those applied to original plant design.

Design verifications are performed by competent individuals or groups other than those who performed the original design but who may be from the same organization. The verifier shall not have taken part in the selection of design inputs, the selection of design considerations, or the selection of a singular design approach, as applicable. This verification may be performed by the originator’s supervisor provided the supervisor did not specify a singular design approach, rule out certain design considerations, did not establish the design inputs used in the design, or if the supervisor is the only individual in the organization competent to perform the verification. If the verification is performed by the originator’s supervisor, the justification of the need is documented and approved in advance by management.

The extent of the design verification required is a function of the importance to safety of the item under consideration, the complexity of the design, the degree of standardization, the state-of-the-art, and the similarity with previously proven designs. This includes design inputs, design outputs and design changes. Design verification procedures are established and implemented to assure that an appropriate verification method is used, the appropriate design parameters to be verified are chosen, the acceptance criteria are identified, and the verification is satisfactorily accomplished and documented. Verification methods may include, but are not limited to, design reviews, alternative calculations and qualification testing. Testing used to verify the acceptability of a specific design feature demonstrates acceptable performance under conditions that simulate the most adverse design conditions expected for item’s intended use.

SNC normally completes design verification activities before the design outputs are used by other organizations for design work, and before they are used to support other activities such as procurement, manufacture or construction. When such timing cannot be achieved, the design verification is completed before relying on the item to perform its intended design or safety function.

3.2 Design Records

SNC maintains records sufficient to provide evidence that the design was properly accomplished. These records include the final design output and any revisions thereto, as well as record of the important design steps (e.g., calculations, analyses and computer programs) and the sources of input that support the final output.

Plant design drawings reflect the properly reviewed and approved configuration of the plant.

3.3 NQA-1-1994 Commitment

In establishing its program for design control and verification, SNC commits to compliance with NQA-1-1994, Basic Requirement 3, and Supplement 3S-1.

SECTION 4 PROCUREMENT DOCUMENT CONTROL

SNC has established the necessary measures and governing procedures to assure that purchased items (components, spares and replacement parts necessary for plant design, construction, operation, refueling, maintenance and modifications) and services are subject to quality and technical requirements at least equivalent to those specified for original equipment or specified by properly reviewed and approved revisions to the original requirements to assure the items are suitable for the intended service, and are of acceptable quality, consistent with their effect on safety. Procurement document changes shall be subject to the same degree of control as utilized in the preparation of the original documents. These controls include provisions such that:

- Where original technical or quality assurance requirements cannot be determined, an engineering evaluation is conducted and documented by qualified staff to establish appropriate requirements and controls to assure that interfaces, interchangeability, safety, fit and function, as applicable, are not adversely affected or contrary to applicable regulatory requirements.
- Applicable technical, regulatory, administrative, quality and reporting requirements (such as specifications, codes, standards, tests, inspections, special processes, and 10 CFR 21) are invoked for procurement of items and services. Applicable design bases and other requirements necessary to assure adequate quality shall be included or referenced in documents for procurement of items and services. To the extent necessary, procurement documents shall require suppliers to have a quality assurance program consistent with the applicable requirements of this QATR.

4.1 Reviewer Qualification

Reviews required by this Section shall be performed by personnel who have access to pertinent information and who have an adequate understanding of the requirements and intent of the procurement documents.

4.2 NQA-1-1994 Commitment

In establishing controls for procurement, SNC commits to compliance with NQA-1-1994, Basic Requirements 4 and Supplements 4S-1, with the following clarifications and exceptions:

- NQA-1-1994, Supplement 4S-1
 - Section 2.3 of Supplement 4S-1 includes a requirement that procurement documents require suppliers to have a documented quality assurance program that implements NQA-1-1994, Part 1. In lieu of this requirement, SNC may require suppliers to have a documented supplier quality assurance program that is determined to meet the applicable requirements of 10 CFR 50, Appendix B, as appropriate to the circumstances of the procurement.

With regard to service performed on a plant site by a supplier, SNC procurement documents may allow the supplier to work under the SNC

quality assurance program, including implementing procedures, in lieu of the supplier having its own quality assurance program.

SECTION 5 INSTRUCTIONS, PROCEDURES, AND DRAWINGS

SNC has established the necessary measures and governing procedures to ensure that activities affecting quality are prescribed by and performed in accordance with instructions, procedures or drawings of a type appropriate to the circumstances and which, where applicable, include quantitative or qualitative acceptance criteria to implement the QAP as described in the QATR. Such documents are prepared and controlled according to Part II, Section 6 of this QATR. In addition, means are provided for dissemination to plant staff of instructions of both general and continuing applicability, as well as those of short-term applicability. Provisions are included for reviewing, updating, and canceling such procedures.

5.1 Procedure Adherence

The SNC policy is that procedures are followed, and the requirements for use of procedures have been established in administrative procedures. Where procedures cannot be followed as written, provisions are established for making changes in accordance with Part II, Section 6 of this QATR. Requirements are established to identify the manner in which procedures are to be implemented, including identification of those tasks that require: (1) the written procedure to be present and followed step-by-step while the task is being performed, (2) the user to have committed the procedure steps to memory, (3) verification of completion of significant steps, by initials or signatures or use of check-off lists. Procedures that are required to be present and referred to directly are those developed for extensive or complex jobs where reliance on memory cannot be trusted, tasks that are infrequently performed, and tasks where steps must be performed in a specified sequence.

Administrative procedures prescribe the methods whereby plant procedures can be temporarily revised without undue delay when the need arises. Temporary procedure revisions that do not change intent of the approved procedure may be made with the concurrence of two individuals, one of which holds a senior reactor operator's license on the affected unit. Such revisions are documented and, if required, reviewed by the Plant Review Board and approved by the appropriate plant management within 14 days of implementation. In cases of emergency, personnel are authorized to depart from approved procedures when necessary to prevent injury to personnel or damage to the plant. Such procedures are logged describing the prevailing conditions and reasons for the action taken.

5.2 NQA-1-1994 Commitment

In establishing procedural controls, SNC commits to compliance with NQA-1-1994, Basic Requirement 5. In addition, as stated in position C.1 of Regulatory Guide 1.33, Revision 2, SNC commits to use Appendix A of Regulatory Guide 1.33 as guidance for establishing the types of procedures that are necessary to control and support plant operation. Appendix E of this QATR provides additional details regarding procedures developed and implemented by SNC.

SECTION 6 DOCUMENT CONTROL

SNC has established the necessary measures and governing procedures to control the preparation of, issuance of, and changes to documents that specify quality requirements or prescribe how activities affecting quality are controlled to assure that correct documents are being employed. Such documents, including changes thereto, shall be reviewed for adequacy and approved for release by authorized personnel. The control system shall be documented and shall provide for (a) through (e) below:

- (a) identification of documents to be controlled and their specified distribution;
- (b) identification of assignment of responsibility for preparing, reviewing, approving, and issuing documents;
- (c) review of documents for adequacy, completeness, and correctness prior to approval and issuance;
- (d) coordinating and controlling interface documents and procedures; and
- (e) a method for providing feedback from users to continually improve procedures and work instructions.

6.1 Changes to Documents

Changes to documents, other than those defined in implementing procedures as minor changes, are considered as major changes and shall be reviewed and approved by the same organizations that performed the original review and approval unless other organizations are specifically designated. The reviewing organization shall have access to pertinent background data or information upon which to base their approval. Minor changes to documents, such as inconsequential editorial corrections, shall not require that the revised documents receive the same review and approval as the original documents. To avoid a possible omission of a required review, the type of minor changes that do not require such a review and approval and the persons who can authorize such a decision shall be clearly delineated in implementing procedures.

6.2 NQA-1-1994 Commitment

In establishing provisions for document control, SNC commits to compliance with NQA-1-1994, Basic Requirement 6 and Supplement 6S-1.

SECTION 7 CONTROL OF PURCHASED MATERIAL, EQUIPMENT, AND SERVICES

SNC has established the necessary measures and governing procedures to control the procurement of items and services to assure conformance with specified requirements. Such control shall provide for the following as appropriate: source evaluation and selection, evaluation of objective evidence of quality furnished by the Supplier, source inspection, audit, and examination of items or services upon delivery or completion.

7.1 Acceptance of Item or Service

SNC establishes and implements measures to assure the quality of purchased items and services, whether purchased directly or through contractors, at intervals and to a depth consistent with the item's or service's importance to safety, complexity, quantity and the frequency of procurement. Verification actions include testing, as appropriate, during design, fabrication and construction activities, including those associated with plant maintenance or modifications. Verifications occur at the appropriate phases of the procurement process, including, as necessary, verification of activities of suppliers below the first tier.

Measures to assure the quality of purchased items and services include the following, as applicable:

- Items are inspected, identified, and stored to protect against damage, deterioration, or misuse.
- Prospective suppliers of safety-related items and services are evaluated to assure that only qualified suppliers are used. Qualified suppliers are audited on a triennial basis. SNC may utilize audits conducted by outside organizations for supplier qualification provided that the scope and adequacy of the audits meet SNC requirements. Documented supplier performance monitoring is performed for qualified suppliers to assure they continue to provide acceptable products and services. Industry programs, such as those applied by ASME, Nuclear Procurement Issues Committee (NUPIC), or other established utility groups, are used as input or the basis for supplier qualification whenever appropriate. The results of the reviews are promptly considered for effect on a supplier's continued qualification and adjustments made as necessary (including corrective actions, adjustments of supplier audit plans, and input to third party auditing entities, as warranted). In addition, results are reviewed periodically to determine if, as a whole, they constitute a significant condition adverse to quality requiring additional action.
- Provisions are made for accepting purchased items and services, such as source verification, receipt inspection, pre- and post-installation tests, certificates of conformance, and document reviews. Acceptance actions are completed to ensure that procurement, inspection, and test requirements, as applicable, have been satisfied before relying on the item to perform its intended safety function.
- Controls are imposed for the selection, determination of suitability for intended use (critical characteristics), evaluation, receipt and acceptance of commercial-grade services or "off-the-shelf" items to assure they will perform satisfactorily in service in safety related applications.

7.2 NQA-1-1994 Commitment

In establishing procurement verification controls, SNC commits to compliance with NQA-1-1994, Basic Requirement 7 and Supplement 7S-1, with the following clarifications and exceptions:

- NQA-1-1994, Supplement 7S-1
 - SNC considers that other 10 CFR 50 licensees, Authorized Nuclear Inspection Agencies, National Institute of Standards and Technology, or other State and Federal agencies which may provide items or services to SNC plants are not required to be evaluated or audited.
 - When purchasing commercial grade calibration services from a calibration laboratory, procurement source evaluation and selection measures need not be performed provided each of the following conditions are met:
 - (1) The purchase documents impose any additional technical and administrative requirements, as necessary, to comply with the SNC QA program and technical provisions. At a minimum, the purchase document shall require that the calibration certificate/report include identification of the laboratory equipment/standard used.
 - (2) The purchase documents require reporting as-found calibration data when calibrated items are found to be out-of-tolerance.
 - (3) A documented review of the supplier's accreditation shall be performed and shall include a verification of each of the following:
 - The calibration laboratory holds a domestic accreditation by one of the following accrediting bodies which are recognized through the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA):
 - National Voluntary Laboratory Accreditation Program (NVLAP), administered by the National Institute of Standards & Technology;
 - American Association for Laboratory Accreditation (A2LA);
 - ACLASS Accreditation Services (ACLASS);
 - International Accreditation Service (IAS); or
 - Laboratory Accreditation Bureau (L-A-B)
 - The accreditation is based on ANSI/ISO/IEC 17025.

- The published scope of accreditation for the calibration laboratory covers the necessary measurement parameters, ranges, and uncertainties.
- For Section 8.1, SNC considers documents that may be stored in approved electronic media under SNC control and not physically located on the plant site but which are accessible from the respective nuclear facility site as meeting the NQA-1 requirement for documents to be available at the site.
- As clarification for Section 8.1, SNC allows for the establishment of appropriate controls associated with conditional releases of nonconforming items for installation, consistent with the provisions of Section 15 of this QATR. Accordingly, items may be conditionally released as described in Section 15 prior to receipt of documentary evidence that items conform to procurement documents.
- In lieu of the requirements of Section 10, Commercial Grade Items, controls for commercial grade items and services are established in SNC documents using the guidance of EPRI NP-5652, dated June 1988, as discussed in Generic Letter 89-02 and Generic Letter 91-05.

SECTION 8 IDENTIFICATION AND CONTROL OF MATERIALS, PARTS, AND COMPONENTS

SNC has established the necessary measures and governing procedures to identify and control items to prevent the use of incorrect or defective items. This includes controls for consumable materials and items with limited shelf life. The identification of items is maintained throughout fabrication, erection, installation and use so that the item can be traced to its documentation, consistent with the item's effect on safety. Identification locations and methods are selected so as not to affect the function or quality of the item.

8.1 NQA-1-1994 Commitment

In establishing provisions for identification and control of items, SNC commits to compliance with NQA-1-1994, Basic Requirement 8 and Supplement 8S-1.

SECTION 9 CONTROL OF SPECIAL PROCESSES

SNC has established the necessary measures and governing procedures to assure that special processes that require interim process controls to assure quality, such as welding, heat treating, and nondestructive examination, are controlled. These provisions include assuring that special processes are accomplished by qualified personnel using qualified procedures and equipment. Special processes are performed in accordance with applicable codes, standards, specifications, criteria or other specially established requirements. Special processes are those where the results are highly dependent on the control of the process or the skill of the operator, or both, and for which the specified quality cannot be fully and readily determined by inspection or test of the final product.

9.1 NQA-1-1994 Commitment

In establishing measures for the control of special processes, SNC commits to compliance with NQA-1-1994, Basic Requirement 9 and Supplement 9S-1.

SECTION 10 INSPECTION

SNC has established the necessary measures and governing procedures to implement inspections that assure items, services and activities affecting safety meet established requirements and conform to applicable documented specifications, instructions, procedures, and design documents. Inspection may also be applied to items, services and activities affecting plant reliability and integrity. Types of inspections may include those verifications related to procurement, such as source, in-process, final, and receipt inspection, as well as maintenance, modification, in-service, and operational activities. Inspections are carried out by properly qualified persons independent of those who performed or directly supervised the work. Inspection results shall be documented. Where quality verification inspections at plants are performed by the maintenance organization, the inspectors report to the engineering support organization while performing inspections in order to meet the independence requirements of NQA-1-1994, Supplement 10S-1, Section 3.1.

10.1 NQA-1-1994 Commitment

- In establishing inspection requirements, SNC commits to compliance with NQA-1-1994, Basic Requirement 10, Supplement 10S-1 and Subpart 2.4, with the clarification that follows below. In addition, for situations comparable to original new plant construction, SNC commits to compliance with the requirements of Subparts 2.5 and 2.8 for establishing appropriate inspection requirements.
 - Subpart 2.4 commits SNC to IEEE 336-1985. IEEE 336-1985 refers to IEEE 498-1985. Both IEEE 336 -1985 and IEEE 498-1985 use the definition of "Safety Systems Equipment" from IEEE 603- 1980. SNC commits to the definition of Safety Systems Equipment in IEEE 603-1980, but does not commit to the balance of that standard.
 - An additional exception to Subpart 2.4 is contained in Section 12 of this QATR.

SECTION 11 TEST CONTROL

SNC has established the necessary measures and governing procedures to demonstrate that items subject to the provisions of this QATR will perform satisfactorily in service, that the plant can be operated safely and as designed, and that the coordinated operation of the plant as a whole is satisfactory. These programs include criteria for determining when testing is required, such as proof tests before installation, pre-operational tests, post-maintenance tests, post-modification tests, in-service tests, and operational tests (such as surveillance tests required by Plant Technical Specifications), to demonstrate that performance of plant systems is in accordance with design. Programs also include provisions for establishing and adjusting test schedules and maintaining status for periodic or recurring tests. Tests are performed according to applicable procedures that include, consistent with the effect on safety, (1) instructions and prerequisites to perform the test, (2) use of proper test equipment, (3) acceptance criteria, and (4) mandatory verification points as necessary to confirm satisfactory test completion. Test results are documented and evaluated by the organization performing the test and reviewed by a responsible authority to assure that the test requirements have been satisfied. If acceptance criteria are not met, retesting is performed as needed to confirm acceptability following correction of the system or equipment deficiencies that caused the failure.

11.1 NQA-1-1994 Commitment

In establishing provisions for testing, SNC commits to compliance with NQA-1-1994, Basic Requirement 11 and Supplement 11S-1.

11.2 NQA-1-1994 Commitment for Computer Program Testing

SNC establishes and implements provisions to assure that computer software used in applications affecting safety is prepared, documented, verified and tested, and used such that the expected output is obtained and configuration control maintained. To this end SNC commits to compliance with the requirements of NQA-1-1994, Basic Requirement 11, Supplement 11S-2 and Subpart 2.7 to establish the appropriate provisions.

SECTION 12 CONTROL OF MEASURING AND TEST EQUIPMENT

For the operations phase of the plants, SNC has established and implements procedures for the calibration and adjustment of instrument and control devices installed in the plants. The calibration and adjustment of these installed devices is accomplished through the plant maintenance programs to ensure that each plant is operated within its design and technical requirements. Appropriate documentation will be maintained for these devices to indicate the control status, when the next calibration is due, and identify any limitations on the use of the device.

SNC has also established the necessary measures and governing procedures to control the calibration, maintenance, and use of measuring and test equipment that is not installed as plant equipment and that provides information important to safe plant operation. The provisions of such procedures cover equipment such as indicating and actuating instruments and gages, tools, reference and transfer standards, and nondestructive examination equipment.

The provisions of this QATR Section are intended to assure that:

- Measuring and test equipment is calibrated at specified intervals on the basis of the item's required accuracy, intended use, frequency of use, and stability characteristics or other conditions affecting its performance. Alternatively, equipment may be calibrated immediately before and after use if a defined interval is not appropriate.
- Measuring and test equipment is labeled, tagged or otherwise controlled to indicate its calibration status and provide traceability to calibration test data or records.
- Calibrations are performed against standards that have an accuracy of at least four times the required accuracy of the equipment being calibrated. When this is not possible, the standards have an accuracy that ensures the equipment being calibrated will be within the required tolerance.
- Where possible, calibration standards are traceable to appropriate national standards. Calibration standards have greater accuracy than the standards being calibrated, except where the same accuracy as the instruments being calibrated can be shown to be adequate for the service requirements.
- Measuring and test equipment found out of calibration is tagged or segregated and not used until it is successfully re-calibrated. An evaluation is performed to determine the acceptability of any items measured, inspected or tested with an out-of-calibration device from the time of the previous calibration.

12.1 NQA-1-1994 Commitment

In establishing provisions for control of measuring and test equipment, SNC commits to compliance with NQA-1-1994, Basic Requirement 12, Supplement 12S-1 and Subpart 2.16 for establishing appropriate requirements for calibration and control of measuring and test equipment, with the following clarifications and exceptions:

- NQA-1-1994, Subpart 2.16 (ANSI/IEEE 498-1985)

- Section 5.5 of ANSI/IEEE 498-85 requires all M&TE to be labeled. SNC plants may not label certain M&TE, such as installed instrumentation, but will provide other means of identification so that appropriate controls can be implemented. This exception also applies to labeling and tagging of items requiring calibration as discussed in Section 7.2.1 of ANSI/IEEE 336-85 (NQA-1, Subpart 2.4).

SECTION 13 HANDLING, STORAGE, AND SHIPPING

SNC has established the necessary measures and governing procedures to control the handling, storage, packaging, shipping, cleaning, and preservation of items to prevent inadvertent damage or loss, and to minimize deterioration. These provisions include specific procedures, when required to maintain acceptable quality of the items important to safety. Items are appropriately marked and labeled during packaging, shipping, handling and storage to identify, maintain, and preserve the item's integrity and indicate the need for special controls. Special controls (such as containers, shock absorbers, accelerometers, inert gas atmospheres, specific moisture content levels and temperature levels) are provided when required to maintain acceptable quality.

13.1 Housekeeping

Housekeeping practices during normal operations and maintenance activities, including refueling, are established to account for conditions or environments that could affect the quality of structures, systems and components within the plant. This includes control of cleanliness of facilities and materials, fire prevention and protection, disposal of combustible material and debris, control of access to work areas, protection of equipment, radioactive contamination control and storage of solid radioactive waste. Housekeeping practices help assure that only proper materials, equipment, processes and procedures are used and that the quality of items is not degraded. Necessary procedures or work instructions, such as for electrical bus and control center cleaning, cleaning of control consoles, and radioactive decontamination are developed and used.

13.2 NQA-1-1994 Commitment

In establishing provisions for handling, storage and shipping, SNC commits to compliance with NQA-1-1994, Basic Requirement 13 and Supplement 13S-1. SNC also commits to compliance with the requirements of NQA-1-1994, Subparts 2.1, 2.2, and 2.3, with the following clarifications and exceptions:

- NQA-1-1994, Subpart 2.1
 - Subpart 2.1, Sections 3.1 and 3.2, establish criteria for classifying items into cleanliness classes and requirements for each class. Instead of using the cleanliness level system of Subpart 2.1, SNC plants may establish cleanliness requirements on a case-by-case basis, consistent with the other provisions of Subpart 2.1. SNC establishes appropriate cleanliness controls for work on safety related equipment to minimize introduction of foreign material and maintain system/component cleanliness throughout maintenance or modification activities, including documented verification of absence of foreign materials prior to system closure.
- NQA -1-1994, Subpart 2.2
 - Subpart 2.2, Sections 3.2 and 3.5: For items in storage, as determined by facility management, the packaging requirements described under Section 3, Packaging, may include alternate methods of affording required protection

such as maintaining a storage atmosphere free from harmful contaminants in concentrations that could produce damage to the stored items, or utilizing storage practices that obviate the need for capping all openings.

- Subpart 2.2, Section 6.6, “Storage Records:” This section requires written records be prepared containing information on personnel access. As an alternative to this requirement, SNC documents establish controls for storage areas that describe those authorized to access areas and the requirements for recording access of personnel. However, these records of access are not considered quality records and will be retained in accordance with the administrative controls of the applicable plant.
- Subpart 2.2, Section 7.1 refers to Subpart 2.15 for requirements related to handling of items. The scope of Subpart 2.15 includes hoisting, rigging and transporting of items for nuclear power plants. This scope exceeds the scope of the NRC’s original endorsement of ANSI N45.2.2 in Regulatory Guide 1.38, and establishes requirements for which there is no NRC regulatory position. In lieu of compliance with Subpart 2.15, SNC establishes and implements controls over hoisting, rigging and transport activities to the extent necessary to protect the integrity of the items involved, as well as potentially affected nearby structures and components. For re-rating of lifting equipment to allow “special lifts,” SNC performs dynamic load testing over the full range of the lift using test loads at least 110% of the lift weight. Dynamic tests include raising, lowering and traversing the load. Where required, SNC complies with applicable hoisting, rigging and transportation regulations and codes.
- NQA-1-1994, Subpart 2.3 requires a written record of the entry and exit of all personnel be established and maintained for Zones I, II, and III. The following exceptions are taken:
 - Instead of the five-level zone designation in Subpart 2.3, Section 2.2, SNC bases its control over housekeeping activities on a consideration of what is necessary and appropriate for the activity involved. The controls are effected through procedures or instructions which, in the case of maintenance or modification work, are developed on a case-by-case basis. Factors considered in developing the procedures and instructions include cleanliness control, personnel safety, fire prevention and protection, radiation control, and security. The procedures and instructions make use of standard janitorial and work practices to the extent possible.

SECTION 14 INSPECTION, TEST, AND OPERATING STATUS

SNC has established the necessary measures and governing procedures to identify the inspection, test, and operating status of items and components subject to the provisions of this QATR in order to maintain personnel and reactor safety and avoid unauthorized operation of equipment. Where necessary to preclude inadvertent bypassing of inspections or tests, or to preclude inadvertent operation, these measures require the inspection, test or operating status be verified before release, fabrication, receipt, installation, test or use. These measures also establish the necessary authorities and controls for the application and removal of status indicators or labels.

14.1 NQA-1-1994 Commitment

In establishing measures for control of inspection, test and operating status, SNC commits to compliance with NQA-1-1994, Basic Requirement 14.

SECTION 15 NONCONFORMING MATERIALS, PARTS, OR COMPONENTS

SNC has established the necessary measures and governing procedures to control items, including services, which do not conform to specified requirements to prevent inadvertent installation or use. Controls provide for identification, documentation, evaluation, segregation when practical, and disposition of nonconforming items, and for notification to affected organizations. These controls require that an individual discovering a nonconforming condition to identify, describe, and document the nonconformance in accordance with Section 16, Corrective Action, of this QATR. Controls are provided to address conditional release of nonconforming items for use on an at risk basis prior to resolution and disposition of the nonconformance, including maintaining identification of the item and documenting the basis for such release. Conditional release of nonconforming items for installation requires the approval of the vice president - site or his designee. Nonconformances are corrected or resolved prior to depending on the item to perform its intended safety function. Nonconformances are evaluated for impact on operability of quality structures, systems, and components to assure that the final condition does not adversely affect safety, operation, or maintenance of the item or service. Nonconformances to design requirements dispositioned repair or use-as-is, shall be subject to design control measures commensurate with those applied to the original design. Nonconformance dispositions are reviewed for adequacy, analysis of quality trends, and reports provided to the vice president - site. Significant trends are reported to the vice president - site in accordance with SNC procedures, regulatory requirements, and industry standards.

15.1 NQA-1-1994 Commitment

In establishing measures for nonconforming materials, parts, or components, SNC commits to compliance with NQA-1-1994, Basic Requirement 15, and Supplement 15S-1.

SECTION 16 CORRECTIVE ACTION

SNC has established the necessary measures and governing procedures to promptly identify, control, document, classify, and correct conditions adverse to quality. SNC procedures require personnel to identify known conditions adverse to quality and assure that corrective actions are documented and initiated in accordance with regulatory guidance and applicable quality standards. When complex issues arise where it cannot be readily determined if a condition adverse to quality exists, SNC documents establish the requirements for documentation and timely evaluation of the issue. Results of evaluations of conditions adverse to quality are analyzed to identify trends. Significant conditions adverse to quality and significant adverse trends are documented and reported to responsible management.

16.1 NQA-1-1994 Commitment

In establishing provisions for corrective action, SNC commits to compliance with NQA-1-1994, Basic Requirement 16.

SECTION 17 QUALITY ASSURANCE RECORDS

SNC has established the necessary measures and governing procedures to ensure that sufficient records of items and activities affecting quality are developed, reviewed, approved, issued, used, and revised to reflect completed work. The provisions of such procedures establish the scope of the records retention program for SNC and include requirements for records administration, including receipt, preservation, retention, storage, safekeeping, retrieval, and final disposition. For activities governed by 10 CFR 71 or 72, these provisions address the specific requirements of Sections 71.135 and 72.174.

17.1 Record Retention

Records of activities for design, engineering, procurement, manufacturing, construction, inspection and test, installation, pre-operation, startup, operations, maintenance, modification, decommissioning, and audits include the appropriate content requirements of NQA-1-1994, Parts I and II. Such records and their retention times are based on Regulatory Position C.2, Table 1, of Regulatory Guide 1.28, Revision 3. This table addresses design, construction, and initial start-up records and will be applied to operating and decommissioning phase records that are similar in nature to the construction records. Additional operations phase records and their retention periods are identified in the respective FSAR for each plant. In addition, SNC uses the list of records in 10 CFR 71.135 and 10 CFR 72.174 to establish the types of records that will be created and retained in support of transportation and storage operations governed by 10 CFR Part 71 and Part 72, respectively. In all cases where state, local, or other agencies have more restrictive requirements for record retention, those requirements will be met.

17.2 Electronic Records

When using electronic records storage and retrieval systems, SNC complies with NRC guidance in RIS 2000-18, October 2000, "Guidance on Managing Quality Assurance Records in Electronic Media" including NIRMA guidelines; TG 11-1998, TG15-1998, TG16-1998, and TG21-1998. SNC will also meet the NRC Regulatory Position C.2 of Regulatory Guide 1.28, Revision 3, August 1985 except that the reference to ASME NQA-1 will be to the 1994 edition.

17.3 NQA-1-1994 Commitment

In establishing provisions for records, SNC commits to compliance with NQA-1-1994, Basic Requirement 17 and Supplement 17S-1, with the following clarifications and exceptions:

- NQA-1-1994, Supplement 17S-1
 - Supplement 17S-1, Section 4.2(b) requires records to be firmly attached in binders or placed in folders or envelopes for storage in steel file cabinets or on shelving in containers. For hard-copy records maintained by SNC, the records are suitably stored in steel file cabinets or on shelving in containers, except that methods other than binders, folders or envelopes may be used to organize the records for storage.

SECTION 18 AUDITS

SNC has established the necessary measures and governing procedures to implement audits to verify that activities covered by this QATR are performed in conformance with the requirements established. The audit programs are themselves reviewed for effectiveness as a part of the overall audit process. In addition to audits, SNC commits to perform surveillances as described in Appendix C to this QATR.

18.1 Performance of Audits

Audits of facility activities shall be performed under the cognizance of the NSRB. Each audit shall be performed within the specified time interval with the following allowances (allowances do not apply to audits of the emergency plan and security plan):

Audits shall be performed at the intervals designated herein for each audit area. Schedules shall be based on the month in which the audit starts.

A maximum extension not to exceed 25% of the audit interval shall be allowed. That is, for audits on a 24 month frequency, the maximum time between specific audits shall not exceed 30 months. Likewise, audits on an annual (12 month) frequency shall not be extended beyond 15 months.

When an audit interval extension greater than one month is used, the next audit for that particular audit area will be scheduled from the original anniversary month rather than from the month of the extended audit.

The following audits of facility activities are required:

- The conformance of reactor and plant operation to provisions contained within the technical specifications and applicable license conditions, at least once per 24 months;
- The performance, training, and qualifications of the entire plant staff, at least once per 24 months;
- The results of actions taken to correct deficiencies occurring in plant equipment, structures, systems, or method of operation that affect nuclear safety, at least once per 24 months;
- The performance of activities required by the quality assurance program to meet the criteria of 10 CFR50, Appendix B, at least once per 24 months;
- The emergency plan and implementing procedures, at least once per 12 months;
- The security plan and implementing procedures, at least once per 24 months;
- The fire protection program, at least once per 24 months. The audit will include the fire protection program implementation, fire protection equipment, procedures, and program controls. The audit team will include an outside qualified fire protection consultant.

- The radiological environmental monitoring program and the results thereof at least once per 24 months;
- The offsite dose calculation manual (ODCM) and implementing procedures, at least once per 24 months;
- The process control program (PCP) and implementing procedures for processing and packaging of radioactive waste, at least once per 24 months;
- The environmental protection plan (EPP), at least once per 24 months;
- Any other area of plant operation considered appropriate by the Nuclear Safety Review Board or the plant vice-president.

Audit of supplier activities shall be performed at 36 month intervals. Documented supplier performance monitoring is performed in accordance with approved procedures as an acceptable alternate to the performance of annual evaluation of suppliers. A maximum extension not to exceed 25% of the audit interval shall be allowed. The combined time interval for any three consecutive audit intervals should not exceed 3.25 times the specified audit interval.

Audit schedule changes reflecting more frequent audits are required by one or more of the following conditions:

- When significant changes are made in functional areas of the QAP, such as significant reorganization or procedure revisions.
- When there is evidence that the performance or reliability of safety-related items is in jeopardy due to deficiencies or nonconformances in the QAP.
- When a systematic, independent assessment of QAP effectiveness is necessary.
- When it is necessary to verify implementation of required corrective actions.

18.2 NQA-1-1994 Commitment

In establishing the independent audit program, SNC commits to compliance with NQA-1-1994, Basic Requirement 18 and Supplement 18S-1.

SOUTHERN NUCLEAR OPERATING COMPANY, INC.
QUALITY ASSURANCE TOPICAL REPORT

PART III REGULATORY COMMITMENTS

NRC Regulatory Guides and Quality Assurance Standards.

This section identifies the NRC Regulatory Guides and the other quality assurance standards which have been selected to supplement and support the SNC QA Program. Southern Nuclear commits to compliance with these standards to the extent described herein. Commitment to a particular Regulatory Guide or other QA standard does not constitute a commitment to the Regulatory Guides or QA standards that may be referenced therein.

- Regulatory Guide 1.8 – Qualification and Training of Personnel for Nuclear Power Plants
 - Southern Nuclear meets the requirement of the applicable Technical Specifications for each plant for the selection and training of nuclear power plant personnel.
 - The SNC nuclear plant qualification and training program is described in Sections 13.1 and 13.2 of the FSARs.
- Regulatory Guide 1.28, Revision 3, August, 1985 – Quality Assurance Program Requirements (Design and Construction)
 - Southern Nuclear meets the requirements of this regulatory guide for Construction Activities conducted by Southern Nuclear, except that ASME NQA-1-1994 edition (as modified by the exceptions to NQA-1-1994 as shown in this QATR) will be used in place of ANSI/ASME NQA-1-1983 and the ANSI/ASME NQA-1a-1983 Addenda.
- Regulatory Guide 1.33, Revision 2, February 1978 – Quality Assurance Program Requirements (Operation)
 - Southern Nuclear considers that the collective quality assurance requirements of this QATR and the QA requirements of ASME NQA-1-1994 are equivalent to ANSI N18.7-1976/ANS-3.2 and Regulatory Guide 1.33, Revision 2. Consequently, Southern Nuclear does not commit to ANSI N18.7-1976, or to Regulatory Guide 1.33, except that Appendix A of Regulatory Guide 1.33 shall be used as guidance for establishing the procedures required for plant operational phase activities.

APPENDIX A: PLANT REVIEW BOARD

1.0 General

The plant review board (PRB) shall advise the plant manager on matters related to nuclear power plant safety for the respective plant.

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2.0 Membership

The PRB shall be composed of a minimum of five members. The plant manager responsible for facility operations shall appoint, in writing, the members of PRB, including the PRB Chairperson and the Vice Chairperson(s) drawn from the committee members. A representative from the Quality Assurance organization shall be a non-voting member.

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Alternate members shall be appointed in writing by the PRB Chairperson to serve on a temporary basis. Each alternate shall meet the minimum qualifications for the PRB member that the alternate is replacing, and shall have the same area of expertise as the member being replaced.

3.0 Meetings

The PRB shall meet at least once per calendar month, or more frequently if convened by the PRB Chairperson.

A quorum of the PRB shall consist of the Chairperson or Vice Chairperson plus two voting members, or one voting member and one designated voting alternate. However, if more than a minimum number of members are present to meet the requirement for a quorum, a maximum of one third of the voting membership may be designated alternates.

For any PRB decision affecting site-wide issues, the Chairperson shall ensure appropriate representation.

4.0 Reviews

The PRB shall be responsible for:

- (a) Review of (1) all procedures and programs required by facility Technical Specifications administrative controls and changes thereto that require a regulatory evaluation under the facility's 10 CFR 50.59 and 10 CFR 72.48 screening program, (2) changes to the quality assurance program description determined to be reductions in the commitment under the provisions of 10 CFR 50.54(a), and (3) any other proposed procedures, programs, or changes thereto affecting facility nuclear safety as determined by the plant manager.
- (b) Review of all proposed changes to nuclear facility Technical Specifications.
- (c) Review of all proposed tests and experiments that affect nuclear safety.

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- (d) Review of all proposed changes or modifications to systems or equipment that affect nuclear safety.
- (e) Rendering determinations in writing or meeting minutes if any item considered under (a) through (d) above, as appropriate and as provided by 10 CFR 50.59, 10 CFR 50.92, or 10 CFR 72.48, requires a license amendment or requires a significant hazards consideration determination.
- (f) Performance of special reviews and investigations and reports as requested by the Chairperson of the PRB or the plant manager. 14
- (g) Investigations of all violations of Technical Specifications, including the preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence, to the plant manager, the vice president - site, the CNO, and to the Chairperson of the NSRB. 14
- (h) Review of all nuclear facility reportable events.
- (i) Review of facility operations to detect potential safety hazards.

5.0 Authority

The PRB shall recommend to the plant manager written approval or disapproval in meeting minutes of items considered under Responsibilities (a) through (i) above. 14

The PRB shall provide written notification within 24 hours to the vice president – site and the Chairperson of the NSRB of disagreement between the PRB and the plant manager. The vice president - site shall have responsibility for resolution of any such disagreement.

6.0 Records

The PRB shall maintain written minutes of each meeting and copies shall be provided to the plant manager, vice president - site and the PRB members. Records of the minutes shall be maintained in accordance with this QATR, Section 17. 14

APPENDIX B: NUCLEAR SAFETY REVIEW BOARD

1.0 General

The nuclear safety review board (NSRB) shall advise the chief nuclear officer (CNO) on matters related to nuclear power plant safety for all SNC plants and corporate activities. The NSRB shall function to provide independent review and audit of designated activities in the areas of:

- Nuclear power plant operations
- Nuclear engineering
- Chemistry and radiochemistry
- Metallurgy
- Nondestructive testing
- Instrumentation and control
- Radiological safety
- Mechanical and electrical engineering, and
- Administrative controls and quality assurance practices
- Other appropriate fields associated with unique characteristics of the nuclear power plants such as the independent spent fuel storage facility operation

The NSRB shall report to and advise the CNO on those areas of responsibility specified in paragraphs below (Reviews and Audits) and other areas as may be assigned. The NSRB shall review the SNC audit program at least semiannually to assure that audits are being accomplished in accordance with requirements of the SNC QATR.

2.0 Membership

The NSRB shall consist of a minimum of six regular members and a minimum of two members external to SNC, appointed in writing by the CNO, with no more than a minority of the members representing the onsite operating organization of any specific plant. The minimum regular membership of the Board will consist of the Vice President – Farley, the Vice President – Hatch, the Vice President – Vogtle 1 & 2, the Vice President – Engineering, the Vice President – Fleet Operations Support, and the Vice President – Nuclear Oversight. A Chairman and a Vice Chairman, selected from the membership, shall be appointed by the CNO.

Alternate members of the NSRB shall be appointed in writing by the CNO to serve on a temporary basis for a specific member. The use of alternates shall be restricted to legitimate absences of regular members. In absences of the NSRB Chairman, the Vice Chairman will assume the duties of the NSRB Chairman.

Consultants, as well as representatives from various SNC organizations, may be utilized as determined by the NSRB Chairman to provide expert advice to the NSRB.

The NSRB shall be composed of members who, as a group, provide expertise to review and audit the operation of a nuclear power plant, and are capable of recognizing and evaluating potential nuclear safety problems and their effects. The Chairman, Vice Chairman and each member of the NSRB and subcommittees, as a minimum, shall have a bachelor's degree in engineering or related sciences and five years technical experience in which at least three years shall be in one of the following areas:

- Nuclear power plant operations
- Nuclear engineering
- Chemistry and radiochemistry
- Metallurgy
- Nondestructive testing
- Instrumentation and control
- Radiological safety
- Mechanical and electrical engineering, and
- Administrative controls and quality assurance practices

Termination of membership on the NSRB shall be authorized in writing by the CNO.

Subcommittees may be appointed by the NSRB Chairman or the Vice Chairman to perform designated activities. Subcommittee actions shall be reported to and acted on by the NSRB. Subcommittee Chairmen will be members or alternate members of the NSRB. Membership of the subcommittees will be authorized in writing by the NSRB Chairman or Vice Chairman.

3.0 Meetings

The NSRB shall meet at least twice per year.

The quorum of the NSRB necessary for performance of the NSRB review functions described below shall consist of the Chairman or Vice Chairman and at least a majority of the NSRB members, including alternates. No more than a minority of the quorum shall have line responsibility for onsite operation of any specific plant and no more than two alternates shall participate as voting members in NSRB activities at any one time.

4.0 Reviews

The NSRB shall be responsible for the review of:

- The 10 CFR 50.59 and 10 CFR 72.48 evaluations for
 - Changes to procedures, equipment, or systems; and
 - Tests or experiments completed under provisions of 10 CFR 50.59 or 10 CFR 72.48, to verify that such actions did not require prior NRC approval.
- Proposed changes to procedures, equipment, or systems which require prior NRC approval pursuant to 10 CFR 50.59 or 10 CFR 72.48 prior to submittal for NRC approval;
- Proposed tests or experiments which require prior NRC approval pursuant to 10 CFR 50.49 or 10 CFR 72.48;
- Proposed changes to the plant or ISFSI Technical Specifications or Licenses;
- Violations of codes, regulations, orders, technical specifications, license requirements, or of internal procedures or instructions having nuclear safety significance or abnormal degradation of systems designated to contain radioactive material;
- Significant operating abnormalities or deviations from normal and expected performance of plant or ISFSI equipment that affect nuclear safety;
- All reportable events;
- All recognized indications of an unanticipated deficiency in some aspect of design or operation of structures, systems, or components that could affect nuclear safety; and
- Performance of the Plant Review Board.

5.0 Audits

Audits of plant activities shall be performed under the cognizance of the NSRB. The audits to be performed are discussed in Part II, Section 18 of the QATR.

6.0 Records

Records of the NSRB activities shall be prepared, approved, and distributed as indicated below:

- Minutes of each NSRB meeting shall be prepared, approved, and forwarded to the CNO within 21 days following each meeting;
- Reports or subcommittee meeting minutes of reviews as described above shall be prepared, approved, and forwarded to the CNO within 21 days following completion of the review, and
- Audit reports as described above shall be forwarded to the CNO and to the management positions responsible for the areas audited within 30 days after completion by the auditing organization.

APPENDIX C: QUALITY ASSURANCE SURVEILLANCES

Periodic surveillances of plant activities shall be conducted to examine subjects such as plant operating characteristics and plant design and operating experience information, which may indicate areas for improving plant safety. These reviews are used to determine if the activities are being performed correctly and if human errors are being reduced as much as practical. The reviewer shall make detailed recommendations for revised procedures, equipment modifications, maintenance activities, operations activities, or other means of improving plant safety to appropriate management. A periodic summary report shall be provided to the appropriate vice president.

Persons performing QA Surveillances will be independent of performance functions, the signoff function, and the plant management chain while performing the oversight activity.

Persons performing QA Surveillances will be sufficiently qualified to properly conduct the reviews, and shall be engineers or appropriate specialists.

QA Surveillances are performed under the direction of the senior manager responsible for quality assurance.

APPENDIX D: DEFINITIONS

SNC uses the definitions of terms as provided in Section 4 of the Introduction of NQA-1-1994 in interpreting the requirements of NQA-1-1994 and the other standards to which the QATR commits. In addition, definitions are provided for the following terms not covered in NQA-1-1994:

Administrative controls: rules, orders, instructions, procedures, policies, practices and designations of authority and responsibility.

Construction: as used in this QATR, Construction shall mean the performance of major rework or modification activities during the Operations Phase that are similar in nature to activities performed during the construction phase such as, but not limited to, steam generator replacement, cooling tower replacement, and ISFSI installation. This program does not cover construction phase activities.

Emergency procedures: see Appendix E.

Experiments: performance of plant operations carried out under controlled conditions in order to establish characteristics or values not previously known.

Maintenance and modification procedures: written procedures defining the policies and practices by which structures, mechanical, electrical, and instrumentation and control systems, and components thereof, are kept in a condition of good repair or efficiency so that they are capable of performing their intended functions.

Nuclear power plant: any plant using a nuclear reactor to produce electric power, process steam or space heating.

Off-normal condition procedures: written procedures which specify operator actions for restoring an operating variable to its normal controlled value when it departs from its range, or to restore normal operating conditions following a perturbation. (May be called Abnormal, Off-normal or other terms conveying the same intent.)

On-site operating organization: on-site personnel concerned with the operation, maintenance and certain technical services.

Operating activities: work functions associated with normal operation and maintenance of the plant, and technical services routinely assigned to the on-site operating organization.

Operating procedures: written procedures defining the normal methods, means and limits of operation of the nuclear power plant, a plant system or systems, or processes, including actions to be taken by operating personnel for removal from and return to service of equipment on which maintenance is to be or has been performed.

Operational phase: that period of time during which the principal activity is associated with normal operation of the plant. This phase of plant life is considered to begin formally with commencement of initial fuel loading, and ends with plant decommissioning.

Review: a deliberately critical examination, including observation of plant operation, evaluation of assessment results, procedures, certain contemplated actions, and after-the-fact investigations of abnormal conditions.

Supervision: direction of personnel activities or monitoring of plant functions by an individual responsible and accountable for the activities they direct or monitor.

Surveillance testing: periodic testing to verify that safety related structures, systems, and components continue to function or are in a state of readiness to perform their functions, and to provide assurance that failures or substandard performance do not remain undetected and that the required reliability of safety related systems is maintained. Such functions include keeping parameters within normal bounds or acting to put the plant in a safe condition if they exceed normal bounds.

System: an integral part of nuclear power plant comprising components which may be operated or used as a separate entity to perform a specific function.

APPENDIX E: PROCEDURES

This appendix contains a description of the various types of procedures used by SNC to govern the design, operation, and maintenance of its nuclear generating plants. Each procedure shall be sufficiently detailed for a qualified individual to perform the required function without direct supervision, but need not provide a complete description of the system or plant process.

Procedure format and content may vary from one location to the other. However, procedures include the following elements as appropriate to the purpose or task to be described.

- **Title/status**

Each procedure is given a title descriptive of the work or subject it addresses, and includes a revision number and/or date and an approval status.

- **Purpose/Statement of applicability/Scope**

The purpose for which the procedure is intended is clearly stated (if not clear from the title). The systems, structures, components, processes or conditions to which the procedure applies are also clearly described.

- **References**

Applicable references, including reference to appropriate Technical Specifications, are required. References are included within the body of the procedure when the sequence of steps requires other tasks to be performed (according to the reference) prior to or concurrent with a particular step.

- **Prerequisites/Initial Conditions**

Prerequisites/initial conditions identify those independent actions or procedures that must be accomplished and plant conditions which must exist prior to performing the procedure. A prerequisite applicable to only a specific portion of a procedure is so identified.

- **Precautions**

Precautions alert the user to those important measures to be used to protect equipment and personnel, including the public, or to avoid an abnormal or emergency situation during performance of the procedure. Cautionary notes applicable to specific steps are included in the main body of the procedure and are identified as such.

- **Limitations and actions**

Limitations on the parameters being controlled and appropriate corrective measures to return the parameter to the normal control band are specified.

- **Main body**

The main body of the procedure contains the step-by-step instructions in the degree of detail necessary for performing the required function or task.

- **Acceptance criteria**

The acceptance criteria provide the quantitative or qualitative criteria against which the success or failure (as of a test-type activity) of the step or action would be judged.

Checklists

Complex procedures utilize checklists which may be included as part of the procedure or appended to it.

Administrative Control Procedures

These include administrative procedures, directives, policies, standards, and similar documents that control the programmatic aspects of facility activities. These administrative documents ensure that the requirements of regulatory and license commitments are implemented. Several levels of administrative controls are applied ranging from those affecting the entire Company to those prepared at the implementing group level. These documents establish responsibilities, interfaces, and standard methods (rules of practice) for implementing programs. In addition to the administrative controls described throughout this QATR, instructions governing the following activities are provided:

- **Operating Orders/Procedures**

Instructions of general and continuing applicability to the conduct of business to the plant staff are provided. Examples where these are applied include, but are not limited to, job turnover and relief, designation of confines of control room, definition of duties of operators and others, transmittal of operating data to management, filing of charts, limitations on access to certain areas and equipment, shipping and receiving instructions. Provisions are made for periodic review and updating of these documents, where appropriate.

- **Special Orders**

Management instructions, which have short-term applicability and require dissemination, are issued to encompass special operations, housekeeping, data taking, publications and their distribution, plotting process parameters, personnel actions, or other similar

matters. Provisions are made for periodic review, updating, and cancellation of these documents, where appropriate.

- **Plant Security and Visitor Control**

Procedures or instructions are developed to supplement features and physical barriers designed to control access to the plant and, as appropriate, to vital areas within the plant. Information concerning specific design features and administrative provisions of the plant security program is confidential and thus accorded limited distribution. The security and visitor control procedures consider, for example, physical provisions, such as: fences and lighting; lock controls for doors, gates and compartments containing sensitive equipment; and provisions for traffic and access control. Administrative provisions, such as: visitor sign-in and sign-out procedures; escorts and badges for visitors; emphasis on inspection, observation and challenging of strangers by operating crews; and a program of pre-employment screening for potential employees are also considered.

- **Temporary Procedures**

Temporary procedures may be used to direct operations during testing, refueling, maintenance, and modifications to provide guidance in unusual situations not within the scope of the normal procedures. These procedures ensure orderly and uniform operations for short periods when the plant, a system, or a component of a system is performing in a manner not covered by existing detailed procedures or has been modified or extended in such a manner that portions of existing procedures do not apply. Temporary Procedures include designation of the period of time during which they may be used and are subject to the procedure review process as applicable.

Engineering Procedures

These documents provide instructions for the preparation of engineering documents, engineering analysis, and implementation of engineering programs. This includes activities such as designs; calculations; fabrication, equipment, construction, and installation specifications; drawings; analysis and topical reports; and testing plans or procedures. They include appropriate references to industry codes and standards, design inputs, and technical requirements.

Installation Procedures

These documents provide instructions for the installation of components generally related to new construction and certain modification activities. They include appropriate reference to industry standards, installation specifications, design drawings, and supplier and technical manuals for the performance of activities. These documents include provisions, such as hold or witness points, for conducting and recording results of required inspections or tests. These documents may include applicable inspection and test instructions subject to the requirements for test and inspection procedures below.

System Procedures

These documents contain instructions for energizing, filling, venting, draining, starting up, shutting down, changing modes of operation, and other instructions appropriate for operations of systems related to the safety of the plant. Separate procedures may be developed for correcting off-normal conditions for those events where system complexity may lead to operator uncertainty. Appropriate procedures will also be developed for the fire protection program.

Start-up Procedures

These documents contain instructions for starting the reactor from cold or hot conditions and establishing power operation. This includes documented determination that prerequisites have been met, including confirmation that necessary instruments are operable and properly set; valves are properly aligned, necessary system procedures, tests and calibrations have been completed; and required approvals have been obtained.

Shutdown Procedures

These documents contain guidance for operations during controlled shutdown and following reactor trips, including instructions for establishing or maintaining hot shutdown/standby or cold shutdown conditions, as applicable. The major steps involved in shutting down the plant are specified, including instructions for such actions as monitoring and controlling reactivity, load reduction and cooldown rates, sequence for activating or deactivating equipment, requirements for prompt analysis for causes of reactor trips or abnormal conditions requiring unplanned controlled shutdowns, and provisions for decay heat removal.

Power Operation and Load Changing Procedures

These documents contain instructions for steady-state power operation and load changing. These type documents include, as examples, provisions for use of control rods, chemical shim, coolant flow control, or any other system available for short-term or long-term control of reactivity, making deliberate load changes, responding to unanticipated load changes, and adjusting operating parameters.

Process Monitoring Procedures

These documents contain instructions for monitoring performance of plant systems to assure that core thermal margins and coolant quality are maintained in acceptable status at all times, that integrity of fission product barriers is maintained, and that engineered safety features and emergency equipment are in a state of readiness to keep the plant in a safe condition if needed. Maximum and minimum limits for process parameters are appropriately identified. Operating procedures address the appropriate nature and frequency of this monitoring.

Fuel Handling Procedures

These documents contain instructions for core alterations, accountability of fuel and partial or

complete refueling operations that include, for example, continuous monitoring of neutron flux throughout core loading, periodic data recording, audible annunciation of abnormal flux increases, and evaluation of core neutron multiplication to verify safety of loading increments. Procedures are also provided for receipt and inspection of new fuel, and for fuel movements in the spent fuel storage areas. Fuel handling procedures include prerequisites to verify the status of systems required for fuel handling and movement; inspection of replacement fuel and control rods; designation of proper tools, proper conditions for spent fuel movement, proper conditions for fuel cask loading and movement; and status of interlocks, reactor trip circuits and mode switches. These procedures provide requirements for refueling, including proper sequence, orientation and seating of fuel and components, rules for minimum operable instrumentation, actions for response to fuel damage, verification of shutdown margin, communications between the control room and the fuel handling station, independent verification of fuel and component locations, criteria for stopping fuel movements, and documentation of final fuel and component serial numbers (or other unique identifiers) and locations.

Maintenance Procedures

These documents contain instructions in sufficient detail to permit maintenance work to be performed correctly and safely, and include provisions, such as hold or witness points, for conducting and recording results of required inspections or tests. These documents may include applicable inspection or test instructions subject to the requirements for test and inspection procedures below. Appropriate referencing to other procedures, standards, specifications, or supplier manuals is provided. When not provided through other documents, instructions for equipment removal and return to service, and applicable radiation protection measures (such as protective clothing and radiation monitoring) will be included. Additional maintenance procedure requirements are addressed in NQA-1-1994, Subpart 2.18, Section 2.2, Procedures.

Radiation Control Procedures

These documents contain instructions for implementation of the radiation control program requirements necessary to meet regulatory commitments, including acquisition of data and use of equipment to perform necessary radiation surveys, measurements and evaluations for the assessment and control of radiation hazards. These procedures provide requirements for monitoring both external and internal exposures of employees, utilizing accepted techniques; routine radiation surveys of work areas; effluent and environmental monitoring in the vicinity of the plant; radiation monitoring of maintenance and special work activities, and for maintaining records demonstrating the adequacy of measures taken to control radiation exposures to employees and others.

Calibration and Test Procedures

These documents contain instructions for periodic calibration and testing of instrumentation and control systems, and for periodic calibration of measuring and test equipment used in activities affecting the quality of these systems. These documents provide for meeting surveillance requirements and for assuring measurement accuracy adequate to keep safety-related parameters within operational and safety limits.

Chemical and Radiochemical Control Procedures

These documents contain instructions for chemical and radiochemical control activities and include: the nature and frequency of sampling and analyses; instructions for maintaining coolant quality within prescribed limits; and limitations on concentrations of agents that could cause corrosive attack, foul heat transfer surfaces, or become sources of radiation hazards due to activation. These documents also provide for the control, treatment and management of radioactive wastes, and control of radioactive calibration sources.

Emergency Operating Procedures

These documents contain instructions for response to potential emergencies so that a trained operator will know in advance the expected course of events that will identify an emergency and the immediate actions that should be taken in response. Format and content of emergency procedures are based on regulatory and Owner's Group(s) guidance that identify potential emergency conditions and generally require such procedures to include a title, symptoms to aid in identification of the nature of the emergency, automatic actions to be expected from protective systems, immediate operator actions for operation of controls or confirmation of automatic actions, and subsequent operator actions to return the reactor to a normal condition or provide for a safe extended shutdown period under abnormal or emergency conditions.

Emergency Plan Implementing Procedures

These documents contain instructions for activating the Emergency Response Organization and facilities, protective action levels, organizing emergency response actions, establishing necessary communications with local, state and federal agencies, and for periodically testing the procedures, communications and alarm systems to assure they function properly. Format and content of such procedures are such that requirements of each facility's NRC approved Emergency Plan are met.

Test and Inspection Procedures

These documents provide the necessary measures to assure quality is achieved and maintained for the nuclear facilities. The instructions for tests and inspections may be included within other procedures, such as installation and maintenance procedures, but will contain the objectives, acceptance criteria, prerequisites for performing the test or inspection, limiting conditions, and appropriate instructions for performing the test or inspection, as applicable. These procedures also specify any special equipment or calibrations required to conduct the test or inspection and provide for appropriate documentation and evaluation by responsible authority to assure test or inspection requirements have been satisfied. Where necessary, hold or witness points are identified within the procedures and require appropriate approval for the work to continue beyond the designated point. These procedures provide for recording the date, identification of those performing the test or inspection, as-found condition, corrective actions performed (if any), and as-left condition, as appropriate for the subject test or inspection.

APPENDIX F: QUALITY ASSURANCE OF THE INDEPENDENT SPENT-FUEL STORAGE INSTALLATION

This Appendix F describes the administrative controls and the quality assurance (QA) program requirements applied to important-to-safety (ITS) structures, systems, and components associated with independent spent fuel storage installation (ISFSI) to assure conformance to regulatory requirements and the design bases. This program is an extension of the quality assurance program requirements described in the QATR, modified to address 10 CFR 72 Subpart G items specific to ISFSI and related support activities.

The QA program requirements described in the QATR are applicable to ISFSI items classified as ITS Category A and ITS Category B. Specific aspects of the QA program requirements described in the QATR are applied to ITS Category C items as specified in the individual subsections.

The following definitions are applicable to activities and items covered by this Appendix F:

ITS structures, systems, and components are those features of an ISFSI whose function is to:

- Maintain the conditions required to store spent fuel safely,
- Prevent damage to the spent fuel container during handling storage, or
- Provide reasonable assurance that spent fuel can be received, handled, packaged, stored, and retrieved without undue risk to the health and safety of the public.

The definition of ITS safety categories below are based on NUREG/CR-6407, "Classification of Transportation Packaging and Dry Spent Fuel Storage System Components According to Importance to Safety."

1. Category A - ITS Category A items include structures, components, and systems whose failure could directly result in a condition adversely affecting public health and safety. The failure of a single item could cause loss of primary containment leading to release of radioactive material, loss of shielding, or unsafe geometry compromising criticality control.
2. Category B - ITS Category B items include structures, components, and systems whose failure or malfunction could indirectly result in a condition adversely affecting public health and safety. The failure of a Category B item, in conjunction with failure of an additional item, could result in an unsafe condition.
3. Category C - ITS Category C items include structures, components, and systems whose failure or malfunction would not significantly reduce the packaging effectiveness and would not be likely to create a situation adversely affecting public health and safety.

The QA program requirements, as described in the following QATR sections and subsections, are applied to ITS Category A, B, and C items unless modified by the description below:

- Part II, Section 1 Organization

The corporate organization established to support the operation of the plant also functions to support operation of the ISFSI.

Additional offsite support is provided by the spent fuel storage vendor.

Those plant organizations with responsibilities related to 10 CFR 50.59 evaluation reviews also perform the corresponding ISFSI evaluation reviews under 10 CFR 72.48.

- Part II, Section 2 QA Program

QA program requirements are applied to the ISFSI and support structures, systems, and components using a graded approach based on the ISFSI item classification. ITS Category A, B and C are identified in the respective 10 CFR 72.212 Report, as applicable. Items identified as not important to safety in the respective 10 CFR 72.212 Report are excluded from the QA program.

The plant organization has the same responsibilities for ITS Category A and Category B items as it does for other plant activities. .

- Part II, Section 3 Design Control

Design control measures for ITS Category A and Category B items are applied where appropriate per the controls in the QATR. Additional review concerns that are specific to the ISFSI are criticality physics, shielding, and features to facilitate decontamination.

The designs of ITS Category C items specify procurement, inspection, and testing at a level appropriate for the importance of the function performed.

- Part II, Section 4 Procurement Document Control

A graded approach is applied through the use of a multi-level procurement classification system based upon the end-use of each item or service. Items procured as ITS Category A or Category B are controlled as described in the QATR. ITS Category A or Category B items procured as commercial grade are controlled by the existing commercial grade dedication program. ITS Category C items are procured as appropriate for function and safety importance, and are excluded from the provisions of 10 CFR 21.

- Part II, Section 5 Instructions, Procedures, and Drawings

- Part II, Section 6 Document Control

- Part II, Section 16 Corrective Action

- Part II, Section 17 QA Records

Records pertaining to design, fabrication, erection, testing, maintenance, and use of ITS items are maintained for the duration of the General License granted under

Subpart K of 10 CFR 72 for the specific storage system.

- Part II, Section 18 Audits

Audits are performed on a frequency not to exceed 24 months for quality activities related to the operation and maintenance of the ISFSI.

The QA program requirements, as described in the following identified QATR sections, are applied to ITS Category A and B items.

- Part II, Section 7 Control of Purchased Material, Equipment, and Services.
- Part II, Section 8 Identification and Control of Materials, Parts, and Components.
- Part II, Section 9 Control of Special Processes.
- Part II, Section 10 Inspection.
- Part II, Section 11 Test Control.
- Part II, Section 12 Control of Measuring and Test Equipment.
- Part II, Section 13 Handling, Storage, and Shipping.
- Part II, Section 14 Inspection, Test, and Operating Status.
- Part II, Section 15 Nonconforming Materials, Parts, and Components.

Joseph M. Farley Nuclear Plant; Edwin I. Hatch Nuclear Plant
Vogtle Electric Generating Plant

Enclosure 2

SNC QATR Summary of Changes

QATR Version 14.0

- 1) Cover page: Penny Reister replaced Todd Youngblood as Vice President Nuclear Oversight.
- 2) Part II, Section 1.2: Deleted reference to Figures II.1-1 and II.1-2. The actual figures were deleted during Version 13.0.
- 3) Part II, Section 1.2.1.1.1.2.3: Added "provides expertise in the area of dry spent fuel storage."
- 4) Part II, Section 1.2.1.1.1.2.7: The "senior manager responsible for industrial safety" is now the "senior manager responsible for health and safety."
- 5) Part II, Section 1.2.1.1.1.2.7.1: Title was the "senior manager responsible for industrial safety."
- 6) Part II, Section 1.2.1.1.1.4: Clarified that the VP – Engineering is responsible for providing technical directions to the senior manager responsible for supply chain.
- 7) Part II, Section 1.2.1.1.1.4.1: Deleted "dry spent fuel storage."
- 8) Part II, Section 1.2.1.1.1.4.4: Clarified that the senior manager responsible for supply chain reports directly to the VP Supply Chain Southern Company while providing matrix accountability to the VP – Engineering.
- 9) Part II, Section 1.2.1.1.2.1 and 1.2.1.1.2.1.1: Removed fleet access as a responsibility of the senior manager responsible for human resources and senior manager responsible for medical and fitness for duty. Fleet access is the responsibility of the senior manager responsible for fleet security.
- 10) Appendix A: Provided for the Plant Review Board to advise the plant manager rather than the vice president site.
- 11) Appendix A: Provided for the plant manager to appoint members of the PRB rather than appointments to be made by the vice president site.

QATR Version 15.0

- 1) Part I, Section 1.1: Per Vogtle LDCR 2015024, added paragraph addressing use of 10CFR50.69, "Risk-Informed Categorization and Treatment of Structures, Systems, and Components for Nuclear Power Reactors." This is applicable to Vogtle 1&2 only.
- 2) Part I, Section 1.4: Restated commitment involving "Definitions of terms..." for clarity.
- 3) Part II, Section 1.1: Clarified that design and construction is applicable to the Farley Nuclear Plant, the Hatch Nuclear Plant, and the Vogtle Electric Generating Plant Units 1 & 2.
- 4) Part II, Section 1.2, last paragraph: Deleted the sentence that read, "Portions of the SNC Fleet Operations Support, Engineering, Corporate Services, and General Counsel and External Affairs organizations are also described in the following paragraphs. The described organizations are depicted in organization charts that are a part of this QATR." Organization charts were deleted as part of Version 13.0; Corporate Services and General Counsel and External Affairs are organizations that no longer have a responsibility that is described in the QATR.
- 5) Part II, Section 1.2.1.1: The "vice president and general counsel" no longer reports to the president/CEO. Responsibilities of the vice president and general counsel for compliance, employee concerns, and communications are now directed by the "vice president of human resources" while previous responsibility for environmental compliance activities is now directed by the "vice president regulatory affairs." Added the "senior manager responsible for communications" as a function reporting to the president/CEO. Also, the "vice president human resources" was the "human resources director."
- 6) Part II, Section 1.2.1.1.1: Clarified that the paragraph defines responsibilities of the "chief nuclear officer/executive vice president" or "chief nuclear officer" throughout. Also, deleted the word "support" from the title for the "vice president – fleet operations" both here and throughout the QATR.
- 7) Part II, Section 1.2.1.1.1.1: The "senior manager responsible for training" was titled the "site training manager." The "senior manager responsible for engineering" was "engineering director."
- 8) Part II, Section 1.2.1.1.1.2: Deleted the word "support" from the title of the "vice president – fleet operations." Clarified titles and/or positions reporting to the vice president – fleet operations. Added that the vice president – fleet operations provides matrix oversight of cyber security and "Enterprise Solutions Support (ESS)."

Enclosure 2 to NL-16-2486
SNC QATR Summary of Changes

- 9) Part II, Section 1.2.1.1.1.2.1: Clarified title of the position as “senior manager responsible for fleet operations.”
- 10) Part II, Section 1.2.1.1.1.2.2: Added clarification concerning responsibilities.
- 11) Part II, Section 1.2.1.1.1.2.3: Added clarification concerning responsibilities.
- 12) Part II, Section 1.2.1.1.1.2.5: Added clarification concerning responsibilities. Also deleted responsibility for cyber security and Enterprise Solutions from the senior manager responsible for fleet security. These functions are now in the purview of the “senior manager responsible for projects” and the “vice president – fleet operations” respectfully.
- 13) Part II, Section 1.2.1.1.1.2.6: Added clarification concerning responsibilities.
- 14) Part II, Section 1.2.1.1.1.2.7: This section did describe responsibilities of the “senior manager responsible for environmental affairs, chemistry, and radiological services.” These functions have been subdivided into three separate functions and are discussed in section 1.2.1.1.1.2.7, 1.2.1.1.1.2.8, and 1.2.1.1.1.2.9. Section 1.2.1.1.1.2.7 now describes the responsibilities of the “senior manager responsible for environmental affairs.”
- 15) Part II, Sections 1.2.1.1.1.2.8 through 1.2.1.1.1.2.11: Added new sections to address functions and responsibilities created by realignment of organizations reporting to the vice president – fleet operations.
- 16) Part II, Section 1.2.1.1.1.2.10: Deleted responsibility for managing the “safety and industrial hygiene staff at each nuclear plant.” Each nuclear plant now has a position of “Manager of Environmental and Health and Safety” that has this responsible.
- 17) Part II, Section 1.2.1.1.1.4: Revised description of the position of Vice President Engineering.
- 18) Part II, Section 1.2.1.1.1.4.1: The “senior manager responsible for fleet engineering” was the “fleet engineering director.”
- 19) Part II, Section 1.2.1.1.1.4.2: Added “cyber security” as a responsibility of the senior manager responsible for projects.
- 20) Part II, Section 1.2.1.1.1.4.3: Revised position title; clarified responsibilities.

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- 21) Part II, section 1.2.1.1.1.4.5: This section did describe functions of the "senior manager responsible for risk-Informed engineering." This position is now a part of the "senior manager responsible for fleet nuclear fuel and analysis," section 1.2.1.1.1.4.3.
- 22) Part II, Section 1.2.1.1.2: Revised this section to incorporate description of the senior manager responsible for human resources. The position of the senior manager responsible for human resources no longer exists. The vice president human resources directs the senior manager responsible for medical and fitness-for-duty activities.
- 23) Part II, Section 1.2.1.1.2.1: This section renumbered; now addresses functions of the senior manager responsible for medical and fitness-for-duty.
- 24) Part II, Section 1.2.1.1.3: Changed the term "nuclear licensing" to be "regulatory affairs."
- 25) Part II, Section 1.2.1.1.3.1: Changed the term "nuclear licensing" to be "regulatory affairs." Clarified wording used to describe reporting relationship of the senior manager responsible for regulatory response and senior manager responsible for licensing.
- 26) Part II, Section 1.2.2.1: Changed "health physics" to "radiation protection" and changed "work controls" to "work management."
- 27) Part II, Section 1.2.2.1.1: Replaced the word "assigned" with the word "peer" to better define the type of quality control measures under the responsibilities of the senior manager responsible for maintenance.
- 28) Part II, Section 1.2.2.1.4: "Radiation protection" was "health physics."
- 29) Part II, Section 1.2.2.1.6: Added to address a new position of "senior manager responsible for safety and health" at each plant site.
- 30) Part II, Section 1.2.2.2: Position title was "Regulatory Affairs Manager (RAM)." Deleted reference to "RAM" throughout.
- 31) Part II, Section 1.2.2.2.2: There is no position titled "senior manager responsible for emergency preparedness." This is a supervisory position that is the responsibility of the "senior manager responsible for regulatory affairs." Supervisory positions are not described within the QATR.
- 32) Part II, Section 1.2.2.3.1: "Fleet engineering director" was "chief engineer."

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- 33) Part II, Section 1.2.2.4: Revised to state, "Implementation of initial and continuing non-accreditation training programs is the responsibility of applicable non-licensed departmental managers and supervisors."
- 34) 1.3 NQA-1-1994 Commitment: Identified that the "organizational structure" was a commitment from Part II of NQA-1-1994.
- 35) Part II, Pages II.1-13 and II.1-14: Deleted blank pages.
- 36) Part II, Section 7, Paragraph 7.2: Added "dated June 1988" to clarify applicable date of EPRI NP-2652. (Based on the premises that the applicable date corresponds with the document's date as associated with Generic Letters 89-02 and 91-05.)