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November 21, 2013

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

NL-13-2418

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:

In accordance with the requirements of 10 CFR 50.54(a)(3), Southern Nuclear Operating Company (SNC) is submitting Version 12.0 of the SNC Quality Assurance Topical Report (QATR) for Joseph M. Farley Nuclear Plant, Edwin I. Hatch Nuclear Plant and Vogtle Electric Generating Plant (Enclosure 1). A summary of changes incorporated in Version 12.0 of the SNC QATR is provided in Enclosure 2.

If you have any questions, please contact Ken McElroy at (205) 992-7369.

Respectfully submitted,

A handwritten signature in cursive script that reads "C. R. Pierce".

C. R. Pierce  
Regulatory Affairs Director

CRP/JLS/

Enclosures: 1. SNC QATR Version 12.0  
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  
Mr. T. A. Lynch, Vice President - Farley  
Mr. D. R. Madison, Vice President – Hatch  
Mr. T. E. Tynan, Vice President – Vogtle  
Mr. B. L. Ivey, Vice President – Regulatory Affairs  
RType: CFA04.054; CHA02.004; CVC7000

U. S. Nuclear Regulatory Commission

Mr. V. M. McCree, Regional Administrator  
Mr. G.E. Miller, NRR Project Manager – Farley  
Mr. E. D. Morris, Senior Resident Inspector – Hatch  
Mr. L. M. Cain, Senior Resident Inspector – Vogtle  
Mr. P. K. Niebaum, Senior Resident Inspector – Farley  
Mr. J. R. Sowa, Senior Resident Inspector - Farley  
Mr. R. Martin, NRR Project Manager – Hatch, Vogtle

Alabama Department of Public Health

Dr. D. E. Williamson, State Health Officer

State of Georgia

Mr. Allen Barnes, Environmental Director Protection Division

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

**Enclosure 1**

**SNC QATR Version 12.0**

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 12.0

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## **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 12.0**

**Approved by:**

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

06/17/2013  
Date

Original signed by Todd L. Youngblood  
Todd L. Youngblood  
Vice President Nuclear Oversight

06/03/2013  
Date

Effective Date: 06/19/2013

**SOUTHERN NUCLEAR OPERATING COMPANY, INC.**  
**QUALITY ASSURANCE TOPICAL REPORT**

**REVISION DESCRIPTION TABLE**

<b>Version Number</b>	<b>Revision Description</b>
1.0	QATR approved and implemented 12/15/07.
2.0	<p><u>In Paragraph 18.1</u>, revised requirement that the fire protection audit team include an outside consultant from “at least once per 36 months” to “at least once per 24 months.” Also removed the 25% extension allowance for audits of Emergency Planning and Security.</p> <p><u>In Appendix A</u>, Section 1.0, added a period at the end of the sentence; in Section 2.0, the word “Alternate” in the second sentence of the second paragraph was changed to “alternate.”</p> <p><u>In Appendix B</u>, Section 2.0, revised the title of “Quality Assurance Manager” to “Fleet Oversight Manager;” changed the word “alternatives” in the second paragraph to “alternate;” added a requirement that the Vice Chairman is required to have a bachelor's degree in engineering or related sciences and five years technical experience; changed “EVP” to “CNO” in step describing termination of membership on the NSRB.</p> <p><u>In Appendix B</u>, Section 3.0, the “NSRB shall meet at least twice per year” did read “NSRB shall meeting at least once per 6 months.”</p>
3.0	<p><u>Section 1.2.1.1.1.2.4</u> – Added responsibility for “maintenance of dosimetry software and other programs” to the responsibilities of the Senior Manager Responsible for Fleet Chemistry and Health Physics.</p> <p><u>Section 1.2.1.1.4.1</u> – Removed the requirement for “maintenance of dosimetry software and other programs” from the responsibilities of the Senior Manger Responsible for Environmental Affairs.</p> <p><u>Appendix B</u>, Section 6.0 – Change the requirement to issue minutes of NSRB and subcommittee meetings from 14 days to 21 days following each meeting.</p>

**SOUTHERN NUCLEAR OPERATING COMPANY, INC.  
QUALITY ASSURANCE TOPICAL REPORT**

**REVISION DESCRIPTION TABLE**

<b>Version Number</b>	<b>Revision Description</b>
4.0	<p><u>Policy Statement</u> – J. H. Miller replaced J. Barney Beasley as president and chief executive officer.</p> <p><u>Sections 1.2.1.1.1.1 and 1.2.2.3</u> – Changed the title of Engineering Manager to Engineering Director</p> <p><u>Section 1.2.1.1.1.2</u> – Added that the vice president – fleet operations support directs the manager – safety and health regarding operations-related support functions and the manager – information technology.</p> <p><u>Section 1.2.1.1.1.2.1</u> – Provided clarification that the fleet operations manager provides “strategic” direction to the plant operations department.</p> <p><u>Section 1.2.1.1.1.2.7</u> – Added paragraph showing the senior manager responsible for safety and health now reporting to the vice president – fleet operations support.</p> <p><u>Section 1.2.1.1.1.2.8</u> – Added paragraph showing the senior manager responsible for information technology now reporting to the vice president – fleet operations support.</p> <p><u>Section 1.2.1.1.2</u> – Added supply chain activities and the senior manager responsible for supply chain to responsibilities of the vice president – engineering.</p> <p><u>Section 1.2.1.1.2.6</u> – Added paragraph showing the senior manager responsible for supply chain reporting to the vice president – engineering.</p> <p><u>Section 1.2.1.1.3</u> – Revised to delete the Vice President - Corporate Service.</p> <p><u>Section 1.2.1.1.3.1</u> – This section was deleted. Functions of the senior manager responsible for supply chain have been moved to Section 1.2.1.1.2.6.</p> <p><u>Section 1.2.1.1.3.2</u> – This section was deleted. Functions of the senior manager responsible for safety and health have been moved to Section 1.2.1.1.2.7.</p> <p><u>Section 1.2.1.1.3.3</u> – This section was deleted. Functions of the senior manager responsible for information technology have been moved to 1.2.1.1.2.8.</p> <p><u>Section 1.2.2.2</u> – Changed emergency planning to emergency preparedness consistent with site responsibility for emergency preparedness and corporate responsibility for emergency planning.</p> <p><u>Section 1.2.2.2.2</u> – Deleted emergency preparedness from title and responsibility for the training and emergency preparedness manager.</p> <p><u>Section 1.2.2.2.3</u> – Changed senior manager responsible for performance analysis to senior manager responsible for performance improvement.</p> <p><u>Section 1.2.2.2.4</u> – Added to describe emergency preparedness supervisor and corresponding responsibilities.</p> <p><u>Figures II.1-1 and II.1-2</u> – Revised to reflect above described changes.</p>



**SOUTHERN NUCLEAR OPERATING COMPANY, INC.**  
**QUALITY ASSURANCE TOPICAL REPORT**

**REVISION DESCRIPTION TABLE**

5.0	<p>Added paragraph to Section 7.2 clarifying controls associated with conditional release of nonconforming items.</p> <p>Appendix B - Revised membership of the Nuclear Safety Review Board as defined in Paragraph 2.0, Membership: added the Vice President – Fleet Operations Support; added four external members; deleted the senior manager responsible for nuclear fuel; defined minimum regular membership as six members.</p>
6.0	<p><u>Paragraph 1.2.2.3:</u> Added responsibility for rapid response team in support of emergent plant engineering issues.</p> <p><u>Paragraph 1.2.2.3.2:</u> Deleted “and programs” from responsibilities of Engineering Support Manager.</p> <p><u>Paragraph 1.2.2.3.3:</u> Added new position of Senior Manager Responsible for Technical Services.</p> <p><u>Figure II.1-2:</u> Added new position of Senior Manager Responsible for Technical Services who will report to the Engineering Director and be responsible for providing technical direction and support for plant technical activities in the area of program management and emergent plant engineering issues.</p> <p><u>Appendix B, Section 2:</u> (1) Added the words “a minimum of” in defining the number of regular and external members required; (2) Decreased the number of required external members from four to two; (3) Clarified that subcommittee members must meet the same minimum qualification requirements as NSRB members; (4) Provided for the NSRB chairman or vice chairman to be able to establish membership of a subcommittee; (5) Defined the Vice President – Vogtle as being the Vice President Vogtle Units 1 and 2.</p>
7.0	<p><u>Revised Section 1.2.1.1.2.3,</u> Item B, of the Quality Assurance Topical Report (QATR) to remove “security” from the responsibilities of the senior manager responsible for engineering services. This activity is the responsibility of the senior manager responsible for nuclear fleet security and emergency preparedness.</p> <p><u>Revised Section 1.2.1.1.2.2,</u> Item B, of the QATR to remove “Emergency Plan” from the responsibilities of the senior manager responsible for nuclear licensing. This activity is the responsibility of the senior manager responsible for nuclear fleet security and emergency preparedness.</p> <p><u>Revised Section 1.2.1.1.2.6</u> of the QATR to add “Emergency Plan” as being the responsibility of the senior manager responsible for nuclear fleet security and emergency preparedness.</p> <p><u>Revised Section 1.2.2.3.2</u> of the QATR to remove “quality control inspections” and “plan for contractor activities involving steam generators, reactor vessel inspections” from the responsibilities of the senior manager responsible for engineering support.</p> <p><u>Revised Section 1.2.2.3.3</u> of the QATR to add “quality control inspections” and “plan for contractor activities involving steam generators, reactor vessel inspections” as being the responsibility of the senior manager responsible for technical services.</p> <p><u>Renumbered Paragraph 1.2.1.1.4 to read 1.2.1.1.3.</u> This paragraph was numbered incorrectly in previous versions of the QATR.</p> <p><u>Revised Figure II.1-2 and Appendix B, Section 2,</u> of the QATR to define the Vice President – Vogtle as being the Vice President – Vogtle 1 and 2. This change was approved as part of Version 6.0; however, the physical change was not incorporated.</p> <p>The changes described above were approved under LDCRs 2009065 (Farley), 2009056 (Hatch) and 2009089 (Vogtle).</p>

8.0	<p><u>Section 1.2.1.1.2:</u> Added senior manager responsible for probabilistic risk assessment reporting to the Vice President Engineering; added probabilistic risk assessment as a function of the engineering organization.</p> <p><u>Section 1.2.1.1.2.2:</u> The regulatory response manager and licensing manager replaced the project specific licensing supervisors, the probabilistic risk assessment manager and the licensing manager. Deleted Parts C and D to agree with above described changes.</p> <p><u>Section 1.2.1.1.2.7:</u> Added to describe functions of the senior manager responsible for probabilistic risk assessment activities.</p> <p><u>Figures II.1-1:</u> Revised to reflect changes described above involving PRA.</p> <p>The changes described above pertaining to Nuclear Licensing and PRA were approved under LDCRs 2009042 (Farley), 2009046 (Hatch) and 2009074 (Vogtle).</p> <hr/> <p><u>Section 1.2.1.1.1.2:</u> Deleted the senior manager responsible for fleet chemistry and health physics reporting to the Vice President Fleet Operations Support. This position now reports to the Vice President and General Counsel (see Section 1.2.1.1.3)</p> <p><u>Section 1.2.1.1.1.2.4:</u> Deleted paragraph describing functions of the senior manager responsible for fleet chemistry and health physics; these functions are now described in Section 1.2.1.1.4.1.</p> <p><u>Section 1.2.1.1.3:</u> Added chemistry and radiological services as responsibilities of the Vice President and General Counsel.</p> <p><u>Section 1.2.1.1.4.1:</u> Title was senior manager responsible for environmental affairs. Revised to address functions related chemistry and radiological services.</p> <p><u>Figures II.1-1:</u> Revised to reflect changes described above involving chemistry and radiological services.</p> <p>The changes described above pertaining to Environmental Affairs, Chemistry and Radiological Services were approved under LDCRs 2009068 (Farley), 2009060 (Hatch) and 2009093 (Vogtle).</p>
9.0	<p><u>Part II, Section 1 Organization:</u> Revised to add a disclaimer describing the relationship between Chapter 13 of the FSAR to the QATR. Generic titles are used in the QATR in describing organizational structures, as necessary, to maintain independence of the QA organization whereas specific titles and responsibilities are provided in Chapter 13 of the FSAR.</p> <p><u>Section 1.2.1.1:</u> Revised to show the Director of Human Resources reporting to the President/CEO. Deleted reference to Vice President Corporate Services; this is now the Vice President and General Counsel. Deleted reference to the Vice President Engineering; this position now reports to the Executive Vice President/CNO.</p> <p><u>Section 1.2.1.1.1:</u> Revised to show the Vice President Engineering reporting to the Executive Vice President/CNO.</p> <p><u>Section 1.2.1.1.1.2:</u> Revised to show the following: Fleet Training and Performance Improvement (formally Performance Analysis) has been divided into two functions; Nuclear Fleet Security and Emergency Preparedness has been divided into two functions; and the Manager – Safety and Health no longer reports to the Vice President – Fleet Operations Support; this position is now described in Section 1.2.1.1.4.1.</p> <p><u>Section 1.2.1.1.1.2.2:</u> Revised to delete responsibility for work controls.</p> <p><u>Section 1.2.1.1.1.2.3:</u> Revised to add responsibility for work controls.</p> <p><u>Section 1.2.1.1.1.2.4:</u> Revised to delete references to activities performed by the Senior Manager responsible for Performance Improvement (formally Performance Analysis).</p> <p><u>Section 1.2.1.1.1.2.5:</u> Revised to delete references to activities performed by the Senior Manager responsible for Emergency Preparedness.</p> <p><u>Section 1.2.1.1.1.2.6:</u> This section formally described functions of the Senior Manager responsible for Safety and Health. This section now describes functions of the Senior Manager responsible for Information Technology.</p>
9.0 (Cont)	<p><u>Section 1.2.1.1.1.2.7:</u> Added to describe functions of the Senior Manager Responsible for</p>

	<p>Fleet Performance Improvement.</p> <p><u>Section 1.2.1.1.1.2.8:</u> Added to describe functions of the Senior Manager Responsible for Emergency Preparedness.</p> <p><u>Section 1.2.1.1.1.4:</u> Revised to clarify responsibilities of Engineering with respect to activities performed by the Nuclear Fuels Department. Also, deleted responsibility for Document Services and maintenance of selected quality assurance records; this is now the responsibility of the Senior Manager responsible for Performance Improvement. Where applicable, changed references to the position of senior manager to reflect the position is now a director. Also, probabilistic risk assessment was changed to agree with the title of risk informed engineering.</p> <p><u>Section 1.2.1.1.1.4.1:</u> Senior manager responsible for design support is now the fleet design director throughout this section.</p> <p><u>Section 1.2.1.1.1.4.2:</u> Senior manager responsible for nuclear licensing is now nuclear licensing director throughout this section.</p> <p><u>Section 1.2.1.1.1.4.3:</u> Senior manager responsible for engineering services is now fleet engineering services director throughout this section.</p> <p><u>Section 1.2.1.1.1.4.5:</u> Senior manager responsible for nuclear fuel is now nuclear fuel director throughout this section. Also, added nuclear fuel performance as a responsibility.</p> <p><u>Section 1.2.1.1.1.4.6:</u> Senior manager responsible for supply chain is now supply chain director throughout this section.</p> <p><u>Section 1.2.1.1.2:</u> This section was incorrectly numbered; subsequent sections were renumbered accordingly. Also, a typographical error was corrected.</p> <p><u>Section 1.2.1.1.3:</u> Added to address responsibilities of the Director of Human Resources.</p> <p><u>Section 1.2.1.1.3.1:</u> Added to address responsibilities of the Senior Manager Responsible for Medical and Fitness For Duty.</p> <p><u>Section 1.2.2.2:</u> Revised to incorporate the Procedure Writing Group, including management of Document Control, as responsibilities of the Site Support Manager.</p> <p><u>Section 1.2.2.2.3:</u> Revised to delete Document Control as a responsibility of the Senior Manager responsible for Performance Improvement.</p> <p><u>Figure II.1-1, Corporate Organization Chart, and Figure II.1-2, Plant Organization Chart:</u> Revised to reflect above changes.</p> <p>The changes described above were approved under LDCRs 2010029 (Farley), 2010023 (Hatch) and 2010025 (Vogtle). Section numbers renumbered to agree with above stated changes in reporting relationships where necessary. Changes to align with recent organizational title changes were also made where applicable.</p>
10.0	<p><u>Part II, Section 1 Organization:</u> Added the word "Safety" in the 3<sup>rd</sup> sentence. The term now reads "Final Safety Analysis Report (FSAR)." This term was approved by LDCRs 2010029 (Farley), 2010023 (Hatch) and 2010025 (Vogtle) during Version 9 changes, however, the word "Safety" was inadvertently omitted.</p> <p>-----</p> <p><u>Paragraph 1.2.1.1.1.4:</u> Changed probabilistic risk assessment to read risk-informed engineering.</p> <p><u>Paragraph 1.2.1.1.1.4.7:</u> Changed probabilistic risk assessment to read risk-informed engineering.</p> <p><u>Figure II.1-1:</u> Changed Probabilistic Risk Assessment to read Risk-Informed Engineering.</p> <p>The above changes related to risk-informed engineering were approved under LDCR 2010052 (Farley), 2010046 (Hatch) and 2010049 (Vogtle).</p>

11.0

The following changes were made to incorporate approved LDCRs 2011035, Version 2 (Farley), 2011058, Version 2 (Hatch), and 2011051, Version 2 (Vogtle).

Policy Statement: S. Kuczynski replaced J. H. Miller, III as President and Chief Executive Officer.

Cover Sheet: Danny G. Bost replaced Jeffery T. Gasser as Executive Vice President and Chief Nuclear Officer.

Sections 7.1 and 18.1: Annual evaluation of a suppliers' performance was replaced with a documented supplier performance monitoring system.

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The following changes were made to incorporate approved LDCRs 2011043, Version 1.0 (Farley), 201177, Version 1.0 (Hatch), and 2011064, Version 1.0 (Vogtle)

Cover Sheet: Todd Youngblood Vice President Fleet Oversight replaced Jeff Williams as Manager of Fleet Oversight as approval authority.

Section 1.2.1.1: Added position of Vice President Regulatory Affairs.

Section 1.2.1.1.1: Added position for Vice President of Fleet Oversight replacing senior manager responsible for quality assurance.

Section 1.2.1.1.1.1: Added site training manager reporting the Vice President - Site.

Section 1.2.1.1.1.2: Fleet work management director was senior manager responsible for fleet refueling outages and work controls; deleted senior manager responsible for nuclear fleet security; added senior manager responsible for environmental affairs, chemistry and radiological; added senior manager responsible for fleet support. Also added the Vice President – Fleet Operations is responsibility for environmental compliances activities for SNC.

Section 1.2.1.1.1.2.3 The senior manager responsible for fleet work management was the senior manager responsible for fleet refueling outages and work controls throughout this section. The word "directory" or "director" was also deleted from this section.

Section 1.2.1.1.1.2.4: Deleted extra wording "The fleet training" at end of paragraph.

Section 1.2.1.1.1.2.5: Added new paragraph describing position for manager responsible for fleet support.

Section 1.2.1.1.1.2.5.1: This section renumbered; was 1.2.1.1.1.2.5.

Section 1.2.1.1.1.2.5.2: This section was 1.2.1.1.1.2.7; the senior manager responsible for fleet performance improvement now reports to the manager responsible for fleet support.

Section 1.2.1.1.1.2.5.3: This section was 1.2.1.1.1.2.8; the senior manager responsible for emergency preparedness now reports to the manager responsible for fleet support.

Section 1.2.1.1.1.2.5.4: Added new paragraph to describe functions of the senior manager responsible for industrial safety. This position reports to the manager responsible for fleet support.

Section 1.2.1.1.1.2.5.5: Added new paragraph to address senior manager responsible for Enterprise Solutions. This position reports to the manager responsible for fleet support.

Section 1.2.1.1.1.2.7: This section was 1.2.1.1.2.1; the senior manager responsible for environmental affairs, chemistry and radiological services now reports to the manager responsible for fleet support.

Section 1.2.1.1.1.3: Added new paragraph describing functions of the Vice President Fleet Oversight which is a new position.

Section 1.2.1.1.1.3.1: This section describing functions of the senior manager responsible for fleet oversight was numbered 1.2.1.1.1.3; fleet oversight was quality assurance throughout.

Section 1.2.1.1.1.4: Deleted nuclear licensing director; this position now reports to the Vice President Regulatory Affairs (see paragraph 1.2.1.1.4). The term "director" as used in this paragraph to describe position titles was changed to read "senior manager responsible for..." Part B was "Evaluation and analysis which are not directly related to design e.g., Technical Specification changes); remaining parts re-lettered. Part D, "Engineering support of" did read "Evaluation on." Part F, deleted portion that read "licensing bases for each site

Section 1.2.1.1.4.1: The title “fleet design director” is inconsistent with the LDCRs which

	<p>use “senior manager responsible for design support” and “design support.” Title and content restored to read “senior manager responsible for fleet design.”</p> <p><u>Section 1.2.1.1.1.4.3 (changed to Section 1.2.1.1.1.4.2 in Version 11.0):</u> Paragraph title in LDCRs is “director responsible for fleet engineering services.” Also the word “directory” is used instead of “director” in the first sentence. Title changed to read “senior manager responsible for fleet engineering services” as part of changes authorized for Version 11.0. The word “directory” was therefore deleted by title change.</p> <p><u>Section 1.2.1.1.1.4.5 (changed to Section 1.2.1.1.1.4.4 in Version 11.0):</u> Title in LDCRs is “senior manager responsible for nuclear fuel.” Title changed to read “senior manager responsible for nuclear fuel.”</p> <p><u>Section 1.2.1.1.2.1 (changed to Section 1.2.1.1.1.2.7 in Version 11.0):</u> Title in LDCRs does not include “chemistry and radiological service.” Title changed to read “senior manager responsible for environmental affairs, chemistry and radiological services.”</p> <p><u>Figure II.1-1, Corporate Organization Chart:</u> Titles for positions reporting to Vice President – Engineering use “director...” rather than “senior manager responsible for...” as documented in the LDCRs. Titles corrected to read “Senior Manager Responsible for...” for positions reporting to the Vice President Engineering.</p> <p><u>Figure II.1-2, Plant Organization Chart:</u> Chart does not include Project Manager Procedure Writing Group or Supervisor Document Control. Added blocks for Procedures Writing Group and Document Control Supervisor.</p> <p><u>Version 10.0 Inaccuracies:</u></p> <p><u>Section 1.2.1.1.1.4:</u> In the description of responsibilities for the Vice President – Engineering, the second sentence uses the title “the risk-informed engineering manager” which is not consistent with the LDCRs which use the term “the senior manager responsible for risk-informed engineering.” The wording has been changed as noted.</p> <p><u>Section 2.2:</u> The word “principal” in the second paragraph was misspelled and has been corrected.</p>
12.0	<p>The following changes were made to incorporate approved Farley LDCR 2013004, Version 1.0, Hatch LDCR 2013002, Version 1.0, and Vogtle LDCR 2013001, Version 1.0.</p> <p>Changed Fleet Oversight to read Nuclear Oversight throughout.</p> <p><u>Paragraph 1.2.1.1.1.3:</u> Revised last sentence to read, “The vice president nuclear oversight directs the nuclear oversight manager located at each plant site and corporate.”</p>

**SOUTHERN NUCLEAR OPERATING COMPANY, INC.  
QUALITY ASSURANCE TOPICAL REPORT**

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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

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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.

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.

## **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).

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- NQA-1-1994, Part I, Introduction, Section 4

SNC QAP conforms to the requirements of NQA-1-1994, Section 4. Additional definitions of terms used in the QAP and not contained in the NQA-1-1994 list of definitions are shown in Appendix D to this QATR.

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## **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 (collectively "Plants") are complete.

#### **1.2 Organizational Structure (Operations Phase)**

The nuclear operations organization (Figures II.1-1 and II.1-2), under the direction of the president and CEO, has direct responsibility for the operation and maintenance of the Plants. The president and CEO reports to the SNC Board of Directors.

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. 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.

##### **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

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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 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 and general counsel, the vice president of regulatory affairs and the human resources director in fulfillment of their responsibilities. The president/CEO reports to the SNC Board of Directors with respect to all matters.

**1.2.1.1.1 Chief Nuclear Officer / Executive Vice President**

The 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 support, 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.

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 site support manager, the site training manager and the engineering director 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.

**1.2.1.1.1.2 Vice President – Fleet Operations Support**

The vice president – fleet operations support 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 support directs the senior manager responsible for fleet operations, the senior manager responsible for fleet maintenance, the senior manager responsible for fleet work management, the senior manager responsible for fleet training, the senior manager responsible for

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performance improvement, , the senior manager responsible for environmental affairs, chemistry and radiological, and the senior manager responsible for fleet support. In addition, the vice president – fleet operations support directs the senior manager responsible for information technology. The vice president – fleet operations support is also responsible for environmental compliance activities for SNC.

**1.2.1.1.1.2.1 Senior manager responsible for fleet operations**

The senior manager responsible for fleet operations is responsible for overall governance, oversight, and support of nuclear plant operations and related functions. The fleet operations manager 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.

**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. The fleet maintenance manager establishes policy level guidance, provides direction to plant maintenance departments regarding maintenance practices, and drives performance improvements where needed.

**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 overall governance, oversight, and support of refueling outage planning and execution and the on-line work control process. The senior manager responsible for fleet work management establishes policy level guidance, provides direction to plant staffs regarding on-line work controls and outage practices and standards, evaluates programs for conformance to industry best practices, and drives performance improvements where needed.

**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.

**1.2.1.1.1.2.5 Manager responsible for fleet support**

The manager responsible for fleet support reports to the vice president – fleet operations support and is responsible for providing directions for industrial safety, security, performance improvement, emergency preparedness and Enterprise Solutions. The fleet support 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. Accordingly, the fleet support manager is responsible for administration of the corrective action program in the corporate

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headquarters. The fleet support manager is responsible for the overall coordination of the corporate emergency preparedness programs (including the common Emergency Operations Facility), and Emergency Plans. The fleet support manager also has responsibility for site emergency response communication. Reporting to the manager responsible for fleet support are: the senior manager responsible for nuclear fleet security; the senior manager responsible for fleet performance improvement; the senior manager responsible for emergency preparedness; the senior manager responsible for industrial safety; and the senior manager responsible for Enterprise Solutions.

**1.2.1.1.1.2.5.1 Senior manager responsible for nuclear fleet security**

The senior manager responsible for nuclear fleet security is responsible for the overall coordination of fleet security activities and programs.

**1.2.1.1.1.2.5.2 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.

**1.2.1.1.1.2.5.3 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.

**1.2.1.1.1.2.5.4 Senior manager responsible for industrial safety**

The senior manager responsible for industrial safety is responsible for coordinating the safety and industrial hygiene program for the nuclear operating company and managing the corporate safety and industrial hygiene staff as well as the safety and industrial hygiene staff at each of the SNC nuclear plants.

**1.2.1.1.1.2.5.5 Senior manager responsible for Enterprise Solutions**

The senior manager responsible for Enterprise Solutions is responsible for providing day-to-day management of the support organization for the new applications that are the core business and work management systems for the supply chain process, nuclear generation, accounting operations and external financial reporting.

**1.2.1.1.1.2.6 Senior manager responsible for information technology**



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The senior manager responsible for information technology is responsible to provide systems development, infrastructure, and support for systems that provide nuclear quality related functions.

**1.2.1.1.1.2.7 Senior manager responsible for environmental affairs, chemistry and radiological services**

The senior manager responsible for environmental affairs, chemistry and radiological services is responsible for technical support in the areas of radiological science including low-level radioactive waste activities and non-radiological environmental activities. The senior manager responsible for environmental affairs, chemistry and radiological services is responsible for overall governance, oversight, and support of plant chemistry, radiation protection and related functions, and for maintenance of dosimetry software and other programs. The environmental affairs, chemistry and radiological services manager provides direction to plant chemistry and health physics departments regarding operating practices, standards, evaluates programs for conformance to industry best practices, and drives performance where needed.

**1.2.1.1.1.3 Vice President Nuclear Oversight**

The vice president 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 nuclear oversight manager located at each plant site and corporate.

**1.2.1.1.1.3.1 Senior manager responsible for nuclear oversight**

The senior manager responsible for nuclear oversight is responsible for managing the Quality Assurance (QA) program described in this QATR, ensuring its implementation in accordance with commitments shown herein, and managing independent assessments. The nuclear oversight organization is composed of a staff at the corporate headquarters and at each Plant site. 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, nuclear fuel, design engineering for plant modifications, project management for major improvement projects, supply chain activities, assuring that specialized engineering expertise is available as needed for normal operations and emergency situations, 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 design, the senior manager responsible for risk-informed engineering, the senior manager

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responsible for fleet engineering services, the senior manager responsible for major projects, the senior manager responsible for nuclear fuel, and the senior manager responsible for supply chain.

The key functional organization within SNC providing support to the Plants is the engineering organization that provides design support, risk-informed engineering and engineering support. SNC engineering is also responsible for nuclear fuel and major projects management. Support activities provided by these SNC organizations and contractors include, but are not limited to, the following:

- A. Design support including creation, revision, and retention of calculations, domestic documents, vendor drawings, and other design basis material.
- B. Inservice inspection and testing.
- C. Nuclear fuel procurement, nuclear fuel and core design, nuclear fuel reload licensing, nuclear fuel performance, dry storage fuel selection, nuclear fuel procurement vendor oversight.
- D. Engineering support of licensing issues.
- E. Maintenance of the plant design basis (e.g., calculations, design criteria, and functional system descriptions) for each site.
- F. Maintenance of the probabilistic risk models and risk-informed applications.
- G. Major project management.

1.2.1.1.1.4.1 Senior manager responsible for fleet design

The senior manager responsible for fleet design is the chief engineer and design authority for SNC plants. The individual manages the design support organization which consists of three departments associated with discipline oriented design support and configuration management. These departments are responsible for creation, revision, and retention of calculations, domestic documents, vendor drawings, and other design basis material. The fleet design director is responsible for standardization, long-term resource planning, and promoting best practices.

1.2.1.1.1.4.2 Senior manager responsible for fleet engineering services

The senior manager responsible for fleet engineering services is responsible for providing corporate support to the plants in matters related to component engineering; and maintenance, testing, and inspections at the plants. Some specific responsibilities of the engineering services corporate staff include:

- A. Providing expertise to address equipment operability and reliability issues.

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B. Providing expertise in the areas of seismic and stress analysis, fire protection, dry spent fuel storage, and environmental qualification.

C. Inservice inspection and testing programs.

1.2.1.1.1.4.3 Senior manager responsible for major projects

The senior manager responsible for major projects is responsible for long range planning and project management services.

1.2.1.1.1.4.4 Senior manager responsible for nuclear fuel

The senior manager responsible for nuclear fuel is responsible for nuclear fuel procurement, fuel and core design, reload licensing, nuclear fuel performance, dry cask storage fuel selection, and vendor oversight.

1.2.1.1.1.4.5 Senior manager responsible for supply chain

The senior manager responsible for supply chain is responsible for 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.

1.2.1.1.1.4.6 Senior manager responsible for risk-informed engineering

The senior manager responsible for risk-informed engineering (RIE) is responsible for all RIE activities and risk informed initiatives affecting plant sites and the corporate office.

1.2.1.1.2 Vice President and General Counsel

The vice president and general counsel reports directly to the president/CEO. The vice president and general counsel is responsible for compliance, employee concerns, and communications.

1.2.1.1.3 Senior manager responsible for human resources

The senior manager responsible for human resources is responsible for the delivery of Human Resources (HR) services to the nuclear operating company. This includes HR consulting, organizational effectiveness, succession planning, workforce development, wellness, medical services, fitness for duty, case management, fleet access, and non-union employee relations. The human resources director directs the senior manager responsible for safety and health.

1.2.1.1.3.1 Senior manager responsible 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, access authorization program, and the access

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authorization and medical and FFD staff at the corporate headquarters and at each of the SNC nuclear plants.

1.2.1.1.4 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 regulatory affairs will also interact with the Georgia Public Service Committee on hearings related to Vogtle 3 and 4. The vice president regulatory affairs will be a member of the Southern Nuclear Management Council and will report to the president and CEO. Reporting to the Vice President Regulatory Affairs for the operating plants is the senior manager responsible for nuclear licensing.

1.2.1.1.4.1 Senior manager responsible for nuclear licensing

The senior manager responsible for nuclear licensing directs the senior manager responsible for regulatory response, the senior manager responsible for licensing and their staffs. The senior manager responsible for regulatory response and senior manager responsible for licensing, while reporting to the senior manager responsible for nuclear licensing, also provide matrixed accountability to each vice president - site and are responsible for providing corporate support to Plants in matters related to nuclear licensing. 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.

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

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- 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 health physics, and the senior manager responsible for work controls.

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 assigned quality control measures, and maintenance support utilizing contractor craft personnel.

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

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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 health physics

The senior manager responsible for health physics 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.

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 on going outage risk assessments.

1.2.2.2 Site support manager

The site support manager (SSM) is responsible for supporting the operations and maintenance of the plant. This includes providing training, emergency preparedness, nuclear security plan implementation, directing activities of the procedure writing group including document control, directing activities of the supply chain superintendent and performance improvement.

1.2.2.2.1 Senior manager responsible for plant 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.

1.2.2.2.2 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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**1.2.2.2.3 Senior manager responsible for emergency preparedness**

The senior manager responsible for emergency preparedness is responsible for managing the onsite emergency preparedness effort.

**1.2.2.3 Engineering director**

The engineering director serves as the engineering lead for the respective site and is responsible for equipment reliability, engineering programs, systems engineering, design engineering, plant modifications and the rapid response team. The engineering director 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. In this capacity, the design manager interfaces with the chief engineer 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.

**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 area of program management and emergent plant engineering issues, quality control inspections, and plan for contractor activities involving steam generators and reactor vessels.

**1.2.2.3.4 Senior manager responsible for site projects**

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

**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. Also responsible for implementation of initial and continuing non-accreditation training programs.

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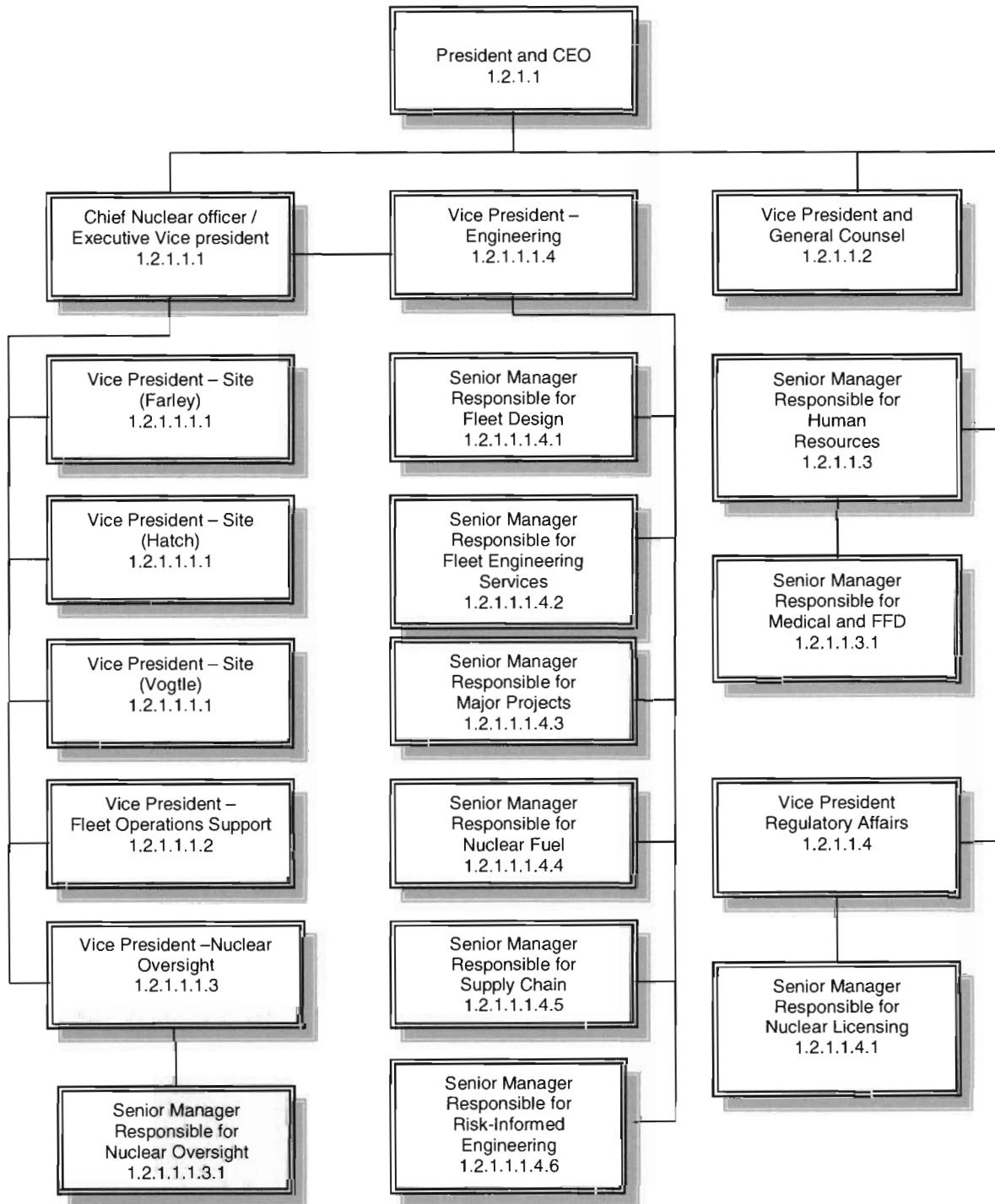
**1.3 NQA-1-1994 Commitment**

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



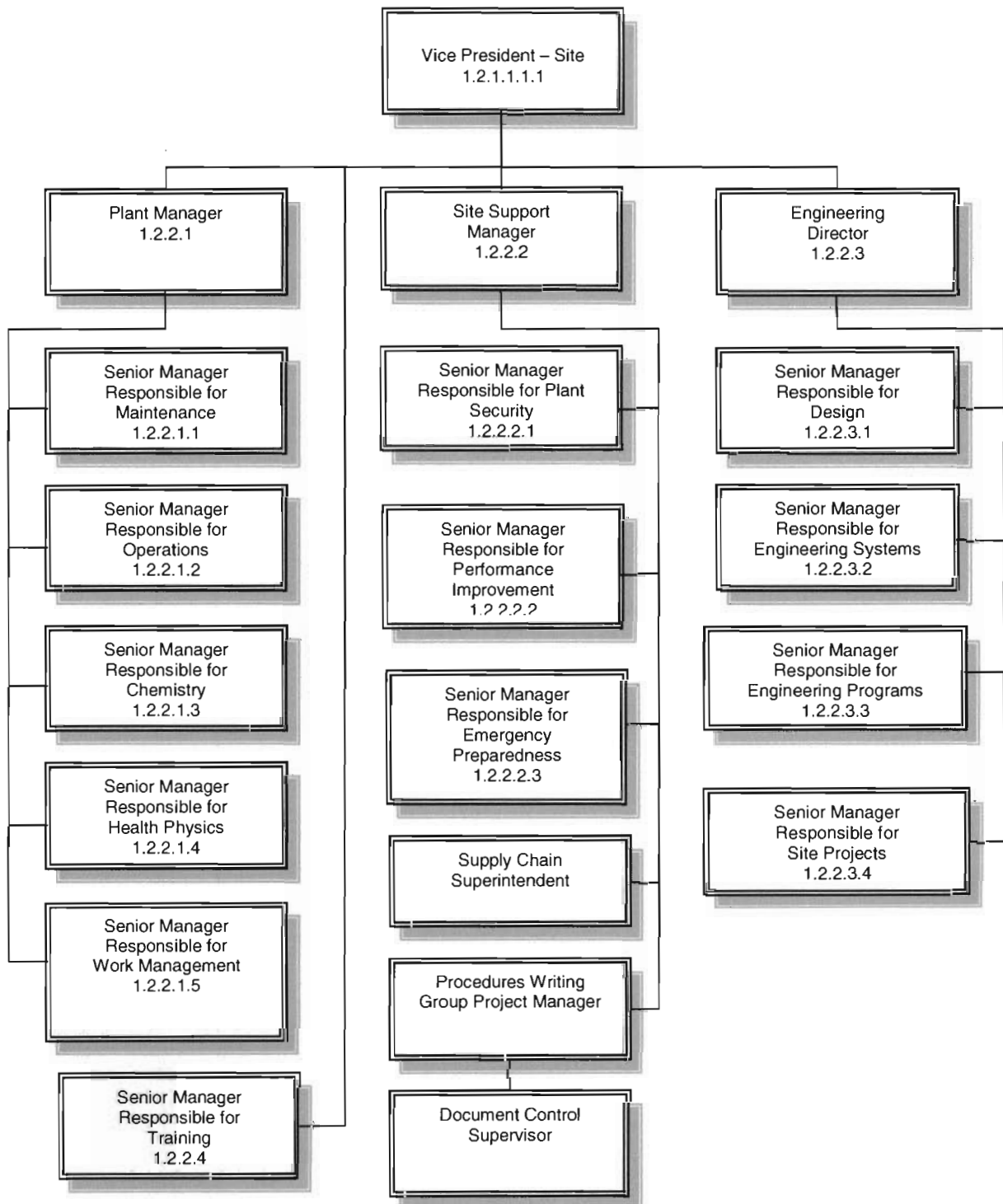
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Figure II.1-1: CORPORATE ORGANIZATION CHART



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Figure II.1-2: PLANT ORGANIZATION CHART



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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.

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### **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 year's 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.

### **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

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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."

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## **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

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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.

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## **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.



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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.

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## **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.

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## **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.

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## **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

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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 the National Voluntary Laboratory Accreditation Program (NVLAP) or by the American Association for Laboratory Accreditation (A2LA) as recognized by NVLAP through the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA).
      - 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

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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 as discussed in Generic Letter 89-02 and Generic Letter 91-05.

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**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.

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## **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.



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## **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.

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## **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.

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## **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:

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- 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).

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## **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 cleanness 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 cleanness classes and requirements for each class. Instead of using the cleanness level system of Subpart 2.1, SNC plants may establish cleanness 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

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- 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.

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## **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.

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## **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.



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## **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.

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## **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,

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except that methods other than binders, folders or envelopes may be used to organize the records for storage.

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## **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;

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- 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.

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## **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.

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## **APPENDIX A: PLANT REVIEW BOARD**

### **1.0 General**

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

### **2.0 Membership**

The PRB shall be composed of a minimum of five members. The vice president - site 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.

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 vice president - site.
- (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 vice president - site.
- (g) Investigations of all violations of Technical Specifications, including the preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence, to the vice president - site, the CNO, and to the Chairperson of the NSRB.
- (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 vice president - site written approval or disapproval in meeting minutes of items considered under Responsibilities (a) through (i) above.

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 vice president - site and the PRB members. Records of the minutes shall be maintained in accordance with this QATR, Section 17.



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**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

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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.

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#### **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;

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- 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.

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**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.

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**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.

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**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.

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**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.



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- **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

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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

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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.

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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.

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**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

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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.

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**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:

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- 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



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- 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.

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**Enclosure 2**

**SNC QATR Summary of Changes**

Enclosure 2 to NL-13-2418  
SNC QATR Summary of Changes

<u>Version</u>	<u>Effective Date</u>	<u>Description of the Revision</u>
12.0	06/19/2013	<p>The following changes were made to incorporate approved Farley LDCR 2013004, Version 1.0, Hatch LDCR 2013002, Version 1.0, and Vogtle LDCR 2013001, Version 1.0.</p> <p>Changed Fleet Oversight to read Nuclear Oversight throughout.</p> <p>Paragraph 1.2.1.1.1.3: Revised last sentence to read, "The vice president nuclear oversight directs the nuclear oversight manager located at each plant site and corporate."</p>