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SOUTHERN COMPANY
Energy to Serve Your World℠

June 29, 2006

Docket Nos.: 50-321 50-348 50-424
50-366 50-364 50-425
72-36 72-42

NL-06-2352

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

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

Ladies and Gentlemen:

In accordance with the provisions of 10 CFR 50.54(a), Southern Nuclear Operating Company (SNC) has developed the enclosed Quality Assurance Topical Report (QATR). The proposed QATR replaces the existing quality assurance program description for the Edwin I. Hatch Nuclear Plant (Hatch), Joseph M. Farley Nuclear Plant (Farley) and the Vogtle Electric Generating Plant (Vogtle) contained in the plant-specific FSAR for each and provides a single quality assurance program description that will be applied to all three sites. The enclosed SNC QATR is based on American Society of Mechanical Engineers (ASME) NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Applications, in conjunction with American National Standards Institute (ANSI) N18.7-1976. The NRC has previously found ASME NQA-1-1994, in conjunction with ANSI N18.7, to be an acceptable method for complying with the requirements of 10 CFR 50, Appendix B. The proposed QATR is provided as Enclosure 1. A description of changes to the existing quality assurance programs and the basis for concluding the quality assurance program described in the proposed QATR continues to satisfy 10 CFR 50, Appendix B, is provided as Enclosure 2.

Enclosure 3 provides a summary of the existing quality assurance program requirements for Farley, Hatch, and Vogtle and identifies the disposition of the requirements relative to proposed QATR. The disposition of each requirement is categorized as a change to the existing quality assurance program that represents: (1) a reduction in commitments; (2) an increase in commitment; or (3) neither an increase nor reduction in commitments described in the quality assurance program. It should be noted that SNC believes the items identified in Enclosure 3 as reductions in commitments meet the criteria of § 50.54(a)(3) for activities that do not decrease commitments described in the quality assurance program. However, SNC has conservatively identified items in Enclosure 3 as reductions in commitments to facilitate NRC review of the proposed QATR and elected to submit the QATR in its entirety for NRC review and approval in accordance with the provisions of § 50.54(a)(4).

Q004
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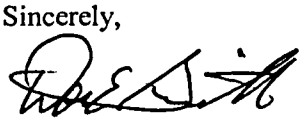
SNC requests NRC review and approval of the QATR by December 31, 2006. Although the provisions of § 50.54(a)(4)(iv) would permit SNC to consider the QATR accepted by the Commission 60 days after submittal to the Commission, SNC will not implement the proposed QATR until six months following receipt of a letter from the NRC providing formal approval of the QATR.

This letter contains no NRC commitments. If you have any questions, please advise.

Sincerely,



Don E. Grissette

DEG/TWS/sdl

Enclosures:
1. SNC Quality Assurance Topical Report
2. Description of Proposed Changes/Basis for Concluding the Revised Program Continues to Satisfy 10 CFR 50, Appendix B
3. Existing QA Programs vs. QATR Comparison Matrix
4. ASME NQA-1-1994 Conformance Matrix
5. ANSI N18.7-1976 Conformance Matrix
6. Farley, Hatch, and Vogtle FSAR Markups

cc: Southern Nuclear Operating Company
Mr. J. T. Gasser, Executive Vice President
Mr. L. M. Stinson, Vice President – Plant Hatch
Mr. H. L. Sumner, Jr., Vice President – Plant Farley
Mr. J. R. Johnson, General Manager – Plant Farley
Mr. D. R. Madison, General Manager – Plant Hatch
Mr. T. E. Tynan, General Manager – Plant Vogtle
RType: CFA04.054; CHA02.004; CVC7000; LC# 14439

U. S. Nuclear Regulatory Commission
Dr. W. D. Travers, Regional Administrator
Mr. R. E. Martin, NRR Project Manager – Farley
Mr. C. Gratton, NRR Project Manager – Hatch
Mr. C. Gratton, NRR Project Manager – Vogtle
Mr. C. A. Patterson, Senior Resident Inspector – Farley
Mr. D. S. Simpkins, Senior Resident Inspector – Hatch
Mr. G. J. McCoy, Senior Resident Inspector – Vogtle

Enclosure 1

Southern Nuclear Operating Company
Quality Assurance Topical Report

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 0a

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 _____

J. Barnie Beasley
President and Chief Executive Officer
Southern Nuclear Operating Company, Inc.

SOUTHERN NUCLEAR OPERATING COMPANY, INC.

QUALITY ASSURANCE TOPICAL REPORT

SNC-1

Version 0a

Approved by:

Jeffrey T. Gasser
Executive Vice President
and Chief Nuclear Officer

Date

W. Dean Drinkard
Manager, Quality Assurance

Date

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

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

storage, as defined in 10 CFR 71 Subpart H and 10 CFR 72 Subpart G, respectively, as allowed, by 10 CFR 71.101.f and 10 CFR 72.140.d. Accordingly, application of the elements of this QATR for ISFSI is as defined in the respective 10 CFR 72.212 report for each site, as applicable.

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).

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

  SNC QAP conforms to the requirements of this guide with the following clarification of the term "verification." 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.

  - Independent verification - Verification that required actions have been completed by an individual other than the person who performed the operation or activity being verified. Such verification will not require confirmation of the identical action when other indications provide assurance or indication that the prescribed activity is in fact complete. Examples include, but are not limited to: verification of a breaker opening by observing remote breaker indication lights; verification of a setpoint (made with a voltmeter or ammeter, for example) by observing the actuation of status or indicating lights are the required panel-meter indicated value; verification that a valve has been positioned by observing the starting or stopping of flow on meter indications or by remote valve position indicating lights.

  - Concurrent verification - Verification by a second individual of a component's condition as the action is being performed. Examples include, but are not limited to: equipment being removed from service (provided the equipment being removed from service will not cause any adverse system condition); lifting a lead; removing a fuse; and opening a link.

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. 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. 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 Technical Support, 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, facility design, design review, design approval, procurement, testing, quality assurance, emergency planning, and security of the plant during the operations phase of the Plants. SNC management is responsible for directing activities of the Plant organizations, as well as the corporate support organizations. The corporate organizations function in a support role to the Plants.

1.2.1.1 President and CEO

The president/CEO is responsible for all aspects of operation of Southern Company's nuclear plants. The president/CEO is also responsible for all technical and administrative support activities provided by SNC and contractors. The president/CEO directs the chief nuclear officer/executive vice president, the vice president and general counsel, the vice president corporate services, and the vice president technical support 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 - project (Vogtle), the vice president - project (Hatch), the vice president-project (Farley), the senior manager responsible for quality assurance, and the senior manager responsible for nuclear fleet security and emergency preparedness. 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 – Project

The vice president-project for each Plant reports to the chief nuclear officer regarding operation issues and support matters, and is responsible for operation and maintenance of the respective Plant over which they have authority. A vice president-project directs the nuclear plant general manager (NPGM) and the nuclear support general manager (NSGM) for each respective plant. The vice president – project 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.

1.2.1.1.1.1.1 Nuclear Support General Manager (NSGM)

A NSGM (for each respective Plant) is responsible for coordinating corporate support in the areas of engineering, licensing, maintenance, planning and performance, and budgeting for that Plant. The NSGM directs the planning and performance supervisor. The incumbent is responsible to ensure that appropriate design control and engineering support are provided for the respective Plant. The SNC engineering corporate support organization for the Plant reports on a matrixed basis to the NSGM.

1.2.1.1.1.2 Senior manager responsible for quality assurance

The senior manager responsible for quality assurance is responsible for managing the QA program described in the QATR and for ensuring its implementation in accordance with commitments shown herein. The QA organization is composed of a staff at the corporate headquarters and at each Plant site. The QA organization provides comprehensive independent audits of safety-related activities to verify that they are in compliance with the quality assurance program. The quality assurance organization also performs QA Surveillance activities as described in Appendix C of this QATR.

1.2.1.1.1.3 Senior manager nuclear fleet security and emergency preparedness

The senior manager responsible for nuclear fleet security and emergency preparedness is responsible for the overall coordination of fleet security activities and programs, the corporate emergency preparedness programs (including the common Emergency Operations Facility), and the Access Authorization Program. The nuclear fleet security and emergency preparedness manager also has responsibility for site emergency response communication.

1.2.1.1.2 Vice President – Technical Support

The vice president – technical support is responsible for providing plant specific and generic engineering support, nuclear fuel and generic special projects, design engineering for plant modifications, project management for major improvement projects, 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, and assuring that documentation and records of design activities are properly maintained. The vice president – technical support directs the vice president – engineering, senior manager responsible for special projects, and senior manager responsible for nuclear fuel.

The key functional organization within SNC providing support to the Plants is the technical support organization that provides plant support (which includes licensing), engineering support, and design modifications. SNC technical support also provides nuclear fuel contract administration, reload licensing, and special projects management. Support activities provided by these SNC organizations and contractors include, but are not limited to, the following:

A. Design engineering of plant modifications, including maintenance - related design changes, plant improvement - related design changes, and design changes or major plant additions related to new regulatory requirements and commitments. These services include both conceptual and detail design, issuance and maintenance of design drawings and specifications, review/approval of design change requests, incorporation of as-built notices, related quality assurance functions, etc.

B. Design-related evaluation and analysis.

C. Evaluation and analysis which are not directly related to design (e.g., Technical Specifications changes).

D. Inservice inspection and testing (both planning and actual implementation).

E. Nuclear fuel procurement, nuclear fuel and core design, nuclear fuel reload licensing, dry storage fuel selection, nuclear fuel procurement vendor oversight

F. Evaluations on licensing issues.

G. Plant chemistry support.

H. Maintenance support.

1.2.1.1.2.1 Vice President - Engineering

The vice president - engineering is responsible for the plant support, project-specific engineering organizations for the Plants. These engineering organizations provide matrixed accountability to the NSGM for their associated project. In addition, the vice president – engineering is responsible for the generic support organizations including design engineering, licensing services, PRA services, component engineering, materials and inspections services, environmental services, and engineering administrative services. The vice president – engineering directs the plant support manager, the engineering services manager, the design modifications manager, and the engineering administrative services manager.

1.2.1.1.2.1.1 Senior manager responsible for plant support

The senior manager responsible for plant support is responsible for the oversight of each project-specific support manager and respective organization. These project-specific engineering managers provide matrixed accountability to the NSGM for their associated project. Each of these managers of plant support may draw on the expertise of the other organizations from within SNC engineering, including the design modifications corporate and/or site personnel. The senior manager responsible for plant support also directs the senior manager responsible for licensing and the senior manager responsible for probabilistic risk assessment services.

1.2.1.1.2.1.1.1 Senior manager responsible for licensing

The senior manager responsible for licensing directs project-specific licensing and generic licensing activities. The licensing supervisors reporting to the senior manager responsible for licensing provide matrixed accountability to the NSGM for their associated project and are responsible for providing corporate support to Plants in matters related to licensing. Some specific responsibilities of the licensing corporate staff 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, Emergency Plan, Security Plan, and other licensing documents for each Plant.

1.2.1.1.2.1.2 Senior manager responsible for engineering services

The senior manager responsible for 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. Evaluating preventive and corrective maintenance programs and contracted maintenance services.

B. Assessing maintenance-related developments and industry trends for application by or impact on the Plants.

C. Assisting in implementation of maintenance planning and scheduling processes. This includes outage management and long-term planning support.

D. Coordinating in-service inspection and testing program.

E. Managing chemistry issues.

F. Supporting the SNC plants with component-specific expertise and environmental qualification of equipment.

1.2.1.1.2.1.3 Senior manager responsible for design modifications

The senior manager responsible for design modifications is responsible for discipline-specific design engineering functions as well as for serving as the design authority for the SNC plants. Some specific responsibilities of the design modifications staff include:

A. Providing design modifications and engineering evaluations for the Plants.

B. Revising, controlling, and transmitting domestic drawings, design related vendor documents, and other design related documentation.

C. Providing onsite teams to design and implement minor design changes and other engineering support for maintenance as directed by the site engineering support manager.

1.2.1.1.2.2 Senior manager responsible for special projects

The senior manager responsible for special projects is responsible for directing the activities of the special projects organization in managing a variety of projects that are typically strategic in nature and lend themselves to be worked independent of Plant staffs until time of implementation.

1.2.1.1.2.3 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, dry cask storage fuel selection, and vendor oversight.

1.2.1.1.2.1.4 Senior manager responsible for engineering administrative services

The senior manager responsible for engineering administrative services is responsible for document services, administration of the corrective action program in the corporate headquarters, and engineering training.

1.2.1.1.3 Vice President – Corporate Services

The vice president – corporate services reports directly to the president/CEO. The vice president – corporate services is responsible for providing certain corporate administrative services including corporate security, fitness for duty, supply chain management, general services, and financial services. Reporting directly to the vice president – corporate services are the senior manager responsible for supply chain, senior manager responsible for safety and health, and senior manager responsible for information technology.

1.2.1.1.3.1 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.

1.2.1.1.3.2 Senior manager responsible for safety and health

The senior manager of safety and health is responsible for coordinating the overall Fitness-for-Duty (FFD) program among Southern Nuclear management, the corporate safety and health staff and the safety and health staff at each of the SNC nuclear plants.

1.2.1.1.3.3 Senior manager responsible for information technology

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

1.2.1.1.4 Vice President and General Counsel

The vice president and general council reports directly to the president/CEO. The vice president and general counsel is responsible for compliance, employee concerns, communications, and environmental compliance activities for SNC. The vice president and general counsel directs the senior manager responsible for environmental affairs.

1.2.1.1.4.1 Senior manager responsible for environmental affairs

The senior manager responsible for environmental affairs is responsible for technical support in the areas of radiological science including low-level radioactive waste activities and non-radiological environmental activities, and maintenance of dosimetry software and other programs.

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 nuclear plant general manager 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 Nuclear plant general manager

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

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

The NPGM directs the plant operations assistant general manager and the plant support assistant general manager.

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 Plant operations assistant general manager

The plant operations assistant general manager (POAGM) is responsible for the operation of the plant. Reporting to the plant operations assistant general manager are the senior manager responsible for maintenance, the senior manager responsible for operations, the senior manager responsible for chemistry, the senior manager responsible for health physics, and the senior manager responsible for work controls.

1.2.2.1.1.1 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.

1.2.2.1.1.2 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.

1.2.2.1.1.3 Senior manager responsible for chemistry

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

the required limits; and implementing primary, secondary, and component cooling water chemistry programs.

1.2.2.1.1.4 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.

1.2.2.1.1.5 Senior manager responsible for work controls

The senior manager responsible for work controls 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.

1.2.2.1.2 Plant support assistant general manager

The plant support assistant general manager (PSAGM) is responsible for supporting the operations and maintenance of the plant. This includes providing engineering support, training, emergency planning, nuclear security plan implementation, and performance analysis.

1.2.2.1.2.1 Senior manager responsible for engineering support

The senior manager responsible for engineering support is responsible to oversee technical and engineering projects and programs in support of maintenance and operations, including but not limited to quality control inspections; evaluate nuclear, thermal, and hydraulic performance of reactor and turbine systems; provide systems engineering, discipline engineering, minor design changes and modifications; manage the site design change process; plan for contractor activities involving steam generators, reactor vessel inspections, and fuel issues; and provide reviews for potential 10 CFR 21 reportability.

1.2.2.1.2.2 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.

1.2.2.1.2.3 Senior manager responsible for training and emergency preparedness

The training and emergency preparedness manager 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; maintaining the training simulator; and for managing the onsite emergency preparedness effort.

1.2.2.1.3 Senior manager responsible for performance analysis

The senior manager responsible for performance analysis 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. In addition, this position is responsible for managing the document control function for the plant.

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.

Figure II.1-1: CORPORATE ORGANIZATION CHART

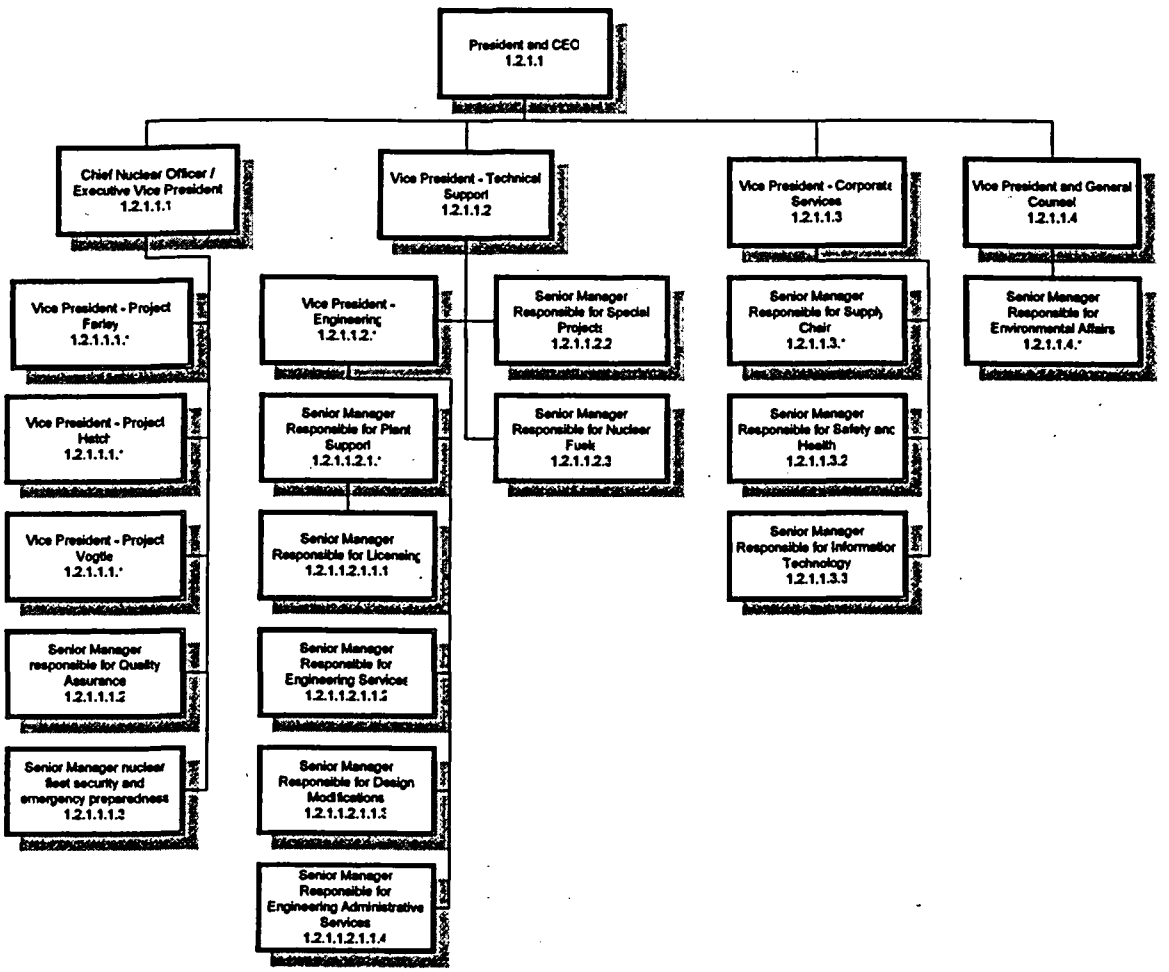
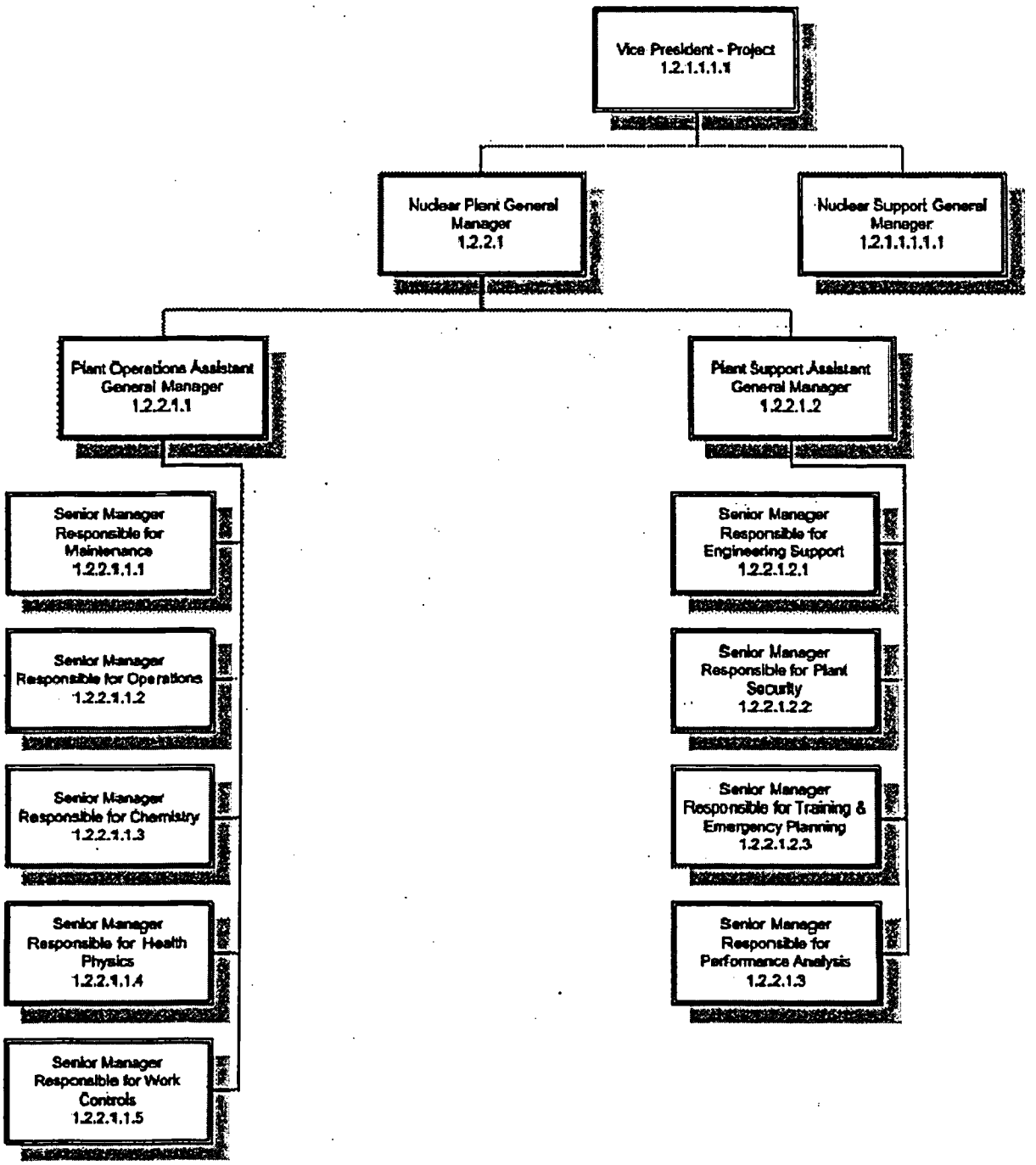


Figure II.1-2: PLANT ORGANIZATION CHART



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.

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:
            - (1) In lieu of being certified as Level I, II, or III in accordance with NQA-1-1994, personnel performing operations phase independent quality verification inspections, examinations, measurements, or tests of material, products, or activities will be required to possess qualifications equal to or better than those required for performing the task being verified; and the verification is within the skills of these personnel and/or is addressed by procedures. These individuals will not be responsible for the planning of quality verification inspections and tests (i.e., establishing hold points and acceptance criteria in procedures, and determine who will be responsible for performing the inspections), evaluating inspection training programs, nor certifying inspection personnel.
            - (2) 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 XI of the ASME Boiler and Pressure Vessel Code approved by the NRC for use at SNC sites.
- NQA-1-1994, Supplement 2S-3
  - The requirement that prospective Lead Auditors have participated in a minimum of five (5) audits in the previous three (3) years is replaced by the following, "The prospective lead auditor shall demonstrate his/her ability to properly implement the audit process, as implemented by SNC, to effectively lead an audit team, and to effectively organize and report results, including participation in at least one nuclear audit within the year preceding the date of qualification."

SECTION 3 DESIGN CONTROL

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

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

3.1 Design Verification

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

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

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

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

3.2 Design Records

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

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

3.3 NQA-1-1994 Commitment

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

SECTION 4 PROCUREMENT DOCUMENT CONTROL

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

- Where original technical or quality assurance requirements cannot be determined, an engineering evaluation is conducted and documented by qualified staff to establish appropriate requirements and controls to assure that interfaces, interchangeability, safety, fit and function, as applicable, are not adversely affected or contrary to applicable regulatory requirements.

- Applicable technical, regulatory, administrative, quality and reporting requirements (such as specifications, codes, standards, tests, inspections, special processes, and 10 CFR 21) are invoked for procurement of items and services. Applicable design bases and other requirements necessary to assure adequate quality shall be included or referenced in documents for procurement of items and services. To the extent necessary, procurement documents shall require suppliers to have a quality assurance program consistent with the applicable requirements of this QATR.

4.1 Reviewer Qualification

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

4.2 NQA-1-1994 Commitment

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

- NQA-1-1994, Supplement 4S-1

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

With regard to service performed on a plant site by a supplier, SNC procurement documents may allow the supplier to work under the SNC quality assurance program, including implementing procedures, in lieu of the supplier having its own quality assurance program.

- Section 3 of Supplement 4S-1 requires procurement documents to be reviewed prior to bid or award of contract. The quality assurance review of procurement documents is satisfied through review of the applicable procurement specification, including the technical and quality procurement requirements, prior to bid or award of contract.

SECTION 5 INSTRUCTIONS, PROCEDURES, AND DRAWINGS

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

5.1 Procedure Adherence

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

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

conditions and reasons for the action taken.

5.2 NQA-1-1994 Commitment

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

SECTION 6 DOCUMENT CONTROL

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

6.1 Changes to Documents

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

6.2 NQA-1-1994 Commitment

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

SECTION 7 CONTROL OF PURCHASED MATERIAL, EQUIPMENT, AND SERVICES

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

7.1 Acceptance of Item or Service

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

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

- Items are inspected, identified, and stored to protect against damage, deterioration, or misuse.

- Prospective suppliers of safety-related items and services are evaluated to assure that only qualified suppliers are used. Qualified suppliers are audited on a triennial basis. SNC may utilize audits conducted by outside organizations for supplier qualification provided that the scope and adequacy of the audits meet SNC requirements. Documented annual evaluations are performed for qualified suppliers to assure they continue to provide acceptable products and services. Industry programs, such as those applied by ASME, Nuclear Procurement Issues Committee (NUPIC), or other established utility groups, are used as input or the basis for supplier qualification whenever appropriate. The results of the reviews are promptly considered for effect on a supplier's continued qualification and adjustments made as necessary (including corrective actions, adjustments of supplier audit plans, and input to third party auditing entities, as warranted). In addition, results are reviewed periodically to determine if, as a whole, they constitute a significant condition adverse to quality requiring additional action.

- Provisions are made for accepting purchased items and services, such as source verification, receipt inspection, pre- and post-installation tests, certificates of conformance, and document reviews. Acceptance actions are completed to ensure that procurement, inspection, and test requirements, as applicable, have been satisfied before relying on the item to perform its intended safety function.

- Controls are imposed for the selection, determination of suitability for intended use (critical characteristics), evaluation, receipt and acceptance of commercial-grade

services or "off-the-shelf" items to assure they will perform satisfactorily in service in safety related applications.

7.2 NQA-1-1994 Commitment

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

- NQA-1-1994, Supplement 7S-1
  - SNC considers that other 10 CFR 50 licensees, Authorized Nuclear Inspection Agencies, National Institute of Standards and Technology, or other State and Federal agencies which may provide items or services to SNC plants are not required to be evaluated or audited.
  - When purchasing commercial grade calibration services from a calibration laboratory, procurement source evaluation and selection measures need not be performed provided each of the following conditions are met:
    (1) The purchase documents impose any additional technical and administrative requirements, as necessary, to comply with the SNC QA program and technical provisions. At a minimum, the purchase document shall require that the calibration certificate/report include identification of the laboratory equipment/standard used.
    (2) The purchase documents require reporting as-found calibration data when calibrated items are found to be out-of-tolerance.
    (3) A documented review of the supplier's accreditation shall be performed and shall include a verification of each of the following:
      - The calibration laboratory holds an accreditation by the National Voluntary Laboratory Accreditation Program (NVLAP) or by the American Association for Laboratory Accreditation (A2LA) as recognized by NVLAP through a Mutual Recognition Arrangement (MRA).
      - The accreditation is based on ANS/ISO/IEC 17025.
      - The published scope of accreditation for the calibration laboratory covers the necessary measurement parameters, ranges, and uncertainties.
  - For Section 8.1, SNC considers documents that may be stored in approved electronic media under SNC control and not physically located on the plant site but which are accessible from the respective nuclear facility site as meeting the NQA-1 requirement for documents to be available at the site.

- 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.

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

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

8.1 NQA-1-1994 Commitment

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

SECTION 9 CONTROL OF SPECIAL PROCESSES

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

9.1 NQA-1-1994 Commitment

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

SECTION 10 INSPECTION

SNC has established the necessary measures and governing procedures to implement inspections that assure items, services and activities affecting safety meet established

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

10.1 NQA-1-1994 Commitment

- In establishing inspection requirements, SNC commits to compliance with NQA-1-1994, Basic Requirement 10, Supplement 10S-1 and Subpart 2.4, with the clarification that follows below. In addition, for situations comparable to original new plant construction, SNC commits to compliance with the requirements of Subparts 2.5 and 2.8 for establishing appropriate inspection requirements.

  - Subpart 2.4 commits SNC to IEEE 336-1985. IEEE 336-1985 refers to IEEE 498-1985. Both IEEE 336 -1985 and IEEE 498-1985 use the definition of "Safety Systems Equipment" from IEEE 603- 1980. SNC commits to the definition of Safety Systems Equipment in IEEE 603-1980, but does not commit to the balance of that standard.

  - An additional exception to Subpart 2.4 is contained in Section 12 of this QATR.

SECTION 11 TEST CONTROL

SNC has established the necessary measures and governing procedures to demonstrate that items subject to the provisions of this QATR will perform satisfactorily in service, that the plant can be operated safely and as designed, and that the coordinated operation of the plant as a whole is satisfactory. These programs include criteria for determining when testing is required, such as proof tests before installation, pre-operational tests, post-maintenance tests, post-modification tests, in-service tests, and operational tests (such as surveillance tests required by Plant Technical Specifications), to demonstrate that performance of plant systems is in accordance with design. Programs also include provisions for establishing and adjusting test schedules and maintaining status for periodic or recurring tests. Tests are performed according to applicable procedures that include, consistent with the effect on safety, (1) instructions and prerequisites to perform the test, (2) use of proper test equipment, (3) acceptance criteria, and (4) mandatory verification points as necessary to confirm satisfactory test completion. Test results are documented and evaluated by the organization performing the test and reviewed by a responsible authority to assure that the test requirements have been satisfied. If acceptance

criteria are not met, retesting is performed as needed to confirm acceptability following correction of the system or equipment deficiencies that caused the failure.

11.1 NQA-1-1994 Commitment

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

11.2 NQA-1-1994 Commitment for Computer Program Testing

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

SECTION 12 CONTROL OF MEASURING AND TEST EQUIPMENT

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

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

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

- Measuring and test equipment is calibrated at specified intervals on the basis of the item's required accuracy, intended use, frequency of use, and stability characteristics or other conditions affecting its performance. Alternatively, equipment may be calibrated immediately before and after use if a defined interval is not appropriate.

- Measuring and test equipment is labeled, tagged or otherwise controlled to indicate its calibration status and provide traceability to calibration test data or records.

- Calibrations are performed against standards that have an accuracy of at least four times the required accuracy of the equipment being calibrated. When this is not

possible, the standards have an accuracy that ensures the equipment being calibrated will be within the required tolerance.

- Where possible, calibration standards are traceable to appropriate national standards. Calibration standards have greater accuracy than the standards being calibrated, except where the same accuracy as the instruments being calibrated can be shown to be adequate for the service requirements.

- Measuring and test equipment found out of calibration is tagged or segregated and not used until it is successfully re-calibrated. An evaluation is performed to determine the acceptability of any items measured, inspected or tested with an out-of-calibration device from the time of the previous calibration.

12.1 NQA-1-1994 Commitment

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

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

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

SECTION 13 HANDLING, STORAGE, AND SHIPPING

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

13.1 Housekeeping

Housekeeping practices during normal operations and maintenance activities, including refueling, are established to account for conditions or environments that could affect the quality of structures, systems and components within the plant. This includes control of 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
  - Subpart 2.2, Sections 3.2 and 3.5: For items in storage, as determined by facility management, the packaging requirements described under Section 3, Packaging, may include alternate methods of affording required protection such as maintaining a storage atmosphere free from harmful contaminants in concentrations that could produce damage to the stored items, or utilizing storage practices that obviate the need for capping all openings.
  - Subpart 2.2, Section 6.6, "Storage Records:" This section requires written records be prepared containing information on personnel access. As an alternative to this requirement, SNC documents establish controls for storage areas that describe those authorized to access areas and the requirements for recording access of personnel. However, these records of access are not considered quality records and will be retained in accordance with the administrative controls of the applicable plant.

- Subpart 2.2, Section 7.1 refers to Subpart 2.15 for requirements related to handling of items. The scope of Subpart 2.15 includes hoisting, rigging and transporting of items for nuclear power plants. This scope exceeds the scope of the NRC's original endorsement of ANSI N45.2.2 in Regulatory Guide 1.38, and establishes requirements for which there is no NRC regulatory position. In lieu of compliance with Subpart 2.15, SNC establishes and implements controls over hoisting, rigging and transport activities to the extent necessary to protect the integrity of the items involved, as well as potentially affected nearby structures and components. For re-rating of lifting equipment to allow "special lifts," SNC performs dynamic load testing over the full range of the lift using test loads at least 110% of the lift weight. Dynamic tests include raising, lowering and traversing the load. Where required, SNC complies with applicable hoisting, rigging and transportation regulations and codes.

- NQA-1-1994, Subpart 2.3 requires a written record of the entry and exit of all personnel be established and maintained for Zones I, II, and III. The following exceptions are taken:

  - Instead of the five-level zone designation in Subpart 2.3, Section 2.2, SNC bases its control over housekeeping activities on a consideration of what is necessary and appropriate for the activity involved. The controls are effected through procedures or instructions which, in the case of maintenance or modification work, are developed on a case-by-case basis. Factors considered in developing the procedures and instructions include cleanliness control, personnel safety, fire prevention and protection, radiation control, and security. The procedures and instructions make use of standard janitorial and work practices to the extent possible.

SECTION 14 INSPECTION, TEST, AND OPERATING STATUS

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

14.1 NQA-1-1994 Commitment

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

SECTION 15 NONCONFORMING MATERIALS, PARTS, OR COMPONENTS

SNC has established the necessary measures and governing procedures to control items, including services, which do not conform to specified requirements to prevent inadvertent installation or use. Controls provide for identification, documentation, evaluation, segregation when practical, and disposition of nonconforming items, and for notification to affected organizations. These controls require that an individual discovering a nonconforming condition to identify, describe, and document the nonconformance in accordance with Section 16, Corrective Action, of this QATR. Controls are provided to address conditional release of nonconforming items for use on an at risk basis prior to resolution and disposition of the nonconformance, including maintaining identification of the item and documenting the basis for such release. Conditional release of nonconforming items for installation requires the approval of the Plant General Manager 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 Plant General Manager. Significant trends are reported to the Plant General Manager in accordance with SNC procedures, regulatory requirements, and industry standards.

15.1 NQA-1-1994 Commitment

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

SECTION 16 CORRECTIVE ACTION

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

16.1 NQA-1-1994 Commitment

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

SECTION 17 QUALITY ASSURANCE RECORDS

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

17.1 Record Retention

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

17.2 Electronic Records

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

17.3 NQA-1-1994 Commitment

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

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

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

SECTION 18 AUDITS

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

18.1 Performance of Audits

Audits of facility activities shall be performed under the cognizance of the NSRB. Each audit shall be performed within the specified time interval with the following allowances:

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

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

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

The following audits of facility activities are required:

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

- The fire protection program, at least once per 24 months. The audit will include the fire protection program implementation, fire protection equipment, procedures, and program controls. At least once per 36 months, 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, and evaluations shall be performed at 12 month intervals. A maximum extension not to exceed 25% of the audit or evaluation interval shall be allowed. The combined time interval for any three consecutive audit or evaluation intervals should not exceed 3.25 times the specified audit or evaluation 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.

PART III REGULATORY COMMITMENTS

NRC Regulatory Guides and Quality Assurance Standards.

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

- Regulatory Guide 1.8 – Qualification and Training of Personnel for Nuclear Power Plants
  - Southern Nuclear meets the requirement of the applicable Technical Specifications for each plant for the selection and training of nuclear power plant personnel.
  - The SNC nuclear plant qualification and training program is described in Sections 13.1 and 13.2 of the FSARs.

- Regulatory Guide 1.28, Revision 3, August, 1985 – Quality Assurance Program Requirements (Design and Construction)
  - Southern Nuclear meets the requirements of this regulatory guide for Construction Activities conducted by Southern Nuclear, except that ASME NQA-1-1994 edition (as modified by the exceptions to NQA-1-1994 as shown in this QATR) will be used in place of ANSI/ASME NQA-1-1983 and the ANSI/ASME NQA-1a-1983 Addenda.

- Regulatory Guide 1.33, Revision 2, February 1978 – Quality Assurance Program Requirements (Operation)
  - Southern Nuclear considers that the collective quality assurance requirements of this QATR and the QA requirements of ASME NQA-1-1994 are equivalent to ANSI N18.7-1976/ANS-3.2 and Regulatory Guide 1.33, Revision 2. Consequently, Southern Nuclear does not commit to ANSI N18.7-1976, or to Regulatory Guide 1.33, except that Appendix A of Regulatory Guide 1.33 shall be used as guidance for establishing the procedures required for plant operational phase activities.

APPENDIX A: PLANT REVIEW BOARD

1.0 General

The plant review board (PRB) shall advise the nuclear plant general manager (NPGM) 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 NPGM 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 the 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 NPGM.

(b) Review of all proposed changes to nuclear facility Technical Specifications.

(c) Review of all proposed tests and experiments that affect nuclear safety.

(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 NPGM.

(g) Investigations of all violations of Technical Specifications, including the preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence, to the NPGM, Project Vice President, 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 NPGM written approval or disapproval in meeting minutes of items considered under Responsibilities (a) through (i) above. The NPGM will report any issues that require higher level of authority to the Project Vice President.

The PRB shall provide written notification within 24 hours to the Project Vice President and the Chairperson of the NSRB of disagreement between the PRB and the NPGM. The Project Vice President 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 NPGM, Project Vice President, and the PRB members. Records of the minutes shall be maintained in accordance with this QATR, Section 17.

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 at least five regular members, 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 membership of the Board will consist of the Vice President – Farley, the Vice President – Hatch, the Vice President - Vogtle, the Vice President – Engineering, the Nuclear Fuel Manager, and the Quality Assurance Manager. A Chairman and a Vice Chairman shall be appointed by the CNO from among the plant vice presidents for a term of one year.

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 alternatives shall be restricted to legitimate

absences of regular members. In absences of the NSRB Chairman, the Vice Chairman will assume the duties of the NSRB Chairman.

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

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

Subcommittees may be appointed by the NSRB 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.

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

3.0 Meetings

The NSRB shall meet at least once per 6 months.

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

4.0 Reviews

The NSRB shall be responsible for the review of:

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

5.0 Audits

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

6.0 Records

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

- Minutes of each NSRB meeting shall be prepared, approved, and forwarded to the CNO within 14 days following each meeting;

- Reports or subcommittee meeting minutes of reviews as described above shall be prepared, approved, and forwarded to the CNO within 14 days following completion of the review, and
- Audit reports as described above shall be forwarded to the CNO and to the management positions responsible for the areas audited within 30 days after completion by the auditing organization.

APPENDIX C: QUALITY ASSURANCE SURVEILLANCES

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

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

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

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

APPENDIX D: DEFINITIONS

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

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

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

Emergency procedures: see Appendix E.

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

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

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

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

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

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

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

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

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

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

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

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

APPENDIX E: PROCEDURES

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

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

- **Title/status**

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

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

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

- **References**

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

- **Prerequisites/Initial Conditions**

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

- **Precautions**

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

- **Limitations and actions**

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

- **Main body**

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

- **Acceptance criteria**

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

Checklists

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

Administrative Control Procedures

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

- **Operating Orders/Procedures**

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

- **Special Orders**

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

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

- **Plant Security and Visitor Control**

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

- **Temporary Procedures**

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

Engineering Procedures

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

Installation Procedures

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

System Procedures

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

Start-up Procedures

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

Shutdown Procedures

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

Power Operation and Load Changing Procedures

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

Process Monitoring Procedures

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

Fuel Handling Procedures

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

Maintenance Procedures

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

Radiation Control Procedures

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

Calibration and Test Procedures

These documents contain instructions for periodic calibration and testing of instrumentation and

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

Chemical and Radiochemical Control Procedures

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

Emergency Operating Procedures

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

Emergency Plan Implementing Procedures

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

Test and Inspection Procedures

These documents provide the necessary measures to assure quality is achieved and maintained for the nuclear facilities. The instructions for tests and inspections may be included within other procedures, such as installation and maintenance procedures, but will contain the objectives, acceptance criteria, prerequisites for performing the test or inspection, limiting conditions, and appropriate instructions for performing the test or inspection, as applicable. These procedures also specify any special equipment or calibrations required to conduct the test or inspection and provide for appropriate documentation and evaluation by responsible authority to assure test or inspection requirements have been satisfied. Where necessary, hold

or witness points are identified within the procedures and require appropriate approval for the work to continue beyond the designated point. These procedures provide for recording the date, identification of those performing the test or inspection, as-found condition, corrective actions performed (if any), and as-left condition, as appropriate for the subject test or inspection.

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

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

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

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

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

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

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

1. Category A - ITS Category A items include structures, components, and systems whose failure could directly result in a condition adversely affecting public health and safety. The failure of a single item could cause loss of primary containment leading to release of radioactive material, loss of shielding, or unsafe geometry compromising criticality control.

2 Category B - ITS Category B items include structures, components, and systems whose failure or malfunction could indirectly result in a condition adversely affecting public health and safety. The failure of a Category B item, in conjunction with failure of an additional item, could result in an unsafe condition.

3. Category C - ITS Category C items include structures, components, and systems whose failure or malfunction would not significantly reduce the packaging effectiveness and would not be likely to create a situation adversely affecting public health and safety.

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

- Part II, Section 1 Organization

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

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

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

- Part II, Section 2 QA Program

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

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

- Part II, Section 3 Design Control

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

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

- Part II, Section 4 Procurement Document Control

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

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

- Part II, Section 6 Document Control

- Part II, Section 16 Corrective Action

- Part II, Section 17 QA Records

  Records pertaining to design, fabrication, erection, testing, maintenance, and use of ITS items are maintained for the duration of the General License granted under Subpart K of 10 CFR 72 for the specific storage system.

- Part II, Section 18 Audits

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

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

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

Enclosure 2

Description of Proposed Change/
Basis for Concluding the Revised Program Continues to
Satisfy 10 CFR 50, Appendix B

Enclosure 2
Description of Proposed Change/
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1.0 Description

Southern Nuclear Operating Company (SNC) is the licensed operator of the Joseph M. Farley Nuclear Plant (Farley), Edwin I. Hatch Nuclear Plant (Hatch), and Vogtle Electric Generating Plant (Vogtle). Each plant currently has a separate quality assurance program (QAP) described in Section 17.2 of its respective FSAR that provides the controls necessary to assure compliance with the requirements of 10 CFR 50, Appendix B. Each program is unique and reflects the quality assurance standards that were in effect at the time of original plant licensing, as modified in accordance with the provisions of 10 CFR 50.54(a). SNC wishes to standardize the quality assurance requirements for the SNC-operated fleet of plants in order to support establishment of common processes and increased efficiency associated with implementation of the QAP.

2.0 Proposed Change

The proposed Quality Assurance Topical Report (QATR) provides the necessary controls for operation-phase activities at SNC sites. The proposed QATR will replace the existing quality assurance (QA) programs for the Farley, Hatch, and Vogtle plants described in Section 17.2 of the respective FSAR for each plant. The QATR represents a change for each plant from a QAP based on Regulatory Guide 1.28 and Regulatory Guide 1.33, to a single QATR based on American Society of Mechanical Engineers (ASME) NQA-1-1994, as supplemented by the requirements of American National Standards Institute (ANSI) standard N18.7-1976.

Enclosure 3 provides a summary of the changes to the Farley, Hatch, and Vogtle QAPs. This summary identifies each section of the existing QAP for each site and provides the disposition for each on a paragraph-by-paragraph basis. The disposition of each requirement is categorized as a change to the existing QAP that represents: (1) a reduction in commitments; (2) an increase in commitments; or (3) neither an increase nor reduction in commitments contained in the QAP description. Although SNC believes the items identified in Enclosure 3 as reductions in commitments meet the criteria of § 50.54(a)(3) for activities that do not reduce commitments described in the QAP, SNC has conservatively identified these items as reductions in commitments to facilitate NRC review of the proposed QATR. The changes to the Farley, Hatch, and Vogtle QAPs are illustrated in the FSAR markups provided as Enclosure 6.

Enclosure 4 is a matrix describing SNC's conformance with ASME NQA-1-1994. This enclosure identifies the location describing SNC's conformance with each of the requirements of ASME NQA-1-1994 in the proposed QATR. Where alternatives or exceptions are proposed to ASME NQA-1-1994 in the QATR, the precedence for the alternative or exception is cited in Enclosure 4.

Although there is significant overlap of the requirements of ASME NQA-1-1994 and ANSI N18.7-1976, neither fully addresses the requirements acceptable to the NRC for compliance with the criteria of 10 CFR 50, Appendix B. Accordingly, the SNC QATR also incorporates specific requirements of ANSI N18.7-1976 to supplement those from ASME NQA-1-1994. Enclosure 5 provides a matrix of the requirements of ASME NQA-1-1994 and ANSI N18.7-1976 illustrating the differences in the standards and SNC's incorporation of the applicable requirements from ANSI N18.7-1976 into the proposed QATR.

3.0 Background

SNC operates the Farley, Hatch, and Vogtle plants in accordance with the provisions of 10 CFR Part 50. As part of the original license process for each plant, the quality assurance program for each was submitted to the NRC in accordance with the requirements of § 50.34(b)(6)(ii) to provide the managerial and administrative controls necessary to satisfy the requirements of 10 CFR Part 50, Appendix B. These programs were based on the requirements of Regulatory Guide 1.28 (Safety Guide 28) and Regulatory Guide 1.33 (Safety Guide 33) which endorsed the methods of ANSI N45.2 and ANSI N18.7, respectively, as an acceptable basis for a QAP required to meet 10 CFR Part 50, Appendix B. Additional regulatory guides were also issued that endorsed the daughter standards of ANSI N45.2 (e.g., ANSI N45.2.1, N45.2.2, etc.) necessary to assure compliance with the requirements of 10 CFR Part 50, Appendix B. The QAPs for Farley, Hatch, and Vogtle have been modified in accordance with the provisions of 10 CFR 50.54(a) over the life of the plant as necessary to assure continued compliance with the requirements of 10 CFR 50, Appendix B.

Due to the different vintage of each plant, the regulatory guidance applicable to each plant for compliance with the requirements of 10 CFR 50, Appendix B, varies. As a result, the existing QAPs for Farley, Hatch, and Vogtle contain different commitments and requirements. In an effort to standardize operation of its nuclear facilities, SNC has elected to combine the existing QAP requirements for Farley, Hatch, and Vogtle into a single program described in the proposed QATR (Enclosure 1).

SNC's approach for the QATR is generally consistent with the precedence established by other licensees that have submitted topical reports applicable to multiple sites for compliance with 10 CFR Part 50, Appendix B. These include topical reports submitted by Exelon, Nuclear Management Company (NMC), and Dominion and approved by the NRC as an acceptable method for compliance with the requirements of 10 CFR Part 50, Appendix B. Additional information regarding the topical reports submitted by these licensees is provided in Section 5.0 below.

4.0 Technical Analysis

Changes to the Farley, Hatch, and Vogtle QAPs are generally categorized as follows:

- Category 1 – Changes from commitments to ANSI N45.2 and corresponding daughter standards to a commitment to NQA-1-1994 (Section 4.1)
- Category 2 – NRC-approved alternatives/SNC clarifications to NQA-1-1994 (Section 4.2)
- Category 3 – NRC-approved implementation of ANSI N18.7 (Section 4.3)
- Category 4 – Reduction in detail contained in the QAP (Section 4.4)
- Category 5 – Use of generic titles/organization charts (Section 4.5)

Additional detail is provided in the following paragraphs corresponding to the numbers shown in parentheses above for each category of changes.

4.1 Category 1 – Changes to Commitments to ANSI N45.2

Category 1 changes represent changes to the commitments to ANSI N45.2, including the corresponding daughter standards, described in the Farley, Hatch, and Vogtle QAPs to a commitment to ASME NQA-1-1994, as described in the proposed QATR. Changes to specific commitments contained in the Farley, Hatch, and Vogtle QAPs associated with ANSI N45.2, including the corresponding daughter standards are described below.

4.1.1 Regulatory Guide 1.28

Regulatory Guide 1.28, Quality Assurance Program Requirements (Design and Construction) provided NRC endorsement of ANSI N45.2, Quality Assurance Program Requirements for Nuclear Facilities, and included supplemental requirements in Section C, Regulatory Positions. The existing Farley, Hatch, and Vogtle QAPs include commitments to Regulatory Guide 1.28 as follows:

- Hatch – Regulatory Guide 1.28, Revision 2, dated February 1979 (ANSI N45.2-1977)
- Farley – Safety Guide 28, dated June 7, 1972 (ANSI N45.2-1971)
- Vogtle – Safety Guide 28, dated June 7, 1972 (ANSI N45.2-1971)

ASME NQA-1-1994 incorporates the scope of activities previously addressed by Regulatory Guide 1.28 and ANSI N45.2 for design and construction activities. Accordingly, the proposed QATR represents a change to commitments in the QAP description from Regulatory Guide 1.28 and ANSI N45.2, as cited above, to NQA-1-1994, as delineated in Enclosure 4.

4.1.2 Regulatory Guide 1.30

Regulatory Guide 1.30, Quality Assurance Requirements for the Installation, Inspection, and Testing of Instrumentation and Electric Equipment, provided NRC endorsement of ANSI N45.2.4-1972, Installation, Inspection, and Testing Requirements for Instrumentation and Electric Equipment During the Construction of Nuclear Power Generating Stations (ANSI N45.2.4-1972 is also designated as IEEE Standard 336-1971), as an adequate basis for compliance with the pertinent quality assurance requirements of 10 CFR 50, Appendix B. Although the title of ANSI N45.2.4-1972 indicates that it is applicable to design and construction phase activities, Regulatory Guide 1.30, Regulatory Position C.3, extends the applicability of ANSI N 45.2.4-1972 to operation phase activities.

The existing Farley, Hatch, and Vogtle QAPs include commitments to Regulatory Guide 1.30 as follows:

- Hatch – Safety Guide 30, dated August 11, 1972 (ANSI N45.2.4-1972/IEEE 336-1971)
- Farley – Safety Guide 30, dated August 11, 1972 (ANSI N45.2.4-1972/IEEE 336-1971)
- Vogtle – Safety Guide 30, dated August 11, 1972 (ANSI N45.2.4-1972/IEEE 336-1971)

ASME NQA-1-1994 incorporates IEEE 336-1985 by reference for the quality assurance requirements applicable to installation, inspection, and testing of instrumentation and electric equipment. The proposed QATR represents a change to commitments contained in the QAP description from Safety Guide 1.30 and ANSI N45.2.4/IEEE 336, as cited above, to ASME NQA-1-1994/IEEE 336-1985.

4.1.3 Regulatory Guide 1.37

Regulatory Guide 1.37, Quality Assurance Requirements for Cleaning of Fluid Systems and Associated Components of Water-cooled Nuclear Power Plants, provides NRC endorsement of ANSI N45.2.1, Cleaning of Fluid Systems and Associated Components During Construction Phase of Nuclear Power Plants, as an adequate basis for compliance with the pertinent quality assurance requirements of 10 CFR 50, Appendix B. Although the title of ANSI N45.2.1 indicates that it is applicable to design and construction phase activities, Regulatory Guide 1.37, Regulatory Position C.2, states that many of the requirements and recommendations of the standard are also appropriate for operation phase activities.

The existing Farley, Hatch, and Vogtle QAPs include commitments to Regulatory Guide 1.37 as follows:

- Hatch – Regulatory Guide 1.37, dated March 16, 1973 (ANSI N45.2.1-1973)
- Farley – Regulatory Guide 1.37, dated March 16, 1973 (ANSI N45.2.1-1973)
- Vogtle – Regulatory Guide 1.37, dated March 16, 1973 (ANSI N45.2.1-1973)

ASME NQA-1-1994 provides the necessary requirements to address the scope of activities formerly addressed by Regulatory guide 1.37 and ANSI N45.2.1-1973 for cleanliness of fluid systems and associated components. Accordingly, the proposed QATR represents a change to commitments contained in the QAP description from Regulatory Guide 1.37 and ANSI N45.2.1, as cited above, to ASME NQA-1-1994, as delineated in Enclosure 4.

4.1.4 Regulatory Guide 1.38

Regulatory Guide 1.38, Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, and Handling of Items for Water Cooled Nuclear Power Plants, provided NRC endorsement of ANSI N45.2.2, Packaging, Shipping, Receiving, Storage and Handling of Items for Nuclear Power Plants during the Construction Phase, as an adequate basis for compliance with the pertinent quality assurance requirements of 10 CFR 50, Appendix B. Although the title of ANSI N45.2.2 indicates the standard is applicable to construction phase activities, Regulatory Position C.4 of Regulatory Guide 1.38 extends applicability of the standard to operation phase activities.

The existing Farley, Hatch, and Vogtle QAPs include commitments to Regulatory Guide 1.38 as follows:

- Hatch – Regulatory Guide 1.38, dated March 16, 1973 (ANSI N45.2.2-1972)
- Farley – Regulatory Guide 1.38, dated March 16, 1973 (ANSI N45.2.2-1972)
- Vogtle – Regulatory Guide 1.38, dated March 16, 1973 (ANSI N45.2.2-1972)

ASME NQA-1-1994 provides the necessary requirements to address the scope of activities formerly addressed by Regulatory Guide 1.38 and ANSI N45.2.2-1972 for packaging, shipping, receiving, storage, and handling of items or components. Accordingly, the proposed QATR represents a change to commitments contained in the QAP description from Regulatory Guide 1.38 and ANSI N45.2.2, as cited above, to ASME NQA-1-1994, as delineated in Enclosure 4.

4.1.5 Regulatory Guide 1.39

Regulatory Guide 1.39, Housekeeping Requirements for Water-cooled Nuclear Power Plants, provided NRC endorsement of ANSI N45.2.3, Housekeeping During the Construction Phase of Nuclear Power Plants, as an adequate basis for compliance with the pertinent quality assurance requirements of 10 CFR 50, Appendix B. Although the title of ANSI N45.2.3 indicates the standard is applicable to construction phase activities, Regulatory Position C.2 of Regulatory Guide 1.39 extends applicability of the standard to operation phase activities.

The existing Farley, Hatch, and Vogtle QAPs include commitments to Regulatory Guide 1.39 as follows:

- Hatch – Regulatory Guide 1.39, dated March 16, 1973 (ANSI N45.2.3-1973)
- Farley – Regulatory Guide 1.39, dated March 16, 1973 (ANSI N45.2.3-1973)
- Vogtle – Regulatory Guide 1.39, Revision 2, dated September 1977 (ANSI N45.2.3-1973)

ASME NQA-1-1994 provides the necessary requirements to address the scope of activities formerly addressed by Regulatory Guide 1.39 and ANSI N45.2.3-1973 for housekeeping requirements. Accordingly, the proposed QATR represents a change to commitments contained in the QAP description from Regulatory Guide 1.39 and ANSI N45.2.3, as cited above, to ASME NQA-1-1994, as delineated in Enclosure 4.

4.1.6 Regulatory Guide 1.58

Regulatory Guide 1.58, Qualification of Nuclear Power Plant Inspection, Examination, and Testing Personnel, provided NRC endorsement of ANSI N45.2.6, Qualification of Inspection, Examination, and Testing Personnel for the Construction Phase of Nuclear Power Plants, as an adequate basis for compliance with the pertinent quality assurance requirements of 10 CFR 50, Appendix B. Although the title of ANSI N45.2.6 indicates the standard is applicable to construction phase activities, Regulatory Position C.1 of Regulatory Guide 1.58 states that the requirements should be considered generally applicable to other phases of plant life, including the operations phase.

The existing Farley, Hatch, and Vogtle QAPs include commitments to Regulatory Guide 1.58 as follows:

- Hatch – Regulatory Guide 1.58, dated August 1973 (ANSI N45.2.6-1973)

- Farley – Regulatory Guide 1.58, Revision 1, dated September 1980 (ANSI N45.2.6-1978)
- Vogtle – Regulatory Guide 1.58, Revision 1, dated September 1980 (ANSI N45.2.6-1978)

ASME NQA-1-1994 provides the necessary requirements to address the scope of activities formerly addressed by Regulatory Guide 1.58 and ANSI N45.2.6 for qualification of inspection, examination, and testing personnel. Accordingly, the proposed QATR represents a change to commitments contained in the QAP description from Regulatory Guide 1.58 and ANSI N45.2.6, as cited above, to ASME NQA-1-1994, as delineated in Enclosure 4.

4.1.7 Regulatory Guide 1.64

Regulatory Guide 1.64, Quality Assurance Requirements for the Design of Nuclear Power Plants, provided NRC endorsement of ANSI N45.2.11, Quality Assurance Requirements for the Design of Nuclear Power Plants, as an adequate basis for compliance with the pertinent requirements of 10 CFR 50, Appendix B.

The existing Farley, Hatch, and Vogtle QAPs include commitments to Regulatory Guide 1.64 as follows:

- Hatch – Regulatory Guide 1.64, dated October 1973 (ANSI N45.2.11, Draft No. 3, Revision 1, dated July 1973)
- Farley – Regulatory Guide 1.64, Revision 2, dated June 1976 (ANSI N45.2.11-1974)
- Vogtle – Regulatory Guide 1.64, Revision 2, dated June 1976 (ANSI N45.2.11-1974)

ASME NQA-1-1994 provides the necessary requirements to address the scope of activities formerly addressed by Regulatory Guide 1.64 and ANSI N45.2.11 for design of nuclear power plants. Accordingly, the proposed QATR represents a change to commitments contained in the QAP description from Regulatory Guide 1.64 and ANSI N45.2.11, as cited above, to ASME NQA-1-1994, as delineated in Enclosure 4.

4.1.8 Regulatory Guide 1.74

Regulatory Guide 1.74, Quality Assurance Terms and Conditions, provided NRC endorsement of ANSI N45.2.10, Quality Assurance Terms and Definitions, as acceptable for use in describing and implementing quality assurance programs for design, construction, and operation of nuclear power plants.

The existing Farley, Hatch, and Vogtle QAPs include commitments to Regulatory Guide 1.74 as follows:

- Hatch – Regulatory Guide 1.74, dated February 1974 (ANSI N45.2.10-1973)
- Farley – Regulatory Guide 1.74, dated February 1974 (ANSI N45.2.10-1973)
- Vogtle – Regulatory Guide 1.74, dated February 1974 (ANSI N45.2.10-1973)

ASME NQA-1-1994 provides the necessary requirements to address the scope of activities formerly addressed by Regulatory Guide 1.74 and ANSI N45.2.10 for design of nuclear power plants. Accordingly, the proposed QATR represents a change to commitments contained in the QAP description from Regulatory Guide 1.74 and ANSI N45.2.10, as cited above, to ASME NQA-1-1994, as delineated in Enclosure 4.

4.1.9 Regulatory Guide 1.88

Regulatory Guide 1.88, Collection, Storage, and Maintenance of Nuclear Power Plant Quality Assurance Records, provided NRC endorsement of ANSI N45.2.9, Requirements for Collection, Storage, and Maintenance of Quality Assurance Records for Nuclear Power Plants, as an adequate basis for complying with the pertinent requirements of 10 CFR 50, Appendix B.

The existing Farley, Hatch, and Vogtle QAPs include commitments to Regulatory Guide 1.88 as follows:

- Hatch – Regulatory Guide 1.88, dated August 1974 (ANSI N45.2.9-1974)
- Farley – Regulatory Guide 1.88, dated August 1974 (ANSI N45.2.9-1974)
- Vogtle – Regulatory Guide 1.88, Revision 2, dated October 1976 (ANSI N45.2.9-1974)

ASME NQA-1-1994 provides the necessary requirements to address the scope of activities formerly addressed by Regulatory Guide 1.88 and ANSI N45.2.9 for design of nuclear power plants. Accordingly, the proposed QATR represents a change to commitments contained in the QAP description from Regulatory Guide 1.88 and ANSI N45.2.9, as cited above, to ASME NQA-1-1994, as delineated in Enclosure 4.

4.1.10 Regulatory Guide 1.94

Regulatory Guide 1.94, Quality Assurance Requirements for Installation, Inspection, and Testing of Structural Concrete and Structural Steel During the Construction Phase of Nuclear Power Plants, provided NRC endorsement of ANSI N45.2.5, Supplemental Quality Assurance Requirements for Installation, Inspection, and Testing of Structural Concrete and Structural Steel During the Construction Phase of Nuclear Power Plants, as an adequate basis for complying with the pertinent requirements of 10 CFR 50, Appendix B.

The existing Farley, Hatch, and Vogtle QAPs include commitments to Regulatory Guide 1.94 as follows:

- Hatch – Regulatory Guide 1.94, Revision 1, April 1976 (ANSI N45.2.5-1974)
- Farley – None (ANSI N45.2.5-1974)
- Vogtle – ANSI N45.2.5-1978 (Vogtle is not currently committed to Regulatory Guide 1.94)

ASME NQA-1-1994 provides the necessary requirements to address the scope of activities formerly addressed by Regulatory Guide 1.94 and ANSI N45.2.5 for installation of structural concrete and structural steel. Accordingly, the proposed QATR represents a change to commitments contained in the QAP description from Regulatory Guide 1.94 and ANSI N45.2.5, as cited above, to ASME NQA-1-1994, as delineated in Enclosure 4.

4.1.11 Regulatory Guide 1.116

Regulatory Guide 1.116, Quality Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Systems, provided NRC endorsement of ANSI N45.2.8, Supplemental Quality Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Systems for the Construction Phase of Nuclear Power Plants, as an adequate basis for complying with the pertinent requirements of 10 CFR 50, Appendix B. Although the title of ANSI N45.2.8 indicates the standard is applicable to construction phase activities, Regulatory Position C.2 of Regulatory Guide 1.116 states that the requirements should be considered applicable during the operations phase.

The existing Farley, Hatch, and Vogtle QAPs include commitments to Regulatory Guide 1.116 as follows:

- Hatch – Regulatory Guide 1.116, Revision O-R, dated May 1977 (ANSI N45.2.8-1975). Although the Hatch QAP cites the date of Revision O-R to be May 1977, this date is the date the title page

was revised to remove the words "For Comment." The correct date for Revision O-R is June 1976.

- Farley – None (ANSI N45.2.8-1974, Draft 3, dated April 1974)
- Vogtle – Regulatory Guide 1.116, Revision O-R, dated June 1976 (ANSI N45.2.8-1975)

ASME NQA-1-1994 provides the necessary requirements to address the scope of activities formerly addressed by Regulatory Guide 1.116 and ANSI N45.2.8 for installation, inspection, and testing of mechanical equipment and systems. Accordingly, the proposed QATR represents a change to commitments contained in the QAP description from Regulatory Guide 1.116 and ANSI N45.2.8, as cited above, to ASME NQA-1-1994, as delineated in Enclosure 4.

4.1.12 Regulatory Guide 1.123

Regulatory Guide 1.123, Quality Assurance Requirements for Control of Procurement of Items and Services for Nuclear Power Plants, provided NRC endorsement of ANSI N45.2.13, Quality Assurance Requirements for control of Procurement of Items and Services for Nuclear Power Plants, as an adequate basis for complying with the pertinent requirements of 10 CFR 50, Appendix B.

The existing Farley, Hatch, and Vogtle QAPs include commitments to Regulatory Guide 1.123 as follows:

- Hatch – Regulatory Guide 1.123, Revision 1, dated July 1977 (ANSI N45.2.13-1976).
- Farley – None (ANSI N45.2.13, Draft 2, Revision 4, dated April 1974)
- Vogtle – Regulatory Guide 1.123, Revision 1, dated July 1977 (ANSI N45.2.13-1976)

ASME NQA-1-1994 provides the necessary requirements to address the scope of activities formerly addressed by Regulatory Guide 1.123 and ANSI N45.2.13 for control of procurement of items and services. Accordingly, the proposed QATR represents a change to commitments contained in the QAP description from Regulatory Guide 1.123 and ANSI N45.2.13, as cited above, to ASME NQA-1-1994, as delineated in Enclosure 4.

4.1.13 Regulatory Guide 1.144

Regulatory Guide 1.144, Auditing of Quality Assurance Programs for Nuclear Power Plants, provided NRC endorsement of ANSI N45.2.12, Requirements for Auditing of

Quality Assurance Programs for Nuclear Power Plants, as an adequate basis for complying with the pertinent requirements of 10 CFR 50, Appendix B.

The existing Farley, Hatch, and Vogtle QAPs include commitments to Regulatory Guide 1.144 as follows:

- Hatch – Regulatory Guide 1.144, Revision 1, dated September 1980 (ANSI N45.2.12-1977).
- Farley – None (ANSI N45.2.12, Draft 3, Revision 4, dated February 1974)
- Vogtle – Regulatory Guide 1.144, Revision 1, dated September 1980 (ANSI N45.2.12-1977)

ASME NQA-1-1994 provides the necessary requirements to address the scope of activities formerly addressed by Regulatory Guide 1.144 and ANSI N45.2.12 for auditing of quality assurance programs. Accordingly, the proposed QATR represents a change to commitments contained in the QAP description from Regulatory Guide 1.144 and ANSI N45.2.12, as cited above, to ASME NQA-1-1994, as delineated in Enclosure 4.

4.1.14 Regulatory Guide 1.146

Regulatory Guide 1.146, Qualification of Quality Assurance Program Audit Personnel for Nuclear Power Plants, provided NRC endorsement of ANSI N45.2.23, Qualification of Quality Assurance Program Personnel for Nuclear Power Plants, as an adequate basis for complying with the pertinent requirements of 10 CFR 50, Appendix B.

The existing Farley, Hatch, and Vogtle QAPs include commitments to Regulatory Guide 1.146 as follows:

- Hatch – Regulatory Guide 1.146, dated August 1980 (ANSI N45.2.23-1978).
- Farley – Regulatory Guide 1.146, dated August 1980 (ANSI N45.2.23-1978)
- Vogtle – Regulatory Guide 1.146, dated August 1980 (ANSI N45.2.23-1978)

ASME NQA-1-1994 provides the necessary requirements to address the scope of activities formerly addressed by Regulatory Guide 1.146 and ANSI N45.2.23 for qualification of audit personnel. Accordingly, the proposed QATR represents a change to commitments contained in the QAP description from Regulatory Guide 1.146 and ANSI N45.2.23, as cited above, to ASME NQA-1-1994, as delineated in Enclosure 4.

4.2 Category 2 – NRC-approved Alternatives to NQA-1-1994

Category 2 changes represent alternatives to NQA-1-1994 previously approved by the NRC that are proposed to be included in the QATR. Conformance of the proposed QATR to NQA-1-1994 is described in Enclosure 4. Enclosure 4 includes a list of each section of NQA-1-1994, Section I and II, and identifies the location of the requirement in the proposed QATR, along with any clarifications or alternatives incorporated in the proposed QATR. Alternatives to NQA-1-1994 incorporated in the proposed QATR have been previously approved by the NRC as an acceptable basis for compliance with the pertinent requirements of 10 CFR 50, Appendix B and the precedence for each is cited. Clarification of the requirements of NQA-1-1994 described in the proposed QATR is listed below and where applicable, the precedence is cited.

4.2.1 NQA-1-1994, Part I, Section I.4

SNC utilizes the terms and definitions provided in NQA-1-1994 to interpret the requirements of NQA-1-1994, as well as other standards to which SNC commits to in the proposed QATR. Additional terms and definitions are provided in Appendix D of the QATR. The terms and definitions contained in the proposed QATR are identical to those contained in Appendix C of the NMC QATR approved by NRC Safety Evaluation Report (SER) dated March 24, 2005, with the exception of the following clarifications:

> *Construction* – 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.
>
> *Independent Verification* – Verification that required actions have been completed by an individual other than the person who performed the operation or activity being verified. Such verification will not require confirmation of the identical action when other indications provide assurance or indication that the prescribed activity is in fact complete. Examples include, but are not limited to: verification of a breaker opening by observing remote breaker indication lights; verification of a setpoint (made with a voltmeter or ammeter, for example) by observing the actuation or status of indicating lights are the required panel-meter indicated value; verification that a valve has been positioned by observing the starting or stopping of flow on meter indications or by remote valve position indicating lights.

Concurrent Verification – Verification by a second individual of a component's condition as the action is being performed. Examples include, but are not limited to: equipment being removed from service (provided the equipment being removed from service will not cause any adverse system condition), lifting a lead, removing a fuse, and opening a link.

The above definitions provide clarification regarding how the requirements of NQA-1-1994, Part I, Section I.4 will be met and do not represent a change or deviation from the standard.

4.2.2 NQA-1-1994, Supplement 2S-1, Appendix 2A-1

Supplement 2S-1, Supplementary Requirements for the Qualification of Inspection and Test Personnel, 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 the requirements of this Supplement and Appendix:

(1) 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 determining who will be responsible for performing the inspections), evaluating inspection training programs, nor certifying inspection personnel.

(2) A qualified engineer may be used to plan inspections, evaluate the capabilities of an inspector, or evaluate the training program for inspectors. For the purposes 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.

This alternative is consistent with the Dominion Nuclear Facility Quality Assurance Program Description (NFQAPD), Section 2.5.5 and Appendix C, Section 6.2, approved by NRC SER dated September 9, 2005, Paragraphs 4.3.1.2 and 4.3.1.3

4.2.3 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 XI of the ASME Boiler and Pressure Vessel Code approved by the NRC for use at SNC sites.

This exception is consistent with NMC QATR, Section A.5, approved by NRC SER dated March 24, 2005, Section 3.3.1.

4.2.4 NQA-1-1994, Supplement 2S-3

In lieu of the requirement that prospective lead auditors participate in a minimum of five (5) audits in the previous three (3) years, 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.

This change is consistent with NMC QATR Section A.5 and the corresponding NRC SER dated March 24, 2005, Section 3.3.1.

4.2.5 NQA-1-1994, Supplement 4S-1

(a) Section 2.3 of this 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.

This exception is consistent with NMC QATR Section B.4, determined to provide an acceptable basis for conformance with the requirements of 10 CFR 50, Appendix B, as documented by the corresponding NRC SER dated March 24, 2005, modified to address NRC Request for Information to Constellation Generation Group, dated May 15, 2006.

(b) Section 2.3 of Supplement 4S-1 includes a requirement that procurement documents require suppliers to have a documented quality assurance program, including implementing procedures. As clarification regarding services 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.

This item provides clarification regarding how the requirements of NQA-1-1994, Supplement 4S-1, Section 2.3, will be met and does not represent a change or deviation from the standard.

(c) Section 3 of Supplement 4S-1 requires procurement documents to be reviewed prior to bid or award of contract. As a clarification to this requirement, quality assurance review of procurement documents will be satisfied through review of the applicable procurement specification, including the technical and quality procurement requirements, prior to bid or award of contract.

This item provides clarification regarding how the requirements of NQA-1-1994, Supplement 4S-1, Section 3, will be met and does not represent a change or deviation from the standard.

4.2.6 NQA-1-1994, Supplement 7S-1

(a) 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.

This item provides clarification regarding how the requirements of NQA-1-1994, Supplement 7S-1 are implemented and does not represent a change or deviation from the standard.

(b) 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:

(i) 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.

(ii) The purchase documents require reporting as-found calibration data when calibrated items are found to be out-of-tolerance.

(iii) 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 an accreditation by the National Voluntary Laboratory Accreditation Program (NVLAP) or by the American Association for Laboratory Accreditation (A2LA) as recognized by NVLAP through a Mutual Recognition Arrangement (MRA).

- The accreditation is based on ANS/ISO/IEC 17025.

- The published scope of accreditation for the calibration laboratory covers the necessary measurement parameters, ranges, and uncertainties.

This alternative is consistent changes to the Palo Verde QAP requested by Arizona Public Service y letter dated September 5, 2004, approved by NRC SER dated September 28, 2005.

(c) Section 8.1, SNC considers documents that may be stored in approved electronic media under SNC control and not physically located on the plant site but which are accessible from the respective nuclear facility site as meeting the NQA-1 requirement for documents to be available at the site.

This item provides clarification regarding how the requirements of NQA-1-1994, Supplement 7S-1, Section 8.1, will be met and does not represent a change or deviation from the standard.

(d) In lieu of the requirements of Section 10, Commercial Grade Items, controls for commercial grade items are established in SNC documents using the guidance of EPRI NP-5652 as discussed in Generic Letter 89-02 and Generic Letter 91-05.

This item is consistent with the requirements of the existing Farley, Hatch, and Vogtle QAPs for procurement of commercial grade items and as a result, does not represent a change to the Farley, Hatch, and Vogtle QAP requirements. Additionally, this alternative is consistent with Section 7.5 of the Dominion NFQAPD, as approved by the corresponding NRC SER dated September 9, 2005, with the addition of Generic Letter 91-05, as recommended by NRC Request for Additional Information for Constellation Generation Group, dated May 15, 2006.

4.2.7 NQA-1-1994, Subpart 2.4

(a) For clarification, SNC commitment to Subpart 2.4 results in SNC commitment to IEEE 336-1985 which refers to IEEE 498-1985. Both IEEE 336-1985 and 498-1985 use the definition of "safety system equipment" from IEEE 603-1980. SNC commits to the definition of

safety system equipment in IEEE 603-1980 but does not commit to the balance of IEEE 603-1980.

This item provides clarification only and does not represent an exception or deviation from NQA-1-1994.

(b) Section 7.2.1 of ANSI/IEEE 336-1985 requires all items requiring calibration to be labeled or tagged. In lieu of this requirement, SNC may not label or tag certain items requiring calibration but will provide other means of identification so that appropriate controls can be implemented.

This exception is consistent with NMC QATR Section B.9 and Section 3.3.2 of the corresponding NRC SER dated March 24, 2005.

4.2.8 NQA-1-1994, Subpart 2.16

Section 5.5 of ANSI/IEEE 198-1985 requires all measuring and test equipment (M&TE) to be labeled. In lieu of this requirement, SNC 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 is consistent with NMC QATR Section B.9 and Section 3.3.2 of the corresponding NRC SER dated March 24, 2005.

4.2.9 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. In lieu of the cleanness classes 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.

This exception is consistent with that contained in Section B.7 of the NMC QATR, as discussed in NRC SER, dated March 24, 2005, Section 3.3.2.

4.2.10 NQA-1-1994, Subpart 2.2

(a) In lieu of the requirements of NQA-1-1994, Subpart 2.2, Sections 3.2 and 3.5, as determined by facility management for items in storage, 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 practices that obviate the need for capping all openings.

This alternative is consistent with Dominion NFQAPD, Section 13.3, as approved by NRC SER dated September 9, 2005.

(b) In lieu of the requirements of NQA-1-1994, Subpart 2.2, Section 6.6, which requires written records to be prepared containing information on personnel access, 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.

This alternative is consistent with Dominion NFQAPD, Section 13.3, as approved by NRC SER dated September 9, 2005.

(c) In lieu of the requirement of NQA-1-1994, Subpart 2.2, Section 7.1 which provides the requirements for hoisting, rigging and transporting of items for nuclear plants, 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 the applicable hoisting and transportation regulations and codes.

This alternative is consistent with NMC QATR Section B.7, as approved by NRC SER dated March 24, 2005.

4.2.11 NQA-1-1994, Subpart 2.3

In lieu of the five-level zone designation required by 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.

This alternative is consistent with NMC QATR Section B.7, as approved by NRC SER dated March 24, 2005.

4.2.12 NQA-1-1994, Supplement 17S-1

In lieu of Supplement 17S-1, Section 4.2(b) which 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, hard-copy records maintained by SNC will be stored in steel file cabinets or on shelving in containers, except that methods other than binders, folders or envelopes may be used to organize the records for storage.

This alternative is consistent with Section B.15 of the NMC QATR, approved by NRC SER dated March 24, 2005.

4.3 Category 3 – Implementation of ANSI N18.7-1976

Category 3 changes represent changes to the Farley, Hatch, and Vogtle QAPs to incorporate the applicable requirements from ANSI N18.7-1976 into the QATR. Regulatory Guide 1.33, Revision 2, provides NRC endorsement of ANSI N18.7-1976 and includes regulatory positions that represent the NRC conditions of its endorsement of the standard.

Enclosure 5 provides a comparison of the requirements of ANSI N18.7-1976 and NQA-1-1994. This comparison identifies specific requirements of ANSI N18.7-1976 that are not addressed by NQA-1-1994. For those items not addressed by NQA-1-1994, Enclosure 5 provides an excerpt from the proposed QATR that describes SNC conformance with ANSI N18.7-1976.

SNC has addressed the conditions contained in Regulatory Guide 1.33, Revision 2, in the proposed QATR as follows:

- Regulatory Position C.1 of Regulatory Guide 1.33, Revision 2, requires the preparation of many procedures to carry out an effective quality assurance program. Regulatory Guide 1.33, Revision 2, Appendix A provides a list of procedures that should used as guidance to ensure minimum procedural coverage for plant operating activities, including maintenance activities.

  Part III of the proposed QATR, Regulatory Commitments, states the following:

  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.

- Regulatory Position C.2 of Regulatory Guide 1.33, Revision 2, provides a list of standards to be included as part of ANSI N18.7-1976. SNC believes that Regulatory Position C.2 is no longer considered valid, as the referenced standards and guidance have now been incorporated into ASME NQA-1-1994, addressed in Part III of the proposed QATR or addressed in the respective FSAR for each plant, as applicable.

- Regulatory Position C.3 of Regulatory Guide 1.33, Revision 2, requires that proposed changes to technical specifications or license amendments should be reviewed by the independent review body prior to their submittal to the Commission for approval.

  This requirement is incorporated in QATR Appendix B, Section 4. Accordingly, the requirement of Regulatory Position C.3 of Regulatory Guide 1.33, Revision 2, is a commitment in the QA program description contained in the proposed QATR and therefore, a commitment to Regulatory Position C.3 is not necessary.

- Regulatory Position C.4 of Regulatory Guide 1.33, Revision 2, requires that audits of operational phase activities be performed with a frequency commensurate with their safety significance and goes on to provide specific guidance regarding required audit frequencies.

  In lieu of audit topics and frequencies in accordance with Regulatory Guide 1.33, Revision 2, Regulatory Position C.4, Section 18.1 of the proposed QATR provides the audit frequencies that have been reviewed by the NRC and found to provide an acceptable basis for compliance with 10 CFR 50, Appendix B, as described in NRC SER to SNC dated June 17, 2005.

- Regulatory Position C.5 of Regulatory Guide 1.33, Revision 2, requires that specific ANSI N18.7-1976 guidelines be treated instead as requirements.

  In lieu of compliance with Regulatory Guide 1.33, Revision 2, Regulatory Position C.5, SNC has established appropriate equivalent requirements within the QATR, as demonstrated in Enclosure 5.

The proposed QATR implements ANSI N18.7-1976 in a manner that is generally consistent with the Dominion NFQAPD previously approved by the NRC as an acceptable basis for meeting the requirements of 10 CFR 50, Appendix B, as described in SERs dated September 9, 2005.

4.4 Category 4 – Reduction in QAP Description Detail

Category 4 changes represent changes that result in a reduction in the level of detail currently provided in the Farley, Hatch, and Vogtle QAPs described in Section 17.2 of the respective FSAR for each. This reduction in detail could be considered a reduction in commitments contained in the QAP descriptions. However, the proposed QATR does not reiterate the contents of NQA-1-1994 but instead, includes commitments to individual sections of NQA-1-1994, where applicable. This change is generally consistent with the NMC QATR and the Dominion NFQAPD determined by the NRC to provide an acceptable basis for meeting the requirements of 10 CFR 50, Appendix B.

4.5 Category 5 – Use of Generic Titles/Organization Charts

Category 5 changes represent a change from the site-specific organization charts provided in Section 17.2 of the respective FSAR for each plant to generic organization charts contained Part II, Section 1 of the proposed QATR. The proposed change will result in deletion of the following FSAR figures:

Hatch – FSAR (Unit 2) Figure 17.2-1
Farley – FSAR Figure 17.2-1
Vogtle – FSAR Figure 17.2.1-1

The generic organization charts provided in the proposed QATR are supported by a narrative description in Part II, Section 1, of the QATR.

5.0 Regulatory Analysis

The requirements of 10 CFR 50.34(b) applicable to applicants for a license issued pursuant to 10 CFR Part 50 require the applicant to provide a Final Safety Analysis Report (FSAR) that describes the facility, presents the design basis and the limits on its operation, and presents a safety analysis of the structures, systems, and components. 10 CFR 50.34(b)(6)(ii) requires that applicants include in the FSAR a description of the managerial and administrative controls to be used to assure safe operation of the facility and a discussion of how the applicable requirements of 10 CFR 50, Appendix B, will be satisfied.

10 CFR 50.54 invokes conditions on licenses granted in accordance with the provisions of 10 CFR Part 50. These provisions include 10 CFR 50.54(a) which requires licensees to implement, pursuant to 10 CFR 50.34(b)(6)(ii), the quality assurance program described or referenced in the FSAR. As a result, Farley, Hatch, and Vogtle currently implement three separate QAPs described in Section 17.2 of the respective FSAR for each plant.

The provisions of 10 CFR 50.54(a) allow licensees to make changes to the QAP described in the FSAR. 10 CFR 50.54(a)(3) allows licensees to make changes to a previously approved QAP description included or referenced in the FSAR without prior NRC approval provided the change does not reduce the commitments in the program description as accepted by the NRC. In addition to changes involving administrative improvements, and clarifications, spelling corrections,

punctuation, or editorial items, the following changes are not considered to be reductions in commitments:

(i) The use of a QA standard approved by the NRC which is more recent than the QA standard in the licensee's current QA program at the time of the change;

(ii) The use of a quality assurance alternative or exception approved by an NRC safety evaluation, provided the bases of the NRC approval are applicable to the licensee's facility;

(iii) The use of generic organizational position titles that clearly denote the position function, supplemented as necessary by descriptive text, rather than specific titles;

(iv) The use of generic organizational charts to indicate functional relationships, authorities, and responsibilities, or alternately, the use of descriptive text;

(v) The elimination of quality assurance program information that duplicates language in quality assurance regulatory guides or quality assurance standards to which the licensee is committed; and

(vi) Organizational revisions that ensure that persons and organizations performing quality assurance functions continue to have the requisite authority and organizational freedom, including sufficient independence from cost and schedule when opposed to safety considerations.

Changes to the QAP which result in a reduction in the commitments contained in the program description must be submitted to the NRC in accordance with the provisions of 10 CFR 50.54(a)(4) for approval prior to implementing the proposed change.

Although SNC believes the proposed changes to the Farley, Hatch, and Vogtle QAP meet the criteria of 10 CFR 50.54(a)(3) for changes that do not require NRC approval prior to implementation, SNC has elected to submit the proposed changes in accordance with the provisions of 10 CFR 50.54(a)(4) for NRC approval. Accordingly, SNC requests NRC approval of the proposed QATR provided in Enclosure 1 of this submittal as a replacement for the existing Farley, Hatch, and Vogtle QAPs described in the respective FSAR for each plant.

The following provides a summary of the proposed changes to the Farley, Hatch, and Vogtle QAPs and provides the regulatory basis for continued compliance with the requirements of 10 CFR 50, Appendix B. The SNC change categories described below correspond to the change categories described in Section 4 of this enclosure.

5.1 Category 1

Category 1 changes to the Farley, Hatch, and Vogtle QAPs represent changes to commitments from ANSI N45.2, including the corresponding daughter standards, to a commitment to ASME NQA-1-1994, as described in the proposed QATR. The NRC has reviewed NQA-1-1994 in conjunction with QA topical reports submitted by Exelon, Nuclear Management Company, and Dominion, and determined that NQA-1-1994, as

supplemented by ANSI N18.7-1976, provides an acceptable basis for compliance with the requirements of 10 CFR 50, Appendix B.[1, 2, 3]

Although SNC believes that 10 CFR 50.54(a)(3) would allow implementation of the proposed QATR based on NQA-1-1994, as supplemented by ANSI N18.7-1976, without prior NRC approval, SNC has elected to submit the proposed QATR to the NRC for review and approval in accordance with the provisions of 10 CFR 50.54(a)(4).

5.2 Category 2

Category 2 changes represent alternates to NQA-1-1994 that have been previously approved by the NRC as an acceptable basis for compliance with the requirements of 10 CFR 50, Appendix B, which are incorporated in the proposed QATR. Although these changes are a subset of Category 1 and do not technically represent direct changes to the existing Farley, Hatch, and Vogtle QAPs, these changes are highlighted in this manner to facilitate NRC review of the proposed QATR.

As stated above, Category 2 changes have been reviewed by the NRC and determined to provide an acceptable basis for compliance with the requirements of 10 CFR 50, Appendix B. SNC has reviewed the NRC-approved alternatives incorporated into the proposed QATR and the corresponding NRC SER which provides the basis for NRC acceptance of each alternative and believe these alternatives to be applicable to Farley, Hatch, and Vogtle. That is, both SNC and the licensee for which the alternative was originally approved are required to meet the requirements of 10 CFR 50, Appendix B. NRC determination that NQA-1-1994, as modified by NRC-approved alternatives to NQA-1-1994, provides an acceptable basis for compliance with 10 CFR 50, Appendix B, is directly applicable to Farley, Hatch, and Vogtle.

Although SNC believes 10 CFR 50.54(a)(3) would allow it to implement the proposed NRC-approved alternatives to NQA-1-1994 without prior NRC approval, SNC has elected to submit the proposed QATR, including the proposed alternatives to NQA-1-1994, to the NRC for review and approval in accordance with the provisions of 10 CFR 50.54(a)(4).

5.3 Category 3

Category 3 changes are changes to the Farley, Hatch, and Vogtle QAPs associated with implementation of ANSI N18.7-1976 required to facilitate implementation of a single QATR. Enclosure 5 provides a comparison of the requirements of ANSI N18.7-1976 and ASME NQA-1-1994 and describes SNC conformance with the applicable requirements of ANSI N18.7-1976. Alternatives to the requirements of ANSI N18.7-1976 are identified and the bases for each provided in Enclosure 5.

Historically, Farley, Hatch, and Vogtle have each included a commitment to ANSI N18.7 as part of their respective QAPs. However, the proposed QATR incorporates the applicable requirements of ANSI N18.7-1976 necessary to supplement NQA-1-1994 as a basis for

compliance with 10 CFR 50, Appendix B, in lieu of a specific commitment to ANSI N18.7-1976. This approach is consistent with that employed by NMC and Dominion in their respective QA topical reports which have been determined by the NRC to meet the requirements of 10 CFR 50, Appendix B.

Although SNC believes 10 CFR 50.54(a)(3)(ii) would allow implementation of the proposed NRC-approved alternatives to ANSI N18.7-1976 without prior NRC approval, SNC has elected to submit the proposed QATR, including the proposed alternatives to ANSI N18.7-1976, to the NRC for review and approval in accordance with the provisions of 10 CFR 50.54(a)(4).

5.4 Category 4

Category 4 changes are changes that represent a reduction in the level of detail currently provided in the Farley, Hatch, and Vogtle QAPs. The reduction in level of detail is due primarily to the requirements formerly contained in ANSI N45.2, including the daughter standards, being incorporated into NQA-1-1994. The provisions of 10 CFR 50.54(a)(3)(v) allow licensees to eliminate quality assurance program information that duplicates language in quality assurance regulatory guides or quality assurance standards to which the licensee is committed without prior NRC review and approval. Accordingly, the proposed QATR identifies the applicable commitments to NQA-1-1994 and where applicable, does not repeat requirements contained in NQA-1-1994. The controls provided by the QATR and commitments to quality assurance regulatory guides and quality assurance standards contained therein provide the basis continued compliance with the requirements of 10 CFR 50, Appendix B.

Although SNC believes 10 CFR 50.54(a)(3)(v) would allow removal of the level of detail contained in the Farley, Hatch, and Vogtle QAPs necessary to implement the proposed QATR without prior NRC approval, SNC has elected to submit the proposed QATR to the NRC for review and approval in accordance with the provisions of 10 CFR 50.54(a)(4).

5.5 Category 5

Category 5 changes represent the replacement of organization charts contained in the Farley, Hatch, and Vogtle QAPs with a generic organization chart that is supported with narrative text. This change is consistent with the precedence established by NMC and Dominion in their QA topical reports and approved by the NRC as an acceptable basis for compliance with the applicable requirements of 10 CFR 50, Appendix B.

The provisions of 10 CFR 50.54(a)(3)(iv) allows licensees to make use of generic organizational charts to indicate functional relationships, authorities, and responsibilities and to do without prior NRC approval. Although SNC believes 10 CFR 50.54(a)(3)(iv) would the replacement of the existing organization charts contained in the Farley, Hatch, and Vogtle QAPs with the generic organizational chart contained in the proposed QATR without prior NRC approval, SNC has elected to submit the proposed QATR, including the

generic organization chart, to the NRC for review and approval in accordance with the provisions of 10 CFR 50.54(a)(4).

6.0 References

1. NRC Safety Evaluation Report, Approval of Proposed Revision 70 of Quality Assurance Topical Report EGC-1A, Rev. 70, in accordance with 10 CFR 50.54(a) Requirements for Exelon/Amergen Plants, dated December 24, 2002.
2. NRC Safety Evaluation Report, Approval of Nuclear Management Company Quality Assurance Topical Report, dated March 24, 2004.
3. NRC Safety Evaluation Report, Approval of Dominion Nuclear Connecticut and Virginia Electric and Power Company Quality Assurance Program Description Topical Report for Millstone Power Station Unit Nos. 1, 2, and 3, North Anna Power Station Units 1 and 2, and Surry Power Station Unit Nos. 1 and 2, dated September 9, 2005.

Enclosure 3

Existing QA Programs vs. QATR Comparison Matrices

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Reference: FSAR 17.2 – Operations Quality Assurance Program, Revision 20, dated January 2006

Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2 (1)	Part I, Section I (1)	QATR establishes QA program and administrative control requirements that meet 10 CFR 50, Appendix B, while existing FSAR 17.2 commits to compliance with 10 CFR 50, Appendix B "...as delineated in Regulatory Guide 1.33, dated November 3, 1972, 'Quality Assurance Requirements (Operation).'"	N	Both the existing QAP description and the proposed QATR provide appropriate controls to assure continued compliance with the requirements of 10 CFR 50, Appendix B.
17.2 (2)	Part I, Section I (1)	QATR commits to compliance with ASME NQA-1-1994, as supplemented by the applicable requirements of ANSI N18.7-1976 described in the QATR, in lieu of "ANSI N45.2-1971 and ANS 3.2 (now ANSI N18.7-1972)."	N	As stated in the NRC SER for NMC dated, March 24, 2005, NQA-1-1994, as supplemented by N18.7-1976, provides an acceptable basis for a quality assurance program required to meet the requirements of 10 CFR 50, Appendix B.
17.2 (3)	Part I, Section 1.1(2); Appendix F		N	Table 17.2A-1 is being relocated to the 10 CFR 72.212 Report
17.2 (4)	Intentionally not included	Note 2 - cross reference to N18.7 is no longer applicable.	N	Reference Part III, Regulatory Guide 1.33 clarifications
17.2 (N18.7 table)	Intentionally not included	Note 2 - cross reference to N18.7 is no longer applicable.	N	Reference Part III, Regulatory Guide 1.33 clarifications

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2 (5, incl. table)	Part III, Regulatory Commitments	QATR Part III does not include 10 CFR citations as SNC is required to comply with the regulation without a separate commitment cited in the QATR. QATR Part III lists the QA Program related Regulatory Guides to which SNC is committing.	N	Non-QA Program related regulatory guides have been intentionally deleted from the QA Program Description as this document is intended to only address QA Program topics. Commitments to applicable Regulatory Guides are shown in FSAR Appendix 3A.
17.2 (6)	Policy Statement		N	Not a commitment
17.2 (7)	Part I, Section 1.1(1) through 1.1(3)	OQAPM is replaced by the QATR.	N	
17.2 (8)	Part I, Section 1.1 (2)		N	
17.2.1	Part II, Section 1; Appendix C	Note 3: No longer commits to specific QA Staff sizing	R	Staff sizing will be adjusted as needed to ensure auditing and other QA activities are conducted as committed in the QATR.
17.2.2 (1)	Intentionally not included		N	Historical information only. Not a commitment.
17.2.2 (2)	Part I, Sections 1 and 1.1	The stated purpose of the QATR is to assure compliance with the requirements of 10 CFR 50, Appendix B, as stated in Part I, Section 1. Section 17.3 of the FSAR will not be changed as a result of the QATR.	N	

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.2 (3)	Part II, Section 2		N	
17.2.2 (4)	Part, II, Sections 2.1 and 5	Note 2	N	
17.2.2 (5)	Part II, Section 2.3		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 2 and Supplement 2S-4. These requirements are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.2 (6)	Part II, Section 2.3	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 2S-4. These requirements are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.2 (7)	Part II, Section 2.3		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 2 (see Paragraph 3). These requirements are equivalent to those contained in the specified paragraph of the current QA program description.

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.2 (8)	Not addressed	Deletion of the cross reference to Sections 13.1.3 and 13.2.	N	This statement is a cross-reference to the conduct of operation provided in FSAR Section 13. The qualifications and training program requirements for the plant staff described in FSAR Sections 13.1.3 and 13.2 are not impacted by the proposed QATR.
17.2.2 (9)	Part II, Section 2.4	Personnel assigned to perform inspections and tests may be qualified based on experience, education, and demonstrated abilities in lieu of establishing levels for inspectors.	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplements 2S-1 and 2S-2. These requirements are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplements 2S-1 and 2S-2 are identified in Enclosure 4.
17.2.2 (10)	Part II, Section 2.4	Personnel assigned to perform inspections and tests may be qualified based on experience, education, and demonstrated abilities.	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplements 2S-1 and 2S-2. These requirements are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplements 2S-1 and 2S-2 are identified in Enclosure 4.

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.2 (11)	Part II, Section 9.1		N	The propose QATR includes a commitment to NQA-1-1994, including Supplement 9S-1. Section 3.3 of NQA-1-1994, Supplement 9S-1 provides equivalent requirements to those contained in the specified paragraph of the current QA program description.
17.2.2 (12)	Part II, Section 2.4		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplements, 2S-1 and 2S-3. These requirements are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplements 2S-1 and 2S-3 are identified in Enclosure 4.
17.2.2 (13)	Part I, Section 1.4 (Bullet 1)	The OQAPM for Farley will be deleted and replaced by the QATR which will be controlled by the EVP/Chief Nuclear Officer	N	
17.2.3	Part II, Section 3		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 3. These requirements are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.3.1 (1)	Part II, Section 3		N	The proposed QATR includes a commitment to NQA-1-1994, Supplement

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				3S-1 in lieu of ANSI N45.2.11-1974. Paragraph 5 of Supplement 3S-1 provides requirements that are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.3.1 (2)	Part II, Sections 3.3 and Section 6.2; Appendix A and Appendix B	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplements 3S-1 and Supplement 6S-1. Paragraph 5 of Supplement 3S-1 and Paragraph 1 of Supplement 6S-1 provide requirements that are equivalent to those contained in the specified paragraph of the current QA program description. Equivalent requirements for PRB and SRB review are provided in Appendices A and B, respectively.
17.2.3.1 (3)	Part II, Section 3.1 (3) Design Verification	Note 2	N	

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.3.1 (4)	Part II, Sections 3.3, 16, and 17.2; Appendices A and B	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 3S-1 and Supplement 17S-1. Paragraphs 5 and 7 of Supplement 3S-1, and Supplement 17S-1 provide equivalent requirements to those contained in the specified paragraph of the current QA program description. Equivalent requirements for PRB and SRB review are provided in Appendices A and B, respectively.
17.2.3.1 (5)	Part II, Section 18	Note 2	N	
17.2.3.1 (6)	Intentionally not included	QATR does not require cognizant management to review abnormal operating experiences at other facilities.	R	10 CFR 50 Appendix B and other QA standards do not address operating experience. OE is an input to the SNC corrective action program.
17.2.3.1 (7)	Part II, Section 7.1, bullet 2		N	
17.2.3.2 (1)	Part II, Section 7	Note 2 - Nuclear Fuel Contractors' QA Programs will be reviewed and evaluated along with all other supplier QA Programs.	N	Reference 17.2.4 (4); This is covered by the program for auditing suppliers at frequency established by NUPIC. Also, surveillances are performed by Nuclear Fuels.
17.2.3.2 (2)	Intentionally not included		N	Not a commitment

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.3.2 (3)	Intentionally not included	Note 2	N	
17.2.3.2 (4)	Part II, Section 18 (supplier audits)	Audit of fuel vendors is included in generic commitment to audit supplier activities	N	
17.2.3.2 (5)	Intentionally not included	QATR does not require technical assistance from fuel fabrication be provided to support nuclear fuel receipt inspection.	R	10CFR50, Appendix B and NQA-1-1994 do not require use of the fuel fabricator to do receipt inspections.
17.2.4 (1)	Part II, Section 4; Part II, Section 1.3.1.1	Note 2	N	
17.2.4 (2)	Part II, Sections 4.2	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 4 and Supplement 4S-1. These requirements are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplements 4S-1 are identified in Enclosure 4.
17.2.4 (3)	Intentionally not included	Note 2	N	
17.2.4 (4)	Part II, Sections 4	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				Basic Requirement 4 and Supplement 4S-1. These requirements are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplements 4S-1 are identified in Enclosure 4.
17.2.4 (5)	Part II, Section 4		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 4 and Supplement 4S-1. These requirements are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplements 4S-1 are identified in Enclosure 4.
17.2.4 (6)	Part II, Section 18 and 18(2)(bullet 4)		N	
17.2.5 (1)	Part II, Section 5	Note 2: QATR requires "activities affecting quality" in lieu of "all safety related activities"	I	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 5. These requirements are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.5 (2)	Part II, Section 5	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 5. These requirements are equivalent to those contained in the

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				specified paragraph of the current QA program description
17.2.5 (3)	Part II, Sections 5	Note 2	N	
17.2.5 (4)	Part II,Section18	Note 2	N	
17.2.5.1	Part II, Section 5; Appendix E	Note 2	N	Regulatory Guide 4.15 commitment is being moved to FSAR Chapter 11
17.2.5.2	Appendix A; Part II, Section 6.1		N	
17.2.6 (1)	Intentionally not included		N	Not a commitment – Historical
17.2.6 (2)	Part II, Section 5		N	
17.2.6 (3)	Intentionally not included	Note 2	N	
17.2.6 (4)	Part II, Section 18	Note 2	N	
17.2.7 (1)	Part II, Sections 1.2.1.1.3.1, 4, and 7	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 4S-1. The existing FSAR describes the organizational responsibilities of Supply Chain which is addressed in QATR Part II, Section 1.2.1.1.3.1. These requirements are equivalent to those contained in the specified paragraph of the

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				current QA program description.
17.2.7 (2)	Part II, Section 7.2	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 7S-1. Paragraph 3.1 of Supplement 7S-1 includes requirements that are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 7S-1 are identified in Enclosure 4.
17.2.7 (3)	Part II, Sections 7.2 and 15	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 7S-1. Paragraphs 8.2.3 and 9 of Supplement 7S-1, in conjunction with QATR Part II, Section 15, provide requirements equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 7S-1 are identified in Enclosure 4.
17.2.7 (4)	Part II Section 18 and Part II, Section 7.1	Note 2	N	
17.2.7 (5)	Part II Section 18 and Part II, Section 7.1	Note 2	N	
17.2.7 (6)	Part II Section 18	Note 2	N	

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.7 (7)	Part II, Section 7.1	QATR no longer requires material that is to be used as-is undergo a PRB recommendation and NPGM action to accept prior to its use in the plant.	R	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 7S-1, which includes requirements that are generally equivalent to those contained in the specified paragraph of the current QA program description. As stated in Enclosure 4, the proposed QATR includes the clarification that SNC considers documents that may be stored in approved electronic media under SNC control and not physically located on the plant site but accessible from the respective nuclear facility site as meeting NQA-1-1994 requirements for documents to be available at the site.
17.2.8 (1)	Part II, Section 8.1		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 8. These requirements are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.8 (2)	Part I, Section 1.1; Part II, Section 8		N	
17.2.8 (3)	Part II, Sections 7 and 8.1	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 8S-1. Paragraph 3.3 of

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				Supplement 8S-1 includes requirements that, in conjunction with Part II, Section 7 of the QATR, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.8 (4)	Part II, Sections 1, 8.1, and 18	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 8. These requirements, in conjunction with Part II, Sections 1 and 18, of the QATR, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.8 (5)	Part II, Sections 4, 8.1, and 18		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 8 and Supplement 8S-1. Paragraph 3.3 of Supplement 8S-1 includes requirements that, in conjunction with Part II, Sections 4, 8.1, and 18, of the QATR, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.9 (1)	Part II, Section 9		N	
17.2.9 (2)	Part II, Sections 4 and 9.1	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 9 and Supplement 9S-1. These requirements, in conjunction with QATR Part II, Section 4, provide

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				requirements that are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.9 (3)	Part II, Section 18	Note 2	N	
17.2.10 (1)	Part II, Section 10	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 10S-1. These requirements, in conjunction with QATR Part II, Section 10, provide requirements that are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.10 (2)	NQA-1-1994, Supplement 10S-1 Paragraph 9	The items listed in the FSAR to be documented for each inspection is generally the same as that contained in NQA-1-1994, Supplement 10S-1; however, it is not clear that the "identification of any instruments or special equipment used" must be included. In addition, it is not clear that "acceptance and rejection criteria" must be included.	R	NQA-1-1994 has been previously determined by the NRC to provide an acceptable basis for a QAP required to meet 10 CFR 50, Appendix B.
17.2.10 (3)	Part II, Section 10.1	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including 10S-1. Paragraphs 3.2 and 5.1 of Supplement

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				10S-1 provide requirements that are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.10 (4)	Part II, Sections 1 and 10.1	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including 10S-1. Paragraph 3.2 of Supplement 10S-1, in conjunction with QATR Part II, Section 1, provide requirements that are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.10 (5) and (6)	Part II, Section 1	Note 2	N	Does not change the commitment to do proper reviews of inspection procedures. Note: 10S-1, Paragraph 3.2. requires that inspections be done by qualified persons.
17.2.10 (7A)	Part II, Section 10.1	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 10. These requirements provide requirements that are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.10 (7B)	Part II, Section 10.1	Note 2	N	Intentionally not included, except last sentence is NQA-1-1994, Supplement 10S-1, Paragraphs 2 and 3.1.
17.2.10 (7C)	Part II Section 10	Note 2	N	

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.10 (7D)	Part II, Sections 1 and 10	Note 2	N	
17.2.10 (7E)	Part II, Section 18	Note 2	N	
17.2.11 (1)	Part II, Section 11.1		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 11S-1. Paragraph 2 of Supplement 11S-1 provides requirements that are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.11 (2)	Part II, Section 11	Note 2	N	
17.2.11 (3)	Part II, Section 5.2	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 5. These requirements are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.11 (4)	Part II, Section 11.1		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 11S-1. Paragraph 5 of Supplement 11S-1 provides requirements that are equivalent to those contained in the specified paragraph of the current QA program description.

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.11 (5)	Part III; Part II, Section 10.1	Note 2	N	See Enclosure 2 for the disposition of Regulatory Guides that endorsed ANSI N45.2, including daughter standards.
17.2.11 (6)	Part II Section 18		N	
17.2.12 (1)	Part II, Section 12.1		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 12 and Supplement 12S-1. Basic Requirement 12 and Paragraph 3.1 of Supplement 12S-1 provide requirements that are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.12 (2)	Part II Sections 2.4 and 12		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 12 and Supplements 2S-4 and 12S-1. These requirements, in conjunction with QATR Part II, Section 12, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.12 (3)	Part II Section 12		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 12S-1. Paragraph 3.2 of Supplement 12S-1, in conjunction with QATR Part II, Section 12, provide requirements that are equivalent to those

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				contained in the specified paragraph of the current QA program description.
17.2.13 (1)	Part II, Sections 4 and 13		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 13. These requirements, in conjunction with QATR Part II, Section 4, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.13 (2)	Part II, Sections 7, 13, 15, and 18		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 13S-1, Subpart 2.1, and Subpart 2.2. These requirements, in conjunction with QATR Part II, Sections 7, 13, 15, and 18, provide requirements that are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to NQA-1-1994, Subparts 2.1 and 2.2 are identified in Enclosure 4.
17.2.13 (3)	Part II, Section 13.2	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Subpart 2.3. These requirements, in conjunction with QATR Part II, Sections 13, are equivalent to those contained in the specified paragraph of the current QA

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				program description. Exceptions to NQA-1-1994, Subpart 2.3, are identified in Enclosure 4.
17.2.13 (4)	Part II, Section 13.2		N	The proposed QATR includes a commitment to NQA-1-1994, including Subpart 2.1. These requirements are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to NQA-1-1994, Subpart 2.1 are identified in Enclosure 4.
17.2.13 (5)	Part II, Section 18	This FSAR section is a partial list of the activities that QA will audit. The QATR Part II, Section 18 includes a requirement that QA will audit the performance of activities required by the quality assurance program to meet the criteria of 10 CFR 50, Appendix B. This covers the intent of the FSAR detailed paragraph, but is less detailed.	R	Note 4
17.2.13 (6)	Part II, Section 18	This FSAR section is a partial list of the activities that QA will audit. The QATR Part II, Section 18 includes a requirement that QA will audit the performance of activities required by the quality assurance	R	Note 4

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
		program to meet the criteria of 10 CFR 50, Appendix B. This covers the intent of the FSAR detailed paragraph, but is less detailed.		
17.2.14 (1)	Information only	Note 2	N	
17.2.14 (2)	Part II, Section 14	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 14. These requirements, in conjunction with QATR Part II, Sections 14, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.14 (3)	Part II, Section 18	Note 2	N	
17.2.15 (1)	Part II, Section 15	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 15 and Supplement 15S-1. These requirements, in conjunction with QATR Part II, Section15, provide requirements that are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.15 (2)	Appendix A	The QATR does not require the PRB to review the acceptance of nonconforming material that is determined during receipt inspection to be acceptable for use	R	The PRB charter incorporated into the proposed QATR is consistent with that contained in Dominion Nuclear Facility Quality Assurance Program Description, approved by NRC SER dated September 9,

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
		as-is.		2005.
17.2.15 (3)	Part II, Section 18	QATR does not require the following detail shown in the FSAR: "After the PRB recommends to accept as is or to reject or rework an item and a decision is made by the NPGM, the QA staff will selectively audit design, segregation, rework, or acceptance activities performed to comply with the decision. Rather, the QATR states "This FSAR section is a partial list of the activities that QA will audit. The QATR Part II, Section 18 includes a requirement that QA will audit the performance of activities required by the quality assurance program to meet the criteria of 10 CFR 50, Appendix B. This covers the intent of the FSAR detailed paragraph, but is less detailed."	R	The PRB charter incorporated into the proposed QATR is consistent with that contained in Dominion Nuclear Facility Quality Assurance Program Description, approved by NRC SER dated September 9, 2005.
17.2.15 (4)	Part II, Section 18		N	
17.2.16 (1)	Part II, Section 16	Note 2	N	
17.2.16 (2)	Part II, Section 16; Appendix A and		N	

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
	Appendix B			
17.2.16 (3)	Part II, Section 15	Note 2	N	
17.2.16 (4)	Part II, Section 18	Note 2	N	
17.2.17 (1)	Part II, Sections 9 and 17, and Appendix F		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirements 9 and 17, and Supplement 17S-1. These requirements, in conjunction with QATR Part II, Section 17, provide requirements that are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.17 (2)	Part II, Section 17		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 17S-1. Paragraph 4.2 of Supplement 17S-1, in conjunction with QATR Part II, Section 17, provide requirements that are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.17 (3)	Part II, Section 18		N	
17.2.17 (4)	Part II, Section 17.2		N	Commitment to RIS 2000-18 satisfies this commitment
17.2.17 (5)	Part II, Section 18	Note 2	N	

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Joseph M. Farley Nuclear Plant

Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.17 (6)	Part II, Section 18	Note 2	N	
17.2.17 (7)	Part II, Section 18	Note 2	N	
17.2.17 (8)	Part II, Section 18	Note 2	N	
17.2.18 (1)	Part II, Section 18.2		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 18. These requirements are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.18 (2)	Part II, Sections 2.4 and 18.2		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 18 and Supplement 2S-3. These requirements are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to NQA-1-1994, Supplement 2S-3, are identified in Enclosure 4.
17.2.18 (3)	Part II, Section 2.4; 3		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 2S-3. Paragraph 3.3 of Supplement 2S-3 includes requirements that are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to NQA-1-1994, Supplement

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				2S-3, are identified in Enclosure 4.
17.2.18 (4)	Part II, Section 18		N	
17.2.18 (5)	Part II, Section 18		N	
17.2.18 (6)	Part II, Section 18		N	
17.2.18 (7)	Part II Section1; Part II, Section 18		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 18. These requirements, in conjunction with Part II, Section 18, of the QATR, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.18 (8)	Part II, Section 18.2		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 18, which provides requirements that are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.18 (9)	Part II, Sections 18 and 18.1		N	
17.2.18 (10)	Part II, Section 18.2		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 18S-1. Paragraph 3.1 of Supplement 18S-1 includes requirements that are equivalent to those contained in the

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				specified paragraph of the current QA program description.
17.2.19	Part I, Section 1.2		N	
17.2.20	Heading only		N	
17.2.20.1	Heading only		N	
17.2.20.1.1	Part 1, Section 1.2	Note 2	N	
17.2.20.1.2	Appendix A	QATR contains a different PRB Charter than that shown in the FSAR.	R	The PRB charter incorporated into the proposed QATR is consistent with that contained in Dominion Nuclear Facility Quality Assurance Program Description, approved by NRC SER dated September 9, 2005.
17.2.20.2	Appendix B		N	
17.2.20.3	Part II, Sections 3 & 5; Appendix A	Note 2	N	
Supplement 17.2A	Appendix F		N	
Table 17.2A-1			N	Moved to Farley 10 CFR 72.212 report for ISFSI
Table 17.2-1	Part II, Section 1 and Appendix C	Note 3: No longer commits to specific QA Staff sizing	R	Staff sizing will be adjusted as needed to ensure auditing and other QA activities are conducted as committed in the QATR.

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NOTES:

1. R = Reduction in Commitment
   N = Not a reduction in Commitment
   I = Increase in Commitment
2. Wording in the QATR establishes equivalent requirements or commitments, even though there may be a reduction in the level of detail.
3. The QATR describes the standard organization for SNC. The wording is different from that of the existing FSAR, but the structure is the same.
4. The commitment previously included is not required to meet 10 CFR 50, Appendix B, or other quality assurance standards.

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Reference: FSAR 17.2 – Quality Assurance Program During the Operations Phase, Revision 23B, dated November 2005

Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2 (1)	Part I, Section 1; Part III, Regulatory Guide 1.33 discussion		N	SNC commits to requirements equivalent to Regulatory Guide 1.33 / N18.7-1976 as described in the QATR.
17.2 (2)	Part I, Section 1.1(2); Appendix F		N	
17.2 (3)	Part I, Section 1.2, and Part II, Section 2		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 2. Basic Requirement 2, in conjunction with QATR, Part I, Section 1.2, and Part II, Sections 2, provide requirements that are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.1	Intentionally not included	Note 3	N	Information only – not a commitment
17.2.2.1 (1)	Intentionally not included		N	Information only – not a commitment
17.2.2.1 (2)	Part I, Section 1.1(2)		N	
17.2.2.1 (3)	Part I, Section 1.1(2)		N	
17.2.2.1 (4)	Intentionally not included		N	Information only – not a commitment

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.2.1 (5)	Part II, Sections 2.4 and 5	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 2. Basic Requirement 2, in conjunction with QATR Sections 2 and 5, provide requirements that are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.2.2 (1)	Part II, Section 1.2.1.1.1; and Appendix B	QA program approval moved to CNO instead of Project VP	I	
17.2.2.2 (2)	Part I, Section 1(2)		N	
17.2.2.2 (3)	Part II, Section 2 (1); Section 7.1 (bullet 2); and Section 18.1 (3)		N	
17.2.2.2 (4)	Part II, Section 2.1		N	QATR replaces the QA program described in FSAR Chapter 17.2, and requires compliance by all personnel who work directly or indirectly for SNC.
17.2.2.3 (1)	Part II, Section 2.1		N	
17.2.2.3 (2)	Part II, Section 1		N	

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.2.4 (1)	Part 2, Sections 2.3 and 2.4		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplements 2S-3 and 2S-4. These requirements, in conjunction with QATR Part II, Section 2.3, are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplements 2S-3 and 2S-4 are identified in Enclosure 4.
17.2.2.4 (2)	Part II, Sections 2.3 and 2.4		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 2S-4. These requirements, in conjunction with QATR Part II, Section 2.3, are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 2S-4 are identified in Enclosure 4.
17.2.2.4 (3)	Part II, Section 2.3; NQA-1-1994 Supplement 2S-4		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 2S-4. These requirements, in conjunction with QATR Part II, Section 2.3, are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 2S-4 are

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				identified in Enclosure 4.
17.2.3 (1)	Part II, Section 5		N	
17.2.3 (2)	Part II, Sections 3 and 7	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplements 3S-1 and 7S-1. These requirements, in conjunction with QATR Part II, Sections 3 and 7, are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 7S-1 are identified in Enclosure 4.
17.2.3 (3)	Part II, Sections 3, 6, 16, and 17		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 3S-1. Paragraph 4 of Supplement 3S-1, in conjunction with QATR Part II, Sections 3, 6, 16, and 17, provide requirements that are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.3 (4)	Appendices A and B		N	
17.2.3 (5)	Part II, Section 3.3	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 3S-1. Paragraph 5 of Supplement 3S-1 provides requirements that are equivalent to those contained in the specified paragraph of the current QA

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				program description.
17.2.4	Part II, Sections 4 and 5		N	
17.2.4.1 (A)	Part II, Sections 4 and 8	Note 2	N	
17.2.4.1 (B)	Part II, Sections 1, 1.2.1.1.3.1, and 4.2	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 4S-1. These requirements, in conjunction with QATR Part II, Sections 1, 1.2.1.1.3.1, and 4.2, are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 4S-1 are identified in Enclosure 4.
17.2.4.1 (C)	Part II, Section 4(1)	Note 2	N	
17.2.4.1 (D)	Part II, Section 4		N	
17.2.4.1 (E)	Part II, Section 1.2.1.1.3.1	Note 2	N	
17.2.4.1 (F)	Part II, Section 17	Note 2	N	
17.2.4.1 (2)	Part II, Section 4.1	Note 2	N	
17.2.4.1 (3)	Part II, Section 18		N	

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.5	Part II, Section 5		N	
17.2.5.1 (1)	Part II, Sections 5 and 6; Appendix A	Note 2	N	
17.2.5.1 (2)	Appendix E		N	
17.2.5.1 (3)	Part II, Sections 3.2 and 3.3	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 3S-1. The requirements of Paragraph 5 of Supplement 3S-1, in conjunction with QATR Part II, Section 3.2, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.5.2 (1)	Part II, Sections 5 and 18		N	QA audits functional areas, including procedure control process
17.2.5.2 (2)	Intentionally not included		N	Information only – not a commitment
17.2.6.1 (1)	Appendix A; Part II, Section 6		N	
17.2.6.1 (2)	Part II, Section 6.1		N	
17.2.6.1 (3)	Part II, Sections 1 and 6	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 6. These requirements, in conjunction with QATR Part II, Sections 1

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				and 6, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.6.2 (1)	Part II, Section 1	Note 2	N	
17.2.6.2 (2)	Appendices A & B	Note 2	N	
17.2.6.3	Part II, Sections 5 and 6		N	
17.2.7	Part II, Section 7		N	
17.2.7.1 (1)	Part II, Section 7.1 (bullet 2)		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 7S-1. The requirements of Paragraph 10 of Supplement 7S-1, in conjunction with QATR Part II, Section 7.1, are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 7S-1 are identified in Enclosure 4.
17.2.7.1 (2)	Part II, Sections 1, 7, and 18		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 7S-1. The requirements of Paragraph 10 of Supplement 7S-1, in conjunction with QATR Part II, Sections 1, 7, and 18, are equivalent to those contained in the specified paragraph of the current QA

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				program description. Exceptions to Supplement 7S-1 are identified in Enclosure 4.
17.2.7.1 (3)	Part II, Sections 7.1 and 18	Note 2	N	
17.2.7.1 (4)	Part II, Sections 7.1 and 18	Note 2	N	
17.2.7.1 (5)	Part II, Section 7.2	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 7S-1. The requirements of Paragraph 3 of Supplement 7S-1 are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 7S-1 are identified in Enclosure 4.
17.2.7.1 (6)	Part II, Section 7.1 (bullet 2)		N	
17.2.7.2 (1)	Part 2, Section 7.1		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 7S-1. The requirements of Supplement 7S-1, in conjunction with QATR Part II, Section 7.1, are equivalent to those contained in the specified paragraph of the current QA program description.

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				Exceptions to Supplement 7S-1 are identified in Enclosure 4.
17.2.7.2 (bullet 1)	NQA-1-1994 Supplement 7S-1	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 7S-1. The requirements of Supplement 7S-1 are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 7S-1 are identified in Enclosure 4.
17.2.7.2 (bullet 2)	Part II, Sections 5 & 7.1		N	
17.2.7.3 (1)	Part II, Section 7.1		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 7S-1. The requirements of Paragraph 8.2.3 of Supplement 7S-1, in conjunction with QATR Part II, Section 7.1, are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 7S-1 are identified in Enclosure 4.
17.2.7.3 (2)	NQA-1-1994, Supplement 7S-1, Paragraph 8.2.3		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 7S-1. The requirements of Paragraph 8.2.3 of Supplement 7S-1 are

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 7S-1 are identified in Enclosure 4.
17.2.7.3 (3)	Part II, Section 8		N	
17.2.7.3 (4)	Part II, Section 18		N	
17.2.8 (1)	Part II, Section 8.1		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 8 and Supplement 8S-1. The requirements of Basic Requirement 8 and Paragraph 3 of Supplement 8S-1 are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.8 (2)	Part II, Section 18 and Section 7		N	
17.2.8 (3)	Part II, Sections 8, 13, and 15		N	
17.2.9 (1)	Part II, Sections 9 and 18		N	
17.2.9 (2)	Part II, Section 18		N	
17.2.10 (1)	Part II, Section 10		N	The proposed QATR includes a

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				commitment to NQA-1-1994, including Supplement 10S-1. The requirements of Paragraph 9 of Supplement 10S-1, in conjunction with QATR Part II, Section 10, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.10 (2)	Part II, Section 12.1		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 12. These requirements are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.10 (3)	Part II, Sections 1 & 10	Note 2	N	
17.2.10 (4)	Part II, Section 10	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 10S-1. The requirements of Paragraphs 4 and 6.1 of Supplement 10S-1, in conjunction with QATR Part II, Section 10, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.10 (5)	Part II, Section 10.1		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 10S-1. The requirements of Paragraphs 6 of Supplement 10S-1 are

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				equivalent to those contained in the specified paragraph of the current QA program description.
17.2.10 (6)	Part II, Section 18		N	
17.2.11 (1)	Part II, Section 11; and NQA-1-1994, Supplement 11S-1, Paragraphs 3 and 4		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 11S-1. The requirements of Paragraphs 3 and 4 of Supplement 11S-1, in conjunction with QATR Part II, Section 11, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.11 (2)	Part II, Sections 6 and 11	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 11S-1. The requirements of Paragraph 5 of Supplement 11S-1, in conjunction with QATR Part II, Sections 6 and 11, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.11 (3)	Part II, Sections 6 and 18; Appendix A	Note 2	N	
17.2.12 (1)	Part II, Section 12		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 12 and Supplement 12S-1. These requirements, in conjunction

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				with QATR Part II, Section 12, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.12 (2)	Part II, Section 12 and Section 12 (3) (bullet 3)		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 12S-1. The requirements of Paragraph 3.2 of Supplement 12S-1, in conjunction with QATR Part II, Section 12, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.12 (3)	Part II, Section 12(3)(bullet 4)		N	
17.2.12 (4)	Part II, Section 12(3)(bullets 2 & 5)		N	
17.2.12 (5)	Part II, Section 18		N	
17.2.13 (1)	Part II, Section 13.2		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 13S-1. The requirements of Paragraph 2 of Supplement 13S-1 are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.13 (2)	Part II, Sections 7,	Note 2	N	

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
	13, and 18			
17.2.14 (1)	Part II, Section 14.1		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 14. The requirements of Basic Requirement 14 are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.14 (2)	Part II, Sections 14 and 18	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 14. The requirements Basic Requirement 14, in conjunction with QATR Part II, Sections 14 and 18, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.15 (1)	Part II, Section 15	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 15. The requirements Basic Requirement 15, in conjunction with QATR Part II, Section 15, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.15 (2)	Part II, Sections 15 and 16	Note 2	N	

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.15 (3)	Part II, Section 16	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 16. The requirements Basic Requirement 16, in conjunction with QATR Part II, Section 16, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.15 (4)	Part II, Section 16		N	
17.2.15 (5)	Part II, Sections 15 and 16	Note 2	N	
17.2.15 (6)	Part II, Section 16		N	
17.2.15 (7)	Part II, Section 18		N	
17.2.16 (1)	Part II, Section 16	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 16. The requirements Basic Requirement 16, in conjunction with QATR Part II, Section 16, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.16 (2)	Part II, Section 16	Note 2	N	
17.2.16 (3)	Part II, Section 16	Note 2	N	

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.17 (1)	Part II, Section 17	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 17. The requirements Basic Requirement 17, in conjunction with QATR Part II, Section 17, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.17 (2)	Part II, Section 1		N	
17.2.17 (3)	Part II, Section 17.2		N	
17.2.17 (4)	Part II, Sections 10.1 and 17	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 10S-1. The requirements Paragraph 9, Supplement 10S-1, in conjunction with QATR Part II, Sections 10.1 and 17, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.17 (5)	Part II, Section 17.2		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 17S-1. The requirements of Paragraph 4 of Supplement 17S-1 are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 17S-1 are identified in Enclosure 4.

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.17 (6)	Part II, Section 18		N	
17.2.18 (1)	Part II, Section 18		N	
17.2.18 (2)	Part II, Section 18.1		N	
17.2.18 (3)	Part II, Section 18.1		N	
17.2.18 (4)	Part II, Section 18.2		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 18S-1. The requirements of Supplement 18S-1 are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.18 (5)	Part II, Section 2.4		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 2S-3. The requirements of Supplement 2S-3 are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 2S-3 are identified in Enclosure 4.
17.2.18 (6)	Part II, Section 18.2		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 18S-1. The requirements of Supplement 18S-1 are equivalent to those contained in the specified paragraph of the current QA program description.

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.18.1 (1)	Part II, Section 18.1		N	
17.2.18.1 (2)	Part II, Section 18.1		N	
Supplement 17.2 A	Appendix G		N	
Table 17.2-1	Appendix E	Note 2	N	
Table 17.2-2		This table is identified in the FSAR as historical information. The table will be retained as-is and a reference to Table 17.2-2 will be incorporated in Section 17.2.	N	
Table 17.2A-1	10 CFR 72.212 Report		N	Relocated to Hatch 10 CFR 72.212 report for ISFSI

NOTES:

1. R = Reduction in Commitment
   N = Not a reduction in Commitment
   I = Increase in Commitment
2. Wording in the QATR establishes equivalent requirements or commitments, even though there may be a reduction in the level of detail.
3. The QATR describes the standard organization for SNC. The wording is different from that of the existing FSAR, but the structure is the same.
4. The commitment previously included is not required to meet 10 CFR 50, Appendix B, or other quality assurance standards.

Section 3
Vogtle Electric Generating Plant

Reference: FSAR 17.2 – Operations Quality Assurance Program, Revision 13, dated January 31, 2006

Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2 (1)	Part I, Section 1 and Policy Statement		N	
17.2 (2)	Part I, Section 1.2.1.1.1		I	CNO now approves QATR
17.2 (2A)	Part I, Section 1.2		N	
17.2 (2B)	Part I, Section 1; Part II, Section 5		N	
17.2 (2C)	Part I, Section 1.1		N	
17.2 (2D)	NQA-1-1994 Basic Requirement 2; Part II, Sections 2.1 and 11		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 2. The requirements of Basic Requirement 2, in conjunction with those contained in QATR Part II, Sections 2.1 and 11, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2 (2E)	Part II, Section 11		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 2. The requirements of Basic Requirement 2, in conjunction with those contained in QATR Part II, Section 11, are equivalent to those contained in the specified paragraph of the current QA

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				program description.
17.2 (2F)	Part II, Section 10		N	
17.2 (2G)	Part II, Section 2.3		N	
17.2 (2H)	Part II, Section 2; and Appendix B		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirements 2 and 18. The requirements of Basic Requirements 2 and 18, in conjunction with those contained in QATR Part II, Section 2, and QATR Appendix B, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2 (3)	Part I, Section 1; and Part III (Regulatory Guide 1.33)		N	SNC does not commit to Regulatory Guide 1.33/N18.7-1976, but meets the requirements Regulatory Guide 1.33/N18.7-1976, as described in the QATR.
17.2 (4)	Part II, Section 1		N	
17.2.1 17.2.1.1 17.2.1.4 17.2.1.5 17.2.1.6	Part II, Section 1 New Standard Organization Description		N	Describes the new organization structure for SNC without decreasing commitments.

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.1.1.1	Appendix B		N	
17.2.1.2	Part II, Section 1 New Standard Organization Description		N	
17.2.1.2.1	Appendix A		N	
17.2.1.3 17.2.1.3.1 17.2.1.3.2 17.2.1.3.3	Part II, Section 1 New Standard Organization Description, Section 2, Appendix C	No longer identifies the specific number of QA personnel at the site	R	Staff size will be adjusted as needed to ensure audits and other quality assurance activities are conducted as committed in the QATR
17.2.2 (1)	Part II, Section 2		N	
17.2.2 (2)	Part I, Section 1.1		N	
17.2.2 (3)	Part II, Sections 2 and 5		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 2. The requirements of Basic Requirement 2, in conjunction with those contained in QATR Part II, Sections 2 and 5, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.2 (4)	Part I, Section 1.2		N	SNC does not commit to Regulatory Guide 1.33/N18.7-1976, but meets the requirements of these standards as

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				described in the QATR.
17.2.2 (5)	Part II, Section 2.1		N	
17.2.2 (6)	Part II, Sections 1.2.1.1.1 and 18		N	
17.2.2 (7)	Part II, Sections 2.3 and 2.4		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 2S-4. The requirements of Supplement 2S-4, in conjunction with those contained in QATR Part II, Sections 2.3 and 2.4, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.2 (8)	Part II, Section 2.4		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 2S-3. The requirements of Supplement 2S-3 are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 2S-3 are identified in Enclosure 4.
17.2.2 (9)	Part II, Section 2.4		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplements 2S-3 and 2S-4. The requirements of Supplements 2S-3 and 2S-4 are equivalent to those contained in the specified paragraph of the current QA

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				program description. Exceptions to Supplement 2S-3 are identified in Enclosure 4.
17.2.2 (10)	Part I, Section 1.4		N	
17.2.2 (11)	Part I, Section 1.4, and Part II, Section 18		N	
17.2.3 (1)	Part II, Section 3		N	
17.2.3 (2)	Part II, Section 3; Appendices A and B		N	
17.2.3 (3)	Part II, Sections 3.1 and 3.3		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 3 and Supplement 3S-1. The requirements of Basic Requirement 3 and Supplement 3S-1, Paragraph 5, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.3 (4)	Part II, Section 3; NQA-1-1994		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 3 and Supplement 3S-1. The requirements of Basic Requirement 3 and Supplement 3S-1, Paragraphs 3 and 5, are equivalent to those contained in the specified paragraph of the current QA

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				program description.
17.2.3 (5)	Part II, Section 5.1		N	
17.2.3 (5A)	Part II, Section 3.3		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 3S-1. The requirements of Supplement 3S-1, Paragraph 2, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.3 (5B)	Part II, Section 3.3		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 3S-1. The requirements of Supplement 3S-1, Paragraph 3, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.3 (5C)	Part II, Sections 3.2 and 3.3		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 3S-1. The requirements of Supplement 3S-1, Paragraph 3, in conjunction with QATR Part II, Sections 3.2 and 3.3, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.3 (5D)	Part II, Section 7.2		N	The proposed QATR includes a commitment to NQA-1-1994, including

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				Supplement 7S-1. The requirements of Supplement 7S-1, Paragraph 10(a), are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 7S-1 are identified in Enclosure 4.
17.2.3 (5E)	Part II, Section 5		N	
17.2.3 (5F)	Part II, Section 3.3		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 3S-1. The requirements of Supplement 3S-1, Paragraph 6, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.3 (5G)	Part II, Section 3.3		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 3S-1. The requirements of Supplement 3S-1, Paragraph 3.1(a), are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.3 (6)	Intentionally deleted		I	Removing this wording reduces the limitation to the specific areas to which design controls apply.

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.3 (7)	Part II, Sections 3.1 and 3.3		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 3S-1. The requirements of Supplement 3S-1, Paragraph 4, in conjunction with those contained in QATR Part II, Sections 3.1 and 3.3, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.3 (7A)	Part II, Sections 3.1 and 3.3		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 3S-1. The requirements of Supplement 3S-1, Paragraph 4, in conjunction with those contained in QATR Part II, Sections 3.1 and 3.3, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.3 (7B)	Part II, Section 3		N	Less detail, same intent
17.2.3 (7C)	Part II, Sections 3.1, (Paragraph 3) and 3.3		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 3S-1. The requirements of Supplement 3S-1, Paragraph 4.2.3, in conjunction with those contained in QATR Part II, Sections 3.1 and 3.3, are equivalent to those contained in the specified paragraph of the current QA program

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				description.
17.2.3 (7D)	Part II, Section 3		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 3S-1. The requirements of Supplement 3S-1, Paragraphs 4.2.1 and 4.2.3, in conjunction with those contained in QATR Part II, Section 3, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.3 (7E)	Part II, Section 3.1, Paragraph 3		N	
17.2.3 (7F)	Part II, Sections 3.1 and 3.3		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 3S-1. The requirements of Supplement 3S-1, Paragraph 4.2, in conjunction with those contained in QATR Part II, Sections 3.1 and 3.3, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.3 (7G)	Part II, Section 3.1, Paragraph 4		N	
17.2.3 (8)	Part II, Section 18		N	
17.2.3 (9)	Part II, Section 16.1		N	The proposed QATR includes a commitment to NQA-1-1994, including

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				Basic Requirement 16. The requirements of Basic Requirement 16 are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.3 (10)	Part II, Section 6		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 6. The requirements of Basic Requirement 6, in conjunction with those contained in QATR Part II, Section 6, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.3 (11)	Part II, Sections 2.3 and 6		N	
17.2.3 (12)	Part II, Section 18		N	
17.2.4 (1)	Part II, Sections 4 and 7		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirements 4 and 7, and Supplements 4S-1 and 7S-1. These requirements are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplements 4S-1 and 7S-1 are identified in Enclosure 4.
17.2.4 (2)	Intentionally not		N	Information only – not a commitment

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
	included			
17.2.4 (2A)	Part II, Sections 1, 4, and 5		N	
17.2.4 (2B)	Part II, Section 2.4 and 4.2		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplements 2S-4 and 4S-1. Supplement 2S-4 and Paragraph 3 of Supplement 4S-1 provide requirements that are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 4S-1 are identified in Enclosure 4.
17.2.4 (2C)	Part II, Section 4.1 and 4.2	Does not require reviewer to be independent of originator	R	Although NQA-1994 does not require independent review of procurement documents, NQA-1-1994, Supplement 4S-1, Paragraph 3, has been found acceptable by the NRC as the basis for a QAP required to meet 10 CFR 50, Appendix B. Section 4.2 of the proposed QATR includes a commitment to NQA-1-1994, Supplement 4S-1 with the exceptions identified in Enclosure 4. Elimination of the independent review requirement has been previously approved by the NRC for the Dominion Nuclear Facility Quality Assurance Program Description (NFQAPD) as documented by NRC SER dated September 9, 2005.

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.4 (2D)	Part I, Sections 1 and 1.2; Part II, Sections 1, 1.2.1.1.1.2, and 7.1	The QATR does not require QA Manager review of supplier QA programs.	R	Note 4: NQA-1-1994 has been determined by the NRC to provide an acceptable basis for a QAP required to meet 10 CFR 50, Appendix B. NQA-1-1994 does not require QA Manager review of supplier QA programs documents. Accordingly, the QATR does not require the QA Manager to review supplier QA programs.
17.2.4 (2E)	Part II, Section 4.2	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 4S-1. Paragraph 2.2 of Supplement 4S-1 includes requirements that are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 4S-1 are identified in Enclosure 4.
17.2.4 (2F)	Part II, Section 4.2	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 4S-1. Paragraph 2.5 of Supplement 4S-1 includes requirements that are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 4S-1 are identified in Enclosure 4.

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.4 (2G)	Part II, Section 4.2		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 4S-1. Paragraph 2.5 of Supplement 4S-1 includes requirements that are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 4S-1 are identified in Enclosure 4.
17.2.4 (2H)	Part II, Section 4.2		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 4S-1. Paragraph 2.4 of Supplement 4S-1 includes requirements that are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 4S-1 are identified in Enclosure 4.
17.2.4 (2I)	Part II, Section 4.2		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 4S-1. Paragraph 4 of Supplement 4S-1 includes requirements that are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 4S-1 are

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				identified in Enclosure 4.
17.2.4 (2J)	Part II, Section 4.2		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 4S-1. Paragraph 3 of Supplement 4S-1 includes requirements that are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 4S-1 are identified in Enclosure 4.
17.2.4 (3)	Part II, Section 18		N	
17.2.5	Part II, Section 5 and Part III (Regulatory Guide 1.33)		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 5. Basic Requirement 5, in conjunction with QATR Section II, Part 5, and QATR Part III (Regulatory Guide 1.33) provides requirements that are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.5.1 (1)	1st sentence is INFO only; 2nd sentence is Appendix A; and Part II, Sections 6 and 6.1		N	
17.2.5.1 (2)	Appendix E and Part II, Section 5 (3rd		N	

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
	sentence)			
17.2.5.1 (3)	Part II, Section 3.2		N	
17.2.5.1 (4)	Not included – info only		N	
17.2.5.1.1	Appendix E		N	Not a commitment (as written)
17.2.5.1.1 (A)	Part II, Section 5.2; Part III (Regulatory Guide 1.33)		N	
17.2.5.1.1 (B)	Appendix E		N	
17.2.5.1.1 (C)	Appendix E		N	
17.2.5.1.1 (D)	Appendix E		N	
17.2.5.1.1 (E)	Appendix E		N	
17.2.5.1.1 (F)	Appendix E		N	
17.2.5.1.1 (G)	Appendix E		N	
17.2.5.1.1 (H)	Intentionally not included		N	TSIP is complete – requirement is no longer needed
17.2.5.1.1 (I)	Intentionally not included		N	The commitment to have procedures for the subject programs is contained in the plant Technical Specifications. Accordingly, there is no need to list the specific programs in

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				the QATR Appendix E.
17.2.5.1.2	Part II, Section 6		R	Note 4: Procedures will continue to be reviewed and approved by authorized personnel.
17.2.5.1.2 (1)	Part II, Section 6		R	Note 4: Procedures will continue to be reviewed and approved by authorized personnel.
17.2.5.1.2 (2)	Part II, Section 6		R	Note 4: Procedures will continue to be reviewed and approved by authorized personnel.
17.2.5.1.2 (3)	Part II, Section 6		R	Note 4: Procedures will continue to be reviewed and approved by authorized personnel.
17.2.5.1.2 (4)	Part II, Section 6		R	Note 4: Procedures will continue to be reviewed and approved by authorized personnel.
17.2.5.1.2 (5)	Part II, Section 6		R	Note 4: Procedures will continue to be reviewed and approved by authorized personnel.
17.2.5.1.2 (6)	Part II, Section 6		R	Note 4: Procedures will continue to be reviewed and approved by authorized personnel.
17.2.5.1.2 (7)	Appendix A		N	This refers to the standalone sentence at

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				the end of Section 17.2.5.1.2
17.2.5.1.2.1	Part II, Section 6	Note 2	N	
17.2.5.1.3	Part II, Sections 5 and 6.1; and Appendix E	Note 2	N	
17.2.5.2 (1)	Part I, Section 1.2		N	
17.2.5.2.(2)	Part II, Sections 7 and 18		N	
17.2.6	Part II, Section 6	Note 2	N	
17.2.6 (A)	Part II, Section 5.2	Note 2	N	
17.2.6 (B)	Part II, Section 6	Note 2	N	
17.2.6 (C)	Part II, Section 6	Note 2	N	
17.2.6 (D)	Part II, Section 6	Note 2	N	
17.2.6 (E)	Part II, Section 6	Note 2	N	
17.2.6 (F)	Part II, Section 6	Note 2	N	
17.2.6 (G)	Part II, Section 6	Note 2	N	
17.2.6 (H)	Part II, Section 6	Note 2	N	
17.2.6 (I)	Part II, Section 6	Note 2	N	

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.6 (J)	Part II, Section 6	Note 2	N	
17.2.6 (K)	Part II, Section 6	Note 2	N	
17.2.6 (2)	Part II, Section 6	Note 2	N	Requirements of Regulatory Guide 1.33 are replaced by the QATR and NQA-1-1994
17.2.6 (2A)	Part II, Sections 5.2 & 6, and Part I, Section 1.4		R	Note 4
17.2.6 (2B)	Part II, Section 6 (1st Sentence)	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 6S-1. Paragraph 1 of Supplement 6S-1, in conjunction with QATR Part II, Section 6, provide requirements that are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.6 (2C)	Part II, Section 6.1 (1st Sentence)		N	
17.2.6 (2D)	Part II, Section 6	Note 2	N	
17.2.6 (2E)	Part II, Section 6	Note 2	N	
17.2.6 (3)	Part II, Sections 1 and 6		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 6. Basic Requirement 6, in conjunction with QATR Part II,

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				Sections 1 and 6, include requirements that are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.6 (4)	Part II, Section 18		N	
17.2.7	Part II, Sections 4, 7, and 13.2 (Commits to NQA-1-1994, Subpart 2.2)		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirements 4 and 7, and Subpart 2.2. These requirements, in conjunction with QATR Part II, Sections 7, and 13.2 are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 4S-1 are identified in Enclosure 4.
17.2.7.1 (1)	Part II, Section 7.1 (Bullet 2)		N	
17.2.7.1 (A)	Part II, Section 7.2	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 7S-1. The requirements of Paragraph 8.2 of Supplement 7S-1 are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 7S-1 are identified in Enclosure 4.

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.7.1 (B)	NQA-1-1994 Supplement 7S-1, Paragraph 8.2		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 7S-1. The requirements of Paragraph 8.2 of Supplement 7S-1 are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 7S-1 are identified in Enclosure 4.
17.2.7.1 (C)	NQA-1-1994 Supplement 7S-1, Paragraph 8.2		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 7S-1. The requirements of Paragraph 8.2 of Supplement 7S-1 are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 7S-1 are identified in Enclosure 4.
17.2.7.1 (2)	Part II, Section 4.2		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 4S-1. The requirements of Paragraph 2.2 of Supplement 4S-1 are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 4S-1 are

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				identified in Enclosure 4.
17.2.7.1 (2A)	NQA-1-1994 Supplement 4S-1, Paragraph 2.2		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 4S-1. The requirements of Paragraph 2.2 of Supplement 4S-1 are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 4S-1 are identified in Enclosure 4.
17.2.7.1 (2B)	NQA-1-1994 Supplement 7S-1, Paragraph 9		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 7S-1. The requirements of Paragraph 9 of Supplement 7S-1 are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 7S-1 are identified in Enclosure 4.

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.7.1 (2C)	NQA-1-1994 Supplement 7S-1, Paragraph 9		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 7S-1. The requirements of Paragraph 9 of Supplement 7S-1 are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 7S-1 are identified in Enclosure 4.
17.2.7.2 (1)	Part II, Section 5, 6, and 7.2	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 7S-1. The requirements of Paragraphs 3.1 and 5 of Supplement 7S-1 in conjunction with QATR Part II, Sections 5, 6, and 7.2, are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 7S-1 are identified in Enclosure 4.
17.2.7.2 (A)	Part II, Section 5 and 7.2	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 7S-1. The requirements of Paragraphs 3.1, 5, and 8.2.2 of Supplement 7S-1, in conjunction with QATR Part II, Sections 5 and 7.2, are equivalent to those contained in the specified paragraph of the current QA program description.

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				Exceptions to Supplement 7S-1 are identified in Enclosure 4.
17.2.7.2 (B)	Part II, Section 5 and 7.2		R	Note 4
17.2.7.3 (A)	Part II, Sections 2.4 and 7.2		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 7S-1. The requirements of Paragraph 8 of Supplement 7S-1, in conjunction with QATR Part II, Sections 2.4 and 7.2, are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 7S-1 are identified in Enclosure 4.
17.2.7.3 (B)	Part II, Section 7.2		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 7S-1. The requirements of Paragraph 8 of Supplement 7S-1, in conjunction with QATR Part II, Section 7.2, are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 7S-1 are identified in Enclosure 4.
17.2.7.3 (C)	Part II, Section 7.2		N	The proposed QATR includes a commitment to NQA-1-1994, including

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				Supplement 7S-1. The requirements of Paragraph 8 of Supplement 7S-1 are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 7S-1 are identified in Enclosure 4.
17.2.7.3 (D)	Part II, Section 7.2		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 7S-1. The requirements of Paragraph 8.3 of Supplement 7S-1 are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 7S-1 are identified in Enclosure 4.
17.2.7.3 (2)	Part II, Section 8.1		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 8. The requirements of Basic Requirement 8 are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.7.3 (3)	Part II, Section 15		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 15S-1. The requirements of Supplement 15S-1, in conjunction with those contained in QATR Part II, Section

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				15, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.7.3 (4)	Part II, Sections 7.1 and 7.2		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 7S-1. The requirements of Paragraph 10 of Supplement 7S-1, in conjunction with those contained in QATR Part II, Sections 7.1 and 7.2, are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 7S-1 are identified in Enclosure 4.
17.2.7.3 (5)	Part II, Section 18		N	
17.2.8 (1)	Part II, Section 8		N	
17.2.8 (2)	Part II, Sections 8 and 15	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 8 and Supplement 8S-1. The requirements of Basic Requirement 8 and Paragraph 2.3 of Supplement 8S-1, in conjunction with those contained in QATR Part II, Sections 8 and 15, are equivalent to those contained in the specified paragraph of the current QA program description.

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.8 (3A)	Part II, Sections 5 and 8	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 8. The requirements of Basic Requirement 8, in conjunction with those contained in QATR Part II, Sections 5 and 8, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.8 (3B)	Part II, Sections 5, 7.2, and 8	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 7S-1. The requirements of Paragraph 8.2.3 of Supplement 7S-1, in conjunction with those contained in QATR Part II, Sections 5, 7.2, and 8, are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 7S-1 are identified in Enclosure 4.
17.2.8 (4)	Part II, Section 1, 5, and 7; Part III (Regulatory Guide 1.28 exception)	Note 2	N	
17.2.8 (5)	Part II, Section 18		N	
17.2.9 (1)	Part II, Sections 10.1, 12.1, and 13.2		N	The proposed QATR includes a commitment to NQA-1-1994, including

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				Supplement 2S-1 and Subparts 2.1 and 2.4. The requirements, in conjunction with those contained in QATR Part II, Sections 10.1 and 13.2, are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 2S-1 and Subparts 2.1 and 2.4 are identified in Enclosure 4.
17.2.9 (2)	Part II, Section 9		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 9S-1. The requirements of Paragraph 3.3 of Supplement 9S-1, in conjunction with those contained in QATR Part II, Section 9, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.9 (3)	Part II, Sections 1, 5, 7, and 9		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 9 and Supplement 9S-1. These requirements, in conjunction with those contained in QATR Part II, Sections 1, 5, 7, and 9, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.9 (4)	Part II, Section 18		N	

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.10 (1)	Part II, Sections 2.4, 10.1, and 12.1		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 2S-1 and Subparts 2.4 and 2.8. These requirements, in conjunction with those contained in QATR Part II, Sections 10.1 and 2.4, are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 2S-1 and Subpart 2.4 are identified in Enclosure 4.
17.2.10 (2)	Part II, Section 10		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 10S-1. The requirements of Paragraph 5.2 of Supplement 10S-1, in conjunction with those contained in QATR Part II, Section 10, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.10 (3)	Part II, Section 10.1		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 10S-1. The requirements of Paragraphs 6.2 and 6.2.1 of Supplement 10S-1 are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.10 (4)	Part II, Section 10	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				Basic Requirement 10 and Supplement 10S-1. The requirements of Basic Requirement 10 and Paragraphs 3 and 6.1 of Supplement 10S-1, in conjunction with those contained in QATR Part II, Section 10, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.10 (5)	Part II, Sections 5 and 10.1		R	Note 4
17.2.10 (6)	Part II, Sections 5, 10.1, and 12		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 10S-1. The requirements of Paragraph 8.2 of Supplement 10S-1, in conjunction with those contained in QATR Part II, Sections 5, 10.1, and 12, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.10 (7)	Part II, Sections 10.1 and 16	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 10S-1. The requirements of Paragraph 4 of Supplement 10S-1, in conjunction with those contained in QATR Part II, Section 10.1 and 16, are equivalent to those contained in the specified paragraph of the current QA program

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				description.
17.2.10 (8)	Part II, Sections 5, 6, and 10.1	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 10S-1. The requirements of Paragraph 4 of Supplement 10S-1, in conjunction with those contained in QATR Part II, Sections 5, 6, and 10.1, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.10 (9)	Part II, Section 1, 15 & 16		N	
17.2.10 (10)	Part II, Section 1		R	Note 4
17.2.10 (11)	Part II, Section 1.2.2.1.2.1		N	
17.2.10 (12)	Part II, Sections 2.4 and 10.1, Part III (Regulatory Guide 1.28)	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplements 2S-1 and 10S-1. The requirements of Paragraphs 2.1 and 2.7 of Supplement 2S-1 and Paragraph 3.2 of Supplement 10S-1, in conjunction with those contained in QATR Part II, Sections 2.4 and 10.1, and QATR Part III (Regulatory Guide 1.28), are equivalent to those contained in the specified paragraph of the current QA program description.

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				Exceptions to Supplements 2S-1 are identified in Enclosure 4.
17.2.10 (13)	Part II, Section 18		N	
17.2.11 (1)	Part II, Sections 2.4, 5, 6, & 10.1, 11; and 12.1 FSAR Chapter 8 (Regulatory Guides 1.108 & 1.118)	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplements 2S-1 and Subparts 2.4 and 2.8. These requirements, in conjunction with those contained in FSAR Chapter 8 associated with Regulatory Guides 1.108 and 1.118, are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplements 2S-1 are identified in Enclosure 4.
17.2.11 (1A)	Part II, Section 4 & 5	Note 2	N	
17.2.11 (1B)	Part II, Section 5 & 11	Note 2	N	
17.2.11 (1C)	Part II, Section 5 & 11	Note 2	N	
17.2.11 (2)	Part II, Sections 6.2 and 11.1		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplements 6S-1 and 11S-1. The requirements of Paragraphs 3.1 of Supplement 6S-1, and Paragraph 5 of Supplement 11S-1, in conjunction with

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				those contained in QATR Part II, Sections 6.2 and 11.1, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.11 (3)	Part II, Sections 7 and 11.1	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement11S-1. The requirements of Paragraphs 4 and 5 of Supplement 11S-1, in conjunction with those contained in QATR Part II, Sections 7 and 11.1, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.11 (4)	Part II, Section 18		N	
17.2.12 (1)	Part II, Section 12		N	
17.2.12 (2A)	Part II, Section 12 (2)	Note 2	N	
17.2.12 (2B)	Part II, Section 12 (3) (Bullet 2)		N	
17.2.12 (2C)	Part II, Section 12 (3) (Bullet 1)		N	
17.2.12 (2D)	Part II, Section 12 (3) (bullet 1)		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement12S-1. The requirements of Paragraph 2.1 of Supplement 12S-1, in

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				conjunction with those contained in QATR Part II, Section 12, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.12 (2E)	Part II, Sections 5 & 12 (3) (Bullet 5)		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement12S-1. The requirements of Paragraph 3.1 of Supplement 12S-1, in conjunction with those contained in QATR Part II, Sections 5 and 12, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.12 (2F)	Part II, Section 12 (3) (bullets 3 & 4)	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement12S-1. The requirements of Paragraph 3.1 of Supplement 12S-1, in conjunction with those contained in QATR Part II, Section 12, are equivalent to those contained in the specified paragraph of the current QA program description.

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.12 (2G)	Part II, Section 12.1; NQA-1-1994		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement12S-1. The requirements of Paragraph 5 of Supplement 12S-1, in conjunction with those contained in QATR Part II, Section 12.1, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.12 (2H)	Part II, Section 12.1		N	The proposed QATR includes a commitment to NQA-1-1994, including Subpart 2.16. The requirements of Subpart 2.16 include IEEE 498-1985. The requirements of Paragraph 5.2 of IEEE 498-1985 are equivalent to those contained in the contained in the specified paragraph of the current QA program description.
17.2.12 (3)	Part II, Section 12 (3) (Bullets 3 & 4)	Note 2	N	
17.2.12 (4)	Part II, Section 5; Appendix A	Note 2	N	The level of detail for the organization is less in the QATR. This was intentional.
17.2.12 (5)	Part II, Section 18		N	
17.2.13 (1)	Part II, Sections 13 and 13.2		N	
17.2.13 (1A)	Part II, Sections 7.1 and 13.2 (Subpart		N	

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
	2.2, Paragraph 6.4.1)			
17.2.13 (1B)	Part II, Sections 2.3 and 13.2	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 13S-1. The requirements of Paragraphs 3.2 and 3.4 of Supplement 13S-1, in conjunction with those contained in QATR Part II, Sections 2.3 and 13.2, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.13 (1C)	Part II, Section 13.2		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement 13S-1. The requirements of Paragraph 3.3 of Supplement 13S-1, in conjunction with those contained in QATR Part II, Section 13.2, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.13 (2)	Part II, Section 18		N	
17.2.14 (1)	Part II, Section 14		N	
17.2.14 (2)	Intro to section: info only		N	
17.2.14 (2A)	Part II, Section 14	Note 2	N	
17.2.14 (2B)	Part II, Section 14	Note 2	N	

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
17.2.14 (2C)	Part II, Section 14	Note 2	N	
17.2.14 (2D)	Part II, Sections 14.1 and 15		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 14. The requirements of Basic Requirement 14, in conjunction with those contained in QATR Part II, Sections 14.1 and 15, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.14 (3)	Part I, Sections 1.2, 2.3, and 15		N	
17.2.14 (4)	Part II, Section 18		N	
17.2.15 (1)	NQA-1-1994, Subpart 2.2; Part II, Sections 4, 7, 13.2, 15, & 16; NQA-1-1994, Basic Requirement 15		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 15 and Subpart 2.2. These requirements, in conjunction with those contained in QATR Part II, Sections 4, 7, 13.2, 15, and 16, are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Subpart 2.2 are identified in Enclosure 4.
17.2.15 (1A)	Part II, Section 15	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement15S-1. The requirements of

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				Supplement 15S-1, in conjunction with those contained in QATR Part II, Section 15, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.15 (1B)	Part II, Sections 15 and 16	Note 2	N	
17.2.15 (1C)	Part II, Sections 11, 15, and 16		R	Note 4
17.2.15 (1D)	Part II, Section 16 and Appendix A	Note 2	N	
17.2.15 (1E)	Part II, Section 7 and 15		N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement15S-1. The requirements of Paragraphs 4.4 and 4.5 of Supplement 15S-1, in conjunction with those contained in QATR Part II, Sections 7 and 15 are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.15 (1F)	Part II, Section 15.1	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement15S-1. The requirements of Paragraph 3 of Supplement 15S-1 are equivalent to those contained in the specified paragraph of the current QA

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				program description.
17.2.15 (1G)	Part II, Section 15 and 16	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Supplement15S-1. The requirements of Paragraph 4.4 of Supplement 15S-1, in conjunction with those contained in QATR Part II, Sections 15 and 16, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.15 (1H)	Part II, Sections 15 and 16	Note 2	N	
17.2.15 (1I)	Part II, Section 15		N	
17.2.15 (2)	Part II, Section 18		R	Note 4
17.2.16 (1)	Part II, Section 16		N	
17.2.16 (2)	Part II, Section 16	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 16. The requirements of Basic Requirement 16, in conjunction with those contained in QATR Part II, Section 16, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.16 (3)	Part II, Section 16	Note 2	N	This is a best practice – not a QA program

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
				requirement
17.2.16 (4)	Part II, Section 1	Note 2	N	
17.2.16 (5)	Part II, Section 1		R	Note 4
17.2.16 (6)	Part II, Sections 1 and 16		R	Note 4
17.2.16 (7)	Part II, Sections 16, 18; Appendix A		N	
17.2.17 (1)	Part II, Sections 17 & 17.1	Note 2	N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 17. The requirements of Basic Requirement 17, in conjunction with those contained in QATR Part II, Sections 17 and 17.1, are equivalent to those contained in the specified paragraph of the current QA program description.
17.2.17 (2)	Part II, Sections 1 & 6	Note 2	N	
17.2.17 (3)	Part II, Section 17.2		N	
17.2.17 (4)	Part II, Sections 1 & 6	Note 2	N	
17.2.17 (5)	Part II, Section 17.2; Part III, Regulatory		N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 17 and Supplement

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
	Guide 1.33			17S-1. The requirements of Basic Requirement 17 and Supplement 17S-1, in conjunction with those contained in QATR Part III (Regulatory Guide 1.33), are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 17S-1 are identified in Enclosure 4.
17.2.17 (6)	Part II, Section 18		N	
17.2.17 (7)	Info only		N	
17.2.17.1	Moved to FSAR Chapter 13		R	Reduction in QA program, but not a change in license basis commitment.
17.2.18	Part II, Sections 13.2, 18, and 18.1	Replaced FSAR Section 17.2.18 by standard language in QATR Part II, Sections 18 and 18.1, and NQA-1-1994, Basic Requirement 18 FSAR Section 17.2.18(H) is replaced by NQA-1-1994, Supplement 2S-3 and Supplement 18S-1, Paragraph 3.2.	N	The proposed QATR includes a commitment to NQA-1-1994, including Basic Requirement 18 and Supplements 2S-3 and 18S-1. These requirements, in conjunction with those contained in QATR Part II, Sections 13.2, 18, and 18.1, are equivalent to those contained in the specified paragraph of the current QA program description. Exceptions to Supplement 2S-3 are identified in Enclosure 4.
17.2.19	Part II, Section 18.1;		N	

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Current QA Program Description Section/ (paragraph)	QATR Section (paragraph)	Differences	R/N/I (Note 1)	Basis for Acceptability
	Replaced by Appendix C			

NOTES:

1. R = Reduction in Commitment
   N = Not a reduction in Commitment
   I = Increase in Commitment
2. Wording in the QATR establishes equivalent requirements or commitments, even though there may be a reduction in the level of detail.
3. The QATR describes the standard organization for SNC. The wording is different from that of the existing FSAR, but the structure is the same.
4. The commitment previously included is not required to meet 10 CFR 50, Appendix B, or other quality assurance standards.

Enclosure 4

ASME NQA-1-1994 Conformance Matrix

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
Part I – Basic Requirements and Supplementary Requirements for Nuclear Facilities (from former NQA-1)				
Section I – Introduction				
1 Purpose	N	Part I, Section 1	The SNC QATR applies to operations phase activities, including design and construction activities similar in scope to original construction activities (e.g., ISFSI, steam generator mausoleum, etc.), consistent with the scope of NUREG-0800 Standard Review Plan, Section 17.2. The NRC has approved use of NQA-1-1994, as supplemented by ANSI N18.7-1976, as an acceptable basis for a quality assurance program required to meet 10 CFR 50, Appendix B. The proposed QATR is generally consistent with quality assurance topical reports previously submitted by Exelon, NMC, and Dominion and approved by the NRC.	§ 50.54(a)(3)(i) Exelon QATR and corresponding NRC SER dated December 24, 2002 NMC QATR and corresponding NRC SER dated March 24, 2005 Dominion QATR and corresponding NRC SER dated September 9, 2005
2 Applicability	N	Part I Section 1.1	SNC commits to compliance with NQA-1-1994 and as such, the applicability requirements in Part I, Section I, Paragraph 2 are incorporated by reference and are not repeated in the QATR. In addition, Part I, Section I, Paragraph 2, of NQA-1-1994 requires, "The application of this Part (Part I) or portions thereof, shall be specified in written contracts, policies, procedures, or instructions." This requirement is addressed in SNC QATR Part II, Section 4.2.	§ 50.54(a)(3)(iv)
3 Responsibility	N	Part I, Section 1.2	The SNC QATR is consistent with NQA-1-1994, Part I, Section I, Paragraph 3	§ 50.54(a)(3)(i)

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
4 Terms and Definitions	N	Part 1, Section 1.4	The SNC QATR is consistent with NQA-1-1994, Part I, Section I, Paragraph 4, with the following clarifications: As stated in Part I, Section 1.4 of the SNC QATR, SNC utilizes the terms and definitions provided in Part I, Section I.4, of NQA-1-1994 to interpret the requirements of NQA-1-1994, Part I, as well as other standards to which SNC is committed to in the QATR. Additional terms and definitions not contained in NQA-1-1994 are provided in Appendix D of the SNC QATR. The additional terms and definitions contained in Appendix D of the SNC QATR are identical to those contained in Appendix C of the NMC QATR, with the addition of the following clarification of the NQA-1-1994-defined term "verification": *Concurrent Verification* – Verification by a second individual of a component's condition as the action is being performed. Examples include, but are not limited to, equipment being removed from service (provided the equipment being removed from service will not cause any adverse system condition), lifting a lead, removing a fuse, and opening a link. *Independent Verification* – Verification that required actions have been completed by an individual other than the person who performed the operation or activity being verified. Such verification will not require confirmation of the identical action when other indications provide assurance or indication that the prescribed activity is in fact complete. Examples include, but are not limited to, verification of a breaker opening by observing remote breaker indication lights; verification of a setpoint (made with a voltmeter or ammeter, for example) by observing the actuation of status or indicating lights are the required panel-meter	§ 50.54(a)(3)(i) Clarification of the term "verification" does not reflect a deviation from the requirements of NQA-1-1994 but instead, provides clarification of information contained therein.

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
			indicated value; verification that a valve has been positioned by observing the starting or stopping of flow on meter indications or by remove valve position indicating lights.	
Section II – Basic and Supplementary Requirements				
Basic Requirement 1 – Organization	N	Part II, Section 1.3	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Basic Requirement 1, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Basic Requirement 1. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Basic Requirement 1.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)
Supplement 1S-1 – Supplementary Requirements for Organization	N	Part II, Section 1.3 and Section 2.2	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Supplement 1S-1, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Supplement 1S-1. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Supplement 1S-1. Additionally, delegation of work addressed by Section 2.2 of Supplement 1S-1 is described in SNC QATR Part II, Section 2.2.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)
Basic Requirement 2 – Quality Assurance Program	N	Part II, Section 2.4	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Basic Requirement 2, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Basic Requirement 2. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Basic Requirement 2.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
Supplement 2S-1 – Supplementary Requirements for the Qualification of Inspection and Test Personnel	N	Part II, Section 2.4	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Supplement 2S-1, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Supplement 2S-1. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Supplement 2S-1. In addition, Supplement 2S-1, Supplementary Requirements for the Qualification of Inspection and Test Personnel, will include use of the guidance provided in Appendix 2A-1 the same as if it were part of the Supplement. The following two alternative may be applied to the implementation of the requirements of this Supplement and Appendix: (1) 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 qualify verification inspections and tests (i.e., establishing hold points and acceptance criteria in procedures, and determining who will be responsible for performing the inspections), evaluating inspection training programs, nor certifying inspection personnel. (2) 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	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv) § 50.54(a)(3)(ii) Dominion QATR, Appendix C, Section 6 and Corresponding NRC SER dated September 9, 2005, Section 4.3.1

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
			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.	
Supplement 2S-2 – Supplementary Requirements for the Qualification of Nondestructive Examination Personnel	N	Part II, Section 2.4	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 XI of the ASME Boiler and Pressure Vessel Code approved by the NRC for use at SNC sites.	§ 50.54(a)(3)(ii) Dominion QATR, Appendix C, Section 6 and Corresponding NRC SER dated September 9, 2005, Section 4.3.1
Supplement 2S-3 – Supplementary Requirements for the Qualification of Quality Assurance Program Audit Personnel	N	Part II, Section 2.4	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Supplement 2S-3, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Supplement 2S-3. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Supplement 2S-3. In addition, 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."	§ 50.54(a)(3)(i) § 50.54 (a)(3)(iv) § 50.54(a)(3)(ii) NMC QATR, Section A.5 and Corresponding NRC SER dated March 24, 2005

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
Supplement 2S-4 – Supplementary Requirements for Personnel Indoctrination and Training	N	Part II, Section 2.4	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Supplement 2S-4, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Supplement 2S-4. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Supplement 2S-4.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)
Basic Requirement 3 – Design Control	N	Part II, Section 3.3	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Basic Requirement 3 and includes a commitment to comply with NQA-1-1994, Part I, Section II, Basic Requirement 3. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Basic Requirement 3.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)
Supplement 3S-1 – Supplementary Requirements for Design Control	N	Part II, Section 3.3	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Supplement 3S-1, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Supplement 3S-1. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Supplement 3S-1.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)
Basis Requirement 4 – Procurement Document Control	N	Part II, Section 4.2	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Basic Requirement 4, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Basic Requirement 4. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Basic Requirement 4.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
Supplement 4S-1 – Supplementary Requirements for Procurement Document Control	N	Part II, Section 4.2	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Supplement 4S-1, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Supplement 4S-1 as modified by the alternatives and clarifications cited below. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Supplement 4S-1. In addition, the proposed QATR incorporates the following alternatives/clarifications to Supplement 4S-1: (a) 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, Part I. SNC may apply to the procurement document other nationally recognized and NRC endorsed quality standards, such as N45.2, in lieu of NQA-1, as appropriate to the circumstances of the procurement. (b) Clarification is provided in the SNC QATR regarding onsite services performed by a supplier. Specifically, 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. This item provides clarification regarding how the quality assurance program requirements may be applied to suppliers of on-site services and does not represent a deviation from the requirements of NQA-1-1994.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv) (a) § 50.54(a)(3)(ii) NMC QATR Section B.4 and corresponding NRC SER dated March 24, 2005 (b) Clarification only

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
			(c) Section 3 of Supplement 4S-1 requires procurement documents to be reviewed prior to bid or award of contract. The quality assurance review of procurement documents is satisfied through review of the applicable procurement specification, including the technical and quality procurement requirements, prior to bid or award of contract. This item provides clarification regarding how the quality assurance review of procurement documents is accomplished and does not represent a deviation from the requirements of NQA-1-1994.	(c) Clarification only
Basic Requirement 5 – Instructions, Procedures, and Drawings	N	Part II, Section 5.2	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Basic Requirement 5, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Basic Requirement 5. Additionally, the SNC QATR includes a commitment to use Appendix A of Reg. Guide 1.33, Rev. 2, as guidance for establishing the types of procedures that are necessary to control and support plant operations. Appendix E to the SNC QATR provides additional details regarding procedures developed and implemented by SNC.	§ 50.54(a)(3)(i) § 50.54(a)(3)(ii) §50.54(a)(3)(ii) – Instructions, procedures, and drawings are controlled by the SNC QATR in a manner consistent with that described in Section 5.2 of the Dominion QATR and corresponding NRC SER dated September 9, 2005.
Basic Requirement 6 – Document Control	N	Part II, Section 6.2	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Basic Requirement 6, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Basic Requirement 6.	§ 50.54(a)(3)(i) § 50.54 (a)(3)(iv)

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
Supplement 6S-1 – Supplementary Requirements for Document Control	N	Part II, Section 6.2	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Supplement 6S-1, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Supplement 6S-1. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Supplement 6S-1.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)
Basic Requirement 7 – Control of Purchased Items and Services	N	Part II, Section 7.2	The SNC QATR is consistent with the requirements of NQA-1-1994, Basic Requirement 7, and includes a commitment to NQA- 1-1994, Basic Requirement 7. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Basic Requirement 7.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)
Supplement 7S-1 – Supplementary Requirements for Control of Purchased Items and Services	N	Part II, Section 7.2	The SNC QATR includes a commitment to conformance with the guidance of NQA-1-1994, Supplement 7S-1, with the following clarification and exceptions: (a) 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. (b) 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: – The purchase documents impose any additional technical and administrative requirements, as necessary, to comply with the	§ 50.54(a)(3)(i) (a) Clarification only (b) § 50.54(a)(3)(ii) The proposed alternative is consistent with changes to the Palo Verde QAP requested by Arizona Public Service Company letter dated September 5, 2004, approved by NRC SER dated September

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
			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. – The purchase documents require reporting as-found calibration data when calibrated items are found to be out-of-tolerance. – 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 an accreditation by the National Voluntary Laboratory Accreditation Program (NVLAP) or by the American Association for Laboratory Accreditation (A2LA) as recognized by NVLAP through a Mutual Recognition Arrangement (MRA). ▪ The accreditation is based on ANS/ISO/IEC 17025. ▪ The published scope of accreditation for the calibration laboratory covers the necessary measurement parameters, ranges, and uncertainties. (c) Section 8.1, SNC considers documents that may be stored in approved electronic media under SNC control and not physically located on the plant site but which are accessible from the respective nuclear facility site as meeting the NQA-1 requirement for documents to be available	28, 2005. (c) Clarification only

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
			at the site. (d) For section 10, Commercial Grade Items, controls for commercial grade items are established in SNC documents using the guidance of EPRI NP-5652 as discussed in Generic Letter 89-02.	(d) § 50.54(a)(3)(ii) Dominion QATR, Section 7.5 and Corresponding NRC SER dated September 9, 2005
Basic Requirement 8 – Identification and Control of Items	N	Part II, Section 8.1	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Basic Requirement 8, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Basic Requirement 8. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Basic Requirement 8.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)
Supplement 8S-1 – Supplementary Requirements for Identification and Control of Items	N	Part II, Section 8.1	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Supplement 8S-1, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Supplement 8S-1. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Supplement 8S-1.	§ 50.54(a)(3)(i) §50.54(a)(3(iv)
Basic Requirement 9 – Control of Processes	N	Part II, Section 9.1	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Basic Requirement 9, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Basic Requirement 9. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Basic Requirement 9.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
Supplement 9S-1 – Supplementary Requirements for Control of Processes	N	Part II, Section 9.1	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Supplement 9S-1 and includes a commitment to comply with NQA-1-1994, Part I, Section II, Supplement 9S-1. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Supplement 9S-1.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)
Basic Requirement 10 – Inspection	N	Part II, Section 10.1	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Basic Requirement 10, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Basic Requirement 10. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Basic Requirement 10.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)
Supplement 10S-1 – Supplementary Requirements for Inspection	N	Part II, Section 10.1	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Supplement 10S-1 and includes a commitment to comply with NQA-1-1994, Part I, Section II, Supplement 10S-1. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Supplement 10S-1.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)
Basic Requirement 11 – Test Control	N	Part II, Section 11.1	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Basic Requirement 11, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Basic Requirement 11. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Basic Requirement 11.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
Supplement 11S-1 – Supplementary Requirements for Test Control	N	Part II, Section 11.1	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Supplement 11S-1, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Supplement 11S-1. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Supplement 11S-1.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)
Supplement 11S-2 – Supplementary Requirements for Computer Program Testing	N	Part II, Section 11.2	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Supplement 11S-2, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Supplement 11S-2. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Supplement 11S-2.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)
Basic Requirement 12 – Control of Measuring and Test Equipment	N	Part II, Section 12.1	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Basic Requirement 12, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Basic Requirement 12. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Basic Requirement 12.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)
Supplement 12S-1 – Supplementary Requirements for Control of Measuring and Test Equipment	N	Part II, Section 12.1	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Supplement 12S-1, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Supplement 12S-1. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Supplement 12S-1.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
Basic Requirement 13 – Handling, Storage, and Shipping	N	Part II, Section 13.2	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Basic Requirement 13, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Basic Requirement 13. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Basic Requirement 13.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)
Supplement 13S-1 – Supplementary Requirements for Handling, Storage, and Shipping	N	Part II, Section 13.2	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Supplement 13S-1, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Supplement 13S-1. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Supplement 13S-1.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)
Basic Requirement 14 – Inspection, Test, and Operating Status	N	Part II, Section 14.1	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Basic Requirement 14, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Basic Requirement 14. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Basic Requirement 14.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)
Basic Requirement 15 – Control of Nonconforming Items	N	Part II, Section 15.1	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Basic Requirement 15, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Basic Requirement 15. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Basic Requirement 15.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
Supplement 15S-1 – Supplementary Requirements for the Control of Nonconforming Items	N	Part II, Section 15.1	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Supplement 15S-1, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Supplement 15S-1. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Supplement 15S-1.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)
Basic Requirement 16 – Corrective Action	N	Part II, Section 16.1	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Basic Requirement 16, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Basic Requirement 16. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Basic Requirement 16.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)
Basic Requirement 17 – Quality Assurance Records	N	Part II, Section 17.2	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Basic Requirement 17, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Basic Requirement 17. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Basic Requirement 17.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)
Supplement 17S-1 – Supplementary Requirements for Quality Assurance Records	N	Part II, Section 17.2	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Supplement 17S-1, and includes a commitment to NQA-1-1994, Supplement 17S-1 with the following exception: 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,	§ 50.54(a)(3)(i) 1. § 50.54(a)(3)(ii) NMC QATR., Section B.15 and corresponding NRC SER dated March 24, 2005

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
			except that methods other than binders, folders, or envelopes may be used to organize the records for storage.	
Basic Requirement 18 – Audits	N	Part II, Section 18.2	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Basic Requirement 18, and includes a commitment to comply with NQA-1-1994, Part I, Section II, Basic Requirement 18. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Basic Requirement 18.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)
Supplement 18S-1 – Supplementary Requirements for Audits	N	Part II, Section 18.2	The SNC QATR is consistent with NQA-1-1994, Part I, Section II, Supplement 18S-1, and includes a commitment to NQA-1-1994, Supplement 18S-1. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part I, Section II, Supplement 18S-1.	§ 50.54(a)(3)(i) § 50.54(a)(3)(iv)

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
Part II – Quality Assurance Requirements for Nuclear Facility Applications (from former NQA-2)				
Introduction				
SUBPART 2.1 – Quality Assurance Requirements for Cleaning of Fluid Systems and Associated Components for Nuclear Power Plants	N	Part II, Section 13.2	The SNC QATR is consistent with NQA-1-1994, Part II, Subpart 2.1, and includes a commitment to comply with NQA-1-1994, Part II, Subpart 2.1 with the exceptions to Sections 3.1 and 3.2 provided below.	§ 50.54(a)(3)(i)
1 General	N	Part II, Section 13.2	See Comment associated with Subpart 2.1 above	See Basis for Acceptance associated with Subpart 2.1
1.1 Definitions	N	Part II, Section 13.2	See Comment associated with Subpart 2.1 above	See Basis for Acceptance associated with Subpart 2.1
2 General Requirements	N	Part II, Section 13.2	See Comment associated with Subpart 2.1 above	See Basis for Acceptance associated with Subpart 2.1
2.1 Planning	N	Part II, Section 13.2	See Comment associated with Subpart 2.1 above	See Basis for Acceptance associated with Subpart 2.1
2.2 Procedures and Instructions	N	Part II, Section 13.2	See Comment associated with Subpart 2.1 above	See Basis for Acceptance associated with Subpart 2.1

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
2.3 Rectification of Unacceptable Cleanness	N	Part II, Section 13.2	See Comment associated with Subpart 2.1 above	See Basis for Acceptance associated with Subpart 2.1
2.4 Control of Cleaning Solutions	N	Part II, Section 13.2	See Comment associated with Subpart 2.1 above	See Basis for Acceptance associated with Subpart 2.1
3 Cleanness Criteria	N	Part II, Section 13.2	See Comment associated with Subpart 2.1 above	See Basis for Acceptance associated with Subpart 2.1
3.1 Cleanness Classification	N	Part II, Section 13.2	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.	§ 50.54(a)(3)(ii) NMC QATR, Section B.7 and Corresponding NRC SER dated March 24, 2005 (See Section 3.3.2)
3.2 Cleanness Class Criteria	N	Part II, Section 13.2	See comment on Subpart 2.1, Section 3.1 above.	See Basis for Acceptance for Subpart 2.1, Section 3.1 above
3.3 Hydraulic, Instrument Control, and Lubrication Lines and Systems	N	Part II, Section 13.2	See Comment associated with Subpart 2.1 above	See Basis for Acceptance associated with Subpart 2.1

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
3.4 Cleaning and Flushing Fluid Quality Requirements	N	Part II, Section 13.2	See Comment associated with Subpart 2.1 above	See Basis for Acceptance associated with Subpart 2.1
4 Manufacturing Phase Cleanness	N	Part II, Section 13.2	See Comment associated with Subpart 2.1 above	See Basis for Acceptance associated with Subpart 2.1
5 Cleanness Prior to Installation	N	Part II, Section 13.2	See Comment associated with Subpart 2.1 above	See Basis for Acceptance associated with Subpart 2.1
6 Cleanness During Installation	N	Part II, Section 13.2	See Comment associated with Subpart 2.1 above	See Basis for Acceptance associated with Subpart 2.1
7 Maintenance of Installation Cleanness	N	Part II, Section 13.2	See Comment associated with Subpart 2.1 above	See Basis for Acceptance associated with Subpart 2.1
8 Preoperational Cleaning	N	Part II, Section 13.2	See Comment associated with Subpart 2.1 above	See Basis for Acceptance associated with Subpart 2.1
8.1 Preparations	N	Part II, Section 13.2	See Comment associated with Subpart 2.1 above	See Basis for Acceptance associated with Subpart 2.1
8.2 Flushing and Cleaning Methods	N	Part II, Section 13.2	See Comment associated with Subpart 2.1 above	See Basis for Acceptance associated with Subpart 2.1
9 Layup and Post-layup Cleaning	N	Part II, Section 13.2	See Comment associated with Subpart 2.1 above	See Basis for Acceptance associated with Subpart 2.1

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
10 Post-Operational Repairs and Modifications	N	Part II, Section 13.2	See Comment associated with Subpart 2.1 above	See Basis for Acceptance associated with Subpart 2.1
11 Records	N	Part II, Section 13.2	See Comment associated with Subpart 2.1 above	See Basis for Acceptance associated with Subpart 2.1
SUBPART 2.2 – Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, and Handling of Items for Nuclear Power Plants	N	Part II, Section 13.2	The SNC QATR is consistent with NQA-1-1994, Part II, Subpart 2.2, and includes a commitment to comply with NQA-1-1994, Part II, Subpart 2.2 with the exceptions to Sections 3.2, 3.5, 6.6, and 7.1 described below.	§ 50.54(a)(3)(i)
1 General	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
1.1 Definitions	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2.
2 General Requirements	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
2.1 Planning and Procedures	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
2.2 Classification of Items	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
3 Packaging	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
3.1 General	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
3.2 Levels of Packaging	N	Part II, Section 13.2	For items in storage, as determined by facility management, the packaging requirements described under Section 3, Packaging, may include alternate methods of affording the 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.	§ 50.54(a)(3)(ii) Dominion QATR Section 13.3 and corresponding NRC SER dated September 9, 2005.
3.3 Cleaning	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
3.4 Methods of Preservation	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
3.5 Caps, Plugs. Tapes. and Adhesives	N	Part II, Section 13.2	See Comment on Subpart 2.2, Section 3.2 above.	See "Basis for Acceptance" for Subpart 2.2, Section 3.2 above.
3.6 Barrier and Wrap Materials and Desiccants	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
3.7 Containers. Crating. and Skids	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
3.8 Cushioning. Blocking. Bracing. and Anchoring	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
3.9 Marking	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
4 Shipping	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
4.1 General	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
4.2 Transportation Requirements	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
4.3 Precautions During Loading and Transit	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
4.4 Identification and Markings	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
4.5 Shipments From Countries Outside the United States	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
4.6 Nuclear Material Shipments	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
5 Receiving	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
5.1 General	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
5.2 Receiving Inspection Requirements	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
5.3 Disposition of Received Items	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
5.4 Status Indicating System	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
5.5 Marking	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
5.6 Documentation	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
6 Storage	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
6.1 General	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
6.2 Storage Areas	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
6.3 Storage Methods	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
6.4 Control of Items in Storage	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
6.5 Removal of Items From Storage	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
6.6 Storage Records	N	Part II, Section 13.2	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.	§ 50.54(a)(3)(ii) Dominion QATR, Section 13.3, and corresponding NRC SER dated September 9, 2005.
7 Handling	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
7.1 General	N	Part II, Section 13.2	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 test include raising, lowering and traversing the load. Where required, SNC complies with applicable hoisting, rigging and transportation regulations and codes.	§ 50.54(a)(3)(ii) NMC QATR, Section B.7, and the corresponding NRC SER dated, March 24, 2005
8 Records	N	Part II, Section 13.2	See Comment associated with Subpart 2.2 above	See Basis for Acceptance associated with Subpart 2.2
SUBPART 2.3 – Quality Assurance Requirements for Housekeeping for Nuclear Power Plants	N	Part II, Section 13.2	The SNC QATR is consistent with NQA-1-1994, Part II, Subpart 2.3, and includes a commitment to comply with NQA-1-1994, Part II, Subpart 2.3 with the exceptions to Sections 2.2 and 3.1 described below.	§ 50.54(a)(3)(i)
1 General	N	Part II, Section 13.2	See Comment associated with Subpart 2.3 above	See Basis for Acceptance associated with Subpart 2.3

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction In Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
2 General Requirements	N	Part II, Section 13.2	See Comment associated with Subpart 2.3 above	See Basis for Acceptance associated with Subpart 2.3
2.1 Planning and Procedures	N	Part II, Section 13.2	See Comment associated with Subpart 2.3 above	See Basis for Acceptance associated with Subpart 2.3
2.2 Classification of Cleanness	N	Part II, Section 13.2	Subpart 2.3, Section 2.2 requires the use of five-level zone designations. In lieu of the five-level zone designations required by 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.	§ 50.54(a)(3)(ii) NMC QATR Section B.7 and Corresponding NRC SER dated March 24, 2005
3 Requirements	N	Part II, Section 13.2	See Comment associated with Subpart 2.3 above	See Basis for Acceptance associated with Subpart 2.3
3.1 Control of Site Area	N	Part II, Section 13.2	See "Comment" associated with Subpart 2.3, Section 2.2, above.	See "Basis for Acceptance" associated with Subpart 2.3, Section 2.2, above.
3.2 Control of Facilities	N	Part II, Section 13.2	See Comment associated with Subpart 2.3 above	See Basis for Acceptance associated with Subpart 2.3

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
3.3 Material and Equipment	N	Part II, Section 13.2	See Comment associated with Subpart 2.3 above	See Basis for Acceptance associated with Subpart 2.3
3.4 Construction Tools, Supplies, and Equipment	N	Part II, Section 13.2	See Comment associated with Subpart 2.3 above	See Basis for Acceptance associated with Subpart 2.3
3.5 Surveillance and Inspections	N	Part II, Section 13.2	See Comment associated with Subpart 2.3 above	See Basis for Acceptance associated with Subpart 2.3
4 Records	N	Part II, Section 13.2	See Comment associated with Subpart 2.3 above	See Basis for Acceptance associated with Subpart 2.3
SUBPART 2.4 – Installation, Inspection, and Testing Requirements for Power, Instrumentation, and Control Equipment at Nuclear Facilities (ANSI/IEEE 336-1985)	N	Part II, Section 10.1; Section 12.1	The SNC QATR is consistent with NQA-1-1994, Part II, Subpart 2.4 and includes a commitment to comply with NQA-1-1994, Part II, Subpart 2.4, with the following clarifications: 1. Subpart 2.4 commits requires the use of IEEE 336-1985 which 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" contained in IEEE 603-1980 but does not comply with the balance of that standard. This item provides clarification only and does not represent a change or deviation from NQA-1-1994.	§ 50.54(a)(3)(i) 1. Clarification only 2. § 50.54(a)(3)(ii) NMC QATR, Section B.9 and Corresponding NRC SER dated March 24, 2005

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
			2. Section 7.2.1 of ANSI/IEEE 336-1985 requires all items requiring calibration to be labeled or tagged. In lieu of this requirement, SNC may not label or tag certain items requiring calibration but will provide other means of identification so that appropriate controls can be implemented. This alternative is consistent with NMC QATR Section B.9 and the corresponding NRC SER dated March 24, 2005.	
SUBPART 2.5 – Quality Assurance Requirements for Installation, Inspection, and Testing of Structural Concrete, Structural Steel, Soils, and Foundations for Nuclear Power Plants	N	Part II, Section 10.1	The SNC QATR is consistent with NQA-1-1994, Part II, Subpart 2.5, and includes a commitment to comply with NQA-1-1994, Part II, Subpart 2.5. The SNC QATR Part II, Section 10.1, description closely matches that contained in Section B.12 of the NMC QATR. However, Section B.12 of the NMC QATR contains additional information not contained in the SNC QATR. This information restates the requirements of NQA-1-1994, Subpart 2.5 and incorporation into the QATR would be redundant.	§ 50.54(a)(3)(i) and § 50.54(a)(3)(v)
1 General	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
1.1 Definitions	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
2 General Requirements	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
3 Requirements	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
3.1 Planning and Procedures	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
3.2 Measuring and Test Equipment	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
3.3 Laboratory Testing	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
4 Preconstruction Verification	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
4.1 General	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
4.2 Materials Suitability	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
4.3 Construction Processes	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
5 Inspection of Soils and Earthwork	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
5.1 General	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
5.2 Materials	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
5.3 Placing and Compacting Equipment	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
5.4 Preplacement Preparations	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
5.5 Soils Compaction	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
5.6 In-Process Tests on Compacted Fill	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
6 Inspection of Foundation Pile and Caisson Construction	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
6.1 Piles	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
6.2 Caissons	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
6.3 Required Qualification Tests	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
7 Inspection of Concrete Construction	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
7.1 General	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
7.2 Protection of Materials	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
7.3 Measuring, Mixing, and Transporting Equipment	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
7.4 Preplacement Preparations	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
7.5 Concrete Placement	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
7.6 Finishing and Repairs	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
7.7 Curing	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
7.8 Stress Transfer of Pretensioned Members	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
7.9 Post-Tensioning	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
7.10 Shipping and Handling of Precast Concrete Members	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
7.11 In-Process Tests on Concrete and Reinforcing and Prestressing Steel	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
7.12 Mechanical (Sleeve With Ferrous Filler Metal) Splice Testing	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
7.13 Welded Reinforcing Bar Splices	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
8 Inspection of Steel Construction	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
8.1 General	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
8.2 Supporting Structures	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
8.3 Assembly and Erection	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
8.4 High Strength Bolting	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
8.5 Welding	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
9 Data Analysis and Evaluation	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
9.1 General	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
9.2 Concrete and Mechanical (Sleeve With Ferrous Filler Metal) Splice Test Data Evaluation and Analysis	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
9.3 Steel Construction Test Data Evaluation and Analysis	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
9.4 Soils Test Data Evaluation and Analysis	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5
10 Records	N	Part II, Section 10.1	See Comment associated with Subpart 2.5 above	See Basis for Acceptance associated with Subpart 2.5

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
SUBPART 2.7 – Quality Assurance Requirements for Computer Software for Nuclear Facility Applications	N	Part II, Section 11.2	The SNC QATR is consistent with NQA-1-1994, Part II, Subpart 2.7, and includes a commitment to comply with NQA-1-1994, Part II, Subpart 2.7. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part II, Subpart 2.7.	§ 50.54(a)(3)(i) § 50.54(a)(3(iv)
1 General	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
1.1 Definitions	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
2 General Requirements	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
2.1 Applicability	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
3 Software Life Cycle	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
3.1 Requirements Phase	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
3.2 Design Phase	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
3.3 Implementation Phase	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
3.4 Testing Phase	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
3.5 Installation and Checkout Phase	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
3.6 Operations and Maintenance Phase	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
3.7 Retirement Phase	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
4 Software Verification and Validation	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
4.1 Software Verification	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
4.2 Software Validation	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
5 Software Configuration Control	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
5.1 Configuration Identification	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
5.2 Configuration Change Control	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
5.3 Configuration Status Accounting	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
6 Documentation	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
6.1 Plan(s) for Software Quality Assurance	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
6.2 Software Requirements Documentation	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
6.3 Software Design and Implementation Documentation	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
6.4 Software Verification and Validation Documentation	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
6.5 User Documentation	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
7 Verification Reviews	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
7.1 Software Requirements Review	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
7.2 Software Design Review	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
7.3 Development Documentation Review	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
8 Problem Reporting and Corrective Action	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
9 Access Control	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
10 Software Procurement	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
10.1 Contracted Software	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
10.2 Software Developed Not Using Part II	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
10.3 Procured Software Services	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
11 Records	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
12 References	N	Part II, Section 11.2	See Comment associated with Subpart 2.7 above	See Basis for Acceptance associated with Subpart 2.7
SUBPART 2.8 – Quality Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Systems for Nuclear Power Plants	N	Part II, Section 10.1	The SNC QATR is consistent with NQA-1-1994, Part II, Subpart 2.8, and includes a commitment to comply with NQA-1-1994, Part II, Subpart 2.8, for activities comparable to new plant construction. Accordingly, the SNC QATR does not reiterate the requirements of NQA-1-1994, Part II, Subpart 2.8.	§ 50.54(a)(3)(i)
1 General	N	Part II, Section 10.1	See Comment associated with Subpart 2.8 above	See Basis for Acceptance associated with Subpart 2.8
1.1 Definitions	N	Part II, Section 10.1	See Comment associated with Subpart 2.8 above	See Basis for Acceptance associated with Subpart 2.8
2 General Requirements	N	Part II, Section 10.1	See Comment associated with Subpart 2.8 above	See Basis for Acceptance associated with Subpart 2.8
2.1 Planning and Procedures	N	Part II, Section 10.1	See Comment associated with Subpart 2.8 above	See Basis for Acceptance associated with Subpart 2.8

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
2.2 Prerequisites	N	Part II, Section 10.1	See Comment associated with Subpart 2.8 above	See Basis for Acceptance associated with Subpart 2.8
3 Preinstallation Verification	N	Part II, Section 10.1	See Comment associated with Subpart 2.8 above	See Basis for Acceptance associated with Subpart 2.8
3.1 General	N	Part II, Section 10.1	See Comment associated with Subpart 2.8 above	See Basis for Acceptance associated with Subpart 2.8
3.2 Identification	N	Part II, Section 10.1	See Comment associated with Subpart 2.8 above	See Basis for Acceptance associated with Subpart 2.8
3.3 Processes and Procedures	N	Part II, Section 10.1	See Comment associated with Subpart 2.8 above	See Basis for Acceptance associated with Subpart 2.8
3.4 Physical Condition	N	Part II, Section 10.1	See Comment associated with Subpart 2.8 above	See Basis for Acceptance associated with Subpart 2.8
3.5 Site Conditions	N	Part II, Section 10.1	See Comment associated with Subpart 2.8 above	See Basis for Acceptance associated with Subpart 2.8
4 Control During Installation Process	N	Part II, Section 10.1	See Comment associated with Subpart 2.8 above	See Basis for Acceptance associated with Subpart 2.8
4.1 General	N	Part II, Section 10.1	See Comment associated with Subpart 2.8 above	See Basis for Acceptance associated with Subpart 2.8

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
4.2 Process and Procedures Control	N	Part II, Section 10.1	See Comment associated with Subpart 2.8 above	See Basis for Acceptance associated with Subpart 2.8
4.3 Inspection	N	Part II, Section 10.1	See Comment associated with Subpart 2.8 above	See Basis for Acceptance associated with Subpart 2.8
4.4 Installation Checks	N	Part II, Section 10.1	See Comment associated with Subpart 2.8 above	See Basis for Acceptance associated with Subpart 2.8
4.5 Care of Items	N	Part II, Section 10.1	See Comment associated with Subpart 2.8 above	See Basis for Acceptance associated with Subpart 2.8
5 Installed Systems Inspection and Tests	N	Part II, Section 10.1	See Comment associated with Subpart 2.8 above	See Basis for Acceptance associated with Subpart 2.8
5.1 General	N	Part II, Section 10.1	See Comment associated with Subpart 2.8 above	See Basis for Acceptance associated with Subpart 2.8
5.2 Preoperational Testing	N	Part II, Section 10.1	See Comment associated with Subpart 2.8 above	See Basis for Acceptance associated with Subpart 2.8
5.3 Cold Functional Tests	N	Part II, Section 10.1	See Comment associated with Subpart 2.8 above	See Basis for Acceptance associated with Subpart 2.8
5.4 Hot Functional Tests	N	Part II, Section 10.1	See Comment associated with Subpart 2.8 above	See Basis for Acceptance associated with Subpart 2.8

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
6 Data Analysis and Evaluation	N	Part II, Section 10.1	See Comment associated with Subpart 2.8 above	See Basis for Acceptance associated with Subpart 2.8
7 Records	N	Part II, Section 10.1	See Comment associated with Subpart 2.8 above	See Basis for Acceptance associated with Subpart 2.8
SUBPART 2.15 – Quality Assurance Requirements for Hoisting, Rigging, and Transporting of Items for Nuclear Power Plants	NA	Part II, Section 13.2	In lieu of the requirements of NQA-1-1994, 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.	§ 50.54(a)(3)(ii) NMC QATR Section
1 General	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
1.1 Definitions	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
2 General Requirements	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
2.1 Planning and Procedures	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
2.2 Classification of Items Handled	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
3 Types of Handling Equipment	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
3.1 Standard Manufactured Component	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
3.2 Commercial Standard Design Equipment	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
3.3 Special Designed Equipment	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
3.4 Permanent Plant Handling Equipment	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
4 Design Requirements	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
4.1 Standard Manufactured Components	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
4.2 Commercial Standard Design	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
4.3 Special Designed Equipment	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
5 Acceptance Criteria for Manufactured Handling Equipment	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
5.1 Standard Manufactured Components	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
5.2 Commercial Standard Design	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
5.3 Special Design Equipment	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
6 Testing, Inspection, and Maintenance	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
6.1 Testing	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
6.2 Inspection	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
6.3 Maintenance	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
7 Control of the Use of Handling Equipment	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
7.1 Handling Category A Items	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
7.2 Handling Category B Items	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
7.3 Handling Category C Items	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
8 Qualifications of Personnel	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
8.1 Person-In-Charge (PIC)	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
8.2 Engineer	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
8.3 Inspector	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
9 Records	NA	Part II, Section 13.2	See Comment associated with Subpart 2.15 above	See Basis for Acceptance associated with Subpart 2.15
SUBPART 2.16 – Requirements for the Calibration of Measuring and Test Equipment Used in Nuclear Facilities (ANSI/IEEE 498-1985)	N	Part II, Section 12.1	The SNC QATR is consistent with NQA-1-1994, Part II, Subpart 2.16, and includes a commitment to comply with NQA-1-1994, Part II, Subpart 2.16 with the following exception: (a) Subpart 2.16, Section 5.5 of ANSI/IEEE 498-85 (NQA-1, Subpart 2.16) 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.	§ 50.54(a)(3)(i) (a) § 50.54(a)(3)(ii) NMC QATR, Section B.9 and corresponding NRC SER dated March 24, 2005.
SUBPART 2.18 – Quality Assurance Requirements for Maintenance of Nuclear Facilities	N	Part I, Section I	SNC is committed to NQA-1-1994, Parts I and II, except as specified in the QATR. Accordingly, SNC is committed to NQA-1-1994, Part II, Subpart 2.18.	§ 50.54(a)(3)(i)
1 General	N	Part I, Section I	See Comment associated with Subpart 2.18 above	See Basis for Acceptance associated with Subpart 2.18
2 General Requirements	N	Part I, Section I	See Comment associated with Subpart 2.18 above	See Basis for Acceptance associated with Subpart 2.18
2.1 Responsibilities	N	Part I, Section I	See Comment associated with Subpart 2.18 above	See Basis for Acceptance associated with Subpart 2.18
2.2 Procedures	N	Part I, Section I	See Comment associated with Subpart 2.18 above	See Basis for Acceptance associated with Subpart 2.18

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
2.3 Cleanness Control	N	Part I, Section I	See Comment associated with Subpart 2.18 above	See Basis for Acceptance associated with Subpart 2.18
2.4 Environmental and Seismic Qualifications	N	Part I, Section I	See Comment associated with Subpart 2.18 above	See Basis for Acceptance associated with Subpart 2.18
2.5 Work Authorization	N	Part I, Section I	See Comment associated with Subpart 2.18 above	See Basis for Acceptance associated with Subpart 2.18
2.6 Equipment History	N	Part I, Section I	See Comment associated with Subpart 2.18 above	See Basis for Acceptance associated with Subpart 2.18
2.7 Verification of Maintenance Work	N	Part I, Section I	See Comment associated with Subpart 2.18 above	See Basis for Acceptance associated with Subpart 2.18
2.8 Updating of Maintenance Procedures from Vendor Technical Manuals and Industry Bulletins	N	Part I, Section I	See Comment associated with Subpart 2.18 above	See Basis for Acceptance associated with Subpart 2.18
3 Preventive Maintenance	N	Part I, Section I	See Comment associated with Subpart 2.18 above	See Basis for Acceptance associated with Subpart 2.18
3.1 General	N	Part I, Section I	See Comment associated with Subpart 2.18 above	See Basis for Acceptance associated with Subpart 2.18
3.2 Plans and Procedures	N	Part I, Section I	See Comment associated with Subpart 2.18 above	See Basis for Acceptance associated with Subpart 2.18
4 Corrective Maintenance	N	Part I, Section I	See Comment associated with Subpart 2.18 above	See Basis for Acceptance associated with Subpart 2.18
4.1 General	N	Part I, Section I	See Comment associated with Subpart 2.18 above	See Basis for Acceptance associated with Subpart 2.18

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
4.2 Identification. Reporting. and Documenting of Equipment or Systems Requiring Corrective Maintenance	N	Part I, Section I	See Comment associated with Subpart 2.18 above	See Basis for Acceptance associated with Subpart 2.18
4.3 Assessments and Evaluations	N	Part I, Section I	See Comment associated with Subpart 2.18 above	See Basis for Acceptance associated with Subpart 2.18
4.4 Implementing Corrective Maintenance	N	Part I, Section I	See Comment associated with Subpart 2.18 above	See Basis for Acceptance associated with Subpart 2.18
5 Records	N	Part I, Section I	See Comment associated with Subpart 2.18 above	See Basis for Acceptance associated with Subpart 2.18
SUBPART 2.20 – Quality Assurance Requirements for Subsurface Investigations for Nuclear Power Plants	N	Part I, Section I	SNC is committed to NQA-1-1994, Parts I and II, except as specified in the QATR. Accordingly, SNC is committed to NQA-1-1994, Part II, Subpart 2.20.	§ 50.54(a)(3)(i)
1 General	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
1.1 Definitions	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
2 General Requirements	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
2.1 Planning	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
2.2 Procedures and Instructions	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
2.3 Results	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
2.4 Personnel Qualifications	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
3 Verification Requirements	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
3.1 General Requirements	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
3.2 Preinvestigation	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
3.3 Field Activities Verification	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
3.4 Laboratory Activities Verification	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
3.5 Engineering Activities Verification	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
4 Field Investigation Requirements	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
4.1 General Requirements	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
4.2 Field Operations Requirements	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
4.3 Field Equipment Requirements	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
4.4 Surveying Requirements	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
4.5 Boring and Excavating Requirements	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
4.6 Sampling and Test Requirements	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
5 Laboratory Testing	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
5.1 General	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
5.2 Scope	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
5.3 Test Methods	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
5.4 Report of Laboratory Test	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
6 Evaluation and Analysis	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
6.1 General	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
6.2 Analysis of Subsurface Conditions	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20
6.3 Report of Evaluation and Analysis	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20

NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Application	Reduction in Commitments (Y/N)	QATR Section(s)	Comments	Basis for Acceptance
7 Records	N	Part I, Section I	See Comment associated with Subpart 2.20 above	See Basis for Acceptance associated with Subpart 2.20

Enclosure 5

ANSI N18.7-1976 Conformance Matrix

1. Scope This Standard provides requirements and recommendations for an administrative controls and quality assurance program necessary to provide assurance that operational phase activities at nuclear power plants are carried out without undue risk to the health and safety of the public. The requirements of this Standard apply to all activities affecting the safety-related functions of nuclear power plant structures, systems, and components.		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, 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.	
It is not intended to apply to test, mobile and experimental reactors nor reactors not subject to US Nuclear Regulatory Commission licensing. However, applicable sections of this Standard should be used as they apply to related activities. Activities included are design changes, purchasing, fabricating, handling, shipping, storing, cleaning, erecting, installing, inspecting, testing, operating, maintaining, repairing, refueling and modifying.		Part I, Section 1.1: This QATR applies to activities affecting the quality performance of safety-related structures, systems, and components, including, but not limited to: Designing, Handling, Testing Constructing, Refueling, Receiving Procuring, Operating, Storing Fabricating, Training, Erecting Cleaning, Inspecting, Installing Modifying, Maintaining, Repairing	

It is recommended that the administrative controls and quality assurance provisions of this Standard be applied to other important plant equipment at a level commensurate with the importance of the equipment to reliable and efficient plant operation. However, it is emphasized that this Standard is directed primarily toward administrative controls and quality assurance associated with safety-related activities, equipment and procedures.		Part I, Section 1.1: The QAP may be applied to certain activities where regulations other than 10CFR50 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 10CFR71 Subpart H and 10CFR72 Subpart G, respectively, as allowed, by 10CFR71.101.f and 10CFR72.140.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.	
This Standard incorporates criteria that permit a degree of flexibility, since administrative practices vary among organizations operating nuclear power plants.			This is a comment on the format of the standard. It establishes no requirements.
The Nuclear Regulatory Commission (NRC) promulgates regulations applicable to many aspects of the design, construction and operation of nuclear power reactors. This Standard contains criteria for administrative controls and quality assurance for nuclear power plants during the operational phase of plant life. This phase is generally considered to commence with initial fuel loading, except for			This is a comment on the format of the standard and the necessity to differentiate between construction and operation. It establishes no requirement.

certain preoperational activities. Certain operating activities may commence prior to fuel loading and certain initial construction activities may extend past fuel loading. Owner organizations should identify clearly those activities that fall in these overlapping time periods and should specify whether the activities are to be considered as operational or as construction activities.			
This Standard is intended to be consistent with applicable criteria for quality assurance, including those given in Title 10 Code of Federal Regulations, Part 50, Licensing of Production and Utilization Facilities," Appendix B. [1]' This Standard fully and completely describes, the general requirements and guidelines of American National Standard Quality Assurance Program Utilization Facilities," Appendix B. [1]' guidelines of American National Standard Quality Assurance Program Requirements for Nuclear Power Plants N45.2-1971, [2] as those requirements and guidelines apply during the operational phase of plant life.	NQA-1 was developed based on ANSI N45.2.	Part I, Introduction: 'The QATR describes the methods and establishes quality assurance program and administrative control requirements that meet 10CFR50, Appendix B."	

2. Definitions			
2.1 Limitations The definitions given below are applicable specifically to this Standard. Other terms and their definitions are contained in American National Standard, Quality Assurance Terms and Definitions, N45.2.10 [3].	Introduction Section 4 "Terms and Definitions states "the following definitions are provided to assure a uniform understanding of select terms as they are used in this Part." N45.2.10 has been rescinded and replaced by NQA-1.		
2.2 Glossary of Terms The following terms are defined: *administrative controls *audit. A formal, independent examination with intent to verify conformance with established requirements	Introduction Section 4 "Terms and Definitions" (no definition provided) *audit A planned and documented activity performed to determine by investigation, examination, or evaluation of objective evidence the adequacy of and compliance with established procedures, instructions, drawings, and other applicable documents, and the effectiveness of implementation. An audit should not be confused with surveillance or inspection activities performed for the sole purpose of process control or product	Appendix D: 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.	

	acceptance.		
*emergency procedures	(no definition provided)		
*experiments	(no definition provided)		
*independent review	(no definition provided)		
*inspection. Examination, observation, or measurement to determine the conformance of materials, supplies, components, parts, appurtenances, systems, personnel performance, procedures, processes or structures to predetermined requirements.	inspection — examination or measurement to verify whether an item or activity conforms to specified requirements.		
*maintenance and modification procedures	(no definition provided)		
*nuclear power plant	(no definition provided)		
*off normal condition procedures	(no definition provided)		
*on-site operating organization	(no definition provided)		
*operating activities	(no definition provided)		
*operating procedures	(no definition provided)		
*operational phase	(no definition provided)		
*owner organization. The organization, including the onsite operation organization, which has overall legal, financial and technical responsibility for the operation	*owner—the person, group, company, agency, or corporation, who has or will have title to the nuclear power plant.		

of one or more nuclear power plants.			
*quality assurance. All those planned and systematic actions necessary to provide assurance that a structure, system, or component will perform satisfactorily in service. It applies to all activities associated with doing a job correctly as well as verifying and documenting the satisfactory completion of the work.	*quality assurance — all those planned and systematic actions necessary to provide adequate confidence that a structure, system, or component will perform satisfactorily in service.		
*review	(no definition provided)		
*shall, should, and may. The word "shall" is used to denote a requirement; the word "should" to denote a recommendation; and the word "may," to denote permission, neither a requirement nor a recommendation.	shall, should — the word should denotes a guideline (a suggested practice that is not mandatory in programs intended to comply with a standard). The word shall denotes a requirement.		
*supervision	(no definition provided)		
*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.	*testing — an element of verification for the determination of the capability of an item to meet specified requirements by subjecting the item to a set of physical, chemical, environmental, or operating conditions.		
*system	(no definition provided)		

*testing Performance of those steps necessary to determine that systems or components function in accordance with predetermined specifications.	testing — an element of verification for the determination of the capability of an item to meet specified requirements by subjecting the item to a set of physical, chemical, environmental, or operating conditions.		
3 Owner Organization			
3.1 General The owner organization shall establish an administrative controls and quality assurance program which complies with this Standard, The program shall be in effect at all times during the Operational phase to assure that operational phase activities are carried out without undue risk to the health and safety of the public, The program shall require that decisions affecting safety are made at the proper level of responsibility and with the necessary technical advice and review. The owner organization may delegate to other organizations the work of-establishing and executing the administrative controls and quality assurance program or any parts thereof, in accordance with this Standard, but shall retain responsibility therefore.		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.' Part II, Section 2.2: '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.'	

3.2 Assignment of Authority and Responsibility [It is essential that all members of the organization involved in operation of nuclear power plants, including those at the highest management levels, recognize the necessity that the plants be operated under a well formulated and detailed administrative controls and quality assurance program to assure safety and efficiency.] Lines of authority, responsibility and communication shall be established from the highest management level through intermediate levels and including the onsite operating organization (including those offsite organizational units assigned responsibility for procurement, design and construction, quality assurance, and technical support activities). These relationships shall be documented and updated, as appropriate, in the form of organizational charts, functional descriptions of departmental responsibilities and relationships and job descriptions for key personnel positions or in equivalent forms of documentation.	Basic Requirement 1 "Organization" states "The organizational structure, functional responsibilities, levels of authority, and lines of communication for activities affecting quality shall be documented."	Part II, Section 1: '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. 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. Management gives careful consideration to the timing, extent and effects of organizational structure changes.'	N18.7 wording in brackets are included in this table for completeness; they do not establish requirements that either NQA-1 or the SNC QATR would need to address.

The owner organization shall specify in writing the authority and responsibility assigned to individuals and organizations involved in establishing, executing and measuring the overall, effectiveness of the administrative controls and quality assurance program required by this Standard.		Part II, Section 1 '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. 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. Management gives careful consideration to the timing, extent and effects of organizational structure changes.'	
Persons or organizations performing functions of assuring that the administrative controls and quality assurance program is established and implemented or of assuring that an activity has been correctly performed shall have sufficient authority and organizational freedom to: identify quality problems; initiate, recommend or provide solutions, through designated channels; and verify implementation of solutions,	Basic Requirement 1 "The organization structure, functional responsibilities, levels of authority, and lines of communication for activities affecting quality shall be documented, Persons or organizations responsible for assuring that an appropriate quality assurance program have been established and verifying that activities affecting quality have been correctly performed shall have sufficient authority, access to work areas, and organizational freedom to: (a) identify quality problems; (b) initiate, recommend, or provide solutions to quality problems through designated channels; (c) verify implementation of solutions;"		

The organizational structure and the functional responsibility assignments shall be such that: (1) Attainment of program objectives is accomplished by those who have been assigned responsibility for performing work. [This may include interim examinations, checks, and inspections of the work by the individual performing the work.] (2) Verification of conformance to established program requirements is accomplished by a qualified person who does not have responsibility for performing or directly supervising the work. The method and extent of such verification shall be commensurate with the importance of the activity to plant safety and reliability.		Part II, Section 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.' Part II, Section 10: '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.' Part II, Section 2.3: '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.'	
[In structuring the organization and assigning responsibility, quality assurance should be recognized as an interdisciplinary function involving many organizational components and, therefore, should not be regarded as the sole domain of a single quality assurance group. For example, it may be more			N18.7 wording in brackets are included for completeness; they do not establish requirements that either NQA-1 or the SNC QATR would need to address.

appropriate for nuclear engineers to perform reviews of plant nuclear engineering activities rather than quality assurance engineers because of the special competence required to perform these reviews. Quality assurance encompasses many functions and activities and extends to various levels in all participating organizations, from the top executive to all workers whose activities may influence quality.]			
3.3 Indoctrination and Training. Provisions shall be made for indoctrination and training of those personnel in the owner organization performing activities affecting quality to assure that suitable proficiency is achieved and maintained,		Part II, Section 2.3: '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.'	
Such personnel also shall be provided training concerning the administrative controls and quality assurance program which, as a minimum, shall include the following areas: overall company policies, procedures, or instruction which establish the program; procedures or instructions	NQA-1 Supplement 2S-4 Section 3 states "Personnel shall be indoctrinated in the following subjects as they relate to a particular function: (a) general criteria, including applicable codes, standards, and company	Part II, Section 2.3: '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.'	

which implement the program related to the specific lob-related activity,	procedures; (b) applicable quality assurance elements; and (c) job responsibilities and authority."		
3.4 Onsite Operating Organization **3.4.1 General** [A number of factors influence management in its decision regarding the establishment of an onsite operating organization. These include the owner organization's established staffing policies, the physical size and complexity of the nuclear power plant, the number of units, the extent of assistance provided by offsite technical support organizations, the extent of reliance on consultants and the availability of qualified personnel from other sources to assist in activities, such as initial start-up, refueling, maintenance or modification work. A nuclear power plant onsite operating organization may change with time. For example, the number and qualifications of personnel making up the onsite technical	Supplement 1S-1	Part II, Section 1 describes the organization and relationships among the positions within the organization.	N18.7 wording in brackets are included in this table for completeness; they do not establish requirements that either NQA-1 or the SNC QATR would need to address.

support-staff can generally be reduced as a plant progresses through initial operation to operational maturity.] Management shall give careful consideration to the timing and extent of such changes.			
3.4.2 Requirements for the Onsite Operating Organization 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.		Part II, Section 1.2.2 "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."	
Initial incumbents or replacements for members of the onsite operating organization and offsite technical support organizations shall have appropriate experience, training and retraining to assure that necessary competence is maintained in accordance with the provisions of American National Standard for Selection and Training of Nuclear Power Plant		Part II, Section 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	

Personnel, N18.1-1971.		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.'	
Personnel whose qualifications do not meet those specified in N18.1 and who are performing inspection, examination, and testing activities during the operations phase of the plant, including preoperational and start-up testing shall be qualified to American National Standard Qualifications of Inspection, Examination, and Testing Personnel for the Construction Phase of Nuclear Power Plants, N45.2.6-1973 [5], except that the QA experience cited for Levels 1,11, and III' should be interpreted to mean actual experience in carrying out the types of inspection, examination, or testing activity being performed.	N45.2.6 = NQA-1, BR 2, Supplements 2S1, 2S-2 and Non-mandatory Appendix 2A-1	Part II, Section 2.4: 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 clarifications and exception in the QATR).	
The owner organization shall designate those positions in the onsite operating organization which shall be		N/A	Designation of the cited positions in site procedures complies with 10CFR50 and plant Technical Specification

filled by personnel holding NRC reactor operator and senior reactor operator licenses, Requirements for the minimum number of personnel holding such licenses who shall be present at the plant under various operating conditions and situations shall also be specified.			requirements that establish license-holder requirements and minimum staffing. Since these requirements are explicit and supersede N18.7 statements, they are not included in the QATR.
The Plant Manager shall have overall responsibility for the execution of the administrative controls and quality assurance program at the plant to assure safety. An individual or organizational unit knowledgeable and experienced in nuclear power plant operational phase activities and quality assurance practices shall be designated and assigned the responsibility to verify that the program is being effectively implemented.		Part II, Section 1.2.1.1.1.1 Vice President – Project 'The vice president-project for each Plant reports to the chief nuclear officer regarding operation issues and support matters, and is responsible for operation and maintenance of the respective Plant over which they have authority. A vice president-project directs the nuclear plant general manager (NPGM) and the nuclear support general manager (NSGM) for each respective plant. The vice president – project 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.' Part II, Section 18 '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.'	The QATR states that the Vice President - Project has overall responsibility. This reflects the differences in responsibility that have developed since N18.7 was developed.

[Depending on the organizational structure, the individual or organizational unit may report functionally to onsite plant management or an offsite organization (see also 3.2). Reporting to onsite plant management is preferable since such an arrangement usually results in improved communications in identifying problems and initiating corrective action.]			N18.7 wording in brackets are included in this table for completeness; they do not establish requirements that either NQA-1 or the SNC QATR would need to address.
[The individual or organizational unit in this case may receive technical guidance from offsite support groups.] This individual's or organizational unit's duties and responsibilities shall be such that the required attention can be devoted, as required, to verifying that the program is being effectively executed.		Part II, Section 1, includes an organization chart showing the reporting relationships. 1.2.1.1.1.2 Senior manager responsible for quality assurance The senior manager responsible for quality assurance is responsible for managing the QA program described in the QATR and for ensuring its implementation in accordance with commitments shown herein. The QA organization is composed of a staff at the corporate headquarters and at each Plant site. The QA organization provides comprehensive independent audits of safety-related activities to verify that they are in compliance with the quality assurance program. The quality assurance organization also performs QA Surveillance activities as described in Appendix C of this QATR.	
The individual or organizational unit shall report on the effectiveness of the program to the Plant Manager and to other cognizant management as may be designated. Their activities		Part II, Section 18 '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	

shall be periodically audited by designated offsite personnel.		surveillances as described in Appendix C to this QATR.'	
4. Reviews and Audits			
4.1 General Programs for reviews and for audits of activities affecting plant safety during the operational phase shall be established by the owner organization to: (1) Verify that these activities are performed in conformance with this Standard and with company policy and rules, approved operating procedures and license provisions (2) Review significant proposed plant changes, tests and procedures (3) Verify that reportable events, which require reporting to NRC in writing within 24 hours, are promptly investigated and corrected in a manner (4) Detect trends which may not be apparent to a day-today observer.	Part II, Sections 3, 15, and 18; Appendix B	Basic Requirement 18 and Supplement 18S-1	At the time N18.7 was written, NRC reporting requirements included reporting in writing within 24 hours the occurrence of certain events. These requirements have been changed several times (10 CFR 50.72 and 50.73) such that reference to "reportable events" is sufficient to establish the necessary requirement.

These programs for reviews and audits shall, themselves, be periodically reviewed for effectiveness by management of the owner organization. [The programs provided for reviews and for audits may take different forms. For example, the owner organization may assign these functions to separate established organizational units independent of the onsite operating organization or may appoint a standing committee comprised of individuals from within or outside the owner organization to perform reviews and to exercise overview of audits.]		Part II, Section 18: '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.'	N18.7 wording in brackets are included in this table for completeness; they do not establish requirements that either NQA-1 or the SNC QATR would need to address.
[Historically, a committee approach was used to provide both review and audit capability for early commercial nuclear power plants. This approach was employed to make the most efficient use of personnel with pertinent experience and qualifications. In the ensuing period, the availability of competent personnel has significantly increased as the nuclear power industry has expanded and the sources of trained manpower have responded to the resulting demand. This growing pool of-			N18.7 wording in brackets are included in this table for completeness; they do not establish requirements that either NQA-1 or the SNC QATR would need to address.

talent in the, aggregate, is sufficient to encourage alternative approaches to the review and audit committees commonly- used in the past.]			
[In general the time required of individuals serving as members of independent review groups is a function of the number of nuclear power plants an owner organization has in operation.]			N18.7 wording in brackets are included in this table for completeness; they do not establish requirements that either NQA-1 or the SNC QATR would need to address.
[For this reason, owner organizations contemplating rapid growth and an expanding commitment to nuclear power should regard the use of committees to meet the independent review functions as an interim approach for effective utilization of available technical expertise. In addition, such owner organizations should include in their expansion planning provisions for early establishment of organizational units to provide independent review, for recruitment of staff, and for an orderly transition to such an organizational structure in the event a committee approach has been used previously to meet the independent review function.]			N18.7 wording in brackets are included in this table for completeness; they do not establish requirements that either NQA-1 or the SNC QATR would need to address.

An independent offsite organizational unit may be assigned review responsibilities including responsibility for reviewing audit reports provided by onsite staff members, or both functions may be assigned to an organizational unit that is independent of line responsibility for operating activities.		SNC uses a Nuclear Safety Review Board as described in Appendix B to the QATR to perform this function.	
[This Standard does not specify an organizational structure for meeting the review and audit functions, but in lieu thereof delineates essential elements of satisfactorily comprehensive programs for review and for audit in the manner best suited to the owner organization involved.]			N18.7 wording in brackets are included in this table for completeness; they do not establish requirements that either NQA-1 or the SNC QATR would need to address.

4.2 Program Description Written programs for both audits and independent reviews shall be prepared that contain: (1) Subjects to be audited and independently reviewed.		Part II, Section 18: '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.'	
(2) Responsibility and authority of those supervising audits and conducting independent review. These responsibilities shall include the identification of problems and the verification of corrective action. [Additional responsibilities may include recommendations to appropriate management of solutions to problems and the approval or disapproval of contemplated actions.]	Basic Requirement 1 "Organization" states "Persons or organizations responsible for assuring that an appropriate quality assurance program has been established and verifying that activities affecting quality have been correctly performed shall have sufficient authority, access to work areas, and organizational freedom to: (a) Identify quality problems; (b) initiate, recommend, or provide solutions to quality problems through designated channels; (c) verify implementation of solutions..."		N18.7 wording in brackets are included in this table for completeness; they do not establish requirements that either NQA-1 or the SNC QATR would need to address.

(3) Mechanisms for initiating audit and independent review activities.		Part II, Section 18 establishes when audits and independent reviews should be done.	
(4) Provisions for the use of specialists or subgroups.	Supplement 2S-3 'Supplementary Requirements for the Qualification of Quality Assurance Program Audit Personnel" Section 2.1 states 'The responsible auditing organization shall establish the audit personnel qualifications and the requirements for the use of technical specialists to accomplish the auditing...'		
(5) Authority to obtain access to the nuclear power plant operating records and operating personnel to perform audits and independent reviews,	Basic Requirement 1: Such persons shall have direct access to responsible management at a level where appropriate action can be effected. Such persons or organizations shall report to a management level such that required authority and organizational freedom are provided, including sufficient independence from cost and schedule considerations.		10CFR50, Appendix B provides the essentially the same requirement.
(6) Requirements for distribution of reports and other records to appropriate staff members and managers		Part II, Section 16, Significant conditions adverse to quality and significant adverse trends are documented and reported to responsible management.	

in the owner organization.		Appendix B, Section 6, Bullet 3, "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.	
(7) Identification of the management position (or positions, if auditors and reviewers have different reporting chains) to which auditors and independent reviewers report.		Part II, Section 1.2.1.1.1.2 Senior manager responsible for quality assurance: The senior manager responsible for quality assurance is responsible for managing the QA program described in the QATR and for ensuring its implementation in accordance with commitments shown herein. The QA organization is composed of a staff at the corporate headquarters and at each Plant site. The QA organization provides comprehensive independent audits of safety-related activities to verify that they are in compliance with the quality assurance program. The quality assurance organization also performs QA Surveillance activities as described in Appendix C of this QATR.	
(8) Provisions for assuring that personnel responsible for audit and independent review are kept informed on a timely basis of matters within their scope of responsibility.	NQA-1-1994 BR 18, and Supplement 18S-1		
(9) Provisions for follow-up action, including re-audit of deficient areas where indicated.	Supplement 18S-1, paragraph 7 Follow up action shall be taken to verify that corrective action is accomplished as scheduled.		
(10) Other provisions required for effective audits and independent reviews.		Part II, Section 18 provides the audit frequency for SNC.	

4.3 Independent Review Program. Activities occurring during the operational phase shall be independently reviewed on a periodic basis. [The independent review not applicable for plants program shall be functional already in operation. prior to initial core loading.] **4.3.1 Personnel.** Personnel assigned responsibility for independent reviews shall be specified in both number and technical disciplines, and shall collectively have the experience and competence required to review problems in the following areas: (1) Nuclear power plant operations (2) Nuclear engineering (3) Chemistry and radiochemistry (4) Metallurgy (5) Nondestructive testing (6) Instrumentation and control (7) Radiological safety (8) Mechanical and electrical engineering, (9) Administrative controls and		Appendix A describes the Plant Review Board and Appendix B of the QATR describes the Nuclear Safety Review Board responsible for independent reviews. Appendix B: 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 and each member of the NSRB, as a minimum, shall have a bachelor's degree in engineering or related sciences and five years technical experience if 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	The bracketed wording is not applicable to plants already in operation.

quality assurance practices (10)Other appropriate fields associated with the unique characteristics of the nuclear power plant involved			
[An individual may possess competence in more than one specialty area.] If sufficient expertise is not available from within the owner organization, independent reviews shall be supplemented through outside consultants or organizations. Provisions shall assure that appropriate expertise is brought to bear in reviews of operational phase activities.		Appendix B states in part: 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.	N18.7 wording in brackets are included in this table for completeness; they do not establish requirements that either NQA-1 or the SNC QATR would need to address.
4.3.2 Standing Committees Functioning as Independent Review Bodies **4.3.2.1 Committee Composition** When a standing committee is responsible for the independent review program, it shall be composed of no less than five persons, of whom no more than a minority are members of the onsite operating organization. Competent alternates are		Appendix B states in part: The NSRB shall consist of at least five regular members, 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 membership of the Board will consist of the Vice President – Farley, the Vice President – Hatch, the Vice President - Vogtle, the Vice President – Engineering, the Nuclear Fuel Manager, and the Quality Assurance Manager. A Chairman and a Vice Chairman shall be appointed by the CNO from among the plant vice	

permitted if designated in advance. The use of alternates shall be restricted to legitimate absences of principals.		presidents for a term of one year. 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 alternatives shall be restricted to legitimate absences of regular members. In absences of the NSRB Chairman, the Vice Chairman will assume the duties of the NSRB Chairman.	
4.3.2.2 Meeting Frequency Formal meetings of personnel assigned to a standing committee functioning, as an independent review group shall be scheduled as needed. During the period of initial operation such meetings should be held no less frequently than once per calendar quarter. Subsequently, the meeting frequency shall not be less than twice a year.		Appendix B: 3.0 Meetings The SRB shall meet at least once per 6 months.	
4.3.2.3 Quorum A quorum for formal meetings of the committee held under the provisions of 4.3.2.2 shall consist of not less than a majority of the principals, or duly appointed alternates, and shall be subject to the following constraints: the chairman (or his duly appointed alternate) shall be present for all formal meetings; and no more than a		**3.0 Meetings** The NSRB shall meet at least once per 6 months. 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.	

minority of the quorum shall have line responsibility for operation of the plant.			
4.3.2.4 Meeting Records Minutes of all meetings of the committee shall be prepared and retained. All documentary material reviewed should be identified. Decisions and recommendations made by the committee shall be documented. Meeting minutes shall be disseminated promptly to appropriate members of management having responsibility in the area reviewed. (See also Section 6.2A2)		Appendix B: 6.0 Records Records of the SRB 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 14 days following each meeting; ▪ Reports or subcommittee meeting minutes of reviews as described above shall be prepared, approved, and forwarded to the CNO within 14 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.	
4.3.3 Organizational Units Functioning as Independent Review Bodies. An organizational unit assigned primary responsibility for review of operational phase activities shall report to a designated management representative who is assigned authority and responsibility for effective functioning of the unit and who is not immediately responsible for the performance of the		SNC uses three levels of reviews: Plant Review Board, Nuclear Safety Review Board, and Independent Reviews as described in Appendices A, B, and C, respectively, in the QATR.	

activities to be reviewed. The supervisor of such an organizational unit should schedule periodic formal meetings of his staff, or of appropriate subparts thereof, for the purpose of fostering interaction in reviews of specific operational phase activities.			
4.3.3.1 Documentation of Reviews. Written records of reviews shall be prepared and retained. All documentary material reviewed should be identified. Results of reviews conducted by the unit including recommendations and proposed actions shall be subject to approval of the supervisor of the unit, and shall be disseminated promptly to appropriate members of management having responsibility in the area reviewed. (See also Section 5.2.12.)		SNC uses three levels of reviews: Plant Review Board, Nuclear Safety Review Board, and Independent Reviews as described in Appendices A, B, and C, respectively, in the QATR. The records for each review are as described in the corresponding Appendix.	
4.3.4 Subjects Requiring Independent Review. The following subjects shall be reviewed by the independent review body: (1) Written safety evaluations of changes in the facility as described in the Safety		SNC uses three levels of reviews: Plant Review Board, Nuclear Safety Review Board, and Independent Reviews as described in Appendices A, B, and C respectively, in the QATR.	

Analysis Report, changes in procedures as described in the Safety Analysis Report and tests or experiments not described in the Safety Analysis Report which are completed without prior NRC approval under the provisions of 10 CFR 50.59(a)(1). [1] This review is to verify that such changes, tests or experiments did not involve a change in the technical specifications or an unreviewed safety question as defined in 10 CFR 50.59(a)(2). (2) Proposed changes in procedures, proposed changes in the facility, or proposed tests or experiments, any of which involves a change in the technical specifications or an unreviewed safety question as defined in 10 CFR 50.59(c) [1] Matters of this kind shall be referred to the independent review body by the onsite operating organization (see 4.4) following its review, or by other functional organizational units within the owner organization, prior to implementation. (3) Changes in the technical specifications or license amendments relating to nuclear safety prior to implementation, except in those cases where the change is identical to a previously reviewed proposed change.			

NOTE: Regulatory Guide 1.33 states "It should be noted that proposed changes to technical specifications or license amendments should be reviewed by the independent review body prior to their submittal to the Commission for approval." (4) Violations, deviations and reportable events, which require reporting to the NRC in writing within 24 hours, such as: (a) Violations of applicable codes, regulations, orders, technical specifications, license requirements or internal procedures or instructions having safety significance (b) Significant operating abnormalities or deviations from normal or expected performance of plant safety-related structures systems, or components (c) Reportable events, which require reporting to the NRC in writing within 24hours, Review of events covered under this subsection shall include the results of any investigations made and the recommendations resulting from such investigations to prevent or reduce the probability of recurrence of the			

event. (5) Any other matter involving safe operation of the nuclear power plant which an independent reviewer deems appropriate for consideration, or which is referred to the independent reviewers by the onsite operating organization or by other functional organizational units within the owner organization.			
4.4 Review Activities of the Onsite Operating 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 Plant Manager 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. [These continuing monitoring activities are considered to be an integral part of the routine supervisory function and are important to the safety of plant operation.] The onsite operating organization shall perform reviews periodically and as situations demand, to evaluate plant operations and		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 nuclear plant general manager 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.' **4.0 Reviews** The PRB shall be responsible for:	The Plant Review Board is not responsible for planning future

to plan future activities. The important elements of the reviews should be documented. Such reviews serve a useful purpose but shall not take the place of the reviews and audits described in Sections 4.3 and 4.5, respectively. The onsite operating organization should screen subjects of potential concern to independent reviewers and perform preliminary investigations (see 4.3.4). The Plant Manager, in carrying out his responsibility for overall safety of plant operations, shall be responsible for timely referral of appropriate matters to management and independent reviewers. **NOTE:** Regulatory Guide 1.33 replaces a number of "should" statements with "shall". These are in Section 4.4, 5.2.3, 5.2.4, 5.2.7.1, 5.2.13.4, 5.2.19(2), 5.2.19.1, 5.3.2, 5.3.9, 5.3.9.1. These have been replaced in the first column text and have been indicated in **bold.**		(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 NPGM. (b) Review of all proposed changes to nuclear facility Technical Specifications. (c) Review of all proposed tests and experiments that affect nuclear safety. (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 NPGM. (g) Investigations of all violations of Technical Specifications, including the preparation and forwarding of reports covering evaluation and recommendations to prevent	activities of the plant as a whole, but may review future plans for impact on plant operations and safety, such as review of refueling outage schedules.

		recurrence, to the NPGM, Project Vice President, 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	
4.5 Audit Program. A comprehensive system of planned and documented audits shall be carried out to verify compliance with all aspects of the administrative controls and quality assurance program. Audits of selected aspects of operational phase activities shall be performed with a frequency commensurate with their safety significance and in such a manner as to assure that an audit of all safety- related functions is completed within a period of two years. NOTE: Regulatory Guide 1.33 amplifies the above requirement "the following program elements should be audited at the indicated frequencies: a. The results of actions taken to correct deficiencies that affect nuclear safety and occur in facility equipment, structures, systems, or		**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.'	The amplifications of Regulatory Guide 1.33 are not specifically addressed in NQA-1 or the QATR. The QATR uses a performance based approach to selecting topics for audits, based on the status, performance and safety importance of the activity or process being assessed. Dynamic scheduling provides for rapid focus shifts of audit resources depending on the actual performance of the plant and plant staff. The scheduling approach at SNC considers the RG 1.33 elements in its overall structure, but does not subject any single area (except for those where a CFR periodicity requirement is imposed) to a defined periodicity. As has been shown by performance at some plants, meeting a defined assessment periodicity was not an effective defense against significant program failures. SNC's approach provides for response to both internal and external cues to determine what and when to assess

method of operation — at least once per 6 months. b. The conformance of facility operation to provisions contained within the technical specifications and applicable license conditions — at least once per 12 months. c. The performance, training, and Qualifications of the facility staff — at least once per 12 months." Audits shall include as a minimum verification of compliance and effectiveness of implementation of internal rules, procedures (for example, operating, design, procurement, maintenance, modification, refueling, surveillance, test security and radiation control procedures and the emergency plan regulations and license, provisions, programs for training, retraining & qualification and performance of operating staff; corrective actions taken following abnormal occurrences; and observation of performance of operating, refueling, maintenance and modification activities, including associated record keeping.			performance.
Written reports of such audits shall be reviewed by the independent review body and	NQA-1-1994, Supplement 18S-1, Section 6, Response, states		

by appropriate members of management including those having responsibility in the area audited.	"Management of the audited organization or activity shall investigate adverse audit findings, schedule corrective action, including measures to prevent recurrence, and notify the appropriate organization in writing of action taken or planned. The adequacy of audit responses shall be evaluated by or for the auditing organization."		
Those performing the audits may be members of the audited organization: however, they shall not audit activities for which they have immediate responsibility. While performing the audit, they shall not report to a management representative who has immediate responsibility for the activity being audited.	NQA-1-1994 Basic Requirement 18 states "These audits shall be performed in accordance with written procedures or checklists by personnel who do not have direct responsibility for performing the activities being audited."	SNC commits in its QATR to compliance with NQA-1-1994, Basic Requirement 18.	
Appropriate and timely follow-up action, including re-audit of deficient areas, shall be taken.	Supplement 18S-1, Section 7 states: Follow-up action shall be taken to verify that corrective action is accomplished as scheduled.		
Periodic review of the audit program shall be performed by the independent review body or by a management representative at least semiannually to assure that audits are being accomplished in accordance with requirements of technical		Appendix B states, "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."	

specifications and of this Standard.			
Further guidance on requirements for auditing of quality assurance programs for nuclear power plants exists in draft form.			Descriptive in nature. No action required.
5. Program, Policies, and Procedures **5.1 Program Description.** The total program for providing administrative controls and quality- assurance during the operational phase may be described in many diverse documents. For example, operating procedures may be compiled in one manual, maintenance procedures in a second manual and Quality Assurance procedures in a third. It is not intended that all source documents be compiled in one master document.			Descriptive in nature. No action required.
However, a summary document shall be compiled by each owner organization to identify the sources, to index such source documents to the requirements of this Standard and to provide consolidated base for description of the program.		The SNC QATR as a whole is intended to fill this requirement.	

The owner organization shall identify in the program description those structures, systems and components to be covered by the program and the major organizational units and their responsibilities.		Part I, Section 1.1 states, in part: 'Safety related systems, structures, and components, under the control of the QATR, are identified for each plant.' Part II, Section 1: 'This section describes the SNC organizational structure, functional responsibilities, and interfaces for establishing, executing, and verifying QAP implementation.'	
The program shall provide control over activities affecting the quality of the structures, systems and components to an extent consistent with their importance to safety. The program shall take into account the need for special controls, processes, tests, equipment, tools, and skills to attain the required quality and the need for verification of quality by inspections, evaluation or test.	BR2 "Quality Assurance Program" states "The program shall provide control over activities affecting quality to an extent consistent with their importance...The program shall provide for any special controls, processes, test equipment, tools, and skills to attain the required quality and for verification of quality."		
5.2 Rules of Practice. The owner organization shall establish rules and instructions pertaining to personnel conduct and control, including consideration of job-related factors which influence the effectiveness of operating and maintenance personnel, including such factors as number of hours at duty station, availability on call of professional and supervisory personnel, method of		Part II, Section 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	

conducting operations, and preparing and retaining plant documents. These rules and instructions should provide a clear understanding of operating philosophy and management policies.		where reliance on memory cannot be trusted, tasks that are infrequently performed, and tasks where steps must be performed in a specified sequence.	
5.2.1 Responsibilities and Authorities of Operating Personnel. The responsibilities and authorities of the plant operating personnel shall be delineated. These shall include, as a minimum: (1) The reactor operator's authority and responsibility for shutting the reactor down when he determines 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. (2) 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 unscheduled or unexplained power reduction. (3) The senior reactor operator's responsibility to be present at the plant and to		Part II, Section 1.2.2.1.1.2: 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	

provide attention for returning the reactor to power following a swing, a trip or an unscheduled or unexplained power reduction. (4) The responsibility to believe and respond conservatively to instrument indications unless they are proved to be incorrect (5) The responsibility to adhere to the Plant's Technical Specifications. (6) The responsibility to review routine operating data to assure safe operation.		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.	
5.2.2 Procedure Adherence Procedures shall be followed, and the requirements for use of procedures shall be-prescribed in writing,		Part II, Section 5: '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.'	
Rules shall be established which provide methods by which temporary changes to approved procedures can be made, including the designation of a person or persons authorized to approve		Part II, Section 5: '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	

such changes.		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.'	
Temporary changes which clearly do not change the intent of the approved procedure, shall as a minimum be approved by two members of the plant staff knowledgeable in the areas affected by the procedures. At least one of these individuals shall be the supervisor in charge of the shift and hold a senior operators license on the unit affected. Such changes shall be documented and, if appropriate, incorporated in the next revision of the affected procedure. In the event of an emergency not covered by an approved procedure, operations personnel shall be instructed to take action so as to minimize personnel injury and damage to the facility and to protect health and safety.		Part II, Section 6.1: '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.'	
Guidance should be provided to identify the manner in which procedures are to be implemented. Examples of such guidance include identification of those tasks that require:		Part II, Section 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	

(1) The written procedure to be present and followed step by step while the task is being performed (2) The operator to have committed the procedural steps to memory (3) Verification of completion of significant steps, by initials or signatures of checkoff lists		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.'	
The types of procedures that shall be present and referred to directly are those developed for extensive or complex jobs where reliance on memory cannot be trusted, e.g., reactor start-up, tasks which are infrequently performed, and tasks in which operations must be performed in a specified sequence. [Procedural steps for which actions should be committed to memory include, for example, immediate		Part II, Section 5.2: 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.	N18.7 wording in brackets are included in this table for completeness; they do not establish requirements that either NQA-1 or the SNC QATR would need to address.

actions in emergency procedures. Routine procedural actions that are repeated may not require the procedure to be present.] Copies of all procedures shall be available to appropriate members of the plant staff. If documentation of an action is required, the necessary data shall be recorded as the task is performed. [Examples of procedures requiring verification are furnished in 5.3.4.1 and 5.3.4.2.]		SNC commits to NQA-1-1994 Supplement 6S-1 for Document Control. The Supplement requires that the Company maintain a document control system. The definition of Document Control in the Supplement is "The act of assuring that documents are reviewed for adequacy, approved for release by authorized personnel, and distributed to and used at the location where the prescribed activity is performed."	
5.2.3 Operating Orders. A mechanism shall be provided for dissemination to the plant staff of instructions of general and continuing applicability to the conduct of business, Such instructions, sometimes also referred to as standing orders or standard operating procedures, should deal with 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, or other such matters. Provisions shall be made for periodic review and updating of standing orders.		Part II, Section 5: "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." Appendix E: "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."	

5.2.4 Special Orders. A mechanism shall be provided for issuing management instructions which have short-term applicability and which require dissemination. Such instructions sometimes referred to as a special orders, should encompass special operations, housekeeping, data taking, publications and their distribution, plotting process parameters, personnel actions, or other similar matters. Provisions **shall** be made for periodic review, updating and cancellation of special orders.		Appendix E: **"Special Orders** Management instructions, which have short-term applicability and require dissemination, are issued to encompass special operations, housekeeping, data taking, publications and their distribution, plotting process parameters, personnel actions, or other similar matters. Provisions are made for periodic review, updating, and cancellation of these documents, where appropriate.	
5.2.5 Temporary Procedures. Temporary procedures may be issued during the operational phase: to direct operations during testing, refueling, maintenance and modifications; to provide guidance in unusual situations not within the scope of the normal procedures; and to insure 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 procedure or has been		Appendix E: **"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.	

modified or extended in such a manner that portions of existing procedures do not apply. Temporary procedures shall include designation of the period of time during which they may he used and shall be subject to the review process prescribed in 4.3 and 5.2.15 as applicable.			
Temporary procedures shall be approved by the management representative assigned approval authority,		Part II, 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.	
5.2.6 Equipment Control. Permission to release equipment or systems for maintenance shall be granted by designated operating personnel. Prior to granting permission, such operating personnel shall verify that the equipment or system can be released, and determine how long it may be out of service. Granting of such permission shall be documented. Attention shall be given to the potentially degraded degree of protection when one subsystem of a redundant safety system has been removed for maintenance,	NQA-1, Subpart 2.18, Paragraph 2.5, "(a) Procedures shall be established for the authorization of maintenance work. ... (b)The work authorization shall contain (4) approval by authorized personnel. (c) Interface concerns such as plant operations, ... shall be considered for applicability by authorized individuals prior to approval of the work authorizing document."		

After permission has been granted to remove the equipment from service, it shall be made safe to work on. Measures shall provide for protection of equipment and workers. Equipment and systems in a controlled status shall be clearly identified. Strict control measures for such equipment shall be enforced.		Part II, Section 14: "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.	
[Conditions to be considered in preparing equipment for maintenance include, for example: shutdown margin; method of emergency core cooling; establishment of a path for decay heat removal; temperature and pressure of the system; valves between work and hazardous material; venting, draining and flushing; entry into closed vessels; hazardous atmospheres; handling hazardous materials; and electrical hazards.] When entry into a closed system is required, control measures shall be established to prevent entry of extraneous material and to assure that foreign material is removed before the system is reclosed.	NQA-1 Subpart 2.18, Paragraph 2.3 states, "(a) Controls to minimize the introduction of foreign materials and to maintain cleanness during maintenance shall be in accordance with Subpart 2.1...Verification methods shall be established to ensure these requirements are met. (b) Immediately prior to closure of equipment, the absence of foreign materials shall be verified. The results of the verification shall be documented."		N18.7 wording in brackets is included in this table for completeness; it does not establish requirements that either NQA-1 or the SNC QATR would need to address.

Procedures shall be provided for control of equipment as necessary, to maintain personnel and reactor safety and to avoid unauthorized operation of equipment. These procedures shall require control measures such as locking or tagging to secure and identify equipment in a controlled status. The procedures shall require independent verifications, where appropriate, to ensure that necessary measures, such as tagging equipment have been implemented correctly.	NQA-1 BR 14 'Status indicator shall also provide for indicating operating status of systems and components of the nuclear facility, such as by tagging valves and switches, to prevent inadvertent operation.		
Temporary modifications, such as temporary bypass lines, electrical jumpers, lifted electrical leads, and temporary trip point settings, shall be controlled by approved procedures which shall include a requirement for independent verification. A log shall be maintained of the current status of such temporary modifications.	NQA-1 Subpart 2.18 Section 2.1(h) states 'the development of provisions for installation and removal of temporary conditions (e.g., jumpers, transferring of control switch position, etc.) and returning equipment and systems to service."	Part II, Section 3 states, in part: '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.'	
The procedures shall also require that the status of inspections and tests performed upon individual items on the nuclear power plant be indicated by use of markings such as stamps,	NQA-1 BR 14 'The status of inspection and test activities shall be identified either on items or in documents traceable to the items where it is necessary to assure that required inspections and		N18.7 wording in brackets are included in this table for completeness; they do not establish requirements that either NQA-1 or the SNC QATR would need to address.

tags, labels, routing cards, or other suitable means. [Suitable means include identification numbers which are traceable to records of the status of inspections and tests.]	tests are performed and to assure that items which have not passed the required inspections and tests are not inadvertently installed, used, or operated. Status shall be maintained through indicators, such as physical location and tags, markings, shop travelers, stamps, inspection records, or other suitable means.		
Procedures shall also provide for the identification of items which have satisfactorily passed required inspections and tests, where necessary to preclude inadvertent bypassing of such inspections and tests. In cases where required documentary evidence is not available, the associated equipment or materials must be considered nonconforming in accordance with Section 5.2.14. Until suitable documentary evidence is available to show the equipment or material is in conformance, affected systems shall be considered to be inoperable and reliance shall not be placed on such systems to fulfill their intended safety functions.	NQA-1 BR 8 "Controls shall be established to assure that only correct and accepted items are used or installed NQA-1 BR 14 "The status of inspection and test activities shall be identified either on the items or in documents traceable to the items where it is necessary to assure that required inspections and tests are performed and to assure that items which have not passed the required inspections and tests are not inadvertently installed, used, or operated.	Part II, Section 8: SNC has established the necessary measures and governing procedures to identify and control items to prevent the use of incorrect or defective items. Part II, Section 14: 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. Part II, Section 7.1: 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.	The sum of the requirements from NQA-1 and the QATR accomplish the N 18.7 intent.
When equipment is ready to be returned to service, operating personnel shall place the equipment in		Appendix E: "**Maintenance Procedures** These documents contain instructions in sufficient detail to permit maintenance work to be performed correctly and	

operation and verify and document its functional acceptability. Attention shall be given to restoration of normal conditions such as removal of jumpers or signals used in maintenance or testing or such as returning valves, breakers or switches to proper start-up or operating positions from "test or "manual" positions. When placed into service, the equipment should receive additional surveillance during the running period.		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."	
5.2.7 Maintenance and Modifications Maintenance or modifications which may affect functioning of safety-related structures; systems, or components shall be performed in a manner to ensure quality at least equivalent to that specified in original design bases and requirements, materials specifications and inspection requirements. A suitable level of confidence in structures, systems or components on which maintenance or modifications have been performed shall be attained by appropriate inspection and performance testing (see also 5.2.17 and 5.3.5).		Appendix E: "**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."	

Maintenance or modification of equipment shall be preplanned and performed in accordance with written procedures, documented instructions or drawings appropriate to the circumstances which conform to the applicable codes, standards, specifications, and criteria, [Skills normally possessed by qualified maintenance personnel may not require detailed step-by-step delineations in a written procedure.]	NQA-1 Subpart 2.18 "Quality Assurance Requirements for Maintenance of Nuclear Facilities" states in Section 2.2(a) "Procedures and/or written instructions shall be established for performance of maintenance activities..."	Appendix E: **"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."	N18.7 wording in brackets are included in this table for completeness; they do not establish requirements that either NQA-1 or the SNC QATR would need to address.
Means for assuring quality of maintenance and modification activities (for example, inspections, measurements, tests, welding, heat treatment, cleaning, nondestructive examination and worker qualifications in accordance with applicable codes and standards) and measures to document the performance thereof shall be established. This documentation shall be retained as specified in Section 5.2.12. Measures shall be established and documented to identify the inspection and test status of items to be used in maintenance and modification activities. Normally, the point of control for such items	NQA-1 Subpart 2.18 "Quality Assurance Requirements for Maintenance of Nuclear Facilities" states in Section 2.1 "Responsibilities shall be assigned.. .the conduct of the program of maintenance activities and other inspections and tests as necessary to verify satisfactory performance...' and Section 2.2d states "Provisions shall be made for documenting data to assist in ensuring satisfactory completion of the work. Such data shall include, as applicable..."	Part II, Section 10: 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. Part II, Section 17: 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.	

should be the plant storage area.		Part II, Section 14: 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.	
The following standards contain useful guidance concerning design and construction-related activities associated with modifications and shall be applied to those activities occurring during the operational phase that are comparable in nature and extent to related activities occurring during initial plant design and construction: American National Standard Installation, Inspection and Testing of Instrumentation and Electric Equipment During the Construction of Nuclear Power Generation Station. N45.2.4-1972 (IEEE 336-1972) ; American National Standard Supplementary Quality Assurance Requirements for Installation, Inspection and Testing of Structural Concrete and Structural Steel During the Construction Phase of Nuclear Power Plants, N45.2.5-1 974; American National Standard Qualifications of Inspection, Examination and Testing Personnel for the Construction	NQA-1 was developed based on ANSI/ASME N45.2-1977; ANSI N46.2; and seven daughter standards of ANSI/ASME N45.2: N45.2.6 N45.2.9 N45.2.10 N45.2.11 N45.2.12 N45.2.13 N45.2.23 In addition, other daughters were made into subparts, these included: N45.2.1 =Subpart 2.1 N45.2.2 =Subpart 2.2 N45.2.3 =Subpart 2.3 N45.2.4 =Subpart 2.4 N45.2.5 =Subpart 2.5 N45.2.8 =Subpart 2.8 N45.2.15 = Subpart 2.15 N45.2.16 = Subpart 2.16		QATR Part III provides a listing of other documents, such as NRC Regulatory Guides that endorsed the older ANSI Standards, and establishes the nature and level of SNC commitment thereto.

Phase of Nuclear Power Plans N45.2.6-1 973; American National Standard Supplementary Quality Assurance Requirements for Installation, Inspection and Testing of Mechanical Equipment and Systems for Construction Phase of Nuclear Power Plants, N45.2.8-1 975 American National Standard Quality Assurance Requirements for the Design of Nuclear Power Plants, N45.2.1 1- 1974; and American National Standard Quality Assurance for Protective Coating Applied to Nuclear Facilities N101.4-1972.	N45.2.18 = Subpart 2.18 N45.2.20 = Subpart 2.20		
[Considerable care is required in assessing which operational phase activities are comparable in nature and extent to activities normally associated with design and construction.]			N18.7 wording in brackets are included in this table for completeness; they do not establish requirements that either NQA-1 or the SNC QATR would need to address.
5.2.7.1 Maintenance Programs. A maintenance program shall be developed to maintain safety-related structures, systems and components at the quality required for them to perform their intended functions. Maintenance shall be scheduled and planned so as not to compromise the safety	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	Appendix E: "**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	

of the plant.	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.	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."	
Planning shall consider the possible safety consequences of concurrent or sequential maintenance, testing or operating activities, Equipment required to be operable for the prevailing mode shall be available, and maintenance shall be performed in a manner such that license limits are not violated. Planning for maintenance shall include evaluation of the use of special processes, equipment, and materials in performance of the task, including assessment of potential hazards to personnel and equipment.	NQA-1, Subpart 2.18, Paragraph 2.5 "(a) Procedures shall be established for the authorization of maintenance work. ... (b)The work authorization shall contain (4) approval by authorized personnel. (c) Interface concerns such as plant operations, shall be considered for applicability by authorized individuals prior to approval of the work authorizing document."		

[General rules for the development of procedures under a maintenance program which is consistent with the provisions of 5.2.7 shall be written before start- up.] These general rules shall form the basis for developing the repair or replacement procedures at the time of failure. [Procedures required for maintenance of equipment expected to require recurring maintenance should be written prior to plant operation. As experience is gained in operation of the plant, routine maintenance should be altered to improve equipment performance, and procedures for repair of equipment shall be improved as appropriate.] Approved procedures shall be available for repair of safety-related equipment prior to the performance of such repairs (see also Sections 5.2.2 and 5.2.7).	NQA-1 Subpart 2.18 Quality Assurance Requirements for Maintenance of Nuclear Facilities' Section 2.2a states 'Procedures and/or written instructions shall be established for performance of maintenance activities. Requirements for procedure format and content shall be established	Part II, Section 5: '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.'	N18.7 wording in brackets are included in this table for completeness; they do not establish requirements that either NQA-1 or the SNC QATR would need to address.
A preventive maintenance program including procedures as appropriate for safety-related structures, systems and components shall be established and maintained which prescribes the frequency and type of maintenance to be performed.	NQA-1 Subpart 2.18 'Quality Assurance Requirements for Maintenance of Nuclear Facilities' Section 3 states 'Plans and procedures shall be developed to identify the equipment which requires preventive maintenance, to establish the frequency and kind of preventive maintenance to be performed on the		

	equipment, and to document those actions.'		
[A preliminary program based on service conditions and experience with comparable equipment should be developed prior to fuel loading. The program should be revised and updated as experience is gained with the equipment.]			N18.7 wording in brackets are included in this table for completeness; they do not establish requirements that either NQA-1 or the SNC QATR would need to address.
The causes of malfunctions shall be promptly determined, evaluated and recorded (see also Sections 4.3 and 4.4). Experience with the malfunctioning equipment and similar components shall be reviewed and evaluated to determine whether a replacement component of the same type can be expected to perform its function reliably. If evidence indicates that common components in safety-related systems have performed unsatisfactorily, corrective measures shall be planned prior to replacement or repair of all such components. Replacement components **shall** have received adequate testing or should be of a design for which experience indicates a high probability of satisfactory performance. Consideration shall be given to phased replacement to permit	NQA-1 Subpart 2.18 'Quality Assurance Requirements for Maintenance of Nuclear Facilities" Sections 4.2 and 4.3 state 'Procedures shall be established for promptly identifying the failed item and controlling it to preclude its inadvertent use; documenting and reporting of failures, in accordance with pre-established criteria.. .An assessment of failure cause and required maintenance shall be made consistent with the type of item failure and the importance of the item. The assessment shall also include, as appropriate, the possibility of similar failure in other items.'		

inservice performance of the new component to be evaluated and thereby minimize the possibility of a hidden deficiency producing a systematic failure.			
[An augmented testing and inspection program should be implemented following a large scale component replacement (or repair) until such time as a suitable level of performance has been demonstrated.]			N18.7 wording in brackets are included in this table for completeness; they do not establish requirements that either NQA-1 or the SNC QATR would need to address.
5.2.7.2 Modifications. Design activities associated with modifications of safety relate structures, systems and components shall be accomplished in accordance with N45.2.11-1974.	N45.2.11 was incorporated into NQA-1.		
5.2.8 Surveillance Testing and Inspections Schedule. A surveillance testing and inspection program shall be prescribed to insure that safety-related structures, systems, and components will continue to operate, keeping parameters within normal bounds, or will act to put the plant in a safe condition if they exceed normal bounds.		Part II, Section 11: '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.' Part II, Section 10: '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.' Appendix D:	

		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.	
Provisions shall be made for performing required surveillance testing and inspections including inservice inspections. Such provisions shall include the establishment of a master surveillance schedule reflecting the status of all planned in plant surveillance tests and inspections.		Part II, Section 11: '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.' Part II, Section 10: '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.'	

Frequency of surveillance tests and inspections may be related to the results of reliability analyses, the frequency and type of service, or age of the item or system, as appropriate. Additional control procedures shall be instituted, as necessary, to assure timely conduct of surveillance tests and inspections and appropriate documentation, reporting, and evaluation of the results.		Part II, Section 11: '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.'	
5.2.9 Plant Security and Visitor Control. Procedures shall be 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 shall be confidential and thus accorded limited distribution. The security and visitor control procedures should 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			Security and visitor control provisions at SNC plants comply with 10CFR73 and other NRC orders, and with the approved Security and Safeguards Contingency Plans. N18.7 requirements are considered superseded by these documents, although they generally provide for compliance with the N18.7 intent.

access control. Also to be considered are 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. See American National Standard Industrial Security (or Nuclear Power Plants, N13.17-1 973, for guidance and provisions for security measures adequate to protect nuclear power plants. [11]			
5.2.10 Housekeeping and Cleanliness Control. Housekeeping practices shall be utilized recognizing requirements for the control of radiation zones and the control of work activities, conditions and environments that can affect the quality of important parts of the nuclear plant. Housekeeping encompasses all activities related to the control of cleanness of facilities materials, equipment fire prevention and protection including disposal of combustible material and debris and control of access to areas, protection of equipment, radioactive		Part II, Section 13.1: '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.'	

contamination control and storage of solid radioactive waste.			
Housekeeping practices shall assure that only proper materials, equipment, processes and procedures are utilized and that the quality of items is not degraded as a result of housekeeping practices or techniques. Where necessary procedures and work instructions needed to assure compliance with specific requirements shall be available: e.g., inspection and cleaning of electrical bus and control centers, cleaning of control consoles, radioactive decontamination.		Part II, Section 13.2 '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.'	
Particular attention should be given to housekeeping in work and storage areas where important items are handled and stored to preclude damage or contamination,		Part II, Section 13.1: '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.'	

American National Standard Housekeeping During the Construction Phase of Nuclear Power Plants. N-45.2.3.1973 shall be applied to those activities occurring during the operational phase that are comparable in nature and extent to related activities occurring during construction.	ANSI N45.2.3 = NQA-1 Subpart 2.3	Part II, Section 13.2: 'In addition, SNC commits to compliance with the requirements of NQA-1-1994, ... Subpart 2.3, to establish appropriate provisions for housekeeping; with the following clarifications and exceptions...'	
During maintenance or modification activities, certain portions of safety- related systems may be subject to potential contamination with foreign materials. To prevent such contamination, control measures, including measures for access control, shall be established. Immediately prior to closure an inspection shall be conducted to assure cleanness and the result of such inspection shall be documented.	NQA-1 Subpart 2.18 Section 2.3 states "(a) controls to minimize the introduction of foreign materials and to maintain cleanness during maintenance shall be in accordance with Subpart 2.1 of this Part. (Part II). Verification methods shall be established to ensure these requirements are met. (b) Immediately prior to closure of equipment, the absence of foreign materials shall be verified. The results of the verification shall be documented."		
American National Standard Cleaning of Fluid Systems and Associated Components during Construction Phase of Nuclear Power Plant. N45.2.1-1973 [13] shall be applied to activities occurring during the operational phase that are comparable in nature and extent to related activities occurring during construction.	ANSI N45.2.1 = NQA-1 Subpart 2.1	Part II, Section 13.2: 'In addition, SNC commits to compliance with the requirements of NQA-1-1994, Subpart 2.1, to establish appropriate provisions for the cleaning of fluid systems and associated components; and Subpart 2.3, to establish appropriate provisions for housekeeping; with the following clarifications and exceptions...'	

[Measures for minimizing the introduction of foreign materials during maintenance or modification, or cleaning following maintenance or modification of radioactively contaminated systems or of equipment of high radiation fields require special consideration.]			N18.7 wording in brackets are included in this table for completeness; they do not establish requirements that either NQA-1 or the SNC QATR would need to address.
5.2.11 Corrective Actions. The program shall provide measures to ensure that conditions adverse to plant safety, such as failure, malfunctions, deficiencies, deviations, defective material and equipment, abnormal occurrences, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to safety, the measures shall assure that the cause of the condition is determined and corrective action taken shall be documented and reported to appropriate levels of management and for independent review in accordance with Section 4.3.	BR 16 "Corrective Action" states "Conditions adverse to quality shall be identified promptly and corrected as soon as practical. In the case of a significant condition adverse to quality, the cause of the condition shall be determined and corrective action taken to preclude recurrence. The identification, cause, and corrective action for significant conditions adverse to quality shall be documented and reported to appropriate levels of management; follow-up action shall be taken to verify implementation of this corrective action."	Part II, Section 16.1: In establishing provisions for corrective action, SNC commits to compliance with NQA-1-1994, Basic Requirement 16.	
5.2.12 Plants Records Management. Provisions shall be made for preparation and retention of plant records as appropriate.		Part II, Section 17: '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 responsibility for maintaining records and storing them at a specified location or locations shall be assigned.		Part II, Section 17: '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.'	
Retention periods of sufficient duration to assure the ability to reconstruct significant events and satisfy any statutory requirements which apply shall be specified.		Part II, Section 17.1: '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.'	
American National Standard Requirements for Collection, Storage and Maintenance of Quality Assurance Records for Nuclear Power Plants, N45.2.9-1974 shall be used for management of plant records during the operational phase.	NQA-1 was developed based on ANSI N45.2.9. See BR 17 and 17S-1.	Part II, Section 17.3: 'In establishing provisions for records, SNC commits to compliance with NQA-1-1994, Basic Requirement 17 and Supplement 17S-1, with the following clarifications and exceptions: NQA-1-1994, Supplement 17S-1 Supplement 17S-1, Section 4.2(b) requires records to be firmly attached in binders or placed in folders or envelopes for storage in steel file cabinets or on shelving in	

		containers. For hard-copy records maintained by SNC, the records are suitably stored in steel file cabinets or on shelving in containers, except that methods other than binders, folders or envelopes may be used to organize the records for storage.'	
5.2.13 Procurement and Materials Control. Measures shall be provided for procurement, documentation and control of those materials and components including spare and replacement parts necessary for plant operation, refueling, maintenance and modification.	NQA-1 BR 4 "Procurement Document Control" states "Applicable design bases and other requirements necessary to assure adequate quality shall be included or referenced in documents for procurement of items and services." NQA-1 Supplement 4S-1 Section 2.7 states "The procurement documents shall require the identification of appropriate spare and replacement parts or assemblies..."	Part II, Section 4: '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.'	
These measures shall utilize American National Standard Quality Assurance Requirements for the Control of Procurement of Items and Services for Nuclear Power Plants, N45.2.13-1 976. The Appendix to N45.2.13 is particularly useful in determining the quality assurance requirements depending on the complexity or safety of the item.	NQA-1 was developed based on ANSI N45.2.13. See BR 4 and 4S-1, and BR 7 and 7S-1.	Part II, Section 4.2: In establishing controls for procurement, SNC commits to compliance with NQA-1-1994, Basic Requirements 4 and Supplements 4S-1, with the following clarifications and exceptions: NQA-1-1994, Supplement 4S-1 Section 2.3 of Supplement 4S-1 includes a requirement that procurement documents require suppliers to have a documented quality assurance program that implements NQA-1-1994, Part 1. In lieu of this requirement, SNC may require suppliers to have a documented supplier quality assurance program that is determined to meet the applicable requirements of 10 CFR 50, Appendix B, as appropriate to the circumstances of the procurement. With regard to service performed on a plant site by a	

		supplier, SNC procurement documents may allow the supplier to work under the SNC quality assurance program, including implementing procedures, in lieu of the supplier having its own quality assurance program. Section 3 of Supplement 4S-1 requires procurement documents to be reviewed prior to bid or award of contract. The quality assurance review of procurement documents is satisfied through review of the applicable procurement specification, including the technical and quality procurement requirements, prior to bid or award of contract.	
Procedures shall be established and implemented to ensure that purchased materials and components associated with safety-related structures or systems are: (1) Purchased to specifications and codes equivalent to those specified for the original equipment or those specified by a properly reviewed and approved revision,		Part II, Section 4: '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.'	
In those cases where the original item or part is found to be commercially "off the shelf," or without specifically identified quality assurance requirements, spare and replacement parts may be similarly procured but care shall be exercised to assure at least equivalent performance.		Part II, Section 4: '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.'	

(In those cases where the QA requirements of the original item cannot be determined, an engineering evaluation shall be conducted by qualified individuals to establish the requirements and controls. This evaluation shall assure that interfaces, interchangeability, safety, fit and function are not adversely affected or contrary to applicable regulatory or code requirements. The results of this evaluation shall be documented)		Part II, Section 4: '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.'	
(2) Produced or fabricated under requirements at least equivalent to that of the original equipment, or those specified by a properly reviewed and approved revision;		Part II, Section 4: '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.'	
(3) Packaged and transported in a manner that will ensure that the quality is not degraded during transit;	NQA-1 BR 13 "Handling, storage, cleaning, packaging, shipping and preservation of items shall be controlled to prevent damage or loss and to minimize deterioration."	Part II, Section 13: '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.'	
(4) Properly documented to show compliance with applicable specifications, codes and standards;	NQA-1 Supplement 4S-1 states "....these requirements shall be specified by reference to specific drawings, specifications, codes, standards, regulations, procedures, or instructions.		
(5) Properly inspected, identified and stored to protect against damage, deterioration or misuse;	NQA-1 BR 13 "Handling, storage, cleaning, packaging, shipping and preservation of items shall be controlled to prevent damage or loss and to minimize deterioration."		
(6) Properly controlled to ensure the identification, segregation and disposition of nonconforming material, Special nuclear material and sources shall be shipped and stored as specified in the U.S. Nuclear Regulatory Commission (NRC) fuel license and other applicable regulatory documents.	NQA-1 BR 15 "Items that do not conform to specified requirements shall be controlled to prevent inadvertent installation or use. Controls shall provide for identification, documentation, evaluation, segregation when practical, and disposition of non-conforming items..."		Control, use and shipment of special nuclear material is subject to NRC regulations and applicable license conditions which are not repeated in the QATR.
5.2.13.1 Procurement Document Control. Measures shall be provided to assure that applicable regulatory documents, design bases and other requirements which are necessary to assure	NQA-1 BR4 'Procurement Document Control" states "Applicable design bases and other requirements necessary to assure quality shall be included or referenced in documents for		

quality are included or referenced in the procedures for procurement of items and services. To the extent necessary, procurement documents shall require suppliers to provide a quality assurance program consistent with the pertinent requirements of American National Standard Quality Assurance Program Requirements for Nuclear Power Plants, N45.2-1971.	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 part.		
[2] Where changes are made to procurement documents, they shall be subject to the same degree of control as was used in the preparation of the original documents.	NQA-1 Supplement 4S-1 Section 4 states 'Procurement document changes shall be subject to the same degree of control as utilized in the preparation of the original documents.'		
Procurement documents shall include provisions for the following, as applicable: (1) Supplier Quality Assurance Program. Identification of quality assurance requirements applicable to the items or services procured.	NQA-1 Supplement 4S-1 Section 2 states 'Procurement documents issued at all tiers of procurement shall include provisions for the following, as deemed necessary by the Purchaser... 2.3 Quality Assurance Program Requirements 'Procurement documents shall require that the Supplier have a documented quality assurance program...'	Part II, Section 4: 'Applicable technical, regulatory, administrative, quality and reporting requirements (such as specifications, codes, standards, tests, inspections, special processes, and 10CFR21) are invoked for procurement of items and services.'	

(2) Basic Technical Requirements. Where specific technical requirements apply, such as drawings, specifications, and industrial codes and standards, they shall be identified by titles and dates of issue in such a way as to clearly set forth the applicable documents. Where procedural requirements apply, in such areas as test and inspection needs, fabrication, cleaning, erecting, packaging, handling, shipping and storage, they too, shall be identified clearly and in such a way as to avoid uncertainty as to source and need.	NQA-1 Supplement 4S-1 Section 2 states 'Procurement documents issued at all tiers of procurement shall include provisions for the following, as deemed necessary by the Purchaser... 2.2 Technical Requirements Technical requirements shall be specified in the procurement documents. Where necessary, these requirements shall be specified by reference to specific drawings, specifications, codes, standards, regulations, procedures, or instructions...		
(3) Source Inspection and Audit. Provisions for access to the supplier's facilities and records for source inspection and audit when the need for such inspection or audit has been determined,	NQA-1 Supplement 4S-1 Section 2 states 'Procurement documents issued at all tiers of procurement shall include provisions for the following, as deemed necessary by the Purchaser... 2.4 Right of Access At each tier of procurement, the procurement documents shall provide for access to the Supplier's plant facilities and records for inspection or		

	audit..."		
(4) Documentation Requirements. Records to be prepared, maintained, submitted or made available for review, such as drawings, specifications, procedures, procurement documents, inspection and test records, personnel and procedure qualifications, and material, chemical, and physical test results. Instruction on record retention and disposition shall be provided,	NQA-1 Supplement 4S-1 Section 2 states "Procurement documents issued at all tiers of procurement shall include provisions for the following, as deemed necessary by the Purchaser... 2.5 Documentation Requirements The procurement documents at all tiers shall identify the documentation required to be submitted for information, review, or approval by the Purchaser. The time of submittal shall also be established. When the Purchaser requires the Supplier to maintain specific quality assurance records, the retention times and disposition requirements shall be prescribed."		
(5) Lower Tier Procurement. Provisions for extending applicable requirements to lower tier subcontractors and suppliers, including purchaser's access to facilities and records.	NQA-1 Supplement 4S-1 Section 2 states "Procurement documents issued at all tiers of procurement shall include provisions for the following, as deemed necessary by the Purchaser... 2.3 Quality Assurance		

	Program Requirements The procurement documents shall require the Supplier to incorporate appropriate quality assurance program requirements in subtier procurement documents." 2.4 Right of Access "At each tier of procurement, the procurement documents shall provide for access to the Supplier's plant facilities and records..."		
5.2.13.2 Control of Purchased Material, Equipment and Services. Measures shall be provided to assure that purchased items and services, whether purchased directly or through contractors, conform to the procurement documents.	NQA-1-1994 BR 7 states "The procurement of items or services shall be controlled to assure conformance with specified requirements. "	Part II, Section 7.2: '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...'	
These measures shall include provisions, as appropriate, for source evaluation and selection, objective evidence of quality furnished by the contractor, inspection and audit at the source and examination of items upon delivery,	Supplement 7S-1 'Supplementary Requirements for Control of Purchased Items and Services' states '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.'		
Measures for evaluation and selection of procurement sources include the use of historical quality performance data, source surveys or audits, or source qualification programs.	Supplement 7S-1 Section 3 states 'Measures for evaluation and selection of procurement sources... shall include one or more of (a) through (c) below: (a) evaluation of the Supplier's history of providing an identical or similar product which performs satisfactorily in use... (b) Supplier's current quality records supported by documented qualitative and quantitative information which can be objectively evaluated; (c) Supplier's technical and quality capability as determined by a direct evaluation of his facilities and personnel and the implementation of his quality assurance program.		

Source inspection or audit shall be performed as necessary to assure the required quality of an item. Source inspection or audit may not be necessary when the quality of the item can be verified by review of test reports, inspection upon receipt, or other means.	Supplement 7S-1 Section 8.2.2 states "When source verification is used, it shall be performed at intervals consistent with the importance and complexity..."		
Where required by code, regulation, or contract requirements documentary evidence that items conform to procurement requirements shall be available at the nuclear power plant site prior to installation or use of such items.	NQA-1, 7S-1, Paragraph 8.1 states, "Where required by code, regulation, or contract requirement, documentary evidence that items conform to procurement documents shall be available at the nuclear power facility site prior to installation or use."	Part II, Section 7.2: 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.	Exception to NQA-1 taken.

		(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 an accreditation by the National Voluntary Laboratory Accreditation Program (NVLAP) or by the American Association for Laboratory Accreditation (A2LA) as recognized by NVLAP through a Mutual Recognition Arrangement (MRA). The accreditation is based on ANS/ISO/IEC 17025. The published scope of accreditation for the calibration laboratory covers the necessary measurement parameters, ranges, and uncertainties. For Section 8.1, SNC considers documents that may be stored in approved electronic media under SNC control and not physically located on the plant site but which are accessible from the respective nuclear facility site as meeting the NQA-1 requirement for documents to be available at the site. 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 GL 91-05.'	
This documentary evidence shall be retrievable and shall		Part II, Section 7.2: In establishing procurement verification controls, SNC	

be sufficient to identify the specific requirements such as codes, standards and specifications met by the purchased item.		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 an accreditation by the National Voluntary Laboratory Accreditation Program (NVLAP) or by the American Association for Laboratory	

		Accreditation (A2LA) as recognized by NVLAP through a Mutual Recognition Arrangement (MRA). • The accreditation is based on ANS/ISO/IEC 17025. • The published scope of accreditation for the calibration laboratory covers the necessary measurement parameters, ranges, and uncertainties. – For Section 8.1, SNC considers documents that may be stored in approved electronic media under SNC control and not physically located on the plant site but which are accessible from the respective nuclear facility site as meeting the NQA-1 requirement for documents to be available at the site. – For Section 10, Commercial Grade Items, Controls for commercial grade items are established in SNC documents using the guidance of EPRI NP-5652 as discussed in Generic Letter 89-02 and Generic Letter 91-05.	
Where not precluded by other requirements, such documentary evidence may take the form of written certifications of conformance which identify the requirements met by the items, provided means are available to verify the validity of such certifications.	Supplement 7S-1 Section 8.2 states "When a Certificate of Conformance is used, the minimum criteria of (a) through (f) shall be met. (f) means shall be provided to verify the validity of Supplier certificates and the effectiveness of the		

	certification system..."		
The effectiveness of the control of quality shall be assessed by the purchaser at intervals consistent with the importance, complexity and quality of the item or service.	Supplement 7S-1 Section 5 states "The Purchase of items and services shall establish measures to interface with the Supplier and to verify Supplier's performance as deemed necessary by the Purchaser. The measures shall include (a) through (f) below: 5.1 The extent of verification activities.., shall be a function of relative importance, complexity, and quantity of the item or services procured and the Supplier's quality performance."		
5.2.13.3 Identification and Control of Materials, Parts and Components. Measures shall he provided for the identification and control of materials, parts and components including partially fabricated subassemblies.	NQA-1, 8S-1, Paragraph 2.1 states, "Items of production (batch, lot, component, part) shall be identified from the initial receipt and fabrication of the items up to and including installation and use."	Part II, Section 8: '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.'	
These procedures shall be implemented to provide insurance that only correct and accepted items are used and installed, and relating an item of production (batch, lot, component, part) at any stage, from initial receipt through fabrication, installation, repair	BR8 "Identification and Control of Items" states "Controls shall be established to assure that only correct and accepted items are used or installed." Supplement 8S-1 "Identification and Control of		

or modification, to an applicable drawing, specification, or other pertinent technical document.	Items" Section 2.1 states "Items of production (batch, lot, component, part) shall be identified from the initial receipt and fabrication of the items up to and including installation and use. The identification shall relate an item to an applicable design or other pertinent specifying document."		
Physical identification shall be used to the maximum extent possible. Where physical identification is either impractical or insufficient, physical separation, procedural control or other appropriate means shall be employed,	Supplement 8S-1 Section 2.2 states "Physical identification shall be used to the maximum extent possible. Where physical identification on the item is either impractical or insufficient, physical separation, procedural control or other appropriate means shall be employed.		
Identification may be either on the item or on records traceable to the item, as appropriate.	BR8 "Identification and Control of Items" states "Identification shall be maintained on the items or in documents traceable to the item..."		
Where identification marking is employed, the marking shall be clear, unambiguous and indelible, and shall be applied in such a manner as not to affect the function of the item.	Supplement 8S-1 Section 2.3 states "Identification markings, when used, shall be applied using materials and methods which provide a clear and legible identification and do not detrimentally affect the function or service life of the item."		The NQA-1 requirements are better stated.

Markings shall be transferred to each part of an item when subdivided and shall not be obliterated or hidden by surface treatment or coatings unless other means of identification are substituted.	Supplement 8S-1 Section 2.3 states "Markings shall be transferred to each part of an identified item when subdivided and shall not be obliterated or hidden by surface treatment or coatings unless other means of identification are substituted."		
When standards or specifications require traceability of materials, parts or components to specific inspection or test records, the program shall be designed to provide such traceability,	Supplement 8S-1 Section 3.1 states "When specified by codes, standards or specifications that include specific identification or traceability requirements (such as identification or traceability of the item to applicable specification and grade of material; heat, batch, lot, part, or serial number; or specified inspection, test, or other records), the program shall be designed to provide such identification and traceability control."		
5.2.13.4 Handling, Storage and Shipping. Measures shall be provided to control handling, storage and shipping, including cleaning, packaging and preservation of material and equipment in accordance with established instructions, procedures or drawings, to prevent damage, deterioration and loss.	BR13 "Handling, Storage, and Shipping" states "Handling, storage, cleaning, packaging, shipping, and preservation of items shall be controlled to prevent damage or loss and to minimize deterioration."		

When necessary for particular items, special coverings, special equipment and special protective environments, such as inert gas atmosphere, specific moisture content levels and temperature levels shall be specified, provided, and their existence verified.	Supplement 13S-1 "Supplementary Requirements for Handling, Storage, and Shipping" Section 3.1 states "When required for particular items, special equipment (such as containers, shock absorbers, and accelerometers) and special protective environments (such as inert gas atmosphere, specific moisture content levels, and temperature levels) shall be specified, provided, and their existence verified."	Part II, Section 13: '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.'	
For critical, sensitive, perishable or high-value articles, specific written procedures for handling, storage, packaging, shipping and preservation should be used.	Supplement 8S-1 Section 3.2 states "When required for critical, sensitive, perishable or high-value articles, specific procedures for handling, storage, packaging, shipping and preservation shall be used."		
Special handling tools and equipment shall be provided and controlled as necessary to ensure safe and adequate handling,	Supplement 8S-1 Section 3.3 states "Special handling tools and equipment shall be utilized and controlled as necessary to ensure safe and adequate handling."		

Special handling tools and equipment shall be inspected and tested in accordance with written procedures and at specified times, to verify that the tools and equipment are adequately maintained,	Supplement 8S-1 Section 3.3 states "Special handling tools and equipment shall be inspected and tested in accordance with procedures and at specified time intervals to verify that the tools and equipment are adequately maintained."		
Attention shall be given to providing adequate instructions for marking and labeling of items for packaging, shipment and storage. Marking shall be adequate to identify, maintain and preserve the shipment, including indication of the presence of special environments or the need for special control.	Supplement 8S-1 Section 4 states 'Instructions for marking and labeling for packaging, shipment, handling, and storage of items shall be established as necessary to adequately identify, maintain and preserve the item, including indication of the presence of special environments or the need for special controls."		
American National Standard for Packaging. Shipping, Receiving, Storage and Handling of Items for Nuclear Power Plants (During the. Construction Phase), N45.2.2-1972, shall be applied to those activities occurring during the operational phase that are comparable in nature and extent to related activities occurring during construction.	ANSI N45.2.2 = NQA-1 Subpart 2.2	Part II, Section 13.2: '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, Subpart 2.2, with the clarifications and exceptions shown below.'	

5.2.14 Nonconforming Items. Measures shall be provided to control items, services or activities which do not conform to requirements (see also Section 5.2.6).	BR15 'Control of Nonconforming Items" states 'Items that do not conform to specified requirements shall be controlled to prevent inadvertent installation or use."		
These procedures shall include as appropriate, instructions for identification, documentation, segregation, disposition and notification to affected organizations.	BR15 "Control of Nonconforming Items" states "Controls shall provide for instructions for identification, documentation, evaluation, segregation when practical, and disposition of nonconforming items, and for notification to affected organizations."		
Nonconforming items shall be reviewed and accepted, rejected, repaired or reworked in accordance with documented procedures.	Supplement 15S-1 Section 4.1 states "Nonconforming characteristics shall be reviewed and recommended dispositions of nonconforming items shall be proposed and approved in accordance with documented procedures."		
The responsibility and authority for the disposition of nonconforming items shall be defined.	Supplement 15S-1 Section 4.2 states "The responsibility and authority for the evaluation and disposition of nonconforming items shall be defined."		

Repaired and reworked items shall be reinspected in accordance with applicable procedures.	Supplement 15S-1 Section 4.5 states 'Repaired or reworked items shall be reexamined in accordance with applicable procedures...'		NQA-1 uses a more encompassing word, 'reexamined," in lieu of "reinspected"
Measures which control further processing, delivery, or installation of a nonconforming or defective item pending a decision on its disposition shall be established and maintained,	Supplement 15S-1 Section 4.1 states 'Further processing, delivery, installation or use of a nonconforming item shall be controlled pending an evaluation and an approved disposition.		
Nonconforming items may be disposed of by acceptance 'as is," by scrapping or repairing the defective item, or by rework to complete or correct to a drawing or specification. Such measures shall provide assurance that the item is identified as nonconforming and controlled. The measures shall require documentation verifying the acceptability of nonconforming items which have the disposition of "repair" or "use as is."	Supplement 15S-1 Section 4.4 states "The disposition, such as use-as-is, reject, repair, or rework, of nonconforming items shall be identified and documented. Technical justification for the acceptability of a nonconforming item, dispositioned repair or use as is shall be documented.'		
A description of the change, waiver or deviation that has been accepted shall be documented to record the change and denote the as-built condition.	Supplement 15S-1 Section 4.4 states The as-built records, if such records are required, shall reflect the accepted deviation.'		
As a guideline, control of nonconforming items by	Supplement 15S-1 Section 2 states 'Identification of		

tagging, marking or other means of identification is acceptable where physical segregation is not practical. although physical segregation and marking are preferred.	nonconforming items shall be by marking, tagging, or other methods... Supplement 15S-1 Section 3 states 'Nonconforming items shall be segregated, when practical..		
5.2.15 Review, Approval and Control of Procedures The administrative controls and quality assurance program shall provide measures to control and coordinate the approval and issuance of documents including changes thereto, which prescribe all activities affecting quality,	BR6 'Document Control' states 'The preparation, issue, and change of documents that specify quality requirements or prescribe activities affecting quality shall be 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.'		
Such documents include those which describe organizational interfaces, or which prescribe activities affecting safety-related structures, systems, or components. These documents also include operating and special orders, operating procedures, test procedures, equipment control procedures, maintenance or modification procedures, refueling, and material control procedures.		Part II, Section 5: '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.'	

These measures shall assure that documents, including revisions or changes, are reviewed for adequacy by appropriately qualified personnel and approved for release by authorized personnel; and are distributed in accordance with current distribution lists and used by the personnel performing the prescribed activity, and that procedures are provided to avoid the misuse of outdated or inappropriate documents.		Part II, Section 6: '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 (c) 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.'	
[Procedures for operational phase activities of a nuclear power plant reflect the conditions that exist at the time the procedures are written. Procedures for operational phase activities of a nuclear power plant reflect the conditions that exist at the time the procedures are written, These conditions include the technical information available, industry experience, and in the case of the initial procedures for a new plant assumptions made regarding the detailed behavior of the plant that may not be fully known prior to operation.] In order to ensure that the procedures in current		Part II, Section 6.1: '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.' Part II, Section 5: 'Such documents are prepared and controlled according to	N18.7 wording in brackets is included in this table for completeness; it does not establish requirements that either NQA-1 or the SNC QATR would need to address.

use provide the best possible instructions for performance of the work involved, systematic review and feedback of information based on use is required.		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.'	
Each procedure shall be reviewed and approved prior to initial use.		Part II, Section 6.1: '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 frequency of subsequent reviews shall be specified and may vary depending on the type and complexity of the activity involved, and may vary with time as a given plant reaches operational maturity,		Part II, Section 5: '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.'	
Applicable procedures shall be reviewed following an unusual incident, such as an accident, an unexpected transient, significant operator error, or equipment malfunction. Applicable procedures shall be reviewed following any modification to a system. Plant procedures shall be reviewed by an individual knowledgeable in the area affected by the procedure no less frequently than every two years to determine if changes are necessary or desirable. A revision of a procedure constitutes a procedure		Part II, Section 5: '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.'	

review.			
Procedures shall be approved as designated by the owner organization before initial use. Rules shall be established which clearly delineate the review of procedures by knowledgeable personnel other than the originator and the approval of procedures and procedure changes by authorized individuals,		Part II, Section 6.1: '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.'	
Changes to documents shall be reviewed and approved by the same organizations that perform the original review and approval unless the owner organization designates another qualified organization,		Part II, Section 6.1: '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.'	
The reviewing organizations shall have access to pertinent background information upon which to base its approval and shall have adequate understanding of requirements and intent of the original document.	Supplement 6S-1, Section 3.1 states, "The reviewing organization shall have access to pertinent background data or information upon which to base their review."		
Those participating in any activity shall be made aware of and use, proper and current instructions, procedures, drawings and engineering requirements for performing the activity, Participating organizations shall have procedures for control of the documents and changes thereto to preclude the possibility or use of outdated or inappropriate documents.		Part II, Section 5: '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.'	
Document control measures shall provide for: (1) Identification of individuals or organizations responsible for preparing, reviewing, approving, and issuing documents and revisions thereto	Supplement 6S-1 Section 2 states 'The control system shall be documented and shall provide for (a) through (c) below: (a) identification of documents to be controlled	Part II, Section 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.'	

(2) Identifying the proper documents to be used in performing the activity (3) Coordination and control of interface documents (4) Ascertaining that proper documents are being used *(5)* Establishing current and updated distribution lists	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."		
5.2.16 Measuring and Test Equipment. The method and interval of calibration for each installed instrument and control device shall be defined and shall be based on the type of equipment, stability and reliability characteristics, required accuracies and other conditions affecting calibration,	Supplement 12S-1 "Supplementary Requirements for Control of Measuring and Test Equipment" Section 3.2 states "The method and interval of calibration for each item shall be defined, based on the type of equipment, stability characteristics, required accuracy, intended use, and other conditions affecting measurement control."		
Tools, instruments, testing equipment and measuring devices used for measurements, tests and calibration shall be of the proper range and type and shall be controlled, calibrated and adjusted and maintained at specified intervals or prior to use to assure the necessary accuracy of calibrated devices.	BR12 "Control of Measuring and Test Equipment" states "Tools, gages, instruments, and other measuring and test equipment used for activities affecting quality shall be controlled and at specified periods calibrated and adjusted to maintain accuracy within necessary limits." Supplement 12S-1 Section 2 states "Selection of		

	measuring and test equipment shall be controlled to assure that such items are of proper type, range, accuracy, and tolerance..."		
When calibration, testing, or other measuring devices are found to be out of calibration, an evaluation shall be made and documented concerning the validity of previous tests and the acceptability of devices previously tested from the time of the previous calibration. If any calibration, testing or measuring device is consistently found to be out of calibration, it shall be repaired or replaced.	Supplement 12S-1 Section 3.2 states "When measuring and test equipment is found to be out of calibration, an evaluation shall be made and documented of the validity of previous inspection or test results and of the acceptability of items previously inspected or tested... If any measuring or test equipment is consistently found to be out of calibration, it shall be repaired or replaced."	Part II, Section 12: '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.'	
It is not the intent of this Standard to imply a need for special calibration and control measures on rulers, tape measures, levels and other such devices if normal commercial practices provide adequate accuracy.	Supplement 12S-1 Section 3.3 states "Calibration and control measures may not be required for rulers, tape measures, levels and other such devices, if normal commercial equipment provides adequate accuracy.		
Special calibration shall be performed when the accuracy of either installed or calibrating equipment is questionable.	Supplement 12S-1 Section 3.2 states "A calibration shall be performed when the accuracy of the equipment is suspect.		

Records shall be made and equipment suitably marked to indicate calibration status.	Supplement 12S-1 Section 5 states 'Records shall be maintained and equipment shall be suitably marked to indicate calibration status."		
American National Standard N45.2.4-1972 shall be applied to those activities occurring during the operational phase that are comparable in nature and extent to related activities occurring during construction [6].	ANSI N45.2.4 = NQA-1 Subpart 2.4	Part II, Section 10.1: '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.'	
5.2.17 Inspections. A program for inspection of activities affecting safety shall be established and executed by or for the organization performing the activity to verify conformance with applicable documented instructions, procedures, and drawings.		Part II, Section 10: '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.'	
Inspections, examinations, measurements, or tests of material, products, or activities shall be performed for each work operation where necessary to assure quality,	NQA-1, 12S-1, Paragraph 6.1 states, "Inspection of items in- process or under construction shall be performed for work activities where necessary to verify quality."		

Such inspections shall be performed by qualified individuals other than those who performed or directly supervised the activity being inspected,	BR10 'Inspection' states "Inspection for acceptance shall be performed by persons other than those who performed or directly supervised the work being inspected."	Part II, Section 10: 'Inspections are carried out by properly qualified persons independent of those who performed or directly supervised the work.'	
Inspection of operating activities (work functions associated with normal operation of the plant, routine maintenance, and certain technical services routinely assigned to the onsite operating organization) may be conducted by second-line supervisory personnel or by other qualified personnel not assigned first-line supervisory responsibility for conduct of the work.	BR10 "Inspection" states "Inspection for acceptance shall be performed by persons other than those who performed or directly supervised the work being inspected."	Part II, Section 10: '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.'	
These independent inspections i.e., those performed by individuals not assigned first-line supervisory responsibility for the conduct of the work, are not intended to dilute or replace the clear responsibility of first-line supervisors for the quality of work performed under their supervision.	BR10 'Inspection" states "Inspection for acceptance shall be performed by persons other than those who performed or directly supervised the work being inspected."	Part II, Section 2.1: 'Personnel who work directly or indirectly for SNC are responsible for the achievement of acceptable quality in the work covered by this QATR.'	
For modifications and non-routine maintenance, inspections shall be conducted in a manner similar (frequency, type, and personnel performing such		Part II, Section 10.1: '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	

inspections) to that associated with construction phase activities (see also Section 5.2.7).		with the requirements of Subparts 2.5 and 2.8 for establishing appropriate inspection requirements.'	
Inspections of safety-related activities shall be performed in accordance with appropriate written, procedures, which set forth the requirements and acceptance limits and specify the inspection responsibilities,	Supplement 10S-1 Section 2 "Supplementary Requirements for Inspection" states "Inspection requirements and acceptance criteria shall include specified requirements contained in applicable design documents or other pertinent technical documents... Inspection activities shall be documented and controlled by instructions, procedures, drawings, checklists, travelers, or other appropriate means."	Part II, Section 10.1: '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.'	
If mandatory inspection hold points are required, the specific hold points shall be indicated in appropriate documents.	Supplement 10S-1 Section 4 states "If mandatory inspection hold points are required... the specific hold points shall be indicated in appropriate documents."	Part II, Section 10.1: '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.'	
Information concerning, inspection shall be obtained from the related design drawings, specifications and/or, other controlled documents.	Supplement 10S-1 Section 2 states "Inspection requirements and acceptance criteria shall include specified requirements contained in the applicable design documents or other	Part II, Section 10.1: '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	

	pertinent technical documents..."	appropriate inspection requirements.'	
When inspection techniques require specialized qualifications or skills, personnel performing the inspection shall meet applicable licensing requirements, codes, and standards appropriate to the discipline involved (see also Sections 5.2.7, 5.2.6 and 5.3.10).	Supplement 10S-1 Section 3.2 states "Each person who verifies conformance of work activities for purposes of acceptance shall be qualified to perform the assigned inspection task."	Part II, Section 10.1: '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.'	
If inspection is impossible or disadvantageous, indirect control by monitoring processing methods, equipment and personnel shall be provided,	Supplement 10S-1 Section 6.1 states "If inspection of processed items is impossible or disadvantageous, indirect control by monitoring of processing methods, equipment and personnel shall be provided."	Part II, Section 10.1: '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.	
Both inspection and process monitoring shall be provided when control is inadequate without both.	Supplement 10S-1 Section 6.1 states "Both inspection and process monitoring shall be provided when control is inadequate without both."	Part II, Section 10.1: '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.'	
[In cases where documented verification of quality implied by the above requirements is not possible or feasible, the extent of inspection or performance testing to verify adequacy of structures,			N18.7 wording in brackets are included in this table for completeness; they do not establish requirements that either NQA-1 or the SNC QATR would need to address.

systems or components for service should be, in general, greater than otherwise required.]			
The owner organization shall evaluate inspection results along with test results (see Section 5.2.19) to determine whether the individual inspection and test programs demonstrate that the plant can be operated safely and as designed.	Supplement 10S-1 Section 7.3 states "The acceptance of the item shall be documented and approved by authorized personnel." Supplement 11S-1 Section 4 "Supplementary Requirements for Test Control" states "Test results shall be documented and evaluated by a responsible authority to assure that test requirements have been satisfied."	Part II, Section 11: '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.'	
Records shall be kept in sufficient detail to permit adequate confirmation of the inspection program. The person recording the data as well as the person approving the inspection results shall be identified.	Supplement 10S-1 Section 9 states "Records shall, as a minimum, identify (a) through (f) below: (c) inspector"	Part II, Section 10.1: '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.'	
Deviations, their cause, and any corrective action completed or planned as a result of the deviations shall be documented. Inspection records shall be identified as such and shall be retrievable (see also Section 5.2.12).	Supplement 10S-1 Section 9 states "Records shall, as a minimum, identify (a) through (f) below: (f) reference to information on action taken in connection with nonconformances." BR 15 "...Controls shall provide for identification,	Part II, Section 17.1: '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	

	documentation, evaluation, segregation when practical, and disposition of nonconforming items,..." BR 16 "The identification, cause, and corrective action for significant conditions adverse to quality shall be documented..."	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.'	
5.2.18 Control of Special Processes. Measures shall be established and documented to assure that special processes accomplished under controlled conditions in accordance with applicable codes, standards, specifications, criteria, and other special requirements, use qualified personnel and procedures.		Part II, Section 9: '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.'	
Qualification of personnel, procedures, and equipment shall comply with the requirements of applicable codes and standards.	Supplement 9S-1 Section 3.1.1 "Supplementary Requirements for Control of Processes" states "Qualification of personnel, procedures, and equipment shall comply with specified requirements."		
Special processes are those that require interim in- process controls in addition to final inspection to assure quality including such processes as welding, heat treating,		Part II, Section 9: 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.	

chemical cleaning, and nondestructive examination.		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.	
For special processes not covered by existing codes or standards, or where item quality requirements exceed the requirements of established codes or standards, the necessary qualifications of personnel, procedures, or equipment shall be defined,	Supplement 9S-1 Section 3.4 states "For special processes not covered by existing codes or standards or where quality requirements specified for an item exceed those of existing codes or standards, the necessary requirements for qualifications of personnel, procedures, or equipment shall be specified or referenced in the procedures or instructions."		
5.2.19 Test Control. A test program shall be established to assure that testing required to demonstrate that the item will perform satisfactorily in service is identified and documented, and that the testing is performed in accordance with written test procedures which incorporate or reference the requirements and acceptance limits contained in applicable design		Part II, Section 11: '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.'	

documents.			
The test program shall cover all required tests including: (1) Tests during the preoperational period to demonstrate that performance of plant systems is in accordance with design intent and that the coordinated operation of the plant as a whole is satisfactory, to the extent feasible.	NQA-1 Subpart 2.8 Section 5.2 "Quality Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Systems for Nuclear Power Plants" states (Preoperational Testing) "This testing involves the operation of all items in a system(s) or partial system(s) to assure that operation is in accordance with the design criteria and functional requirements."	Part II, Section 11: '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.'	
(2) Tests during the initial operational phase to demonstrate the performance of systems that could nor be tested prior to operation and to confirm those physical parameters, hydraulic or mechanical characteristics that need to be known, but which could not be predicted with the required accuracy, and to confirm that plant behavior		Part II, Section 11: '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),	

conforms to design criteria.		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.'	
The initial start-up test program shall be planned to permit safe fuel loading and start-up; to increase power in safe increments; and to perform major testing at specified power plateaus. If tests require the variation of operating parameters outside of their normal range, the limits within which such variation is permitted shall be prescribed. Prerequisites and record keeping shall be given attention and the scope of the testing shall demonstrate insofar as practicable that the plant is capable of withstanding the design transients and accidents. The suitability of plant operating procedures shall be checked to the maximum extent possible during the preoperational and initial start-			These requirements apply to initial start-up testing. The SNC QATR is intended to cover initial start u testing, if a decision is made to design and build a new plant. At this time, this section is not applicable to SNC's scope of responsibilities.

up test programs.			
(3) surveillance test during, the operational phase to provide assurance that failures or substandard performance do not remain undetected and that the required reliability of safety- related systems is maintained (see Section 5.2.8).		Part II, Section 11: '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.'	
(4) Tests during design, fabrication and construction activities associated with plant maintenance and modifications during the operational phase and the demonstration satisfactory performance following plant maintenance and modifications or procedural changes (see Section 5.2.7).		Part II, Section 11: '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.' Part II, Section 7.1: 'SNC establishes and implements measures to verify 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.'	
5.2.19.1 Preoperational Tests. [Preoperational tests are generally performed sequentially in accordance with written procedures.]			N18.7 wording in brackets are included in this table for completeness; they do not establish requirements that either NQA-1 or the SNC QATR would need to address.
Procedures shall ensure that prerequisites steps for equipment testing, such as	Supplement 11S-1 "Supplementary Requirements for Test		

completion of necessary construction, prior testing, safety precautions, and measures to preserve equipment status have been or will be performed (see also Sections 5.217 and 5.3.10).	Control" Section 3 states "Test procedures shall include or reference test objectives and provisions for assuring that prerequisites for the given test have been met...Prerequisites shall include the following, as applicable: calibrated instrumentation, appropriate equipment, trained personnel, condition of test equipment..."		
A detailed prescribed physical inspection of equipment components and facilities shall be performed to ensure readiness for operation. Typical items to be covered include cleanliness, lubrication, setting of limit switches, calibration of instruments and presence of safety devices. The test procedure shall list the checks to be made and include acceptance criteria and reference sources, such as vendor's literature, engineering drawings or plant specifications.	NQA-1, Subparts 2.4, 2.5 and 2.8 provide for such inspections and testing.	Part II, Section 10.1: '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.'	
A component test is a functional, operational or performance test of an individual piece of equipment or unit system under prescribed conditions. Typical parameters to be examined are direction of rotation,	NQA-1, Subparts 2.4, 2.5 and 2.8 provide for such inspections and testing.	Part II, Section 10.1: '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	

bearing temperatures, vibration, time delays, and ability to operate with remote and local controls. The procedure shall list checks to be made and provide acceptance criteria. Consideration should also be given to providing a run- in period to minimize early failures during operation of the plant.		appropriate inspection requirements.'	
Individual system tests establish the functional adequacy by operation under prescribed conditions. The tests shall be designed to permit evaluation of system performance including, for example the measurement of flow, temperature, pressure, response time and vibration, transfer of power supply to emergency power and accuracy and response of control devices.	NQA-1, Subparts 2.4, 2.5 and 2.8 provide for such testing.	Part II, Section 10.1: '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.'	
The preoperational testing program should demonstrate, as nearly as can be practicably simulated, the overall integrated operation of the plant systems at rated conditions, including simultaneous operation of auxiliary systems. It may be necessary to defer portions of these tests until nuclear heat is available. The procedures used should be similar to	NQA-1, Subparts 2.4, 2.5 and 2.8 provide for such testing.	Part II, Section 10.1: '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.'	

those discussed in 5.3.3 and 5.3.4, and they should be modified to require variation in control parameters, such as pump stops and restarts, cycling valves and varying flows so that system performance can be evaluated.			
For additional requirements in matters relating to preoperational test programs. American National Standard N45.2.8- 1975 is generally applicable. [8]	ANSI N45.2.8 = NQA-1 Subpart 2.8	Part II, Section 10.1: '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.'	
5.2.19.2 Tests Prior to and During Initial Plant Operation. Prior to placing a nuclear power plant into operation, a preoperational test program shall be performed to demonstrate the functional adequacy of- plant components systems and structures.		Part II, Section 11: '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.'	
Following fuel loading an initial start-up test program shall be conducted to evaluate plant performance as the start-up progresses.		Part II, Section 11: '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.'	
Responsibilities. The ultimate responsibility for the preparation and execution of adequate preoperational and initial start-up test programs rests with the owner organization. If design or construction is performed by		Part II, Section 11: '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	

other than the owner organization, design organizations involved should participate in definition of the programs, and the construction organization involved may supply manpower or supervision for execution of part or all of the program, but the owner organization shall determine that the program is adequate and that the results are satisfactory.		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.'	
Scheduling. A schedule shall be provided and maintained to provide assurance that all necessary tests are performed and properly evaluated on a timely basis. Testing shall be scheduled so that the safety of the plant is never dependent on the performance of an untested system (see also Section 5.2.8).		Part II, Section 11: '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.'	
5.2.19.3 Tests Associated with Plant Maintenance, Modifications or Procedure Changes. Tests shall be performed following plant modifications or significant changes in operating procedures to confirm that the modifications or changes reasonably produce expected results and that the change does not reduce safety of operations.		Part II, Section 11: '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.'	
5.3 Preparation of Instructions and Procedures. The administrative controls and quality assurance program shall be carried out	BR5 "Instructions, Procedures, and Drawings" states "Activities affecting quality shall be prescribed by and performed in accordance with documented instructions, procedures, or drawings of a	Part I, Section 1: 'The QATR describes the methods and establishes quality assurance program and administrative control requirements that meet 10 CFR 50, Appendix B.' Part II, Section 5: 'SNC has established the necessary measures and governing	

throughout plant life in accordance with written procedures. Activities affecting safety at nuclear power plants shall be described by written procedures of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions and procedures. These procedures shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished. These procedures shall provide an approved preplanned method of conducting operations. Procedures shall be prepared and approved prior to implementation as required by 4.3 and 5.2.15.	type appropriate to the circumstances. These documents shall include or reference appropriate quantitative or qualitative acceptance criteria for determining that prescribed activities have been satisfactorily accomplished."	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.' Part II, Section 6: '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.'	
5.3.1 Procedure Scope. 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.		Appendix E: '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.'	
5.3.2 Procedure Content. The format of procedures may		Appendix E : Procedure format and content may vary from one location to the other. However, procedures include the following	

vary from plant to plant, depending on the policies of the owner organization. However, procedures shall include, as appropriate, the following elements: (1) Title. Each procedure **shall** contain a title descriptive of the work or system or unit to which it applies, a revision number or date, and an approval status. (2) Statement of Applicability. The purpose for which the procedure is intended **shall** be clearly stated; for example, for use during reactor or plant startup. If the purpose is not clear from the title, a separate statement of applicability should be provided, which may identify the reasons for particular operations. (3) Reference. References, including reference to technical specifications, **shall** be included in procedures as applicable. References shall be identified within the body of procedures when the sequence of steps requires other tasks to be performed prior to or concurrent with a particular step within that task. (4) Prerequisites. Each procedure **shall** identity those independent actions or procedures which shall be completed and plant conditions which shall exist prior to its use. Prerequisites		elements as appropriate to the purpose or task to be described.	

applicable only to certain sections of a procedure shall be so identified. (5) Precautions. Precautions **shall** be established to alert the individual performing the task of those important measures which shall be used to protect equipment and personnel, including the public, or to avoid an abnormal or emergency situation. It may be convenient to specify precautions separately. Cautionary notes as applicable to specific steps in the procedure **shall** be included in the main body of the procedure and shall be identified as such. (6) Limitations and Actions. Limitations on the parameters being controlled and appropriate corrective measures to return the parameter to the normal control band **shall** be specified. It may be convenient to specify limitations and setpoints in a separate section. Where appropriate, quantitative control guides should be provided; for example, an appropriate step of a procedure should say "Manually adjust the feedwater flow controller to maintain the reactor water level at x feet," rather than "Manually adjust the feedwater flow to maintain			

water level." (7) Main Body. The main body of a procedure **shall** contain step-by-step instructions in the degree of detail necessary for performing a required function or task. (8) Acceptance Criteria. Procedures **shall** contain, where applicable, acceptance criteria against which the success or failure of test-type activity would be judged. In some cases there would be qualitative criteria, i.e., a given event does or does not occur. In other cases quantitative values would be designated. (9) Checkoff Lists. Complex procedures **shall** have checkoff lists. These lists may be included as part of the procedure or may be appended to the procedure.			
5.3.3 System Procedures. 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 shall be delineated in system procedures. Procedures for correcting off-normal conditions shall be developed for those events where system complexity may		**Appendix E:** **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.'	

lead to operator uncertainty. System procedures shall contain checkoff lists where appropriate.			
5.3.4 General Plant Procedures. [General plant procedures provide instructions for the integrated operations of the plant. In addition to the characteristics of procedures presented in 5.3.1 and 5.3.2 details concerning specific general plant procedures are emphasized in the following sections.]			N18.7 wording in brackets are included in this table for completeness; they do not establish requirements that either NQA-1 or the SNC QATR would need to address.
5.3.4.1 Start-up Procedures. Start-up procedures shall be provided that include starting the reactor from cold or hot conditions and establishing power operation, with the generator synchronized to the line. Recovery from reactor trips shall be- in accordance with the startup procedure and shall be subject to the determinations set forth in 5.2.1. (l) Prerequisites. Start-up procedures shall include provisions for documented determination that. Prerequisites have been met, including confirmation that		Appendix E: **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.'	

necessary instruments are operable and properly set; valves are properly aligned: necessary systems procedures, tests and calibrations have been completed; and required approvals have been obtained. Checkoff lists are normally used for this purpose. (2) Main Body. The main body of the start-up procedures shall include the major steps of the start-up sequence, including reference to appropriate system procedures. Such major steps shall include or reference detailed instructions for their performance, for example, minimum instrumentation requirements, coverage of control rod withdrawal sequence or soluble poison dilution, manipulation of controls, establishment of feed and steam flow and turbine start-up and synchronization. Checkoff lists should be used for the purpose of confirming completion of major steps in proper sequence.			
5.3.4.2 Shutdown Procedures. Shutdown procedures shall be provided to guide operations during and following controlled shutdown		Appendix E: **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	

or reactor trips and shall include instructions for establishing or maintaining hot standby or cold shutdown conditions, as applicable. The major steps involved in shutting down the plant shall be specified, including detailed instructions for the performance of such actions as monitoring and controlling reactivity, load reduction and cooldown rates, sequence of activating or deactivating equipment, requirements for prompt analyses of causes of reactor trips or abnormal conditions requiring unplanned controlled shutdowns, and provisions for decay heat removal. Checkoff lists should be used for the purpose of confirming completion of major steps in proper sequence.		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.'	
5.3.4.3 Power Operation and Load Changing Procedures. Procedures for steady-state power operation and load changing shall be provided that include, for example, provisions for use of control rods, chemical shim, coolant flow control or any other system available for long- or short-term control of reactivity, making deliberate load changes, responding to unanticipated load changes and adjusting operating		Appendix E: **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- or long-term control of reactivity, making deliberate load changes, responding to unanticipated load changes, and adjusting operating parameters.'	

parameters.			
5.3.4.4 Process Monitoring Procedures. Procedures for monitoring performance of plant systems shall be required to assure that core thermal margins and coolant quality are maintained at all times, that integrity of fission product barriers is maintained at all times and that engineered safety features and emergency equipment are in a state of readiness to maintain the plant in a safe condition if needed. The limits (maximum and minimum) for significant process parameters shall be identified. 'The nature and frequency of this monitoring shall be covered by operating procedures, as appropriate.		Appendix E : **Process Monitoring Procedures** 'These documents contain instructions for monitoring performance of plant systems to assure that core thermal margins and coolant quality are maintained in acceptable status at all times, that integrity of fission product barriers is maintained, and that engineered safety features and emergency equipment are in a state of readiness to keep the plant in a safe condition if needed. Maximum and minimum limits for process parameters are appropriately identified. Operating procedures address the appropriate nature and frequency of this monitoring.'	
5.3.4.5 Fuel-Handling Procedures. Fuel-handling operations shall be performed in accordance with written procedures. These procedures shall specify actions for core alterations, accountability of fuel and partial or complete refueling operations that include, for example, continuous monitoring of the neutron flux throughout core loading,		**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	N18.7 wording in brackets are included in this table for completeness; they do not establish requirements that either NQA-1 or the SNC QATR would need to address.

periodic recording of data, audible annunciation of abnormal flux increases and evaluation of core neutron multiplication to the safety of loading increments. Provisions shall be made for preparing specific procedures for each refueling outage and for receipt and shipment of fuel. [Plant procedures should, nonetheless, prescribe the general preplanning for the fuel- handling program and its associated safety measures and should identify those aspects of the program for which procedures are to be prepared for each refueling outage.] (1) Prerequisites. Prerequisites shall be provided in the fuel- handling procedures that include, for example, the status of plant systems required for refueling; inspection of replacement fuel, control rods, poison curtains and internals: 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. (2) Main Body. The main body of fuel-handling procedures shall include requirements for refueling for example, the status of the core, instructions for proper sequence,		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.'	

orientation and seating of fuel and components, rules for minimum operable instrumentation, actions to' be followed in the event of fuel damage rules for periods when refueling is interrupted, verification of the shutdown margin and the frequency-of determination, communications between control room and the fuel loading station, independent verification of fuel and component location, criteria for stopping refueling and for reducing the size of the fuel loading increment, and a containment evacuation plan and its associated safety measures. Documentation of final fuel and component serial numbers and locations shall be maintained.			
5.3.5 Maintenance Procedures. Maintenance procedures shall contain applicable items listed under 5.3.2 and, in addition, measures to cover the features of maintenance described below. (1) Preparation for Maintenance. Maintenance procedures shall reflect considerations listed under 5.2.6. Adherence to applicable radiation Protection measures shall be prescribed. These		Appendix E: **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 protectionmeasures (such as protective clothing and radiation monitoring) will be included. Additional maintenance procedure requirements are addressed in NQA-	

measures shall specify protective clothing and radiation monitoring needed to assure safety. (2) Performance of Maintenance. The procedures shall contain enough detail to permit the maintenance work to be performed correctly and safely, and shall include provisions for conducting and recording results of required tests and inspections. References should be made to vendor manuals, plant procedures, drawings and other sources as applicable. (3) Post Maintenance Check Out and Return to Service. Instructions shall be included or referenced, for returning the equipment to its normal operating status. (4) Supporting Maintenance Documents. Where appropriate sections of related documents, such as vendor manuals, equipment operating and maintenance instructions, or sip-proved drawings with acceptance criteria provide adequate instructions to assure the required quality of work, the applicable sections of the related documents shall be referenced in the procedure or may, in some cases, constitute adequate procedures in themselves. Such procedure shall receive the same level of review and		1-1994, Subpart 2.18, Section 2.2, Procedures.'	

approval as operating procedures.			
5.3.6 Radiation Control Procedures. Procedures shall be provided for implementation of a radiation control program to meet applicable program requirements. The radiation control program involves the acquisition of data and provision of equipment to perform necessary radiation surveys, measurements and evaluations for the assessment and control of radiation hazards associated with a nuclear power plant. Procedures shall be developed and implemented for: monitoring both external and internal exposures of employees, utilizing, accepted techniques, routine radiation surveys of work areas; 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 of employees and others.		Appendix E: **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.'	
5.3.7 Calibration and Test Procedures.		Appendix E: **Calibration and Test Procedures**	

Procedures shall be provided for periodic calibration and testing of safety-related instrumentation and control systems. Procedures shall also be provided for periodic calibration of measuring and test equipment used in activities affecting the quality of these systems. The procedures shall provide for meeting surveillance schedules and for assuring measurement accuracy adequate to keep safety-related parameters within operational and' safety limits.		'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.'	
5.3.8 Chemical-Radiochemical Control Procedures. Procedures shall be provided for chemical and radiochemical control activities. They should include, for example, 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, Procedures shall also be provided for the control, treatment and management of radioactive wastes and control of		Appendix E: **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.'	

radioactive calibration sources.			
5.3.9 Emergency Procedures. Procedures shall be provided to guide operations during potential emergencies. They shall he written such that a trained operator will know in advance the expected course of events that will identify an emergency and the immediate action he shall take. [Since emergencies may not follow anticipated, patterns, the procedures should provide, sufficient flexibility to accommodate variations. Emergency procedures that cover actions for manipulations of controls to prevent accidents or lessen their consequences should be based on a general sequence of observations and actions. Emphasis should be placed on operator responses to observations and indications in the control room; that is, when immediate operator actions are required to prevent or mitigate the consequences of a serious condition, procedures require that those actions be implemented promptly. The emergency procedure format given in 5.3.9.1 provides a basis for coping with emergencies and		Appendix E: **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.'	N18.7 wording in brackets are included in this table for completeness; they do not establish requirements that either NQA-1 or the SNC QATR would need to address.

is an acceptable format for prescribing operator observations and actions. Emergency procedures may contain supplemental background information to further aid operators in taking proper emergency actions, but this information shall be separated from the procedural actions. It is extremely difficult to distinguish between procedures prepared for the purpose of correcting off-normal conditions which in themselves do not constitute actual emergency situations, but which conceivably can degenerate into true emergencies in the absence of positive corrective action, and procedures required for coping with true emergencies that have already occurred. Some owner organizations choose the term "Off normal Procedures" for the same purpose that others choose Emergency Procedures." When initially' available intelligence provided to *operating personnel via* instrument readings, physical conditions, and personal observations may not clearly indicate the difference between a simple operational problem and a serious emergency, the actions outlined in the emergency procedures shall be based on			

a conservative course of action by the operating crew. Considerable judgment on the part of competent personnel is required before departing from the emergency procedure.]			
5.3.9.1 Emergency Procedure Format and Content. Emergency procedures shall include as appropriate, the following elements: (1) Title. The title **shall** be descriptive of the emergency for which the procedure is provided. (2) Symptoms. Symptoms **shall** be included to aid in the identification of the emergency. They should include alarms, operating conditions and probable magnitudes of parameter changes. If a condition is peculiar only to an emergency under consideration, it should be listed first. (3) Automatic Actions. The automatic actions that will probably occur as a result of the emergency **shall** be identified. (4) Immediate Operator Actions. These steps **shall** specify immediate actions for operation of controls or confirmation of automatic actions that are required to stop the degradation of conditions and mitigate their		**Appendix E:** **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.'	

consequences. Examples include the following: (a) The verification of automatic actions. This step is based on equipment operating as designed and the sequence of events following an expected course. Since variations from the expected course may occur, operators should be prepared to manipulate controls as necessary to cope with the problem. However, the procedure should caution the operator not to place systems in "manual" unless misoperation in "automatic" is apparent and should require him to make frequent checks for proper operation of systems placed in manual control. (b) Assurance that reactor is in a safe condition. This step usually means shutdown of the reactor with sufficient reactivity margin and establishment of required core cooling. (c) Notification to plant personnel of the nature of the emergency. (d) Determination that the reactor coolant system pressure boundary is intact. (e) Confirmation of the availability of adequate power sources. (f) Confirmation that containment and exhaust systems are operating properly in order to prevent uncontrolled release of radioactivity. (5) Subsequent			

Operator Actions. Steps shall be included to return the reactor to a normal condition or to provide for a safe extended shutdown period under abnormal or emergency conditions			
5.3.9.2 Events of Potential Emergency. Potential emergency conditions shall be identified and procedures for coping with them shall be prepared. The following categories of events may, depending upon the design of the plant, be considered as examples of potential emergencies for which procedures are written and for which immediate action is indicated: (1) Loss of coolant from identified and unidentified sources, from small loss to design basis accident loss (2) Reactor transients and excursions (3) Failure of vital equipment. (4) Loss or degradation of vital power sources (5) Civil disturbances (6) Abnormally high radiation levels (7) Excessive release of radioactive liquid or gaseous effluent (8) Malfunction of reactivity control system (9) Loss of containment integrity (10) Conditions that require use of standby liquid poison systems (11) Possible natural		Appendix E: **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.'	

occurrences (12) Fires			
5.3.9.3 Procedures for Implementing Emergency Plan. Implementing procedures for emergency plan actions shall contain, as appropriate, the following elements: (1) Individual assignment of authorities and responsibilities for performance of specific tasks to specific individuals or staff positions. (2) Protective action levels and protective measures outlined for the emergency identified. (3) Specific actions to be taken by coordinating support groups. (4) Procedures for medical treatment and handling of contaminated individuals. (5) Special equipment requirements for items such as medical treatment, emergency personnel removal, specific radiation detection, personnel dosimetry and rescue operations, procedures for making this equipment available, plus operating instructions for such equipment, and provisions for its periodic inspection and maintenance. (6) Identification of emergency communications network.		Appendix E: **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.'	

Including communications required for personnel identification and effective coordination of all support groups. (7) Description of alarm signals in each facility. At sites with multiple units, alarm signals should be consistent from one unit to another. (Signals for initiating protective measures should be clear and distinct from process or operational alarm system to avoid confusion.) (8) Procedures required to restore the plant to normal conditions following an emergency. (9) Requirements for periodically testing of procedures, communications network and alarm systems to assure that they function properly. See also U.S. Nuclear Regulatory Commission (NRC) "Guide to the Preparation of Emergency Plans for Production and Utilization Facilities." [17]			
5.3.10 Test and Inspection Procedures. Test and inspection procedures shall contain a description of objectives; acceptance criteria that will be used to evaluate the results; prerequisites for performing the tests or inspections		Appendix E: **Test and Inspection Procedures** These documents provide the necessary measures to assure quality is achieved and maintained for the nuclear facilities. The instructions for tests and inspections may be included within other procedures, such as installation and maintenance procedures, but will contain the objectives, acceptance criteria, prerequisites for performing the test or inspection,	

including any special conditions to be used to simulate normal or abnormal operating conditions; limiting conditions; and the test or inspection procedure. This procedure shall also specify any special equipment or calibrations required to conduct the test or inspection. Test and. inspection results shall be documented and evaluated by responsible authority to assure that test and inspection requirements have been satisfied. Where tests and inspections are to be witnessed, the procedure shall identify hold points in the testing sequence to permit witnessing. The procedure shall require appropriate approval for the work to continue beyond the designated hold point. The test and inspection procedures shall require recording the date, identification of those performing the test or inspection, as-found condition, corrective actions performed, if any, and as- left condition.		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.'	
6. References			Because most references from N18.7 have been superseded, and the QATR Section 3.1 establishes the nature and level of commitment to certain references, this section is not addressed in this matrix.

Enclosure 6

Farley, Hatch, and Vogtle FSAR Markups

	REPORT TITLE	SECTION REFERENCE	NRC SUBMITTAL
7.	A. J. Kuenzel, "Westinghouse PWR Internals Vibration Summary 3-Loop Internals Assurance," WCAP-7765, September 1971, and WCAP-7765-L(W Proprietary).	3.9	October 1971
8.	J. M. Hellman (Ed.), "Fuel Densification Experimental Results and Model For Reactor Operation," WCAP-8219, October 1973, and WCAP-8218, October 1973 (W Proprietary).	4.1, 4.2 4.3, 4.4 15.3	October 1973
9.	L. Gesinski, K. Chiang, S. Nakazato, "Safety Analysis of the 17 x 17 Fuel Assembly For Combined Seismic and Loss-of-Coolant Accident," WCAP-8288, December 1973, and WCAP-8238.	4.2, 1.5	March 1973
10.	W. J. Dollard, "Nuclear Fuel Division Quality Assurance Program Plan," WCAP-7800, Revision 3, November 1979.	4.2, ~~17.2~~ 17C.1	October 1973
11.	E. E. Demario and S. Nakazato, "Hydraulic Flow Test of the 17 x 17 Fuel Assembly," WCAP-8279, February 1974, and WCAP-8278.	1.5, 4.2 4.4	March 1973
12.	F. B. Skogen and A. F. McFarlane, "Control Procedures for Xenon-Induced X-Y Instabilities in Large PWRs" WCAP 3680-21, (EURACE-2111), February 1969.	4.3	September 1969
13.	R. F. Barry, et al., "The PANDA Code," WCAP-7757, April 1967.	4.3	December 1973
14.	W.C. Gangloff and W.D. Loftus, "An Evaluation of Solid State Reactor Protection in	4.3, 7.1 7.2, 7.3	September 1971

DELETE

program followed during plant design and construction was implemented in accordance with section 17.1. The quality assurance program used for plant operations is described in ~~section 17.2~~ the SNC Quality Assurance Topical Report (QATR).

Drawings, records, correspondence, field books, forms, film, and temperature charts required to show compliance with the codes, tests, and quality control standards as outlined in section 17.1 are in the possession of or available to Southern Nuclear Operating Company throughout the life of the plant. This is discussed further in section 13.5.

3.1.2 CRITERION 2 - DESIGN BASES FOR PROTECTION AGAINST NATURAL PHENOMENA

Structures, systems, and components important to safety are designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, hurricanes, floods, tsunami, and seiches without loss of capability to perform their safety functions. The design bases for these structures, systems, and components reflect:

- Appropriate consideration of the most severe of the natural phenomena that have been historically reported for the site and surrounding area, with sufficient margin for the limited accuracy, quantity, and period of time in which the historical data have been accumulated.
- Appropriate combinations of the effects of normal and accident conditions with the effects of the natural phenomena.
- The importance of the safety functions to be performed.

CONFORMANCE

The natural phenomena and their magnitude have been selected in accordance with the probability of their occurrence at the Farley Plant site. The designs are based upon the most severe of the natural phenomena recorded for the site, with an appropriate margin to account for uncertainties in historical data. The natural phenomena postulated in the design are presented in sections 2.3, 2.4, and 2.5. The design criteria for the structures, systems, and components affected by each natural phenomenon are presented in sections 3.2, 3.3, 3.4, 3.5, 3.7, and 3.8. Those combinations of natural phenomena and plant originated accidents that are considered in the design are identified in sections 3.8, 3.9, and 3.10. The importance

HISTORICAL

Regulatory Guide 1.28 - QUALITY ASSURANCE PROGRAM REQUIREMENTS (DESIGN AND CONSTRUCTION) (SAFETY GUIDE 28, 6/7/72)

CONFORMANCE

This topic is addressed in section 17.1

Regulatory Guide 1.30 - QUALITY ASSURANCE REQUIREMENTS FOR THE INSTALLATION, INSPECTION, AND TESTING OF INSTRUMENTATION AND ELECTRIC EQUIPMENT (SAFETY GUIDE 30, 8/11/72)

HISTORICAL

CONFORMANCE

This topic is addressed in chapter 17.

Regulatory Guide 1.30 provided NRC endorsement of ANSI N45.2.4 (IEEE 336-1971). The SNC Quality Assurance Topical Report (QATR) is based on NQA-1-1994 which incorporates IEEE 336-1985. Accordingly, the quality assurance requirements for the installation, inspection, and testing of instrumentation and electric equipment are described in the QATR.

INSERT

Regulatory Guide 1.33 - QUALITY ASSURANCE PROGRAM REQUIREMENTS (OPERATION) (SAFETY GUIDE 33, 11/3/72)

HISTORICAL

CONFORMANCE

During original plant licensing, a 24-month review process for all safety-related and security procedures was developed to meet the intent of Safety Guide 33 and ANSI N18.7-1972. Since the procedural process has now matured and adequate programs to assure procedural revisions consistent with plant design, operational, and regulatory requirements are in place, this original commitment has been modified to require biennial quality assurance audits of the procedural development and maintenance program utilizing a representative sampling process. Therefore, the 24-month review process is no longer required.

Conduct of operations of the Safety Review Board, including audits performed under the cognizance of the Safety Review Board, meet the requirements of ANSI N18.7-1976, Section 4, Review and Audit.

Regulatory Guide 1.33, Section 4 provides that the following program elements should be audited at the indicated frequencies: the results of actions taken to correct deficiencies that affect nuclear safety and occur in facility equipment, structures, systems, or method of operation - at least once per 6 months; the conformance of facility operation to provisions contained within the Technical Specifications and applicable licensing conditions – at least once per 12 months; and the performance, training, and qualifications of the facility staff – at least once per 12 months. Audit frequencies for each of these program elements are now established as at least once per 24 months.

The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 and incorporates the applicable requirements of ANSI N18.7-1976. Accordingly, SNC complies with the applicable requirements of ANSI N18.7-1976 via compliance with the QATR without an explicit (or implied) commitment to ANSI N18.7-1976.

INSERT

Regulatory Guide 1.37 - QUALITY ASSURANCE REQUIREMENTS FOR CLEANING OF FLUID SYSTEMS AND ASSOCIATED COMPONENTS OF WATER COOLED NUCLEAR POWER PLANTS (Rev. 0, 3/16/73)

HISTORICAL

CONFORMANCE

Preoperational cleaning and layup and associated activities involving the cleanliness of safety-related fluid systems were performed in accordance with this Regulatory Guide as discussed in chapter 17.

Regulatory Guide 1.37 provides NRC endorsement of ANSI N45.2.1. The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.1. Accordingly, quality assurance requirements for cleaning of fluid systems and associated components are described in the SNC QATR.

INSERT

Regulatory Guide 1.38 - QUALITY ASSURANCE REQUIREMENTS FOR PACKAGING, SHIPPING, RECEIVING, STORAGE, AND HANDLING OF ITEMS FOR WATER COOLED NUCLEAR POWER PLANTS (ANSI N45.2.2-1972)

HISTORICAL

CONFORMANCE

Conformance with applicable sections of ANSI N45.2.2-1972 and hence with this Regulatory Guide is discussed in sections 17.1 and 17.2.

Certification of involved personnel in accordance with a recommended practice such as SNT-TC-1A-1968 was considered to be excessive. Personnel involved in conducting activities governed by this ANSI standard were properly qualified by reason of experience and training.

Exception is taken to paragraph 3 of the Regulatory Guide. Tape used to secure caps to stainless steel pipe was "essentially chloride free and approved by the purchaser prior to use." Polyethylene was used in combination with a wooden plug to protect all nonflanged stainless steel pipe openings larger than 2 in.

The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.2. Accordingly, quality assurance requirements for packaging, shipping, receiving, storage, and handling are described in the SNC QATR.

INSERT

Regulatory Guide 1.39 - HOUSEKEEPING REQUIREMENTS FOR WATER COOLED NUCLEAR POWER PLANTS (Rev. 0, 3/16/73)

HISTORICAL

CONFORMANCE

The housekeeping requirements during the construction phase were established prior to issuance of Regulatory Guide 1.39. These requirements were structured to meet the standards of Nuclear Electric Insurance Limited (NEIL) and the Occupational Safety and Health Act (OSHA).

Housekeeping activities during operation meet the requirememts of ANSI Standard N45.2.3-1973, except with regard to the general fire protection guidelines of subdivision 3.2.3. The FNP fire protection program is described in Appendix 9B.

The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.3. Accordingly, housekeeping requirements are described in the SNC QATR.

INSERT

Regulatory Guide 1.55 - CONCRETE PLACEMENT IN CATEGORY I STRUCTURES (Rev. 0, 6/73)

HISTORICAL

CONFORMANCE

Concrete placement in Seismic Category I structures was in accordance with Regulatory Guide 1.55, "Concrete Placement in Category I Structures," except as discussed below:

1. Regulatory Guide 1.55, Appendix A, Reference 11, "ACI/ASME Proposed Standard-Code for Concrete Reactor Vessels and Containments," and Reference 12, "ANSI N45.2.5-1972 (proposed) Supplementary QA Requirements for Installation, Inspection, and Testing of Structural Concrete and Structural Steel During the Construction Phase of Nuclear Power Plants," were not used since they had not received final approval by their sponsoring organizations.

2. Creep tests for concrete were performed for the containment structure only. Loss of prestress through creep was not applicable to non-prestressed structures.

Concrete placement and testing are discussed in subsection 3.8.1.6.1, Reinforced Concrete.

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The requirements for concrete placement in Category I structures applicable to operation-phase activities are contained in ASME NQA-1-1994, as described in the SNC Quality Assurance Topical Report (QATR).

Regulatory Guide 1.58 - QUALIFICATION OF NUCLEAR POWER PLANT INSPECTION, EXAMINATION, AND TESTING PERSONNEL
(Rev. 1, 9/80)

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CONFORMANCE

Personnel involved with examination of items on the site are qualified and certified in accordance with the requirements of ANSI N45.2.6-1978. Personnel performing inspection and testing were qualified for those specific tasks on the basis of experience and specific training (education or on-the-job-training or a combination of both). Compliance was verified by periodic audits by quality assurance personnel. However, two exceptions have been taken to Regulatory Guide 1.58, Revision 1, and ANSI N45.2.6-1978. A description and justification of these exceptions is presented below.

Regulatory Position C.2 of Regulatory Guide 1.58, Revision 1, endorses the 1975 edition of SNT-TC-1A as acceptable guidance for qualifications of nondestructive examination (NDE) personnel. In lieu of this, the version of SNT-TC-1A or other similar document used for qualifying personnel to perform nondestructive inspection, examination, or testing shall be in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable addenda as required by 10 CFR 50.55a, except where specific written relief has been granted by the NRC. The document used for the qualification of such personnel shall be specifically identified in the Inservice Inspection Program for FNP. In addition, FNP shall supplement these requirements by replacing the "shoulds" contained in SNT-TC-1A with "shalls" where they occurred in the 1975 version. A change to this paragraph shall be treated as a change to the FNP QAP in accordance with NRC SER dated March 17, 1998.

Subsection 2.3 of ANSI N45.2.6-1978 requires that the job performance of inspection, examination, and testing personnel be reevaluated at least every 3 years and that any person who has not performed inspection, examination, and testing activities in his qualified area for a period of 1 year shall undergo requalification in accordance with subsection 2.2. Inspection, examination, and testing activities are inherently integrated into the FNP staff's routine job responsibilities such that when a person holds a given position, he routinely performs those inspection, examination, and testing activities for which that position is responsible. Therefore, an annual demonstration of proficiency has no meaning under the FNP Quality Control Program. Moreover, the requalification per ANSI N45.2.6-1978, paragraph 2.2, is based on the individual's education and experience. Since each person's initial certification was also based on that individual's accumulated education and experience, and since an individual's accumulated education and experience cannot be revoked, there is no purpose in performing the requalification exercise simply because an individual did not

HISTORICAL

perform or document an annual demonstration of proficiency in the inspection, examination, and testing activities for which he is certified (assuming, of course, that the individual's job performance of inspection, examination, and testing activities remained satisfactory). For these reasons an annual demonstration of proficiency in inspection, examination, and testing activities is fruitless and exception is taken to this aspect of ANSI N45.2.6-1978. The present practice, which is expected to be continued, of conducting job performance evaluations as a basis for recertification for inspection, examination, and testing personnel on a 2-year cycle satisfies the ANSI N45.2.6-1978 requirement that these evaluations be conducted at periodic intervals not to exceed 3 years.

On September 9, 1996 the NRC amended its regulations to incorporate by reference the 1992 edition with the 1992 addenda of Subsections IWE and IWL of Section XI, Division 1, of the ASME Boiler and Pressure Vessel Code with specified limitations in 10 CFR 50.55a. The new rules require certain containment liner and concrete inspections/examinations to be performed prior to September 9, 2001 and to be repeated on a regular basis thereafter. Containment repair and replacement requirements of the new rules including preservice examinations after repair or replacement were effective on September 9, 1996. Relief from this effective date until March 15, 1997 was requested by FNP. The 1992 edition with 1992 addenda of Section XI requires personnel performing NDE examinations to be qualified and certified using a written practice prepared in accordance with ANSI/ASNT CP-189. However, current certification based on SNT-TC-1A remains valid until recertification is required.

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The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.6. Accordingly, the requirements for qualification of inspection, examination, and testing personnel are described in the QATR.

Regulatory Guide 1.64 - QUALITY ASSURANCE REQUIREMENTS FOR THE DESIGN OF NUCLEAR POWER PLANTS (Rev. 0, 10/73)[a]

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CONFORMANCE

The plant was designed with appropriate quality assurance provisions to meet the requirements of Appendix B to 10 CFR Part 50. This subject is discussed in Chapter 17.

Regulatory Guide 1.64, dated October 1973, provides NRC endorsement of ANSI N45.2.11. The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.11. Accordingly, quality assurance requirements applicable to design activities are described in the SNC QATR.

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a. Regulatory Guide 1.64, Rev. 0 applies to the design and construction phase of FNP. Additional Quality Assurance compliance with Regulatory Guide 1.64, Rev. 1 is given in Chapter 17.2.

Regulatory Guide 1.74 - QUALITY ASSURANCE TERMS AND DEFINITIONS (Rev. 0, 2/74)

HISTORICAL

CONFORMANCE

The NRC Regulatory Guide 1.74 identifies forms and acceptable definitions that are important to the understanding of quality assurance requirements for the design, construction, and operation of nuclear power plant structures, systems, and components.

Terms and definitions contained in Quality Assurance Procedures, References, or Reports are in accordance with ANSI N45.2.10-1973, an acceptable standard for use in describing and implementing quality assurance programs, as described in subsection 17.2.1.

The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.10. Accordingly, terms and definitions used in the quality assurance program are provided in the SNC QATR.

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Regulatory Guide 1.88 - COLLECTION, STORAGE, AND MAINTENANCE OF NUCLEAR POWER PLANT QUALITY ASSURANCE RECORDS (Rev. 0, 8/74)

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CONFORMANCE

Compliance with ANSI N45.2.9-1974 provisions, which constitutes generally acceptable requirements for collection, storage, and maintenance of nuclear power plant quality assurance records, as stated in Regulatory Guide 1.88, is discussed in subsection 17.2.17.

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The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.9. Accordingly, the requirements for collection, storage, and maintenance of quality assurance records are described in the QATR.

9B.2.2.1 Administrative Procedures

Administrative procedures exist for the purpose of maintaining the performance of the fire protection systems and personnel. The procedures were developed using the guidance of the following publications:

- NFPA 4-1977, "Organization for Fire Services."
- NFPA 4A-1969, "Organization for Fire Department."
- NFPA 6-1974, "Industrial Fire Loss Prevention."
- NFPA 7-1974, "Management of Fire Emergencies."
- NFPA 8-1974, "Management Responsibility for Effects of Fire on Operations."
- NFPA 27-1975, "Private Fire Brigades."

An administrative procedure entitled "General Plant Housekeeping and Cleanliness Control" instructs each employee to clean his assigned work area after completing each work assignment or at the end of each work shift, whichever occurs first, by wiping up oil spills and picking up rags, papers, and other foreign materials. Per this procedure, the fire marshal will inspect each plant area on an unscheduled basis, but at least quarterly, and will note housekeeping status and report the same to the plant operations assistant general manager or the plant support assistant general manager, as appropriate. Deficiencies are reported to the appropriate supervisor for corrective action. Additionally, the fire marshal will perform a quarterly review of walkdown reports in the housekeeping database to identify adverse trends. ~~The guidance provided in Regulatory Guide 1.39 was considered in establishing housekeeping procedures.~~

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Administrative procedures also contain instructions on maintaining fire protection during periods when a fire protection system is impaired or during periods of maintenance. For example, these instructions may require the establishment of fire watches or temporary hose connections to water systems. Additionally, administrative procedures require systems to be made operable after all work is completed within an area.

9B.2.2.2 Control of Combustibles

Storage of combustible materials is authorized only in areas separated from safe shutdown-related areas by approved fire walls, doors, and ceilings (i.e., proper storage areas). In accordance with plant administrative procedures, signs are posted by the fire marshal to authorize combustible storage in

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F.1 Housekeeping procedures are established consistent with the applicable requirements of NQA-1-1994 described in the SNC Quality Assurance Topical Report (QATR).

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9B.2.5.1 Design Control and Procurement Document Control

Design control and procurement document control, and their associated requirements~~, are discussed in subsections 17.1.3, 17.1.4, 17.2.3, and 17.2.4.~~ These controls assure that changes to original design or procurement documents are subject to the same review and approval as the original document. Present design practice assures that the appropriate fire protection codes and standards are specified on design documents. Deviations and changes from the specified codes and standards are controlled. In accordance with these controls, new designs and plant modifications are reviewed to ensure that appropriate fire protection requirements are included. (See paragraph 9B.2.2.5 for further information.) Additionally, plant procedures ensure that qualified personnel perform and document a review and concurrence of the adequacy of the fire protection requirements and quality requirements stated in procurement documents.

9B.2.5.2 Inspection, Test, and Test Control

The inspection and testing program is discussed in section 9B.6. Plant procedures incorporate the inspection, test, and test control requirements. Quality control is provided as required, depending on the complexity of the work. The inspection, test, and test control procedures are audited regularly in accordance with the Operations QA program, described in ~~section 17.2~~. QA verifies that test personnel are properly trained.

the QATR

9B.2.5.3 Nonconforming Items and Corrective Action

Measures to control items that do not conform to specified requirements prevent the inadvertent use or installation of these items. Fire protection equipment/systems, emergency lighting, and portable transceivers are nonsafety-related items considered essential for reliable operation of the plant which are subject to the measures of control for nonconforming items and corrective actions specified in plant procedures.

Controls of nonconforming items include the evaluation of conditions adverse to fire protection (such as nonconformances, failures, malfunctions, deficiencies, deviations, and defective materials and equipment) to determine the necessary corrective action. In the case of significant or repetitive conditions adverse to fire protection, including fire incidents, the cause of the condition is determined and analyzed and prompt corrective action is taken to preclude recurrence. The cause of the condition and the corrective action taken are promptly reported to cognizant levels of management for review and assessment.

F.2 applicable to construction-phase activities are discussed in subsections 17.1.3 and 17.1.4. Design control and procurement document control, and their associated requirements applicable to operation-phase activities are discussed in the SNC Quality Assurance Topical Report (QATR).

9B.2.5.4 Records

Records of inspections, tests, reviews, and audits; nonconformance and corrective action reports; construction maintenance and modification records; and certified manufacturer's data are prepared and maintained to furnish evidence of conformance to fire protection requirements. These records are identifiable and retrievable. Record retention requirements are also established. The requirements for QA records are specified in ~~subsection 17.2.17~~.

the SNC Quality Assurance Topical Report (QATR)

9B.2.5.5 Audits

Audits are conducted and documented to verify compliance with the fire protection program, including design and procurement documents; instructions, procedures, and drawings; and inspection and test activities. The Operations QA program audit system is described in ~~subsection 17.2.8~~. For audits of the fire protection program, the following items are specifically included:

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A. Audits are periodically performed to verify compliance with the administrative controls and implementation of quality assurance criteria, including design and procurement, instructions, procedures and drawings, and inspection and test activities. These audits are performed by QA personnel in accordance with preestablished written procedures or checklists and conducted by trained personnel not having direct responsibilities in the areas being audited.

B. Audit results are documented and then reviewed with management having responsibility in the area audited.

C. Followup action is taken by responsible management to correct the deficiencies revealed by the audit.

the QATR

D. Audits are performed as described in ~~subsection 17.2.18~~ to provide an overall assessment of conformance to fire protection requirements.

9B.3 EVALUATION CRITERIA

The Farley Nuclear Plant has been reviewed to determine that the total fire protection program provides adequate assurance that a fire will not negate the safe shutdown of the plant, will not significantly increase the risk of radioactive release to the environment, and thereby will not cause undue risk to the health

restricted and unrestricted areas are as low as reasonably achievable during all modes of plant operation and during accidents.

Except for the containment purge exhaust line monitors and the spent fuel pool exhaust flow gas monitors, the PERMS is not designed to Seismic Category I or to Institute of Electrical and Electronics Engineers (IEEE) accident grade standards and, therefore, no credit is taken for these monitors in the accident evaluations in chapter 15. The containment purge exhaust line monitors and the spent fuel pool exhaust flow gas monitors are designed to Seismic Category I and to Institute of Electrical and Electronics Engineers (IEEE) accident grade standards. The accident evaluations in chapter 15 take credit for the containment purge exhaust line monitors to mitigate the consequences of a fuel handling accident inside the containment by isolating the containment purge and mini-purge lines and for the spent fuel pool exhaust flow gas monitors to mitigate the consequences of a fuel handling accident in the spent fuel pool area by realigning the spent fuel pool ventilation exhaust to the Penetration Room Filtration (PRF) Unit.

The design objectives for PERMS periodic sampling include the following:

A. Enable manual collection of representative samples of planned gaseous and liquid effluents prior to discharge to unrestricted areas during normal reactor operation and during anticipated operational occurrences, in order to allow laboratory measuring and recording of the quantity of each of the principal radionuclides present in these discharges as required by 10 CFR 50.36a.

B. Enable manual collection of representative samples of gaseous and liquid process streams during normal reactor operation and during anticipated operational occurrences, in order to allow laboratory measuring and recording of the quantity of each of the principal radionuclides present to verify and supplement the continuous process system monitors.

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11.4.2 PROCESS AND EFFLUENT RADIATION MONITORING

11.4.2.1 General Description

The components of the PERMS are designed for the following environmental conditions:

A. Temperature - An ambient temperature range of 40°F to 120°F.

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F.3 Written procedures shall be established, implemented, and maintained covering the quality assurance for effluent and environmental monitoring, using the guidance in Regulatory Guide 4.15, dated February 1979.

president/CEO directs the executive vice president, the vice president and general counsel; the chief financial officer and vice president-corporate services; and the vice president-technical support in fulfillment of their responsibilities. The president/CEO reports to the Board of Directors with respect to all matters.

13.1.1.3.2 Executive Vice President

The executive vice president reports to the president/CEO. This individual is responsible for the safe, reliable, and efficient operation of FNP, the Vogtle Electric Generating Plant (VEGP), and the Edwin I. Hatch Nuclear Plant (HNP). The executive vice president directs the vice president-project (Farley), the vice president-project (Hatch), the vice president-project (Vogtle), the quality assurance manager (QAM), and the nuclear fleet security and emergency planning manager.

the QATR

in the SNC Quality Assurance Topical Report (QATR)

of each SNC-operated plant

13.1.1.3.2.1 Quality Assurance Manager. The responsibilities of the quality assurance manager are described in ~~section 17.2~~. In addition to the responsibilities for FNP, the QAM is similarly responsible for the QA programs ~~of VEGP and HNP~~. The QAM reports to the executive vice president. The QAM is authorized to manage the QA program for design, testing, operation, and maintenance and to ensure its implementation in accordance with the requirements of ~~section 17.2~~. The QA organization is composed of a staff at the corporate headquarters~~, a staff at the FNP site, a staff at the HNP site, and a staff at the VEGP site~~.

The QA organization does not provide technical support (as defined in subsection 13.1.1 of Regulatory Guide 1.70) for the operation of FNP. The activities of the QA organization are fully described in ~~section 17.2~~.

the QATR

and a staff at each SNC-operated plant

13.1.1.3.2.2 Nuclear Fleet Security and Emergency Planning Manager. The nuclear fleet security and emergency planning manager reports to the executive vice president and is responsible for the overall coordination of fleet security activities and programs, the corporate emergency planning programs (including the common Emergency Operations Facility) and the Access Authorization Program. The nuclear fleet security and emergency planning manager will also have responsibility for site emergency response communication.

13.1.1.3.3 Vice President-Project (Farley)

The vice president-project (Farley) reports to the executive vice president regarding operation issues and support matters. As vice president-project (Farley), he/she is responsible for operation and maintenance of FNP. He/she directs the nuclear plant general manager, the nuclear support general manager, and the administrative support coordinator.

13.1.1.3.3.1 Nuclear Support General Manager (NSGM). The nuclear support general manager reports to the vice president-project (Farley) and is responsible for coordinating corporate support in the areas of engineering, licensing, maintenance, planning and performance, and budgeting. The NSGM directs the planning and performance supervisor. This individual is responsible for providing corporate support to FNP in matters related to design control and engineering support for FNP. The FNP engineer in charge is the NSGM. The NSGM meets the requirements of ANSI N18.1-1971.

13.1.2.2 Personnel Functions, Responsibilities, and Authorities

13.1.2.2.1 SNC Nuclear Plant General Manager and Two Assistant General Managers

Farley Nuclear Plant personnel have a combination of education, experience, health, and skill commensurate with their level of responsibility. These qualities provide reasonable assurance that decisions and actions during all normal and abnormal conditions are such that the plant is operated in a safe and efficient manner.

The overall responsibility for plant operations rests with the SNC nuclear plant general manager. The nuclear plant general manager is responsible for plant operation in a safe, reliable, and efficient manner by ensuring compliance with all requirements of the operating license. The nuclear plant general manager is the chairman of the Plant Review Board (PRB). A complete description of the committee is contained in ~~subsection 17.2.20~~ the SNC Quality Assurance Topical Report (QATR).

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[The nuclear plant general manager has overall responsibility for the startup test program at FNP, as described in chapter 14. He/she is responsible for approving all Phase II and Phase III test procedures, major test procedure modifications, completed tests and test data, and test data deficiency resolutions.]

The plant operations assistant general manager assists the nuclear plant general manager with the responsibility for plant operation and normally assumes full responsibility in his/her absence. Some of his/her duties include: organizing and conducting scheduled meetings between plant group managers for information and review purposes; working with the operations manager to ensure that the plant is operated within the limits of the operating license and to schedule outage activities; working with the maintenance manager to ensure that proper preventive and corrective maintenance on all equipment is being performed; working with the health physics manager and chemistry manager to ensure that the required chemical analysis, water quality control, radiation surveys, and general health physics aspects of the plant are being performed; and working with the work control superintendent to ensure that all daily work and outage work is properly scheduled, organized, and staffed. The plant operations assistant general manager is vice chairman of the PRB.

The plant support assistant general manager assists the nuclear plant general manager with the responsibility for plant support groups and may assume full responsibility in his/her absence provided this person meets the requirements of ANSI N18.1-1971 Section 4.2.1, FSAR paragraph 13.1.3.1.1, and has completed emergency director training. Some of his/her duties include: working with the engineering support manager to ensure that the nuclear steam supply system and the balance of plant systems are being utilized and operated in a safe and efficient mode; working with the security manager to ensure that the plant security plan is enforced; and working with the training and emergency preparedness manager to ensure compliance with the training and emergency preparedness programs.

The plant support assistant general manager is a member of the PRB.

13.1.2.2.2 Operations Group

The operations manager, who reports to the plant operations assistant general manager, is responsible for the management and coordination of operations activities of the plant. Reporting

I. Chemical and radiochemical control procedures.

J. Maintenance procedures.

K. General maintenance procedures.

L. Instrument maintenance procedures.

M. Radiation control and protection procedures.

N. Emergency plan implementation procedures.

O. Security procedures.

P. Engineering technical procedures.

Q. Environmental sampling procedures.

R. Fire surveillance procedures.

S. Document control procedures.

T. Special nuclear material procedures.

U. Storeroom procedures.

13.5.1 ADMINISTRATIVE PROCEDURES

The nuclear plant general manager issues, in the form of standard operating orders, his instructions governing employee actions and established standards for plant operation. These rules and instructions provide a clear understanding of operating philosophy and management policies to ensure safe operation of the plant within the limits set by the facility licenses and the Technical Specifications. They provide that plant activities will be conducted in a manner that will protect the general public, plant personnel, and equipment.

In particular, written administrative procedures are provided to control issuance of documents, to ensure adherence to written procedures, records, and shift scheduling (including limiting working hours in accordance with the Technical Specifications), and to control the writing, approval, and implementation of written plant procedures. Administrative procedures are written, as referenced in ~~section 17.2~~, to implement certain aspects of the operations quality assurance program. Procedures covering plant operations, maintenance work, tests, equipment changes, radioactivity control, administration, and other activities which might adversely affect safety are put into effect only

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after being reviewed and approved as specified in ~~Section 17.2.20~~. It is the responsibility of the nuclear plant general manager to ensure that required reviews are completed before procedures are issued.

Permanent changes to procedures follow the same review and approval route as a new procedure. A permanent change is implemented only after formal approval.

Temporary procedures and temporary revisions to procedures are issued to direct operations during testing and maintenance, to provide guidance in unusual situations, and to ensure orderly and uniform operations for short time periods when existing procedures do not apply.

the QATR

These administrative procedures delineate the general responsibilities and authorities of the plant staff. Instructions have been established to provide methods by which temporary changes to approved procedures can be made, including the designation of persons authorized to approve such temporary changes. In cases of emergency, personnel will be authorized to depart from approved procedures when necessary to prevent injury to personnel or damage to the facility in accordance with the provisions of 10 CFR 50.54 (x) and (y). In all such cases, changes will be documented and reviewed by the appropriate superintendent within 30 days. If appropriate, it will then be incorporated in the next revision of the affected procedure. More detail on the review, approval, changes, revisions, and implementing of procedures is found in ~~subsection 17.2.20~~.

Procedures are provided for control of equipment to maintain reactor and personnel safety and to avoid unauthorized operation of equipment. These procedures delineate control measures and actions such as locking, tagging, notification, removal of tags, and identification of equipment.

Standard operating procedures are documented and disseminated to the plant staff. They include such subjects as job turnover and relief, designation of confines of control room, definition of duties of operators and others, transmittal of operating data to management, filing and changing charts, maintaining operating log, and personal belongings carried onsite. Also, there is a mechanism for issuing special orders which have short term applicability and which require dissemination.

A number of programs are in place to ensure that plant procedures are adequate and applicable and to ensure that potential procedural impact is assessed and necessary revisions are made. The following programs, which include but are not limited to those listed below, adequately provide for procedure review and any necessary input to procedure revisions and changes:

- Plant personnel feedback.
- Incident investigation feedback.
- Design modification program.
- Operating experience evaluation program.
- Simulator training program.
- Technical specifications and FSAR revisions.
- Quality assurance program.

Additionally, as a part of the overall quality assurance program, the QA group performs various audits (described in ~~section 17.2~~ the QATR) to assure that the procedural process is working and that procedures are being properly maintained.

13.6 PLANT RECORDS

Records documenting the quality of the design, construction, testing, operation, maintenance, and modification of the Farley Nuclear Plant (FNP) are maintained at the plant site. The records maintained comply with the requirements of Criteria XVII of Appendix B of 10 CFR 50 and American National Standards Institute N18.7, Standard for Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants.

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These records are stored and maintained in the document control center and satellite document control center which provides facilities to preserve the records in a manner to preclude deterioration. ~~As described in subsection 17.2.17, a~~ signout system ensures immediate location of any record that is temporarily removed from the files. Quality Assurance is responsible for auditing these quality records as described in ~~subsection 17.2.17~~.

the QATR

13.6.1 PLANT HISTORY

Upon completion of the plant design, construction, and construction testing (Phase I of the FNP testing program), the Power Generation Services (PGS) Department (formerly known as the Construction Department) transferred or disclosed the location of all quality documentation to the plant staff and the Quality Assurance group (formerly known as the safety audit and engineering review group). Records not maintained at the plant site are kept at the material supplier's site due to codes or standards requirements or at SNC Corporate.

This documentation and the records generated during Phases II and III of the testing program, operation, maintenance, inspection, modification, and events of the FNP as described in subsections 13.6.2 and 13.6.3 serve as a recorded history of quality plant activities.

13.6.2 OPERATING RECORDS

Safety-related preoperational and startup test records generated during Phases II and III of the testing program are kept at the plant site along with appropriate operating records. These operating records include chemistry records; manuals and procedures; operating, maintenance, and testing records; special nuclear material records; records and reports required by regulatory agencies; and administrative records.

C. Records of radiation exposure for all individuals entering radiation control areas.

D. Records of new and irradiated fuel inventory, fuel transfers, and assembly burnup histories.

E. Records and drawing changes reflecting unit design modifications made to systems and equipment described in the Final Safety Analysis Report.

F. Reactor water chemistry data.

G. Records of gaseous and liquid radioactive material released to the environs.

H. Records of transient or operational cycles for those unit components identified in table 5.2-2 and 5.2-2a.

I. Records of reactor tests and experiments.

J. Records of training and qualification for current members of the facility staff.

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K. Records of safety-related quality assurance activities required by the ~~QQAPM~~ and not specifically described in the previous paragraph addressing records retained at least 5 years.

L. Records of reviews performed for changes made to procedures or equipment or reviews of tests or experiments pursuant to 10 CFR 50.59.

M. Records of meetings of the Plant Review Board (PRB) and the Safety Review Board (SRB).

N. Records of secondary water sampling and water quality.

O. Records of analyses required by the radiological environment monitoring program.

P. Records of the service lives of all hydraulic and mechanical snubbers required by the Technical Requirements Manual, including the date at which the service life begins and associated installation and maintenance records. (For Unit 1 this applies to all safety-related snubbers installed or replaced after July 1, 1981.)

Q. Records of reviews performed for changes made to the Offsite Dose Calculation Manual and the Process Control Program.

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INSERT F.4

17.2 OPERATIONS QUALITY ASSURANCE PROGRAM (OQAP)

The OQAP for the Farley Nuclear Plant (FNP) is designed to assure the plant's safe and reliable operation and to satisfy the quality assurance (QA) requirements of Appendix B of 10 CFR 50 as delineated in Regulatory Guide 1.33, dated November 3, 1972, "Quality Assurance Program Requirements (Operation)."

This regulatory guide requires compliance with the stipulations of ANSI N45.2-1971 and ANS 3.2 (now ANSI N18.7-1972). Compliance with these requirements constitutes administrative controls for the operation of nuclear power plants in a manner that is consistent with applicable criteria for QA.

QA requirements for the independent spent-fuel storage installation are contained in FSAR Supplement 17.2A.

Section 17.2 is written to address each of the 18 criteria of 10 CFR 50, Appendix B, as amplified by ANSI N45.2-1971. The following is a cross-reference between ANSI N18.7-1972 requirements and FSAR sections that describe compliance with these requirements (any exceptions are noted):

N18.7-1972 Requirements	FNP FSAR Sections
1. Scope	17.2 Introduction
2. Definitions	Consistent with terminology used in 17.2.
3. Owner Organization	
a. Corporate	13.1.1, 17.2.1, 17.2.2
b. Operations	13.1.2, 17.2.1, 17.2.2
4. Review and Audit Program*	17.2.1, 17.2.18, 17.2.20
5. Facility Administrative Policies and Procedures	
a. Rules of Practice	13.5, 13.7
b. Plant Records Management	13.6, 13.7, 17.2.17
c. Operating and Maintenance Procedures	13.5
d. Review and Approval of Procedures	13.5, 17.2.20
e. Temporary Procedures	13.5

* Conduct of operations of the Safety Review Board, including audits performed under the cognizance of the Safety Review Board, meet the requirements of ANSI N18.7-1976, Section 4.

Farley Nuclear Plant

FSAR Inserts
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F.4 The operations-phase quality assurance program for Farley Nuclear Plant (FNP) is designed to assure the plant's safe and reliable operation and to satisfy the quality assurance (QA) requirements of Appendix B to 10 CFR Part 50. The quality assurance program applicable to operation phase activities for FNP is described in the Southern Nuclear Operating Company (SNC) Quality Assurance Topical Report (QATR). Quality assurance program requirements formerly contained in FNP FSAR Section 17.2 are superseded by those contained in the SNC QATR.

ANSI N18.7-1972 Requirements	FNP FSAR Sections
6. Tests and Inspections	
a. Test Procedures	13.5, 14, 17.2.11
b. Tests and Inspections Prior to and During Plant Startup	14
c. Tests and Inspections after Plant Modifications	13.5.4, 17.2.11

In addition to that discussed above, the OQAP will comply with certain other codes, standards, and regulatory guides. The following is a cross-reference between such guidance and the FSAR sections that describe compliance with this guidance (any exceptions are noted):

	Guidance	FNP FSAR Sections
1.	10 CFR 50, Appendix B	17.2 Introduction
2.	Regulatory Guide 1.33, dated November 3, 1972 (Operations QA)	17.2 Introduction
3.	10 CFR 55	17.2.2
4.	Regulatory Guide 1.8, dated March 10, 1971 (Personnel Selection-ANSI N18.1, dated June 22, 1970, later approved as ANSI N18.1-1971)	13.1 13.2 (Exception to the requirements of ANSI N18.1-1971 is taken in sections 8A-1.8, 13.1.3.1, and 13.2.)
5.	Regulatory Guide 1.58, Revision 1, dated September 1980 (Qualification of Inspection and Testing Personnel - ANSI N45.2.6-1978) with the exceptions identified on page 3A-1.58-1.	17.2.2, 17.2.10
6.	(deleted)	
7.	10 CFR 50.55a (Codes and Standards Rule)	3.2, 17.2.9
8.	Regulatory Guide 1.28, dated June 7, 1972 (QA - ANSI N45.2-1971)	17.2 Introduction
9.	Regulatory Guide 1.30, dated August 11, 1972 (Electrical Installation Inspection and Testing - ANSI N45.2.4-1972)	17.2.11

	Guidance	FNP FSAR Sections
10.	Regulatory Guide 1.37, dated March 16, 1973 (Cleaning of Fluid Systems - ANSI N45.2.1-1973)	17.2.13
11.	Regulatory Guide 1.38, dated March 16, 1973 (Handling, Storage, and Shipping - ANSI N45.2.2-1972)	17.2.13
12.	Regulatory Guide 1.39, dated March 16, 1973 (Housekeeping - ANSI N45.2.3-1973)	17.2.13
13.	Regulatory Guide 1.54, dated June 1973 (Protective Coatings)	Only for major modifications or additions, 17.2.3
14.	Regulatory Guide 1.64, Rev. 1, dated February 1975 (Design - ANSI N45.2.11-1974)[a]	17.2.3
15.	Regulatory Guide 1.68, dated November 1973 (Preoperational Testing and Startup)	14, Appendix 3A
16.	Regulatory Guide 1.74, dated February 1974 (QA terms - ANSI N45.2.10-1973)	17.2.1
17.	Regulatory Guide 1.146, dated August 1980 (Qualification of Auditors - ANSI N45.2.23-1978)	17.2.18
18.	ANSI N45.2.13 (Draft 2, Rev. 4 - dated April 1974) (Procurement Document Preparation)	17.2.4
19.	ANSI N45.2.12 (Draft 3, Rev. 4 - dated February 1974) (Auditing)	17.2.18
20.	ANSI N45.2.9 - 1974 (Records)	17.2.17 (An exception to the requirements of ANSI N45.2.9 is taken in subsection 17.2.17.)

a. Regulatory Guide 1.64, Rev. 1 applies to the operational phase of FNP. Compliance with Regulatory Guide 1.64, Rev. 0 for the design and construction phase of FNP is discussed in chapter 3A.

	Guidance	FNP FSAR Sections
21.	ANSI N45.2.5 – 1974 (Inspection and Testing of Concrete and Structural Steel)	Only for certain modifications, 17.2.3
22.	ANSI N45.2.8 (1974) Draft 3, Rev. 3 - dated April 1974 (Installation, Inspection and Testing of Mechanical Equipment)	17.2.11

The purpose of the OQAP is to define the scope of QA activities, to specify responsibilities for various aspects of the program, and to establish an effective QA audit procedure to assure that the program fulfills its requirements throughout the life of the plant.

The QA criteria of 10 CFR 50, Appendix B, apply to operational activities affecting the functioning of those structures, components, and systems of nuclear power plants, which are listed in section 17.3, that prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public. These activities include designing,[a] purchasing, fabricating,[a] handling, shipping, storing, cleaning, installing, inspecting, testing, operating, emergency planning, radiological protection, training, maintaining, repairing, refueling, and modifying.[a] The QA criteria of 10 CFR 50, Appendix B also apply to selected activities such as fire protection, radiological environmental monitoring, security, and radioactive waste handling and shipping. The extent to which specific QA criteria apply is discussed in the Operations Quality Assurance Policy Manual (OQAPM).

Quality assurance requirements are established in the procedures, instructions, and controls which provide guidance for the performance of all safety-related activities. The OQAPM establishes the operations quality assurance (OQA) policies. Quality assurance measures to meet the policy requirements are implemented in FNP administrative procedures, nuclear support administrative procedures, and Southern Nuclear Operating Company (SNC) QA administrative procedures.

17.2.1 ORGANIZATION

The SNC OQA organization is shown in figure 17.2-1. The principal elements of this organization are:

- Quality Assurance.
- Farley Nuclear Plant staff.
- Nuclear Support.
- SNC Corporate Services.

a. SNC does not engage in design, fabrication, and modification activities related to radioactive materials packages.

17.2.1.1 Operations Management

The vice president-project (Farley) is responsible for the implementation of the OQAP. He/she is an officer of SNC. The Farley Project includes the plant staff, the corporate nuclear support staff, and the Quality Assurance Department. These responsibilities are accomplished through the organization shown in figure 17.2-1. The corporate staff supports FNP operational activities in a manner that ensures adherence to the OQAP.

The FNP corporate staff supports the vice president-project (Farley) in the performance of his/her duties. The support staff reports to the vice president-project (Farley) through the nuclear support general manager (NSGM). Reporting to the NSGM is the planning and performance supervisor. The nuclear plant general manager (NPGM) reports directly to the vice president-project (Farley).

The vice president-project (Farley) approves the Operations Quality Assurance Procedure Manual (OQAPM), which shall list the OQA requirements to be met by all organizations involved in the FNP OQAP. The OQAPM shall list regulatory requirements, requirements from applicable codes and standards, and requirements based on SNC corporate policy. The OQAPM requires that all OQA procedures, policies, and plans be developed utilizing definitions and terminology provided in ANSI N45.2.10-1973 to provide a common basis for all persons performing quality activities in the OQAP.

The QA staff is independent of the nuclear support and FNP staffs. The quality assurance manager (QAM) reports to the executive vice president. In addition to these responsibilities for FNP, the QAM is similarly responsible for the QA programs of the Hatch Nuclear Plant and the Vogtle Electric Generating Plant.

The QAM is required to report to the appropriate vice president on a regular basis the results of QA audits of safety-related plant activities and to immediately report any significant items affecting the OQAP.

The Farley support manager reports to the vice president-technical support through the plant support manager and the vice president-engineering. The Farley support manager provides matrixed accountability to the nuclear support general manager. The Farley support manager is responsible for assuring that adequate engineering and technical support are provided for FNP. He/she also maintains oversight of the engineering work to ensure it meets QA program requirements.

Southern Company Services, Inc., (SCS) was originally the architect/engineer (A/E) for FNP during operation. As a result of the consolidation of SCS and SNC nuclear expertise, and in addition to being the licensee, SNC also serves as its own A/E. The corporate QAM and staff will perform the functions previously performed by SCSQA.

The supply chain general manager (SCGM) reports to the chief financial officer and vice president-corporate services administrative services vice president. Supply chain management activities are governed by the SNC Support Services Quality Assurance Policy Manual. The SCGM provides matrixed accountability to the vice president-project (Farley). In addition to the responsibilities for FNP, the SCGM is similarly responsible for supply chain management for the Hatch Nuclear Plant and the Vogtle Electric Generating Plant.

The environmental affairs manager reports to the vice president and general counsel and is responsible for managing environmental issues such as radiological environmental, nonradiological environmental, dose and shielding calculations, and low-level radioactive wastes.

The Safety Review Board (SRB) has been established to conduct independent reviews of safety-related plant matters and make reports of findings and recommendations to the executive vice president. The organization and responsibilities of the SRB are fully described in subsection 17.2.20. Included in the SRB responsibilities is periodic review of the auditing activities of the QA staff and the results of the independent QA audits performed to provide comprehensive verification that safety-related plant activities comply with the stipulations of the OQAP, with the conditions of the operating license, and with other applicable regulations. Audits of the activities will be performed with a frequency commensurate with their safety significance and with the provisions for minimum frequency as stated in subsection 17.2.20.

The vice president-project (Farley) will periodically provide for the conduct of an independent audit of QA, including both offsite and onsite activities, to verify and evaluate its performance in carrying out assigned responsibilities in the OQAP.

17.2.1.2 **Quality Assurance Group (QAG)**

The QAG shall function to conduct operational evaluations, engineering reviews, and audits for the purpose of improving safety.

The QAG shall be composed of a multidisciplined dedicated onsite group with a minimum assigned complement of five engineers or appropriate specialists.

The QAG shall be responsible for the following:

A. Participating in operational evaluations for improvement of safety wherein such evaluations and recommendations therefrom are not limited to the fulfillment of existing programs, policies, procedures, or capabilities of existing equipment and installations.

B. Systematic engineering reviews of plant performance and activities with results reported independently of onsite operational management to offsite upper management.

C. Comprehensive plant audits in accordance with audit requirements set forth in quality assurance programs, licensing documents, and other policies and procedures.

The onsite QAG shall carry out its function reporting offsite directly to the quality assurance manager who, in turn, reports directly to the executive vice president.

QA, under the direction of the QAM, has been established to provide a comprehensive independent audit program of safety-related activities to verify that such activities are in compliance with the OQAP. The audit program will be conducted by the quality assurance

supervisor (QAS) and his/her staff stationed at the FNP and the Corporate QAS and his/her staff located in the Corporate Office. (See figure 17.2-1.)

The QAM is responsible for developing, maintaining, and updating the OQAPM, which delineates the requirements of the OQAP. The QAM approves procedures written by the QA staff. In addition, his/her staff reviews administrative procedures, for compliance with OQAPM requirements.

The QAM periodically reports the results of audits performed by the QA staff to the appropriate vice president for his/her evaluation. Any significant item found by these audits and the suggested resolution will be immediately reported to the executive vice president.

The QAS reports to the QAM as shown in figure 17.2-1. The QAS directs the onsite QA group which is described in table 17.2-1, Onsite QA Staff. The QAS will review administrative procedures through participation as a member of the PRB. The QAS will develop QA procedures to be approved by the QAM and utilized in the performance of his activities. The QAS will serve as nonvoting member of the PRB which reviews and determines dispositions of Nonconformance Reports, as discussed in subsection 17.2.15. The QAS has the responsibility and authority to identify problems, recommend solutions, and verify corrective actions. The QAS will also provide input for an onsite operations QA indoctrination program as described in subsection 17.2.2. Copies of all of his audits and verifications will be sent to the QAM for distribution.

To assure that controls are in place to effectively maintain plant procedures, the QA staff will perform a biennial audit of the procedural development and maintenance program utilizing a representative sampling process.

The QA staff will also selectively audit those quality-related activities that are within the scope of the OQAP, as described in section 17.2, to verify compliance with the requirements of the procedures. These consist of activities performed offsite in support of the FNP and those performed onsite, including the activities of the QAS. A representative list of activities to be audited and their frequencies is provided in table 17.2-2. The results of all such audits will be reported to the organization audited and the appropriate vice president.

17.2.1.3 Refueling Operations

QA will devote particular attention to certain significant activities, such as refueling operations. The QAM's staff will review administrative procedures, which will provide guidance during all safety-related activities, including refueling, for the inclusion of policies and requirements of the OQAPM. QA will perform audits of selected refueling functions to verify compliance with written procedures. QA will audit the refueling activities with particular attention being paid to certain aspects of the activity, such as verification that inspection requirements are identified, scheduled, assigned, performed, documented, and evaluated; corrective action is completed when nonconformances, deficiencies, malfunctions, or failures occur; required prerequisites for refueling are met; and refueling activities are carried out in accordance with approved written procedures. QA will audit work procedures which affect refueling operations to verify that they incorporate the appropriate quality requirements.

17.2.1.3.1 Modifications

For modifications performed under the direction of the plant staff, QA will provide a comprehensive audit program. The QAM's staff will review administrative procedures which prescribe the controls and processes for a design change made by plant staff. The PRB will review and act on modifications that constitute a design change, as described in subsection 17.2.20. QA will perform periodic audits of selected modification activities to verify compliance with the approved procedures.

17.2.1.3.2 Inspections

For inservice inspection activities, QA will provide a comprehensive audit and review process to verify that the activities are performed in accordance with provisions of applicable procedures. The SCGM is responsible for the review and approval of QA requirements included in the procurement documents to be met by prospective contractor organizations. Corporate QA will review and evaluate the QA program which the contractor organization will supply for acceptance. During the performance of the inservice inspection activities, Corporate QA will audit the contractor to verify that these activities are performed and documented in accordance with applicable requirements. Corporate QA will audit any corrective action accomplished as a result of the audit findings.

QA will provide a comprehensive audit and review process for other types of inspections, as described in subsection 17.2.10.

17.2.1.3.3 Operations and Maintenance

The activities of QA during operations and maintenance activities are discussed in subsections 17.2.2 through 17.2.18. A representative listing of activities that will be audited is provided in subsection 17.2.18 and table 17.2.2. The term "operations activities" includes all safety-related activities performed during the operation of the plant as opposed to only controlling the reactor and its auxiliaries (e.g., health physics, radiological protection, etc.).

The QAS has the authority to recommend to the NPGM that an activity not be initiated if he/she determines that such an activity will not comply with the requirements of OQA policies, procedures, or applicable codes.

If proper resolution is not obtained onsite, the QAS will notify the QAM, who will take the matter for appropriate action.

The QAS also has the authority to recommend to the NPGM that an activity be terminated if it is not being performed in compliance with OQA policies, procedures, or applicable codes. In the event that proper resolution is not promptly obtained onsite, the QAS will notify the QAM, who will take the matter for appropriate action. The QAM is responsible for obtaining prompt resolution of disputed recommendations for stopping plant activities, stopping initiation of plant activities due to noncompliance with QA requirements, or reporting the circumstances to the appropriate vice president and/or executive vice president for resolution. In both situations the QAM will ensure that either the promptness of resolution or the promptness of his/her report to

the appropriate vice president and/or executive vice president is commensurate with the importance of the disputed action to plant safety. In any event, he/she will not defer reporting unresolved disputes of this type to the appropriate vice president and/or executive vice president for more than 3 days after their initiation.

17.2.1.4 Plant Staff

The plant staff, under the direction of the NPGM, is responsible for all handling, cleaning, testing, training, operation, maintenance, modification, fueling/refueling, radiological protection, fire protection, emergency planning, onsite environmental monitoring, surveillance testing, inspection, security, and quality control (QC) activities at FNP.

The plant staff will perform all safety-related activities in accordance with written, approved procedures. Administrative procedures will be followed in the development of operations procedures, revision of procedures, conducting operations, verifying compliance to procedures, and approving operations documentation. Quality control provisions will be included in detailed plant operations and maintenance procedures used at FNP. Applicable supervisory personnel will be responsible for the implementation of the QC provisions for activities under their purview. As described in subsection 17.2.10, the NPGM shall assign centralized responsibility for the direction and coordination of inspection activities and for prescribing the assignment of qualified inspectors.

As described in subsection 17.2.20, the PRB will advise the NPGM on matters considered by the committee.

17.2.1.5 Southern Nuclear Operating Company (SNC), Inc.

Supply Chain Management, which is part of the SNC Corporate Services organization, is responsible for procurement, receipt, storing, shipping, and associated handling of materials and services for FNP. SNC Supply Chain Management will execute all purchase orders for FNP. This department will extend competitive bids for parts, assemblies, materials, and services to selected bidders who maintain qualification on applicable approved bidders lists.

The approved bidders list for parts, assemblies, materials, and services will be maintained by Supply Chain Management. Vendor quotations for parts, assemblies, materials, and services will be reviewed and evaluated by Supply Chain Management. Quotations which request technical or quality assurance exceptions will be evaluated by qualified personnel prior to award of a purchase order.

SNC Technical Support serves as an agent to APC for procurement of nuclear fuel design and fabrication.

17.2.2 QUALITY ASSURANCE PROGRAM

The OQAP became fully effective when components or systems were turned over from the APC Construction Department, at the completion of construction, to the APC startup staff for component/preoperational testing, and it is in effect throughout the operational life of the FNP.

The objective of the OQAP is to provide adequate assurance of quality during operation of the FNP by complying with the provisions described in the OQAPM and administrative procedures which satisfy the criteria of 10 CFR 50, Appendix B. This program applies to operational activities affecting the functioning of those safety-related structures and systems listed in section 17.3.

Subsection 17.2.1 describes the functions and authorities of organizations that are responsible for performing activities which affect the quality of safety-related equipment. These SNC organizations ensure that the safety-related activities for which they are responsible will provide adequate quality by developing, approving, and ensuring adherence to written approved procedures as necessary.

Each organization is responsible for developing procedures that provide controlled conditions for activities within its scope. All prerequisites or environmental conditions necessary for performing an activity will be specified in these procedures. Within each procedure any special controls or conditions such as required equipment, skills, inspection points, etc., will be delineated. The plant staff will follow written approved procedures except as discussed in chapter 14 and section 13.5, which allow for procedure departure when the safety of the plant or personnel is endangered. These sections discuss the method of approving temporary and permanent changes to previously approved procedures.

The OQAP shall provide for indoctrination and training of personnel performing safety-related activities to ensure that the individual attains quality in job performance and complies with SNC quality policies and procedures. Basically, this quality indoctrination and training is provided in two phases: OQA orientation training and qualification and training for specific tasks.

The FNP OQA orientation training program was developed with assistance from QA. Training on the OQAPM will be included. This manual describes the safety-related and nonsafety-related activities, duties, and authorities of each group assigned OQA responsibility in the OQAP. This training will encompass various types of safety-related operational activities, such as the QA filing system, receipt inspection, control of documents, inspection after maintenance, and approval of design changes. There will be a list of attendees requiring this training as determined by the GMNS, GMNP, and QAM. Records of the orientation will be developed and retained as quality records. This program will be repeated to serve as an annual refresher for those who previously passed the course and to provide indoctrination and training for new employees.

Each group involved in the OQAP is responsible for qualifying and requalifying its personnel, as required, to ensure that the required level of competency is maintained. This qualification includes proper selection of candidates for available positions and successful completion of training that will provide the required knowledge for performing assigned duties.

Subsection 13.1.3 and section 13.2 discuss the qualifications maintained by and the training program required for plant staff.

All plant staff who are assigned the responsibility and authority to approve inspection and test procedures, implement these procedures, and evaluate and report the results of the tests and inspections shall be certified as to their levels of capability in compliance with the requirements of Regulatory Guide 1.58, Revision 1, dated September 1980, which references ANSI N45.2.6-1978.

The NPGM shall determine the acceptance of experience qualifications, based on the guidelines presented in ANSI N45.2.6-1978, for capability levels in areas of testing and inspection other than NDE. Any test and inspection work performed by contractors for the plant staff shall also be performed by personnel who meet the qualifications required in Regulatory Guide 1.58, Revision 1, dated September 1980. The group responsible for performing the test or inspection, whether it is the plant staff or contractors, shall specify detailed methods or procedures for these activities unless stated in contract documents.

Appropriate training and certification records will be maintained by the NPGM for each person designated to perform inspection and testing functions. Personnel performance evaluations will be maintained at the General Office and will not be a part of the certification records.

QA is responsible for training its personnel to meet the requirements of the OQAP. A QA administrative procedure details educational and training requirements for each QA staff member. SNC is responsible for the training of personnel within its organization that is required to assure that the individual attains quality in job performance and complies with the requirements of the OQAP and approved codes, specifications, and instructions for activities within the scope of the OQAP.

The vice president-project (Farley) is responsible for approving the OQAPM and any changes thereto. The QAM has the responsibility for making suggestions concerning the OQAP and the OQAPM to the vice president-project (Farley) for his/her evaluation. The vice president-project (Farley) is responsible for regularly reviewing the status and effectiveness of the FNP OQAP. He/she accomplishes this by reports from the QAM, Corporate Headquarters Farley Project, Technical Support, the Plant Farley site organization, and the SRB.

17.2.3 DESIGN CONTROL

Measures are established to assure that for design changes and/or modifications for the operating nuclear plant, applicable regulatory requirements, quality standards, and design bases are properly translated into specifications, drawings, procedures, and instructions.

17.2.3.1 Quality Assurance (Other Than Nuclear Fuel Suppliers)

Design changes and/or modifications during plant operations will be handled in a manner which will comply with the requirements of ANSI N45.2.11-1974 and thereby maintain confidence that plant systems and components will prevent accidents that could cause undue risk to the health and safety of the public or mitigate the consequences of such accidents if they were to occur. Major modifications will be designed and performed in accordance with applicable codes, bases, standards, design requirements, materials specifications, and inspection requirements. Design work will be done within the applicable quality assurance program. These changes may be a result of unsatisfactory operational test results, failures of components to meet functional

requirements, disposition of nonconforming items, changes in regulatory requirements, operating experience, or efforts to improve current designs. An administrative procedure describes the procedure of design control. The nature of the design review will depend on the nature and scope of the work to be performed and the importance of the component, system, or structure to plant operation. A prerequisite to design analysis shall be the identification of the proper design criteria. The scope and depth of design analysis shall be based on the applicable requirements of Section 3.2 of ANSI N45.2.11-1974, but emphasis shall be placed on analyzing the basic function of the component, the operating conditions, maintainability, and testability.

Upon approval of a design or design change, this design system shall provide a method of properly translating the approved design into specifications, drawings, and instructions. These documents shall be approved, distributed, and revised to ensure that the current documents are provided to the responsible personnel. The design analysis shall be in sufficient detail to facilitate the required design verification. Subsection 17.2.20 describes the PRB's responsibility for reviewing changes that may require NRC approval pursuant to 10 CFR 50.59 or 10 CFR 72.48 (as applicable). The SRB will review PRB actions and design changes that require NRC approval pursuant to 10 CFR 50.59 or 10 CFR 72.48 (as applicable).

The extent of design verifications will be dependent upon the complexity and state-of-the-art of the design under consideration. Such verifications may be performed by formal design reviews, alternate calculations, or model testing.

The design control system shall include a method of providing changes to a design found to be incorrect. These deficiencies will be properly recorded and reported to the PRB and SRB for their review, as described in subsection 17.2.20. Records of designs, design verifications, distribution of design-related documents, and corrections of designs will be developed and maintained in accordance with the requirements of ANSI N45.2.9-1974.

There will be a comprehensive audit system to verify that the design control system maintained by the corporate staff during the operation of the FNP is adequate and functioning properly. QA will periodically audit design control activities including, as applicable, design analysis; design verification; PRB review; drawing and specification modification or generation; and modification of installation of material, components, or structures. The results of these audits will be reported to the QAM for his/her review. He/she will report audit findings to the appropriate vice president and the executive vice president on a regular basis. However, if a significant deficiency is uncovered as a result of these audits, the QAM will immediately report it to the executive vice president. A summary of these audits will be distributed to and reviewed by the SRB. All such audits will be performed with written checklists or procedures and will be documented in sufficient detail to facilitate review by the persons described above.

Information concerning abnormal experiences at other facilities will be reviewed by the cognizant SNC management, which may include the vice president-project (Farley), the NPGM, and the nuclear support general manager and their respective staffs, as appropriate. The experience gained at other operating plants will be considered in the operation and design change of the FNP. A system of reporting design changes and operating information has been established.

Material source evaluation and documentation audits will be provided by Corporate QA in accordance with an accepted program. The vendor surveillance program is managed by Corporate QA as described by procedures.

17.2.3.2 Quality Assurance Review of FNP Nuclear Fuel Suppliers

SNC Quality Assurance will review and evaluate the fuel supplier's QA system that will be used during design and fabrication of the FNP fuel. The supplier's overall program policies will be reviewed, and the detailed procedures which implement these policies will be audited for compliance with applicable regulatory requirements (including 10 CFR 50, Appendix B) and with commitments in the license application. These reviews and evaluations may be conducted as part of periodic QA vendor audits, which include reviews of vendor design and fabrication activities.

To ensure the integrity of the FNP nuclear fuel, nuclear fuel is included in the OQAP as follows:

Westinghouse, the fuel manufacturer for each unit, has developed and maintains a Quality Assurance Program. This program provides monitoring of the design and manufacturing of their nuclear fuel, as described in the "Westinghouse Electric Corporation Water Reactors Division Quality Assurance Plan" (WCAP 8370/7800).

In addition to the fuel supplier's QA program, SNC will provide for QA reviews of the fuel supplier's QA system and audits of the implementation of the system as outlined above.

The OQAP will include nuclear fuel receipt inspection at the FNP site with technical assistance from the fuel fabricator.

17.2.4 PROCUREMENT DOCUMENT CONTROL

The SNC supply chain management organization is responsible for the preparation of procurement documents for purchasing materials, components, and services (except for nuclear fuel) during the operational life of FNP. These procurement documents will provide for the control of the procured items, in compliance with the requirements of ANSI N45.2.13-1974. Methods used by SNC to place a vendor on the approved bidders list for materials, components, and services have been established by SNC supply chain management.

Procurement documents will delineate the quality program requirements to be met by the prospective contractor. These requirements will be specified in accordance with the nature and scope of the work to be performed, and will be tailored to each item procured. Factors to be considered in assigning quality requirements are the importance of the failure of the item to plant safety, design and fabrication complexity, need for special controls, degree to which functional compliance can be demonstrated by inspection and test, and the quality history of the item.

Items shall be identified by the total plant numbering system (TPNS), described in subsection 17.2.17, which provides traceability. Subsection 17.2.17 also describes the identifier used to identify and file records associated with the items.

Plant administrative procedures for procurement document control will be reviewed by the QAM's staff. The supply chain general manager is responsible for review and approval of all procurement documents for safety-related materials, components, equipment, and services to verify inclusion of adequate quality requirements. The nuclear support general manager is responsible for providing procurement document information upon request. The QAM will periodically audit procurement activities performed by SNC personnel to verify inclusion of adequate quality requirements in procurement documents and to ensure that the vendor QA programs of vendors utilized are reviewed for acceptability by Corporate QA. SNC Technical Support shall be responsible for assuring that quality requirements are included in procurement documents for nuclear fuel and associated core components.

Revisions to procurement documents will be subject to the same review and approval as the original document.

The QAM shall audit the activities associated with procurement document control for those structures, systems, components, and services within the scope of the QA program.

17.2.5 INSTRUCTIONS, PROCEDURES, AND DRAWINGS

As required by the OQAP, all safety-related activities associated with FNP will be conducted in accordance with written approved procedures, instructions, and drawings that include acceptance criteria and necessary limits and tolerances appropriate to the activity. Such criteria may be in the form of quantitative requirements or checkoff lists to ensure that the activities have been successfully accomplished.

As described in subsection 17.2.1, the plant staff will provide guidance for all safety-related activities with instructions, procedures, and drawings which are found or referenced in FNP procedures.

Section 13.5 describes the method of developing, approving, and changing procedures for safety-related plant operations, preventive and corrective maintenance, inspection, modification, and surveillance testing. The plant staff shall write, approve, and implement sufficient procedures to ensure the quality of FNP operations which, as a minimum, will include the applicable procedures of Appendix A of Regulatory Guide 1.33. The plant foremen will monitor safety-related plant operations to ensure that they are conducted in accordance with the appropriate approved procedures, instructions, and drawings.

The QA staff performs its activities in accordance with written procedures and instructions approved by the QAM. A QA administrative procedure discusses the procedural development, review, approval, and change process utilized by the QA staff. QA audits plant activities to determine if the latest revisions of drawings, procedures, and instructions are being utilized by the plant staff members. If checklists are used by these personnel, QA will verify that adherence to the checklist is properly noted by the user's initials or checkoffs. QA will audit procedure, instruction, drawing approval methods, and procedure changes to verify adherence to the administrative procedures. QA will periodically audit records of procedure approval by the plant staff to verify compliance with applicable procedures and will selectively verify that the latest revision of drawings, instructions, and procedures is being utilized by persons performing

safety-related activities. Results of these audits will be reported to the NPGM, the vice president-project (Farley), and the executive vice president.

17.2.5.1 **Required Procedures**

Written procedures shall be established, implemented, and maintained covering the following activities:

A. The applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978.

B. Quality assurance for effluent and environmental monitoring, using the guidance in Regulatory Guide 4.15, February 1979.

C. Fire Protection Program implementation.

D. All programs specified in Technical Specification 5.5.

1. Offsite Dose Calculation Manual (ODCM)
2. Primary Coolant Sources Outside Containment
3. Deleted
4. Radioactive Effluent Controls Program
5. Component Cyclic or Transient Limit
6. Pre-Stressed Concrete Tendon Surveillance Program
7. Reactor Coolant Pump Flywheel Inspection Program
8. Inservice Testing Program
9. Steam Generator (SG) Tube Surveillance Program
10. Secondary Water Chemistry Program
11. Ventilation Filter Testing Program (VFTP)
12. Explosive Gas and Storage Tank Radioactivity Monitoring Program
13. Diesel Fuel Oil Testing Program
14. Technical Specifications (TS) Bases Control Program
15. Safety Function Determination Program (SFDP)
16. Main Steamline Inspection Program
17. Containment Leakage Rate Testing Program
18. Control Room Integrity Program (CRIP)

E. Process Control Program.

F. In-Plant Radiation Monitoring Program.

G. Radiation Protection Program.

17.2.5.2 **Procedure Review**

Each procedure and administrative policy of paragraph 17.2.5.1 above, and changes thereto, including temporary changes, shall be reviewed prior to implementation as set forth in subsection 17.2.20.

17.2.6 DOCUMENT CONTROL

Prior to preoperational testing, quality documents generated in the design and construction of the FNP were reviewed and verified by the general contractor and audited by the QA group (Design and Construction) to be complete and in conformance with applicable codes, standards, and regulations. As described in subsection 17.2.17, administrative procedures have been written describing the method of controlling these documents and quality documentation generated during operation, maintenance, and modification of the FNP.

Administrative procedures written by the plant and corporate staffs detail the method of developing, approving, issuing, distributing, and revising all safety-related documents.

QA administrative procedures describe the method used by QA to control documents. This procedure discusses filing, superseding, and revising documents the procedure controls or generates. The QAM's staff will review administrative procedures which discuss document control activities for the inclusion of adequate provisions which comply with OQAPM requirements. QA will audit procedures, instructions, and drawings to determine whether they contain the latest revisions, whether the revision was properly approved, how long it took for the revised copy to be distributed to the proper personnel, and whether the required distribution was made.

QA will audit the activities performed by the plant and corporate staffs and the QAM will audit activities performed by the QAS to determine whether they are utilizing properly approved procedures and whether the distribution of their procedures is accomplished. QA will audit the preparation, review, approval, and issuance of selected procedures developed by the plant and corporate staffs to verify conformance with administrative procedures. Results of all these audits performed by QA will be reported to the appropriate general manager, vice president-project (Farley), and the executive vice president.

17.2.7 CONTROL OF PURCHASED MATERIAL, EQUIPMENT, AND SERVICES

In accordance with an established procedure, the supply chain management staff has primary responsibility for preparing, with appropriate input from engineering, procurement documents for the purchase of replacement-in-kind material, material for maintenance and modifications, and certain vendor services required during the operation of the FNP. These specifications shall contain quality standards to be met by purchased materials or services which include specific

codes, standards, and design criteria with which contractors must comply. Upon request, the corporate support staff will provide assistance with specification development.

An evaluation is made of prospective vendors for materials and equipment used during the operation of the FNP, in accordance with the provisions of paragraph 17.2.1.5. Following this evaluation, acceptable suppliers are placed on an approved bidders list from which purchases are made. Purchase awards are made following acceptance of the vendor's QA program by Corporate QA in accordance with an established program. Licensed Nuclear Utility QA Programs are considered acceptable based on their NRC operating license. Evaluations and audits are not required for purchase of material and equipment from licensed nuclear utilities. To assure that material and equipment fabrication is in accordance with specifications, Corporate QA is responsible for performing vendor shop audits consistent with the items' quality significance. The SCGM is responsible for ensuring that significant fabrication checkpoints are witnessed for making an overall assessment of the vendor's control of quality and for reviewing quality documents furnished by the vendor consistent with the items' quality significance and other considerations as described in procedures reviewed and audited by QA.

Upon delivery at the FNP site, qualified SNC personnel will inspect all safety-related replacement-in-kind material and material for maintenance, modifications, and additions to verify that the material or equipment complies with the procurement document specifications. These inspections will be documented and performed in accordance with approved written procedures. Any nonconformances discovered during inspection will be reported and handled as described in subsection 17.2.15.

The QAM's staff will review plant administrative procedures for control of purchased material, equipment, and services. The QAM will be responsible for auditing all SNC activities involving control of purchased material, components, equipment, and services. He/she will also provide for the auditing of procured safety-related plant services and suppliers of nuclear fuel.

The QAS will audit the results of receipt inspection activities performed at the FNP to verify that documentary evidence is available which specifies that the material, equipment, or service complies with the requirements of the procurement documents. QA will audit to ensure that receipt inspection personnel used proper receipt inspection procedures which specify inspection requirements for each item and the type of certification needed to verify conformance with each requirement. QA will audit activities of vendors providing onsite services to verify compliance with QA requirements of the procurement document or appropriate guidance. The frequency of these audits will be determined by the status and the importance of the service but will be increased if significant deficiencies are discovered.

QA will periodically audit the documentation developed by receipt inspections to verify that the material, component, equipment, or service complies with the requirements of the procurement documents.

Prior to the use of material, evidence documenting compliance with the specifications or a PRB recommendation and NPGM action to accept a component as is, inspection reports will be on file at FNP. Documentation provided during a contracted service which verifies contractor adherence to the QA requirements of the specification will also be kept at FNP.

17.2.8 IDENTIFICATION AND CONTROL OF MATERIALS, PARTS, AND COMPONENTS

Installed components at the FNP were adequately identified and substantiated with documented records by the architect-engineer, nuclear steam supply system (NSSS) supplier, and general contractor during the construction phase of the plant. These identifications will be maintained for the life of the item, and substantiating records will be maintained in the permanent plant files for retention times discussed in section 13.6. A description of this identification system, which uses the TPNS number, is described in subsection 17.2.17.

The Q-List described in section 17.3 provides a master list of safety-related systems and major components, structures, etc., for the systems. The Farley Syncpowr system provides a more detailed list of components and subcomponents than the Q-List. The Syncpowr data base contains a field for designation of components as safety or nonsafety related. Designation of components and subcomponents as safety or nonsafety related is accomplished by an evaluation of that component against source documents. The Syncpowr data base is controlled by authorized individuals. Syncpowr is used for scheduling and tracking plant modifications. Syncpowr is also used to supply component level classification for maintenance work orders.

Prior to release to the plant staff, supply chain management is responsible for the identification and control of replacement-in-kind items and materials for maintenance and modification which are received and stored at FNP. After release from supply chain management, the plant staff is responsible for the identification and control of replacement-in-kind items and materials for maintenance and modification which are installed and used at FNP. Administrative procedures describe the activities for identifying and controlling this equipment to prevent the use of an incorrect or nonconforming item. On receipt of this safety-related equipment, the supply chain management staff, following written procedures, inspects to verify that the manufacturer has properly identified the items as required in the specifications and that proper supplier documentation that is traceable to the item is provided.

The QAM's staff will review administrative procedures to verify that adequate provisions are included for the identification and control of onsite safety-related equipment. The measures described in this procedure shall require traceability from the hardware to the required quality documentation. The QA staff will selectively audit SNC activities to ascertain that identification of material is verified upon receipt and that the identification is maintained throughout the installation process and period of use of the material. The audits will verify that traceability is provided to drawings, specifications, or other records.

The supply chain management staff will prepare, with appropriate input from engineering, procurement documents for purchasing certain materials, components, equipment, and services at the plant, which will include provisions for material identification and control during such services. The supply chain general manager is responsible for the review of these specifications for adequacy of identification and control requirements. The corporate support staff will provide input upon request. QA will audit the activities of the plant staff, SNC Technical Support, supply chain management, and onsite service vendors to verify compliance with these requirements.

17.2.9 CONTROL OF SPECIAL PROCESSES

An administrative procedure has been written to describe the measures used to control special processes. Adherence to these measures will assure that only qualified personnel perform special processes in accordance with approved procedures, codes, and specifications. Special processes include certain types of welding, heat treating, nondestructive and destructive testing, cleaning, flushing, and verification of critical dimensions on components important to safety.

Detailed procedures for onsite special process work have been written by the plant or corporate staff or outside technical consultants following guidance of the administrative procedures, but review and approval responsibility shall reside with the NPGM. The plant supervisor responsible for special process work will assure that the personnel under his direction or noncompany personnel utilized at the FNP, are trained, qualified, and adhering to the approved instructions, procedures, codes, and specifications. He will also verify that the equipment used during such work is properly calibrated and certified. In the cases where onsite special process work is assigned to outside contractors, procurement documents will specify type of work to be provided and require that the contractors submit their procedures and personnel qualifications for approval prior to work initiation.

The QA staff will audit special process work performed at the FNP to verify that all special process activities are identified. QA will verify that these activities are performed and documented in accordance with approved procedures by qualified personnel, that special processes are performed in proper environments, that inspections are provided as required, and that properly calibrated equipment is utilized. QA will selectively audit special process work procedures to determine if proper QA requirements have been included and if the procedure complies with applicable code, standard, or specification requirements. The QA staff will audit selected special processes to verify that qualified personnel performed the activity in accordance with an approved procedure and that adequate inprocess inspection was provided.

17.2.10 INSPECTION

Inspections will be performed for each work activity during the operation of the FNP when necessary to ensure quality. If direct inspection of an item or a work operation is impossible or disadvantageous and it is necessary to ensure its quality, indirect control by inprocess monitoring of the work will be performed. Both inspection of work products and inprocess monitoring will be performed when control is inadequate without both. If mandatory inspection hold points are necessary that require witnessing or inspecting by an inspector and beyond which work is not to proceed without inspector approval, the specific hold points will be indicated in the work procedure or instructions. If, at these checkpoints, the activity is found to be unsatisfactory, further processing of the activity will be suspended. The activity may continue only after the nonconformance has been satisfactorily resolved. For inspections which require only a simple check or a reading, the inspection provisions may be delineated in the work procedures, instructions or checklists. All other inspections shall require a separate inspection procedure which shall be referenced in the work procedures or instructions.

For each inspection the following will be documented:

- Identification of quality characteristics to be inspected

- Identification of those individuals or the organizational group responsible for performing the inspection.
- Acceptance or rejection criteria.
- Description of the inspection method.
- Results of the inspection including information related to nonconformances and acceptability of results.
- Date of the inspection and name of the individual performing the inspection.
- Identification of any instruments or special equipment used to conduct the inspection.

The NPGM is responsible for all inspections performed during the operation of the FNP, except for the receipt inspections performed by supply chain management for materials and services. Each work procedure, instructions, or checklists will include provisions for inspection, as stated above, where necessary to assure quality. The plant administrative procedures will assign responsibilities for analyzing the results of all work activities including inspection data. All inspectors will meet ANSI N45.2.6-1978 requirements as described in section 13.2 and subsection 17.2.2.

The NPGM shall assign responsibility to the appropriate departmental organizations for the direction and coordination of all plant inspection activities. The responsibilities will include identification of required inspections, preparation of procedures or instructions for inspections, identification of necessary training, and assignment of inspection personnel.

The NPGM shall also assign centralized responsibility for certifying inspectors for specified types of inspection activities based upon either being licensed or meeting requirements of ANSI N45.2.6-1978. The person designated shall also review assignment of inspectors to ensure the independence of inspection.

The NPGM will assign responsibility for cross-disciplinary reviews of inspection procedures for fulfillment of QA requirements.

The following categories of inspections will be provided:

A. Inspection of Operations Activities

Inspection of operations activities will be performed by a qualified inspector who will be someone other than the person who performed the activity. Personnel holding reactor operator or senior reactor operator licenses constitute qualified inspectors for these activities.

B. Inspection of Maintenance/Modification Activities

Inspection requirements for modifications or maintenance will include the original inspection requirements or equivalent alternatives, (to the extent that the original requirements can be determined from available documents), or other criteria approved by the NRC for FNP. General items of importance will include visual examinations to determine material and assembly integrity, cleanliness, verification of critical dimensions, housekeeping safety, environmental conditions, compliance with work procedures, use of proper tools, use of calibrated tools and instruments, tagging measures, and adequacy of identification and documentation.

Inspectors may be selected from the appropriate departmental organizations or from contractor personnel but shall be independent of the work activity being inspected.

C. Inspection of Fueling/Refueling Activities

Inspectors may be selected from the appropriate departmental organizations or from contractor personnel but will not report to supervision responsible for accomplishing the activity being inspected for the duration of the inspecting activity. Inspectors are to be qualified either by virtue of their reactor operator or senior reactor operator licenses for inspecting activities of an operations nature or by fulfilling applicable inspector qualification requirements for inspecting other activities.

D. Surveillance Tests and Inspections

Surveillance tests and inspections that involve no work activities are for the purpose of verifying that the functioning of safety-related items complies with the Technical Requirements Manual and the Technical Specifications requirements.

The NPGM will provide for overall coordination and control of the surveillance program. This will include planning to ensure that tests and inspections are performed at proper intervals by qualified personnel. It will also include review and evaluation of results to determine their acceptability and whether any follow up action must be taken.

Persons qualified as inspectors to perform surveillance tests and inspections may be assigned from any plant group. If a test or inspection requires performance by an NRC-licensed person, a reactor operator or a senior reactor operator will be utilized.

Inservice inspections required by Section XI of the ASME Code and other surveillance tests and inspections may be performed by contractors. Such contracted services shall be in compliance with the requirements of subsection 17.2.9. Quality assurance requirements will be imposed on the contractors via the contract specifications. The plant staff will monitor inspections and tests performed by contractors to verify compliance with these requirements.

E. Auditing of Inspection Requirements

The QAM will be responsible for the auditing of inspection procedures and selected work procedures to verify inclusion of quality requirements for inspections. Inspection procedures and changes thereto will be made available to the QAS for auditing. The QAS will also be provided copies of inspection plans, inspection schedules, and changes thereto. QA will verify, by timely and adequate auditing, that inspection activities are performed in accordance with prescribed quality requirements in approved procedures and by qualified inspectors.

17.2.11 TEST CONTROL

Test control at the FNP provides assurance that appropriate tests are conducted on structures, components, and systems in accordance with design documents, codes, the Technical Requirements Manual, and the Technical Specifications. Tests within the scope of FNP operations include surveillance tests and tests performed after modification of safety-related items.

Surveillance tests and tests conducted, as required, after plant modification or maintenance is the responsibility of the plant staff. The test procedure preparation, review, and approval and the review of test results are outlined in subsection 17.2.20 and detailed in an administrative procedure. The detailed testing procedures are included in the FNP procedures. The plant supervisors who are responsible for conducting such safety-related tests will ensure that plant personnel adhere to the detailed approved procedures. Plant supervisors will supervise testing activities to verify procedural adherence.

Procedures for surveillance tests and tests conducted, as required, after maintenance and modifications will include the following (as applicable):

- Objectives.
- Prerequisites.
- Test Method.
- Acceptance Criteria.
- Documentation.

Results of safety-related tests will identify the test data, data recorder, acceptability, and/or any deficiencies noted. Any noted deficiencies will be resolved with such actions documented and included with original test results.

Operations activities involved with the installation, inspection, and testing of instrumentation, electrical equipment, mechanical equipment, and systems will be accomplished in accordance with Regulatory Guide 1.30, dated August 11, 1972, Quality Assurance Requirements for the

Installation, Inspection, and Testing of Instrumentation and Electrical Equipment (endorses ANSI N45.2.4-1972), and with ANSI N45.2.8 (1974), Supplementary Quality Assurance Requirements for Installation, Inspection and Testing of Mechanical Equipment and Systems for the Construction Phase of Nuclear Power Plants. With the exceptions listed below, SNC complies with Regulatory Guide 1.30 as addressed in FSAR, section 17.2. Exception is taken to ANSI N45.2.4 (1972) "Installation, Inspection, and Testing Requirements for Instrumentation and Electric Equipment During the Construction Phase of Nuclear Power Generating Stations," section 6.2.1, which states, in part: "Items requiring calibration shall be tagged or labeled on completion indicating date of calibration and identity of person that performed the calibration." Installed process instruments at Plant Farley are identified by unique instrument numbers which are readable at the instrument. These instrument numbers are traceable to calibration schedules and records. These calibration schedules or records contain the same information as required by ANSI 45.2.4 (1972). These schedules or records are readily accessible to personnel who are required to check calibration status as required by governing procedures. These instruments are not tagged or labeled with calibration data. Listed below is a cross-reference between sections of these standards and the FSAR subsections that discuss compliance with these requirements:

ANSI N45.2.4 Section	FSAR Subsection
1.1	NA
1.2	NA
1.3	13.5.3, 17.2.1
1.4	NA
1.5	NA
2.1	13.5.3
2.2	17.2.2, 17.2.3
2.3	17.2.13, 17.2.1
2.4	17.2.10, 17.2.11
2.5	17.2.12
2.6	17.2.16
3	17.2.7, 17.2.8, 17.2.10, 17.2.13
4	17.2.10, 17.2.11
5.1	13.5.3, 17.2.10, 17.2.13
5.2	17.2.11

ANSI N45.2.4 Section	FSAR Subsection
6.1	13.5.3, 17.2.10
6.2	17.2.11
7	17.2.10, 17.2.11
8	17.2.17
A1	13.5.3
A2.1	17.2.5, 17.2.6
A2.2	NA
A2.3	13.5.3
A2.4	13.5.3
A3.1	17.2.13
A3.2	13.5.3
A4.1	13.5.3
A4.2	13.5.3, 17.2.10
A5	17.2.11

ANSI N45.2.8 Section	FSAR Subsection
1.1	NA
1.2	NA
1.3	13.5.3, 17.2.1
1.4	NA
1.5	NA
2.1	13.5.3
2.2	13.5.3, 17.2.1, 17.2.5
2.3	17.2.10, 17.2.11

ANSI/N45.2.8 Section	FSAR Subsection
2.4	17.2.13
2.5	17.2.13
2.6	17.2.13
2.7	17.2.2
2.8	17.2.12
2.9	17.2.2, 17.2.3, 17.2.13
3.1	17.2.10
3.2	17.2.7, 17.2.8, 17.2.13
3.3	17.2.10, 17.2.5, 17.2.9
3.4	17.2.10
3.5	17.2.10
4.1	13.5.3, 17.2.10, 17.2.11
4.2	17.2.18
4.3	17.2.11
4.4	17.2.10, 17.2.13
4.5	17.2.10, 17.2.11, 17.2.13
4.6	17.2.13
5.1	17.2.11
5.2	17.2.11
5.3	17.2.11
5.4	17.2.11
6	17.2.10, 17.2.11
7	17.2.17

The QA staff will selectively audit the testing programs to verify that the required testing is performed; test procedures are adhered to; and written test procedures are developed which include prerequisites, requirements for proper instrumentation, and provisions that the test be conducted under suitable environmental conditions with established acceptance limits. Audits will include verification that test results are properly documented, proper evaluation of test results is performed, the results of these evaluations are recorded, and tests which reveal unacceptable conditions are properly noted and resolved.

The QA staff will audit selected tests on a periodic basis to verify that the required tests are performed using written test procedures and that test results are properly documented and reviewed by the responsible parties.

17.2.12 CONTROL OF MEASURING AND TEST EQUIPMENT

Calibration control will ensure that tools, gages, instruments, and other measuring devices are controlled, calibrated, and adjusted as required. This equipment will be calibrated according to standards which are traceable to the United States National Institute of Standards and Technology when such standards exist. When such standards are not available, industrial practices will be utilized.

The plant staff will develop administrative procedures and calibration procedures to ensure that properly calibrated measuring and testing devices will be used in safety-related activities. The FNP procedures will identify the test and measuring equipment required for operating and maintenance activities. The calibration procedures will include requirements for the control of the equipment, calibration accuracy, schedule, records, and traceability. Test equipment will be calibrated with sufficient frequency to assure that accuracy is maintained. This equipment will be stored in suitable locations and environments and will only be used by properly trained personnel.

The plant staff is responsible for calibrating test equipment, ensuring that calibration is maintained within specified limits, and ensuring that properly calibrated equipment is used. When inspection, measuring, and test equipment is found to be out of calibration, an evaluation shall be made and documented of the validity of previous inspections or test results and of the acceptability of items previously inspected or tested. If any inspection, measuring, or test equipment is consistently found to be out of calibration, it shall be repaired or replaced. Plant supervisors are responsible for ensuring that these calibration controls are implemented.

17.2.13 HANDLING, STORAGE, AND SHIPPING

Supply Chain management will develop procurement documents, as described in subsection 17.2.4, for replacement-in-kind equipment and material for maintenance and modification which contain requirements for material preservation, packaging, handling, identification, storage, and shipping to ensure against material damage by the supplier before site delivery.

Supply Chain management is responsible for ensuring that packaging, shipping, receiving, storage, and handling are performed according to administrative and working procedures developed to comply with the requirements of ANSI N45.2.2-1972. Receiving inspections will

be performed and the status of items will be indicated. Nonconforming items will be handled according to approved procedures and a reinspection of items that have been corrected will be performed. Periodic inspection will be performed of the storage areas and of items in storage. Requirements for proper maintenance of items during storage will be documented. Only items considered acceptable for installation will be removed from storage for installation or use. Instructions or procedures will be developed for special handling of certain items, and only competent personnel will be used to operate material-handling equipment. An inspection program is established for material-handling equipment and rigging, with measures for the control of nonconforming lifting equipment. Records will be maintained, at the plant site, of procedures, reports, inspection records, and personnel qualifications.

During the operations phase of the FNP, the plant staff will observe housekeeping practices which are consistent with the applicable regulations and standards, including ANSI N45.2.3-1973. Plant administrative procedures will delineate division of responsibility for housekeeping, provide a system of scheduled inspections and a means of documenting results, and provide for the generation of adequate housekeeping records. In general, the facilities supervisor, who reports to a maintenance superintendent, will be responsible for maintaining the cleanliness of affected areas. The operations, health physics, or security groups will provide access control to areas where it is required, and area inspections will be provided as described in subsection 17.2.10. On-the-job training, which is discussed in subsection 17.2.2, will include indoctrination of personnel who will perform work in cleanness zones defined in ANSI N45.2.3-1973.

With regard to cleaning of fluid systems and associated components during the operational phase of the FNP, procedures have been developed to provide for cleaning and control of the cleanliness of safety-related items and systems required by regulations and standards, including ANSI N45.2.1-1973, during certain maintenance activities, when items are repaired, replaced, or otherwise subjected to conditions detrimental to the required cleanliness level. When applicable, cleaning and cleanliness control requirements will be imposed upon vendors through procurement documents. Where tests or examinations are performed to evaluate cleanliness, qualified personnel will be used. Cleaning agents and tools used for abrasive work will be evaluated to determine if they contain compounds that might be detrimental to corrosion-resistant alloys. Only approved materials will be used for this purpose. Records will be maintained as described in subsection 17.2.17.

The QAM's staff, as discussed in subsection 17.2.1, will review an administrative procedure for the inclusion of OQAPM requirements for handling, storage, and shipping. QA will audit selected handling, storage, and shipping work procedures to provide verification that special environmental conditions are required when storing certain items; work assignments are made for appropriate activities described in the procedures; cleaning requirements stated in codes, standards, and manufacturers' literature are required; storage locations are listed; and proper handling tools are listed. The QA staff will audit the performance of selected activities in accordance with these procedures, documenting any nonconformances. The QA staff will audit receipt, handling, and storage of nuclear fuel to determine whether these activities are performed in accordance with approved procedures. QA will audit the resolution of nonconformances found by plant staff personnel during receipt inspection activities. These nonconformances may be accepted as is, may cause an item to be segregated as unacceptable, or may be accepted conditionally for correction after installation. However, such action must be documented with appropriate justification for each resolution.

QA will selectively audit handling, receiving, and storage activities and records to verify conformance with approved procedures. Selected documentation developed during nuclear fuel receipt inspection, handling, and storage activities will be audited on a more frequent basis because of the safety significance of these activities.

17.2.14 INSPECTION, TEST, AND OPERATING STATUS

The FNP Technical Specifications and the Technical Requirements Manual provide the baseline information that is applicable to the operation of the plant, including provisions for surveillance tests and inspections of specific instruments, components, and systems. Administrative procedures delineate responsibility to ensure that necessary tests and inspections are conducted in accordance with FNP procedures, applicable codes, the Technical Requirements Manual, and the Technical Specifications.

Administrative procedures require that the status of inoperative and malfunctioning equipment be indicated to prevent its inadvertent use. Detailed operating procedures describe the prerequisites for the performance of each activity and the tagging and records required to indicate the current equipment status. The plant supervisors are responsible for ensuring compliance with administrative and plant procedures.

The QA staff shall selectively audit inspection, testing, and operation status implementation procedures to verify that the method of identification is provided for applicable activities on individual components and that an assignment of the responsible personnel for indicating this status is made. The inspection, testing, and operating status will be audited by the QA staff for selected components to verify the adequacy of such identification. The QA staff will verify that the status of controlled items and malfunctioning or nonconforming items is clearly indicated to preclude inadvertent use. The QA staff will audit the inspection, testing, and operating status indication of selected FNP components to verify that such indication accurately and clearly describes the status of the component.

17.2.15 NONCONFORMING MATERIALS, PARTS, OR COMPONENTS

A documented system for controlling nonconformances in replacement-in-kind, maintenance, and modification material, which is described in an administrative procedure, is utilized to prevent the inadvertent use or installation of defective materials, parts, and components. This system details the method of identification, documentation, segregation, review, disposition, and notification of the affected plant staff. A nonconformance report will be prepared whenever a nonconforming material, part, or component is discovered, and a hold tag will be attached to the item. It will then be transferred to a designated storage area for nonconforming material.

The resolution of nonconformance reports will be handled by the responsible supervisor. All decisions made to accept the material in question as is will be reviewed by the PRB, of which the QAS is a nonvoting member.

QA will audit nonconforming materials, parts, or components, implementing procedures to verify that assignments are made for inspecting materials, parts, or components; documents

available to persons performing inspections are listed; the method of developing nonconformance reports is provided; and the method of notifying affected personnel concerning nonconforming material is provided. Nonconformances may be cited if the component does not comply with procurement requirements or applicable codes or is not accompanied by sufficient documentation to verify quality aspects. After the PRB recommends to accept as is or to reject or rework an item and a decision is made by the NPGM, the QA staff will selectively audit design, segregation, rework, or acceptance activities performed to comply with the decision. This audit will verify that there is compliance with applicable implementation procedures and that proper documentation of each activity is developed.

The QA staff shall audit the resolution of selected nonconformance reports to verify that such resolution was performed in accordance with requirements of administrative procedures.

17.2.16 CORRECTIVE ACTION

An administrative procedure has been written to assure that conditions adverse to quality, such as deficiencies, deviations, defective material and equipment, and other nonconformances, are promptly identified and corrected. The plant supervisors will be responsible for directing the correction of failed or malfunctioning safety-related equipment in accordance with written approved procedures. Corrective action will be documented and placed in the document control center.

For a significant condition adverse to quality, measures shall be taken to ensure that the cause of the condition is determined and corrective action is taken to preclude its repetition. Such conditions are those which involve license events. The PRB and SRB shall review these conditions, as described in subsection 17.2.20.

When safety-related equipment is found to be defective or deficient or to contain deviations from specifications or when an item fails or malfunctions, a deficiency tag is placed on the equipment. Items retain this tag until all deficiencies or malfunctions have been corrected. Tags are then removed and the item is available for installation or service.

The QAM's staff, as described in subsection 17.2.1, will review administrative procedures for inclusion of applicable policies contained in the OQAPM. The QA staff will audit corrective action implementing procedures to verify that mechanisms are provided for documenting failures, malfunctions, deviations, nonconformances, and correction of such items; assuring corrective action is identified and correlated with the original documentation of the condition; determining if such a condition is significant; reporting the condition and its resolution to management. The QA staff will audit selected corrective action activities to verify that they are completed in accordance with the written procedures. During audits performed by the QA staff, particular attention will be paid to the verification that significant conditions adverse to quality are properly identified, documented, and evaluated; actions are taken to preclude recurrence; corrective actions are timely; and proper management is kept informed of the situation. The QA staff will perform periodic audits of the corrective action procedures and activities to ensure compliance with administrative procedures.

17.2.17 QUALITY ASSURANCE RECORDS

Procedures written by the plant and corporate staffs require the proper identification of documents which furnish objective evidence of activities affecting the quality of the FNP. Administrative procedures describe the method of writing, approving, and modifying procedures for the respective groups. Plant and corporate staff members who develop operational procedures will use ANSI N45.2.9-1974 as a standard reference. The PRB and supervisory personnel who review operations procedures will consider whether prospective procedures require the generation of records listed in ANSI N45.2.9-1974. Records to be developed include operating, maintenance, and testing records listed in Sections A.5 and A.6 of ANSI N45.2.9-1974 and records developed during the operations phase, as applicable, which are similar to those listed in Sections A.1 through A.5. Examples of these records are design change requests, procurement specifications, manufacturers' material properties records, nonconformance reports generated during receipt inspection, liquid penetrant test procedures, lubrication records, cable termination procedures, and component test procedures and results. Several records listed in ANSI N45.2.9-1974 will not be available at the FNP because procurement specifications and procedures for performing certain activities were written prior to the development of ANSI N45.2.9-1974 and did not require some of the records listed in Section A of ANSI N45.2.9-1974 to be generated and maintained. Similar activities performed during the operation of the FNP will require the generation of records listed in Sections A.1 through A.5 of ANSI N45.2.9-1974. The retention times for records maintained at the FNP comply with the requirements of ANSI N45.2.9-1974. The minimum records to be controlled and retained are described in subsection 13.6.2.

Administrative procedures contain methods for identifying, filing, and maintaining records in accordance with the guidance provided in ANSI N45.2.9-1974. Most records will be identified by the assignment of the correct record type identifier by plant or corporate staffs. The TPNS number, which was once used for filing all quality documentation, signifies the components, systems, separation classification, FNP unit, and unique identification. The quality documents to be generated and the duration of their plant retention are described in section 13.6. Other closely related data, such as personnel and equipment qualifications, will also be retained as quality records in the document control center. A signout system will ensure timely location of any record that has been temporarily removed from the files. The document control center has been generally designed so as to comply with the requirements of Section 5.6 of ANSI N45.2.9-1974. The doors, frames, and hardware have a 2-hour minimum Class A fire rating; one roof drain pipe is located above the ceiling of the storage area. The structure is designed using structural steel and masonry to withstand wind loads as required by the Uniform Building Code.

The QAM's staff, as discussed in subsection 17.2.1, reviews administrative procedures that provide administrative guidance on QA records. He/she will verify that these procedures establish a records system which will require the generation of sufficient records to furnish evidence of activities affecting quality that comply with requirements of applicable codes, standards, and the OQAPM. This review will verify that a system is provided and that responsibilities are assigned for identifying, storing, and retrieving quality records and that proper distribution and review of records generated is required.

For electronic storage of QA records, FNP complies with the technical aspects of the Nuclear Information and Records Management Association, Inc., (NIRMA) guidelines (ref: NIRMA Technical Guide (TG) 11-1998, "Authentication of Records and Media," NIRMA TG 15-1998,

"Management of Electronic Records"). Relevant criteria of 10 CFR 50 Appendix B will continue to be satisfied when electronic media are used for managing QA records.

The QA staff will audit operations procedures which delineate records requirements to verify that the responsibility of a qualified recorder and reviewer is specified, that records required are detailed enough to reconstruct significant events, and that corrective action following the documentation of unsatisfactory data is required. The QA staff will audit quality records to assure completeness, adequate identification of data recorder and reviewer, and the assignment of the correct identifier, where applicable.

The QA staff will audit selected quality records to verify that the records have been properly generated in compliance with administrative procedures and detailed work procedures.

They will audit the filing of quality records to determine if they are properly identified and retrievable. They will audit the records storage area to verify compliance with temperature and humidity requirements, that records are only accessible to authorized personnel, and that the records are not deteriorating because of handling.

Similar controls will be implemented by contractors or suppliers contracted by the plant or corporate staff to ensure against loss or misplacement of quality documents or records.

17.2.18 AUDITS

A system of audits devised to verify the effectiveness of and compliance with the OQAP during operation, maintenance, inspection and modification of the FNP will be implemented. The objectives of the audit system are to determine that the OQAP has been developed in accordance with applicable requirements, to verify by evaluation that the program has been implemented, to assess the effectiveness of the OQAP, to identify program noncompliances, and to verify the resolution of deficiencies and nonconformances.

The audit system that complies with the requirements of ANSI N45.2.12-1974 shall be described in approved, written plans, policies, and procedures which require that audits be performed with procedures and/or checklists by trained personnel not directly responsible for the activity. Audit implementing procedures shall assign persons responsible for performing audits who are knowledgeable in the area audited and in auditing techniques, shall establish audit frequency, and shall prescribe the format for documenting results. The qualifications of the audit personnel shall be commensurate with the complexity or special nature of the activity. Auditors may attain proficiency by orientation training that provides working knowledge of QA requirements, by training programs that provide knowledge of auditing techniques, by on-the-job training, or by orientation by technical specialists. Lead auditors shall be qualified in accordance with ANSI N45.2.23-1978 with the exception of Section 2.3.4. For ANSI N45.2.23-1978 Section 2.3.4, an alternate acceptable method for qualifying lead auditors may be implemented as follows:

ANSI N45.2.23-1978, Section 2.3.4, states that the prospective lead auditor shall have participated in a minimum of five (5) quality assurance audits within a period of time not to exceed three (3) years prior to the date of qualification, one audit of which shall be a nuclear quality assurance audit within the year prior to his qualification. In lieu of the requirements of

Section 2.3.4 of ANSI N45.2.23-1978, the prospective lead auditor shall demonstrate their ability to effectively implement the audit process and effectively lead an audit team. The demonstration process will be described in written procedures and shall evaluate and document the results of the demonstration. Regardless of the methods used for the demonstration, the prospective lead auditor shall have participated in at least one nuclear quality assurance audit within the year preceding the individual's effective date of qualification. Upon successful demonstration of the ability to effectively implement the audit process and effectively lead audits, and having met the other provisions of Section 2.3 of ANSI N45.2.23-1978, the individual may be certified as being qualified to lead audits.

A mechanism shall be established for development, review, and approval of audit procedures and checklists. Audit results shall be submitted to appropriate management responsible for the activity being audited. All deficiencies uncovered by audits will be resolved by the organization that performed the activity. In addition, the organization will identify the scope, cause, and effect of the noncompliance. The same organization that performed the original audit shall reaudit to verify satisfactory resolution. Periodic audits of activities shall pay particular attention to areas where noncompliances were previously found.

Supplementary audits will be performed when significant changes have been made to the OQAP, when it is suspected that the quality of an item is in jeopardy as a result of a noncompliance in the OQAP, when a systematic independent assessment of the OQAP's effectiveness is necessary, or when it is necessary to verify implementation of required corrective action.

Operational QA audits will be conducted by QA, which is an independent organization under the direction of the quality assurance manager, who reports to the executive vice president. The organization is shown on figure 17.2-1. It consists of both onsite and offsite groups. The OQA audit program will be designed to systematically audit all areas within the OQA program. It will include the audit of various activities such as maintenance and inspection actions as they develop and occur during the life of the plant.

The onsite QA staff, as shown in table 17.2-1, will function under the supervision of the QAS to carry out a continuing, comprehensive auditing program which is coordinated with plant activities. The offsite QA staff will not only participate in this audit program, but also will carry out a system of supplementary audits which will be designed to ensure that all areas are audited with adequate frequency and which will verify the effectiveness of auditing conducted by the onsite QA staff. The offsite QA staff will audit quality-related activities of SNC Technical Support, and other offsite groups which provide support to the operation of the FNP. Audit findings will be reported to the NPGM for onsite audits and to the vice president-project (Farley). Reaudit of deficient areas will be performed on a timely basis. Audit and reaudit findings will be analyzed and summarized as they accumulate to identify trends and to evaluate the effectiveness of the OQA program. These summaries will be included in periodic reports of QA auditing activities and findings made to the SRB and the vice president-project (Farley).

The QA staff will also conduct audits of SNC safety-related activities.

The vice president-project (Farley) will provide for a periodic independent audit of QA to verify its satisfactory performance of assigned responsibilities in the OQA program. Both onsite and offsite QA staffs will be audited. The audit results will be reported to the quality assurance

manager, the SRB, and the vice president-project (Farley). The frequency shall be in accordance with audit frequency requirements in paragraph 17.2.18.1.D.

Audits shall be performed in accordance with an audit plan which delineates activities to be covered, coverage of the audit, and audit scheduling. Audits shall be performed in sufficient depth to determine that a certain element of the OQAP has been effectively implemented. The frequency of all audits discussed above is determined by the status and importance of the activity to plant safety to assure adequacy of and conformance with the OQAP. The audit implementation procedures list activities which will be audited and the frequency of these audits.

17.2.18.1 Required Audits

Audits of facility activities shall be performed under the cognizance of the SRB. Each audit shall be performed within the specified time interval with the following allowances:

A. 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.

B. A maximum extension not to exceed 25% of the audit interval shall be allowed. That is to say that 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.

C. When an audit interval extension greater than 1 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.

D. Item B shall also apply to supplier audits and evaluations except that a total combined time interval for any three consecutive inspection or audit intervals shall not exceed 3.25 times the specified inspection or audit interval.

The following audits are required:

A. The conformance of reactor and plant operation to provisions contained within the Technical Specifications and applicable license conditions, at least once per 24 months.

B. The performance, training, and qualification of the entire plant staff, at least once per 24 months.

C. 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.

D. The performance of activities required by the operations quality assurance program to meet criteria of 10 CFR 50, Appendix B, at least once per 24 months.

E. The Emergency Plan and implementing procedures, at least once per 12 months.

F. The Security Plan and implementing procedures, at least once per 24 months.

G. 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. At least once per 36 months, the audit team will include an outside qualified fire protection consultant.

H. The Radiological Environmental Monitoring Program and the results thereof, at least once per 24 months.

I. The Offsite Dose Calculation Manual (ODCM) and implementing procedures, at least once per 24 months.

J. The Process Control Program (PCP) and implementing procedures for processing and packaging of radioactive waste, at least once per 24 months.

K. The Environmental Protection Plan (EPP), at least once per 24 months.

L. Any other area of plant operation considered appropriate by the Safety Review Board or the plant vice president.

17.2.19 ADMINISTRATIVE PROCEDURES

Administrative procedures delineate the responsibilities of individuals and groups for performing activities that affect the quality of the FNP operations. The staffs which have OQA responsibility are as follows:

- Quality Assurance.
- Plant staff.
- Nuclear Support.

17.2.20 REVIEW AND AUDIT - TEST AND OPERATION

17.2.20.1 In-Plant Review

17.2.20.1.1 Continuing Review

As part of their day-to-day responsibilities, supervisory personnel will review and audit all plant activities. They will verify that safety-related activities are performed in accordance with

approved procedures. They will review documentation and records to verify that technical and quality requirements are maintained.

17.2.20.1.2 Plant Review Board

The PRB, composed of plant supervisory and technical personnel, will review matters concerning plant preoperation, startup, and operations. This committee (formerly known as "PORC") became functional on June 13, 1974.

17.2.20.1.2.1 Plant Review Board (PRB)

A. Function

The PRB shall function to advise the NPGM on matters related to plant and independent spent-fuel storage installation (ISFSI) nuclear safety.

B. Membership

The PRB shall be composed of the following as a minimum:

1. Chairman (nuclear plant general manager).
2. Vice chairman (plant operations assistant general manager).
3. Member* (plant support assistant general manager).
4. Member (health physics manager).
5. Member (chemistry manager)
6. Member (operations manager).
7. Member (maintenance manager).
8. Member (engineering support manager).
9. Member (work control superintendent).
10. Nonvoting member (quality assurance supervisor).

* The plant support assistant general manager may serve as a PRB vice chairman if he/she possesses a baccalaureate degree in engineering or a scientific field.

C. Alternates

All alternate members shall be appointed in writing by the PRB chairman to serve on a temporary basis; however, not more than one alternate shall participate as a voting member in PRB activities at any one time.

D. Meeting Frequency

The PRB shall meet at least once per calendar month and as convened by the PRB chairman or vice chairman.

E. Quorum

The minimum quorum of the PRB necessary for the performance of the PRB responsibility and authority provisions shall consist of the chairman or vice chairman and three voting members, including alternates.

F. Responsibilities

The PRB shall review:

1. All administrative procedures and changes thereto.

2. The 10 CFR 50.59 or 10 CFR 72.48 evaluations (as applicable) for (a) procedures, (b) changes to procedures, equipment, or systems, and (c) tests or experiments completed under the provision of 10 CFR 50.59 or 10 CFR 72.48 (as applicable) to verify that such actions did not require NRC approval pursuant to 10 CFR 50.59 or 10 CFR 72.48 (as applicable) and the below listed programs and changes thereto.

   - Primary Coolant Sources Outside Containment.
   - In-plant radiation monitoring.
   - Secondary water chemistry.
   - Deleted.
   - Radioactive Effluent Controls Program.
   - Process Control Program.
   - Radiological Environmental Monitoring Program (contained in the ODCM).

3. Proposed procedures and changes to plant or ISFSI procedures, equipment, or systems which may require NRC approval pursuant to 10 CFR 50.59 or 10 CFR 72.48 (as applicable).

4. Proposed plant or ISFSI tests or experiments which may require NRC approval pursuant to 10 CFR 50.59 or 10 CFR 72.48 (as applicable).

5. Proposed changes to the plant or ISFSI Technical Specifications or licenses.

6. Reports of violations of codes, regulations, orders, plant or ISFSI Technical Specifications, license requirements, or internal procedures or instructions having nuclear safety significance or reports of abnormal degradation of systems designed to contain radioactive material.

7. Reports of significant operating abnormalities or deviations from normal and expected performance of plant or ISFSI equipment that affect nuclear safety.

8. All reportable events.

9. All recognized indications of an unanticipated deficiency in some aspects of design or operation of safety-related structures, systems, or components.

10. The FNP Security Plan and changes thereto.

11. The Emergency Plan and changes thereto.

12. Facility operations to detect potential nuclear safety hazards.

13. Every unexpected onsite release of radioactive material to the environs resulting from a lack of preplanning, including the preparation and forwarding of reports covering evaluation, recommendations, and disposition of the corrective action to prevent recurrence, to the NPGM and to the SRB.

14. Changes to the PCP and the ODCM.

15. Investigations or analyses of special subjects as requested by the chairman of the SRB.

16. The acceptance of safety-related material that has been identified in nonconformance reports and that has been accepted as is.

G. Authority

The PRB shall:

1. Recommend to the NPGM in writing approval or disapproval of items considered under 1 through 5 and 10 and 11 in paragraph F above.

2. Render determinations in writing with regard to whether or not each item considered under 1, 3, and 4 in paragraph F above require NRC approval pursuant to 10 CFR 50.59 or 10 CFR 72.48 (as applicable).

3. Make recommendations, in writing, to the NPGM, that actions reviewed under 2 in paragraph F above did not require NRC approval pursuant to 10 CFR 50.59 or 10 CFR 72.48 (as applicable).

4. For all other items not listed in 1, 2, or 3 of paragraph G, the PRB will function in an advisory capacity, as necessary, to the NPGM concerning the item's adequacy or indication of potential nuclear safety hazard.

H. PRB Action Procedure

The chairman or vice chairman is responsible for assigning PRB activities. The PRB secretary shall prepare the PRB meeting agenda and written minutes. Recommendations of approval of an item under consideration require agreement of a majority of the committee. The PRB chairman may appoint subcommittees as required for assisting with matters which will be reviewed by the PRB. The chairman of a subcommittee will be a member of the PRB.

I. Records

1. The PRB shall maintain written minutes of each meeting. These minutes are an official plant record and are stored permanently in the plant files. Their content will include but is not limited to the following: PRB meeting agenda, subcommittees assigned, attendance, reviews performed, and committee evaluations and recommendations.

2. The agenda of special meetings may be abbreviated or modified with respect to time or other considerations, and this will be reflected in the minutes.

3. The minutes will be approved by the PRB chairman. The minutes, along with safety evaluations and other attached documents, will be distributed to the plant file, the vice president-project (Farley), and the SRB chairman.

J. Revision to PRB Charter

The PRB charter revisions or amendments may be initiated by the NPGM. These revisions or amendments are subject to review by the SRB, approval by the NRC (if required), and final approval by the vice president-project (Farley).

17.2.20.2 Independent Review and Audit

17.2.20.2.1 Safety Review Board

A. General

The SRB shall advise the executive vice president on matters related to nuclear power plant and independent spent-fuel storage installation (ISFSI) safety for all

SNC plants and corporate activities. The SRB shall function to provide independent review and audit of designated activities in the areas of:

1. Nuclear power plant and ISFSI operations.
2. Nuclear engineering.
3. Chemistry and radiochemistry.
4. Metallurgy.
5. Nondestructive testing.
6. Instrumentation and control.
7. Radiological safety.
8. Mechanical and electrical engineering.
9. Administrative controls and quality assurance practices.
10. Other appropriate fields associated with the unique characteristics of the nuclear power plants such as the independent spent-fuel storage facility operation.

The SRB shall report to and advise the executive vice president on those areas of responsibility specified in paragraphs below (Reviews and Audits), and other areas as may be assigned. The SRB shall meet the requirements of ANS 3.2/N18.7-1976 for the Independent Review Program.

B. Membership

The Board shall consist of at least five regular members, appointed in writing by the executive vice president, with no more than a minority of the members representing the onsite operating organization of any specific plant. The minimum membership of the Board will consist of the vice president – Farley, the vice president – Hatch, the vice president – Vogtle, the vice president – engineering, the nuclear fuel manager, and the quality assurance manager. A chairman and a vice chairman shall be appointed by the executive vice president from among the plant vice presidents for a term of 1 year.

Alternate members of the SRB shall be appointed in writing by the executive vice president to serve on a temporary basis for a specific member. The use of alternates shall be restricted to legitimate absences of regular members. In the absence of the SRB chairman, the vice chairman will assume the duties of the SRB chairman.

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

The SRB shall be composed of members who, as a group, provide the 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 and each member of the SRB, as a minimum, have a bachelor's degree in engineering or related sciences and 5 years of technical experience of which at least 3 shall be in one of the following areas:

1. Nuclear power plant operations.

2. Nuclear engineering.
3. Chemistry and radiochemistry.
4. Metallurgy.
5. Nondestructive testing.
6. Instrumentation and control.
7. Radiological safety.
8. Mechanical and electrical engineering.
9. Administrative controls and QA practices.

Subcommittees may be appointed by the SRB chairman to perform designated activities. Subcommittee actions shall be reported to and acted on by the SRB. Subcommittee chairmen will be members or alternate members of the SRB. Termination of membership on the SRB shall be authorized in writing by the executive vice president.

C. Meetings

The SRB shall meet at least once per 6 months.

The quorum of the SRB necessary for the performance of the SRB review functions described below shall consist of the chairman or the vice chairman and at least a majority of the SRB 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 SRB activities at any one time.

D. Reviews

The SRB shall be responsible for the review of:

1. The 10 CFR 50.59 and 10 CFR 72.48 evaluations (as applicable) of:

   a. Changes to plant or ISFSI procedures, equipment, or systems; and

   b. Plant or ISFSI tests or experiments completed under the provision of 10 CFR 50.59 or 10 CFR 72.48, to verify that such actions did not require prior NRC approval.

2. Proposed changes to plant or ISFSI procedures, equipment, or systems which require prior NRC approval pursuant to 10 CFR 50.59 or 10 CFR 72.48.

3. Plant or ISFSI proposed tests or experiments which require prior NRC approval pursuant to 10 CFR 50.59 or 10 CFR 72.48.

4. Proposed changes to the plant or ISFSI Technical Specifications or Licenses.

5. Violations of codes, regulations, orders, plant or ISFSI Technical Specifications, license requirements, or of internal procedures or instructions having nuclear safety significance or abnormal degradation of systems designed to contain radioactive material.

6. Significant operating abnormalities or deviations from normal and expected performance of plant or ISFSI equipment that affect nuclear safety.

7. All reportable events.

8. All recognized indications of an unanticipated deficiency in some aspect of design or operation of plant or ISFSI structures, systems, or components that could affect nuclear safety.

9. Performance of the Plant Review Board.

E. Audits

Audits of plant activities shall be performed under the cognizance of the SRB. The audits to be performed are discussed in subsection 17.2.18.

F. Records

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

1. Minutes of each SRB meeting shall be prepared, approved, and forwarded to the executive vice president within 14 days following each meeting.

2. Reports or subcommittee meeting minutes of reviews as described above shall be prepared, approved, and forwarded to the executive vice president within 14 days following completion of the review.

3. Audit reports as described above shall be forwarded to the executive vice president and to the management positions responsible for the areas audited within 30 days after completion of the audit by the auditing organization.

17.2.20.3 Technical Review and Control

A. Activities

Activities which affect nuclear safety shall be conducted as follows:

1. Procedures required by the plant and ISFSI Technical Specifications, PCP procedures, In-Plant Radiation Monitoring procedures, and other procedures which affect plant and ISFSI nuclear safety, and changes (other

than editorial or typographical changes) thereto, shall be prepared, reviewed, and approved. Each such procedure or procedure change shall be reviewed by an individual/group other than the individual/group which prepared the procedure or procedure change but who may be from the same organization as the individual/group which prepared the procedure or procedure change. Procedures other than administrative procedures will be approved by either the health physics manager, the chemistry manager, the training and emergency preparedness manager, the operations manager, the maintenance manager, the engineering support manager, the work control superintendent, the performance analysis supervisor, or an assistant general manager as applicable. The NPGM will approve administrative procedures, security implementing procedures, emergency plan implementing procedures, and contingency implementing procedures. Temporary changes to procedures which clearly do not change the intent of the approved procedures will be approved by two members of the plant staff, at least one of whom holds a senior reactor operator's license. For changes to procedures which may involve a change in intent of the approved procedures, the person authorized above to approve the procedure shall approve the change.

2. Proposed changes or modifications to plant and ISFSI nuclear safety-related structures, systems, and components shall be reviewed as designated by the NPGM. Each such modification shall be reviewed by an individual/group other than the individual/group which designed the modification but who may be from the same organization as the individual/group which designed the modification. Proposed modifications to plant and ISFSI nuclear safety-related structures, systems, and components shall be approved by the NPGM prior to implementation.

3. Proposed tests and experiments which affect plant and ISFSI nuclear safety and are not addressed in the plant or ISFSI Final Safety Analysis Report shall be prepared, reviewed, and approved. Each such test or experiment shall be reviewed by an individual/group other than the individual/group which prepared the proposed test or experiment but who may be from the same organization as the individual/group which prepared the proposed test or experiment. Test procedures will be approved in accordance with paragraph 17.2.20.3.

4. Reportable events pursuant to 10 CFR 50.73 shall be investigated, and a report shall be prepared which evaluates the occurrence and provides recommendations to prevent recurrence. Such reports shall be approved by the NPGM and forwarded to the chairman of the SRB.

5. Individuals responsible for reviews performed in accordance with items 1 through 4 above shall be members of the plant supervisory staff previously designated by the NPGM. Each such review shall include a determination of whether or not additional cross-disciplinary review is necessary. If deemed necessary, such review shall be performed by the review personnel of the appropriate discipline.

6. Each review will include a determination of whether or not an item requiring NRC approval pursuant to 10 CFR 50.59 or 10 CFR 72.48 (as applicable) is involved. NRC approval of items requiring NRC approval pursuant to 10 CFR 50.59 or 10 CFR 72.48 (as applicable) will be obtained prior to NPGM approval for implementation.

B. Records

Records of the above activities shall be provided to the NPGM, PRB, and/or SRB as necessary for required reviews.

17.2A (SUPPLEMENT) QUALITY ASSURANCE OF THE INDEPENDENT SPENT-FUEL STORAGE INSTALLATION

This Supplement describes the administrative controls and the quality assurance (QA) program applied to important-to-safety (ITS) structures, systems, and components associated with the Farley Nuclear Plant 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 described in section 17.2, modified to address 10 CFR 72 Subpart G items specific to ISFSI and related support activities.

The QA program described in section 17.2 is applicable to ISFSI items classified as ITS Category A and ITS Category B. Specific aspects of the QA program are applied to ITS Category C items as specified in the individual subsections.

The following definitions are applicable to the Farley Nuclear Plant quality assurance program:

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, as described in the following identified FSAR subsections, is applied to ITS Category A, B, and C items unless modified by the description below:

- 17.2.1 Organization

The corporate organization established to support operation of Farley Nuclear Plant also functions to support operation of the Farley Nuclear Plant ISFSI.

Additional offsite support is provided by the cask 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.

- 17.2.2 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 table 17.2A-1. Items identified as not important to safety in table 17.2A-1 are excluded from the QA program.

The plant organization has the same responsibilities as described in paragraph 17.2.1.4 and subsection 17.2.2 for ITS Category A and Category B items.

- 17.2.3 Design Control

Design control measures for ITS Category A and Category B items are applied where appropriate per the controls in subsection 17.2.3. 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.

- 17.2.4 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 subsection 17.2.4. 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.

- 17.2.5 Instructions, Procedures, and Drawings
- 17.2.6 Document Control
- 17.2.16 Corrective Action
- 17.2.17 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.

- 17.2.18 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, as described in the following identified FSAR subsections, is applied to ITS Category A and B items.

- 17.2.7 Control of Purchased Material, Equipment, and Services.
- 17.2.8 Identification and Control of Materials, Parts, and Components.
- 17.2.9 Control of Special Processes.
- 17.1.10 Inspection.
- 17.2.11 Test Control.
- 17.2.12 Control of Measuring and Test Equipment.
- 17.2.13 Handling, Storage, and Shipping.
- 17.2.14 Inspection, Test, and Operating Status.
- 17.2.15 Nonconforming Materials, Parts, and Components.

TABLE 17.2-1

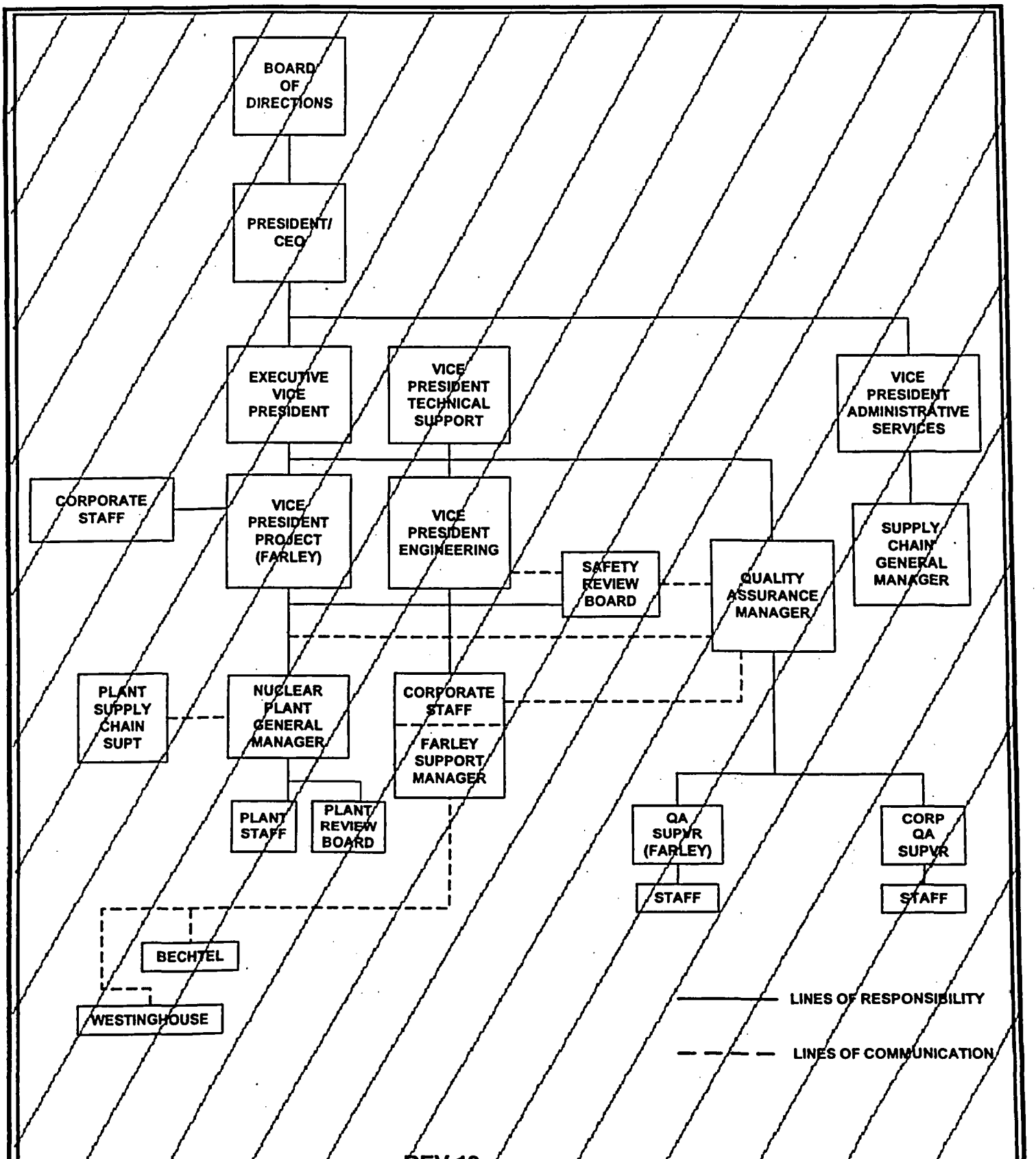
ONSITE QA STAFF

Position	Responsibilities
QAS	1. Site QA supervision
	2. Emphasis in nuclear operations, fluid systems and mechanical areas
Plant QA engineers (4)	1. Becoming a qualified lead auditor
	2. Conducting or participating in audits
	3. Assisting QAS in carrying out activities assigned in the QA Administrative Procedures Manual

TABLE 17.2-2

TYPICAL AUDIT FREQUENCIES

This table has been deleted.



REV 19

SOUTHERN COMPANY
Energy to Serve Your World®

JOSEPH M. FARLEY NUCLEAR PLANT UNIT 1 AND UNIT 2

SOUTHERN NUCLEAR OPERATING COMPANY
FARLEY PROJECT

FIGURE 17.2-1

LDCR 2006-009
Quality Assurance Topical Report

Changes to the FNP ISFSI 10 CFR 72.212 Report

Table of Contents

Section	Title
	Introduction
1	**10 CFR 72.212(a)(1)** – Spent Fuel Authorized for Possession
2	**10 CFR 72.212(a)(2) and (3)** – Use of Approved Casks/License Expiration Date
3	**10 CFR 72.212(b)(1)(i) and (ii)** – Notifications Required
4	**10 CFR 72.212(b)(2)(i)(A)** – Conditions of the Certificate of Compliance
5	**10 CFR 72.212(b)(2)(i)(B)** – Storage Pad Design Adequacy
6	**10 CFR 72.212(b)(2)(i)(C)** – Radioactive Materials in Effluents and Direct Radiation
7	**10 CFR 72.212(b)(3)** – Reactor Site Parameters
8	**10 CFR 72.212(b)(4)** – Facility Technical Specification/License Amendment
9	**10 CFR 72.212(b)(5)** – Physical Security
10	**10 CFR 72.212(b)(6)** – Program Effectiveness: Reactor Emergency Plan, Quality Assurance Program, Training Program, Radiation Protection Program
11	**10 CFR 72.212(b)(7)** – Document Retention/Compliance with Certificate Terms and Conditions
12	**10 CFR 72.212(b)(8)** – Records
13	**10 CFR 72.212(b)(9)** – Procedures
14	**10 CFR 72.212(b)(10)** – Availability of Records and Casks
Attachment A	Certificate of Compliance Number 1014 Evaluation
Attachment B	Financial Assurance and Record Keeping for Decommissioning
Attachment C	Site-specific Changes to HI-STORM 100 System

Attachment D

Classification of Structures and Components

Based on the above, SNC modified the FNP Emergency Plan in accordance with the provisions of 10 CFR 50.54(q) to incorporate the following EALs identified in NEI 99-01, Revision 4, Appendix E, applicable to ISFSIs:

- Damage to a loaded cask confinement boundary
- Security event with potential loss of level of safety of the ISFSI

The above EALs result in the declaration of a notification of unusual event if the criterion described in either EAL is met.

As stated in RIS 2003-18, changes to the reactor emergency plan to incorporate implementing EALs associated with operation of ISFSIs are enhancements and do not reduce the effectiveness of the emergency plan. Accordingly, SNC incorporation of the above EALs is consistent with the requirements of 10 CFR 50, Appendix E, and 10 CFR 72.212(b)(6) as it applies to modification of the FNP Emergency Plan to address operation of the FNP ISFSI. Consistent with the requirements of 10 CFR 50, Appendix E, the above EALs were discussed with state and local authorities and agreed on to incorporation into the FNP Emergency Plan.

the SNC Quality Assurance Topical Report (QATR)

10.2.b Quality Assurance Program

SNC

The ~~FNP~~ Quality Assurance Program (QAP) was established in accordance with 10 CFR 50 Appendix B and is described in ~~FNP Final Safety Analysis Report (FSAR) Section 17.2~~. In preparation for operating an ISFSI in accordance with the general license provisions of 10 CFR 72, Subpart K, SNC revised the ~~FNP~~ QAP to extend existing controls for Part 50 reactor plant operation to the ISFSI in a graded approach, consistent with 10 CFR 72, Subpart G, and NUREG/CR-6407, Classification of Transportation Packaging and Dry Spent Fuel Storage System Components According To Importance to Safety (ITS).

S

the QATR.

The graded quality assurance approach for the ISFSI is described in ~~FNP FSAR supplement 17.2A~~ ~~and includes the s~~afety classifications ~~applied~~ to items associated with the ISFSI. Safety classifications for the HI-STORM 100 components are defined in Chapter 13 of the HI-STORM 100 FSAR. Classifications for ISFSI components are consistent with the guidance of NUREG/CR-6407 and have been reviewed and approved by the NRC in accordance with the requirements of 10 CFR 72, Subpart L. NRC approval of the Holtec HI-STORM 100 cask systems is provided by the applicable Amendment to NRC Certificate of Compliance (CoC) No. 1014 shown in Table 2.2-1.

applicable

are provided in Attachment D of this report

In addition to the changes to the FNP QAP described above, SNC also modified the charters for the Plant Review Board and Safety Review Board described in ~~FNP FSAR Section 17.2~~ to expand the scope of responsibilities described therein to include operation of the ISFSI.

the QATR

Attachment D

CLASSIFICATION OF STRUCTURES AND COMPONENTS

CLASSIFICATION OF STRUCTURES AND COMPONENTS

I. CATEGORY A

- Items specified as Category A in the dry cask storage vendor's Topical Safety Analysis Report (TSAR), unless other category is assigned by this document.

II. CATEGORY B

- Items specified as Category B in the dry cask storage vendor's TSAR, unless other category is assigned by this document.

III. CATEGORY C

- Items specified as Category C in the dry cask storage vendor's TSAR, unless other category is assigned by this document.
- Concrete storage pad
- ISFSI Soil Test and Analysis
- Roadways for transport of cask and associated equipment

IV. NOT IMPORTANT TO SAFETY

- Items specified as not important to safety by the dry cask storage vendor's TSAR, unless other category is assigned by this document.
- Security System
- Dose rate boundary fence
- Facility lighting
- Electric power system and backup
- Railways for transport of cask and associated equipment

D.9 QUALITY ASSURANCE PROGRAM - OPERATIONS

The operations Quality Assurance (QA) Program for Edwin I. Hatch Nuclear Plant-Unit 1 (HNP-1) is the same as that for ~~HNP-2~~. However, minor administrative and operational differences caused by differences in design limits and different standard and code commitments may exist. The operations quality assurance program is described in the SNC Quality Assurance Topical Report (QATR) ~~HNP-2-FSAR section 17.2~~.

The items covered under the QA Program are the safety-related structures, systems, and components (SSCs). A detailed list of safety-related SSCs at the component level for HNP-1 and HNP-2 is contained in Volume 3 of System Evaluation Document (SED). The criteria used for identifying the safety-related SSCs are described in Volume 3 of the SED and are procedurally controlled. The list of safety-related SSCs at the component level is maintained current. Changes to Volume 3 of the SED are reviewed pursuant to 10 CFR 50.59.

A general list of the SSCs covered under the QA Program is provided in HNP-1-FSAR table D.9-1 and HNP-2-FSAR table 17-2-2. Systems included in these tables contain at least one safety-related item; however, portions of some systems may not be considered safety-related. Due to the high-level nature of the lists, only major plant modifications are expected to affect the content of these FSAR tables

Consistent with HNP-2-FSAR paragraph 1.1.8.7, HNP-1-FSAR table D.9-1 and HNP-2-FSAR table 17.2-2 are designated as *Historical.*

HISTORICAL

A.28 REGULATORY GUIDE 1.28 - QUALITY ASSURANCE PROGRAM REQUIREMENTS (DESIGN AND CONSTRUCTION) (REVISION 2, FEBRUARY 1979)

Conformance

The SNC Quality Assurance (QA) Program complies with this guide. The QA Program is described in chapter 17.

A.30 REGULATORY GUIDE 1.30 - QUALITY ASSURANCE REQUIREMENTS FOR THE INSTALLATION, INSPECTION AND TESTING OF INSTRUMENTATION AND ELECTRIC EQUIPMENT (SAFETY GUIDE 30, AUGUST 11, 1972)

HISTORICAL

Conformance

HNP-2 conforms to this guide as discussed in chapter 8, paragraph 8.3.1.3.

Regulatory Guide 1.30 provided NRC endorsement of ANSI N45.2.4 (IEEE 336-1971). The SNC Quality Assurance Topical Report (QATR) is based on NQA-1-1994 which incorporates IEEE 336-1985. Accordingly, the quality assurance requirements for the installation, inspection, and testing of instrumentation and electric equipment are described in the QATR.

INSERT

A.33 REGULATORY GUIDE 1.33 - QUALITY ASSURANCE PROGRAM REQUIREMENTS (OPERATION) CONFORMANCE (REVISION 2, FEBRUARY 1978)

HISTORICAL

Conformance

Georgia Power Company chose to use American National Standards Institute (ANSI) N18.7-1976, "Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants," instead of ANSI N18.7-1972. With one exception, the Quality Assurance Program complies with this regulatory guide as addressed in section 17.2. As the exclusive operating licensee, SNC adopts that conclusion.

Exception is taken to Paragraph 5.2.16, "Measuring and Test Equipment," of ANSI N18.7-1976 which requires "equipment be suitably marked to indicate calibration status." Installed process instruments at Plant Hatch are identified by unique instrument numbers. These instrument numbers are traceable to calibration schedules and calibration records. These instruments are not tagged or labeled with the date due to next calibration.

During original plant licensing, a 2-year review process for plant procedures was developed to meet the requirement of Regulatory Guide 1.33 and ANSI 18.7-1976. Since the procedural process has now matured and adequate programs to assure procedural revisions consistent with plant design, operational, and regulatory requirements are in place, this original commitment has been modified to require biennial quality assurance (QA) audits of the procedural development and maintenance program utilizing a representative sampling process. Therefore, the 2-year review process is no longer required.

In place of the biennial review, the following provisions have been implemented. In addition, programmatic procedural controls will continue to be in place to update plant procedures as new design information or other factors warrant.

1. Applicable plant procedures will be reviewed following an unusual incident (such as an accident, an unexpected transient, significant operator error, or equipment malfunction) and following any modification to a system.

2. The periodic review of security procedures will be performed in accordance with the Security Plan.

3. The periodic review of emergency implementing procedures will be performed in accordance with the Emergency Plan.

4. Nonroutine procedures (such as emergency operating procedures and abnormal operating procedures) shall continue to be reviewed at least every 2 years and revised as appropriate.

5. At least once every 2 years, the QA organization shall review a representative sample of the routine plant procedures that are used more frequently than 2 years.

HISTORICAL

HNP-2-FSAR-A

Regulatory Guide 1.33, Section 4 provides that the following program elements be audited at the indicated frequencies; the results of actions taken to correct deficiencies that affect nuclear safety and occur in facility equipment, structures, systems, or method of operation–at least once per 6 months; the conformance of facility operation to provisions contained within the Technical Specifications and applicable licensing conditions–at least once per 12 months; and the performance, training, and qualifications of the facility staff–at least once per 12 months. Audit frequencies for each of these program elements are now established as at least once per 24 months.

The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 and incorporates the applicable requirements of ANSI N18.7-1976. Accordingly, SNC complies with the applicable requirements of ANSI N18.7-1976 via compliance with the QATR without an explicit (or implied) commitment to ANSI N18.7-1976.

INSERT

A.37 REGULATORY GUIDE 1.37 - QUALITY ASSURANCE REQUIREMENTS FOR CLEANING OF FLUID SYSTEMS AND ASSOCIATED COMPONENTS OF WATER-COOLED NUCLEAR POWER PLANTS (MARCH 16, 1973)

HISTORICAL

Conformance

The quality assurance requirements of this guide and of its basic reference, American National Standards Institute N45.2.1-1973, are being followed; thus, HNP-2 is in conformance with this guide.

The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.1. Accordingly, quality assurance requirements for cleaning of fluid systems and associated components are described in the SNC QATR.

INSERT

A.38 REGULATORY GUIDE 1.38 - QUALITY ASSURANCE REQUIREMENTS FOR PACKAGING, SHIPPING, RECEIVING, STORAGE, AND HANDLING OF ITEMS FOR WATER-COOLED NUCLEAR POWER PLANTS (MARCH 16, 1973)

HISTORICAL

Conformance

For maintenance and modification activities during the operations phase that are comparable to construction phase activities, SNC meets the regulatory position of this regulatory guide with the following exceptions or clarifications. This regulatory guide states that ANSI N45.2.2-1972 requirements and guidelines provide an acceptable method of meeting the intent of this guide.

Exceptions

None.

Clarifications

1. ANSI N45.2.2-1972, paragraph 6.4.2, Care of Items, subpart (7): Motors rated 15 horsepower or above may be evaluated by engineering personnel, as appropriate, to determine if in-storage maintenance is required; the results of the evaluation shall be documented. If in-storage maintenance is required, it shall be performed in accordance with plant procedures providing such guidance. Motors rated less than 15 horsepower do not require in-storage maintenance.

The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.2. Accordingly, quality assurance requirements for packaging, shipping, receiving, storage, and handling are described in the SNC QATR.

INSERT

A.39 REGULATORY GUIDE 1.39 - HOUSEKEEPING REQUIREMENTS FOR WATER-COOLED NUCLEAR POWER PLANTS (MARCH 16, 1973)

HISTORICAL

Conformance

For maintenance and modification activities during the operations phase that are comparable to construction phase activities, SNC meets the regulatory position of this Regulatory Guide with one exception. Cleanliness zones were not established at Plant Hatch. Instead, radiation protection and security procedures provide housekeeping controls commensurate with the requirements of Paragraph 5.2.10 of ANSI N18.7-1976.

Regulatory Guide 1.39, dated March 16, 1973, provides NRC endorsement of ANSI N45.2.3. The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.3. Accordingly, housekeeping requirements are described in the SNC QATR.

INSERT

HISTORICAL

A.58 REGULATORY GUIDE 1.58 - QUALIFICATIONS OF NUCLEAR POWER PLANT INSPECTION, EXAMINATION, AND TESTING PERSONNEL (AUGUST 1973)

Conformance

Inspection, examination, and testing personnel used onsite at HNP-2 for safety-related systems and equipment meet the requirements of American National Standards Institute N45.2.6-1973. HNP-2 is also in compliance with Regulatory Positions C.1, 5, 6, 7, 8, and 10 of Regulatory Guide 1.58, Revision 1.

The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.6. Accordingly, the requirements for qualification of inspection, examination, and testing personnel are described in the QATR.

INSERT

HISTORICAL

A.64 REGULATORY GUIDE 1.64 - QUALITY ASSURANCE REQUIREMENTS FOR THE DESIGN OF NUCLEAR POWER PLANTS (REVISION 2, JUNE 1976)

Conformance

SNC complies with this Regulatory Guide with one exception. Paragraph C.2. of Revision 2 (June 1976) in effect, eliminates the allowance for a designer's immediate supervisor performing design verification even subject to the conditions and controls provided in Section 6.1 of ANSI N45.2.11-1974 and Section 3E4a. of NUREG 0800 (Revision 2, July 1981). SNC allows reviews by immediate supervisors subject to these controls, which are:

- The supervisor is the only individual technically qualified to perform the verification.
- The supervisor did not specify a singular design approach, rule out certain design considerations, or establish the design inputs.
- The need for verification by the supervisor is individually documented and approved in advance by the supervisor's management.
- Quality Assurance (QA) audits cover the frequency and effectiveness of use of supervisors as design verifiers to guard against abuse.

The QA Program for design is implemented through the requirements of the Edwin I. Hatch Nuclear Plant QA Manual, and the architect-engineer QA manual and associated detailed procedures of the architect-engineer.

The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.11. Accordingly, quality assurance requirements applicable to design activities are described in the SNC QATR.

INSERT

A.74 REGULATORY GUIDE 1.74 - QUALITY ASSURANCE TERMS AND DEFINITIONS (FEBRUARY 1974)

Conformance

Quality assurance terms and definitions used in the SNC, Southern Company Services, Inc., General Electric Company, and Bechtel Power Corporation quality assurance programs are generally in agreement with American National Standards Institute N45.2.10-1973 and, therefore, satisfy the intent of this guide.

The quality assurance program for plant operations complies with this guide.

INSERT

The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.10. Accordingly, terms and definitions used in the quality assurance program are provided in the SNC QATR.

HISTORICAL

A.88 REGULATORY GUIDE 1.88 - COLLECTION, STORAGE, AND MAINTENANCE OF NUCLEAR POWER PLANT QUALITY ASSURANCE RECORDS (AUGUST 1974)

Conformance

HNP-2 conforms to the requirements of this guide.

Regulatory Guide 1.88, dated August 1974, provides NRC endorsement of ANSI N45.2.9. The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.9. Accordingly, the requirements for collection, storage, and maintenance of quality assurance records are described in the QATR.

INSERT

A.94 REGULATORY GUIDE 1.94 - QUALITY ASSURANCE REQUIREMENTS FOR INSTALLATION, INSPECTION, AND TESTING OF STRUCTURAL CONCRETE AND STRUCTURAL STEEL DURING THE CONSTRUCTION PHASE OF NUCLEAR POWER PLANTS (REVISION 1, APRIL 1976)

HISTORICAL

Conformance

HNP-2 conforms to the requirements of this guide.

Regulatory Guide 1.94, Revision 1, dated April 1976, provides NRC endorsement of ANSI N45.2.5-1974. The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.5. Accordingly, the quality assurance requirements for installation, inspection, and the testing of structural concrete and structural steel during the construction phase are described in the QATR.

INSERT

A.116 REGULATORY GUIDE 1.116 - QUALITY ASSURANCE REQUIREMENTS FOR INSTALLATION, INSPECTION, AND TESTING OF MECHANICAL EQUIPMENT AND SYSTEMS (REVISION O THROUGH R, MAY 1977)

HISTORICAL

Conformance

HNP-2 conforms to the requirements of this guide.

Regulatory Guide 1.116, dated May 1977, provides NRC endorsement of ANSI N45.2.8. The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.8. Accordingly, the quality assurance requirements for installation, inspection, and testing of mechanical equipment and systems are described in the QATR.

INSERT

A.123 REGULATORY GUIDE 1.123 - QUALITY ASSURANCE REQUIREMENTS FOR CONTROL OF PROCUREMENT OF ITEMS AND SERVICES FOR NUCLEAR POWER PLANTS (REVISION 1, JULY 1977)

HISTORICAL

Conformance

HNP-2 conforms with the requirements of ANSI N45.2.13-1976, as it is endorsed by this guide with the following clarification:

Paragraph 3.3 requires procurement documents to be reviewed prior to bid or award of contract. The quality assurance review of procurement documents is satisfied through review of the applicable technical and quality procurement requirements prior to bid or award of contract.

The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.13. Accordingly, quality assurance requirements for control of procurement of items and services are described in the QATR.

INSERT

A.144 REGULATORY GUIDE 1.144 - AUDITING OF QUALITY ASSURANCE PROGRAMS FOR NUCLEAR POWER PLANTS (REVISION 1, SEPTEMBER 1980)

HISTORICAL

Conformance

HNP-2 conforms to the requirements of this guide.

Regulatory Guide 1.144, dated September 1980, provides NRC endorsement of ANSI N45.2.12. The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.12. Accordingly, requirements for auditing quality assurance programs are described in the QATR.

INSERT

HISTORICAL

A.146 REGULATORY GUIDE 1.146 - QUALIFICATION OF QUALITY ASSURANCE PROGRAM AUDIT PERSONNEL FOR NUCLEAR POWER PLANTS (AUGUST 1980)

Conform except as discussed below.

ANSI N45.2.23-1978, Section 2.3.4, states that the prospective Lead Auditor shall have participated in a minimum of five quality assurance audits within a period of time not to exceed 3 years prior to the date of qualification, one audit of which shall be a nuclear quality assurance audit within the year prior to his qualification.

In lieu of the requirements of Section 2.3.4 of ANSI N45.2.23-1978, the prospective Lead Auditor shall demonstrate his ability to effectively implement the audit process and effectively lead an audit team. The demonstration process will be described in written procedures and shall evaluate and document the results of the demonstration. Regardless of the methods used for the demonstration, the prospective Lead Auditor shall have participated in at least one nuclear quality assurance audit within the year preceding the individual's effective date of qualification. Upon successful demonstration of the ability to effectively implement the audit process and effectively lead audits, and having met the other provisions of Section 2.3 of ANSI N45.2.23-1978, the individual may be certified as being qualified to lead audits.

The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.23. Accordingly, requirements for qualification of quality assurance program audit personnel are described in the QATR.

INSERT

Regulatory Guide 1.59, "Design Basis Floods for Nuclear Power Plants" (August 1973).

Regulatory Guide 1.63, "Electric Penetration Assemblies in Containment Structures for Water-Cooled Nuclear Power Plants" (October 1973).

HISTORICAL

Regulatory Guide 1.64, "Quality Assurance Program Requirements for the Design of Nuclear Power Plants" (October 1973).

This guidance has been superseded by that contained in ASME NQA-1-1994, as described in the SNC Quality Assurance Topical Report (QATR).

2. GDC of 10 CFR 50 (Compliance is discussed in section 3.1.)

   GDCs 1, 2, 3, 4, 16, 50, 52, and 53

3. Industry Standards

   Nationally recognized industry standards, such as those published by American Society for Testing and Materials (ASTM), are used whenever possible to describe material properties, testing procedures, fabrication, and construction methods.

   Applicable ASTM and American Welding Society (AWS) Material Standard Specifications permitted by Article NE-2000 of Section III of the ASME Code.

   Applicable ASTM Standard Specifications for nondestructive methods of examination referenced in Article X-3000 of Section III of the ASME Code.

4. Specifications

   The specification "For Furnishing and Delivery of Reactor Drywell and Suppression Chamber Containment Systems for Edwin I. Hatch Nuclear Plant - Unit 2," prepared in accordance with the requirements of paragraph NA-3350 of the ASME Code, Section III, was used for the design, furnishing, fabrication, delivery, unloading, erection, painting, and testing of the primary containment. A summary of the structural and other design requirements from this specification is given in paragraph 3.8.2.2.1 and other applicable portions in this chapter.

5. Bechtel Power Corporation Topical Report BN-TOP-1, "Testing Criteria for Integrated Leak Rate Testing of Primary Containment Structures for Nuclear Power Plants," Rev 1, November 1972.

3.8.2.2.1 Structural Specifications

Structural specifications are prepared to cover the areas related to design and construction of the containment. These specifications emphasize important points of the industry standards for the design and construction of the containment and reduce options that otherwise would be permitted by the industry standards. The ASME Code cases listed in paragraph 3.8.2.2 were

HISTORICAL

3.8.4.2 Applicable Codes, Standards, and Specifications

The following codes, standards, specifications, design criteria, NRC Regulatory Guides, and industry standard practices apply to the original design and construction of all Seismic Category I structures other than the containment and internal structures:

AISC	Manual of Steel Construction
ACI 318-63	Building Code Requirements for Reinforced Concrete
AWS D.1.0-69	Welding in Building Construction
NCIG-01 Rev. 2	Nuclear Construction Issues Group (NCIG) Specifications for Visual Weld Acceptance Criteria for Structural Welding at Nuclear Plants
AWS D.2.0-69	Specifications for Welded Highway and Railway Structures
ANSI N45.2.5	Supplementary Quality Assurance Requirements for Installation, Inspections, and Testing of Structural Concrete and Structural Steel During the Construction Phase of Nuclear Power Plants
ASME	Boiler and Pressure Vessel Code, Section III, "Nuclear Power Plant Components," 1971 Edition, including 1973 Winter Addenda
American Association of State Highway Officials (AASHO)	Standard Specifications for Highway Bridges
SSBC	Southern Standard Building Code, 1969 Edition
CMAA	Specifications for Electric Overhead Traveling Crane No. 70, 1970 Edition
ICBO	Uniform Building Code, 1970 Edition
NRC Regulatory Guides	Compliance is discussed in appendix A.
Regulatory Guide 1.10	Mechanical (Cadweld) Splices in Reinforcing Concrete Structures, (January 1973)
Regulatory Guide 1.29	Seismic Design Classification, (August 1973)

HISTORICAL

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Regulatory Guide 1.54	Quality Assurance requirements for Protective Coatings Applied to Water-Cooled Nuclear Power Plants, (June 1973)
Regulatory Guide 1.55	Concrete Placement in Category I Structures, (June 1973)
Regulatory Guide 1.59	Design Basis Floods for Nuclear Power Plants, (August 1973)
Regulatory Guide 1.64	Quality Assurance Program Requirements for the Design of Nuclear Power Plants, (October 1973)
Regulatory Guide 1.69	Concrete Radiation Shields for Nuclear Power Plants, (December 1973)
Regulatory Guide 1.76	Design Basis Tornado for Nuclear Power Plants, (April 1974)

General Design Criteria of 10 CFR 50

US Army Corps of Engineers Regulations with Respect to Dredging and Construction

American Society of Civil Engineers Paper 3269 for Wind Design Requirements [20]

American Iron and Steel Institute Specification for the Design of Light Gauge Cold-Formed Structural Members, 1968 Code of Federal Regulations, Title 29, Chapter XVII, Occupational Safety and Health Standards

For new modifications and analysis of modifications installed after the plant was put into operation, later editions of the following codes will be used:

- AISC - Manual of Steel Construction.
- ACI - Building Code Requirements for Reinforced Concrete (ACI 318).
- AWS - Welding in Building Construction (AWS D1.0).
- AWS - Specifications for Welded Highway and Railway Structures (AWS D2.0).
- AWS - Structural Welding Code (AWS D1.1).
- Southern Standard Building Code.
- Uniform Building Code.

Figure 3.8-33 shows the details of pile tip and vertical wall anchorage to the base slab. Drawing no. E-10173 shows the relative position of the main stack foundation to the other Seismic Category I structures.

H. Seismic Category I Outdoor Tank Foundations

There are two Seismic Category I outdoor tank foundations:

- Condensate storage tank foundation.
- Liquid nitrogen storage tank foundation.

The foundations of these tanks are 3-ft-thick reinforced concrete slabs bearing on fill compacted to 95% of the relative maximum dry density as determined by the Modified Proctor test.

The tank foundations are physically separated from each other and from other buildings as shown on drawing no. E-10173.

HISTORICAL

3.8.5.2 Applicable Codes, Standards, and Specifications

The following codes, standards, and specifications apply to the original design and construction of the foundations and concrete supports for all Seismic Category I structures.

ACI 318-63	Building Code Requirements for Reinforced Concrete
ACI 307	Specifications for the Design and Construction of Reinforced Concrete Chimneys
AISC	Manual of Steel Construction
AWS D.12.0	Seventh Edition AWS D.12.0 Recommended Practice for Welding Reinforcing Steel, Metal Inserts and Connections in Reinforced Concrete Construction
AWS D.1.0-69	Welding in Building Construction
NCIG-01 Rev. 2	Nuclear Construction Issues Group (NCIG) Specifications for Visual Weld Acceptance Criteria For Structural Welding At Nuclear Plants
SBCC	Southern Standard Building Code, 1969 Edition
ICBO	Uniform Building Code, 1970 Edition
CFR	Title 29 Code of Federal Regulations, Chapter XVII,

HISTORICAL

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	Occupational Safety and Health Standards
CFR	Title 10 Code of Federal Regulations Part 50, Licensing of Production and Utilization Facilities
NRC Regulatory Guides	Compliance is discussed in Appendix A.
Regulatory Guide 1.10	Mechanical (Cadweld) Splices in Reinforcing Bars of Category I Concrete Structures (January 1973)
Regulatory Guide 1.15	Testing of Reinforcing Bars for Category I Concrete Structures (December 1972)
Regulatory Guide 1.55	Concrete Placement in Category I Structures (June 1973)
Regulatory Guide 1.59	Design Basis Floods for Nuclear Power Plants (August 1973)
Regulatory Guide 1.64	Quality Assurance Program Requirements for the Design of Nuclear Power (October 1973)

Material specifications which were used to produce the concrete or the Seismic Category I foundations and concrete supports are given in paragraph 3.8.4.6.

For new modifications and analysis of modifications installed after the plant was put into operation, later editions of the following codes will be used:

- AISC - Manual of Steel Construction.
- ACI - Building Code Requirements for Reinforced Concrete (ACI 318).
- ACI - Specifications for the Design and Construction of Reinforced Concrete Chimneys (ACI 307).
- AWS - Welding in Building Construction (D1.0).
- AWS - Recommended Practice for Welding Reinforcing Steel, Metal Inserts, and Connections in Reinforced Concrete Construction (AWS D12.0).
- AWS - Structural Welding Code (AWS D1.1).
- Southern Standard Building Code.
- Uniform Building Code.

A. The equipment is part of the RPS, PC/RPV isolation system, or the ECCS.

B. The particular equipment item is associated with a grouping (or division) of enforced segregation.

The identification consists of marking panels and equipment racks of the RPS, PC/RPV isolation system, ECCS, and auxiliary power systems with marker plates that are conspicuously different in color from those for other panels or racks. These markers include identification of the proper division of the equipment within the system.

The equipment identification number and the applicable segregation code, both numerical and color code, are applied to each piece of safety-related equipment either before or during that equipment's installation. A detailed discussion of the color codes used is provided in paragraph 8.3.1.5 and table 8.3-15.

7.1.2.4 Conformance to IEEE 317-1972

Compliance with IEEE 317-1972 is done for both qualification of the penetration assembly and the electrical services associated with it. Power cables are provided with reliable decoupling devices at their load centers to ensure fault interruption prior to any penetration damage. All cables having safety-related functions are separated from their redundant counterparts in different penetration assemblies.

7.1.2.5 Conformance to IEEE 323-1971

Compliance with IEEE 323-1971, IEEE Trial-Use Standard: General Guide for Qualifying Class I Electric Equipment for Nuclear Power Generating Stations, is discussed in section 3.11.

Written procedures and responsibilities are developed for the design and qualification of all Class I electric equipment.

This includes preparation of specifications, qualification procedures, and documentation for Class I equipment, both manufactured and purchased by GE's boiling water reactor (BWR) systems department. Qualification testing or analysis is accomplished prior to release of the engineering design for production. Standards manuals are maintained containing specifications, practices, and procedures for implementing qualification requirements, and an auditable file of qualification documents is available for review.

HISTORICAL

7.1.2.6 Conformance to IEEE 336 ~~1971~~

HNP-2 complies with IEEE 336-1971, Installation, Inspection, and Testing Requirements for Instrumentation and Electric Equipment During the Construction of Nuclear Power Generating Stations, except as modified by Southern Nuclear Operating Company procedures.

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Hatch Nuclear Plant

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H.1 HNP-2 complies with IEEE 336-1985, as described in the SNC Quality Assurance Topical Report (QATR).

Frequency and voltage limits and the basis of the continuous rating of the diesel generator are included in the discussion of NRC Regulatory Guide 1.9.

Discussion of NRC Regulatory Guide 1.6 contains a description of the independence provided between the redundant Class 1E ac load groups. Mechanical and electric systems are designed so that a single failure affects the operation of only a single diesel generator.

Design conditions such as vibration, torsional vibration, and overspeed are considered in accordance with the requirements of IEEE 387.

Each diesel generator is provided with control systems permitting automatic and manual control. The automatic start signal is functional except when the diesel generator local switch (located on the diesel generator control panel in the diesel building) is in the CONTROL AT ENGINE position. Provision is made for controlling the diesel generator from the MCR and from the diesel generator room. Paragraph 8.3.3.1.1.3 provides further description of the control systems.

Voltage, current, frequency, and output-power metering are provided in the MCR to permit assessment of the operating condition of each diesel generator. Surveillance instrumentation is provided in accordance with IEEE 387.

Tests as listed in chapter 14 are conducted on each diesel generator in accordance with IEEE 387.

8.3.1.2.2 Safety-Related Equipment Exposed to Hostile Environment

The detailed information on all Class 1E equipment that must operate in a hostile environment during and/or subsequent to an accident is furnished in section 3.11, chapter 15, and supplement 15A.

8.3.1.3 Conformance With Quality Assurance Standards

applicable to operation-phase activities is described in the SNC Quality Assurance Topical Report (QATR).

The quality assurance (QA) program ~~is described in chapter 17~~. The program includes a comprehensive system to ensure that the purchased material, manufacture, fabrication, testing, and quality control (QC) of the equipment in the emergency electric power system conform to the evaluation of the emergency electric power system equipment vendor QA programs and preparation of procurement specifications incorporating QA requirements. The administrative responsibility and control to be provided are described in ~~chapter 17~~.

the QATR

These QA requirements include an appropriate vendor QA program and organization, purchaser surveillance as required, vendor preparation and maintenance of appropriate test and inspection records, certificates and other QA documentation, and vendor submittal of QC records considered necessary for purchaser retention to verify quality of completed work.

The procedures for the installation, inspection, and testing of instrumentation and electric equipment conform to ~~Regulatory Guide 1.30-1972 and IEEE 336-1971~~.

ASME NQA-1-1994 and IEEE 336-1985, as described in the QATR

8.3.1.4 Independence of Redundant Systems

The physical arrangement of the redundant Class 1E electric load groups and their associated raceway systems ensures that a single failure in one Class 1E electric system does not affect the redundant system.

8.3.1.4.1 Separation Criteria

To preserve the independence of redundant Class 1E electric systems, the design of the associated raceway systems located in the different plant areas and cable routing are in accordance with the following separation criteria.

8.3.1.4.1.1 Raceway System Installation. Wherever possible, cable trays of the same division are arranged from top to bottom, with trays containing the cables with the highest voltage classification at the top and trays containing the cables with the lowest voltage classification at the bottom. A cable tray designated for cables with a particular voltage classification contains only those cables of the same voltage classification.

Voltage classifications are as follows:

- 4.16-kV power.
- 600-V-, 480-V-, and 208-V-ac power.
- 250-V-dc power.
- ac and dc control, 208-120-V-ac unarmored power, communication 24-48-V-dc and 125-V-dc power.
- Low-level instrumentation circuits, including process instrumentation and control, thermocouple, resistance thermometer, and other signals that are noise sensitive but not noise productive.

In the absence of confirming analysis to support less stringent requirements, the following rules apply:

11.4.4.5 Audits and Verifications

Independent audits and verifications of test, calibration, and maintenance records and procedures are conducted as described in ~~section 17.2~~ the SNC Quality Assurance Topical Report (QATR).

13.0 CONDUCT OF OPERATIONS

13.1 ORGANIZATIONAL STRUCTURE (HNP-1 AND HNP-2)

13.1.1 CORPORATE ORGANIZATION

This section provides information concerning corporate organization, functions, responsibilities, and participation in the facility design, design review, design approval, construction management, testing, and operation of the plant. Southern Nuclear Operating Company (SNC) is responsible for directing activities at Hatch Nuclear Plant (HNP). The corporate organization functions in a support role to the HNP.

13.1.1.1 Corporate Functions, Responsibilities, and Authorities

The major corporations engaged by SNC for support services in the design, construction, quality assurance (QA), testing, and operation of HNP are:

- Southern Company Services, Inc. (SCS), Birmingham, Alabama.
- Bechtel Power Corporation (BPC), Frederick, Maryland.
- General Electric (GE), San Jose, California.

The functions and responsibilities of each organization are described in chapter 1. SNC technical qualifications are described in paragraph 13.1.1.2.

13.1.1.2 Corporate Management and Technical Support

The nuclear operations organization (figure 13.1-1), under the management of the president and CEO, has direct responsibility for the operation and maintenance of ~~Farley, Hatch, and Vogtle~~ nuclear plants. The president and CEO reports to the SNC Board of Directors.

the SNC

Both HNP units are in the operations phase and have been for several years. The SNC corporate organization located in Birmingham is responsible for assuring the availability of and providing or securing technical support for HNP. Support capability has been available through the joint efforts of the SNC nuclear support (Hatch) general office staff and Southern Company Services (SCS) architect-engineering and service company. As a result of the consolidation of SCS and SNC nuclear expertise, and in addition to being the licensee, SNC also serves as its own architect/engineer and performs the functions previously performed by SCS. The key functional organizations within SNC providing support to HNP are the plant support organization (which includes licensing), the engineering services organization, and the design modifications organization. SNC technical support also provides nuclear fuel contract administration, reload licensing, and special projects. BPC and GE are also subcontracted for engineering work, as

required, to maintain proper technical support to SNC. Support activities normally include the following:

A. Services required for the design engineering of plant modifications, including maintenance-related design changes, plant improvement-related design changes, and design changes or major plant additions as a result of new regulatory requirements and commitments. These services include both conceptual and detail design, issuance and maintenance of design drawings and specifications, review/approval of design change requests, incorporation of as-built notices, related quality assurance functions, etc.

B. Design-related evaluation and analysis.

C. Evaluation and analysis which are not directly related to design, for example, with respect to operational requirements, Technical Specifications changes.

D. Inservice inspection and testing (both planning and actual implementation).

E. Nuclear fuel procurement.

F. Nuclear fuel core analysis.

G. Evaluations on licensing issues.

H. Plant chemistry support.

I. Maintenance support.

GPC organizations provide limited support to HNP, as requested, in the areas of motor repair and environmental affairs.

Environmental radiological and nonradiological technical support are provided under the direction of the vice president and general counsel (paragraph 13.1.1.4.6).

13.1.1.3 Interrelationships with Contractors and Suppliers

13.1.1.3.1 Design Stage

General Electric and BPC were delegated the responsibility for design of the nuclear steam supply system (NSSS) and the balance of the plant, respectively, with GPC providing oversight. For preparation of the Final Safety Analysis Report (FSAR), all parties (GPC, SCS, BPC, and GE) were involved in the preparation and review of design bases and philosophies of both systems and structures. The intent of this review was to contribute as much expertise as possible to the plant design.

HISTORICAL

13.1.1.3.2 Procurement Stage

A. GE Scope of Supply

All items within the GE scope of supply were the sole responsibility of GE. However, GPC was responsible, with appropriate inputs from GE, BPC, and SCS, for ensuring all items contributed to a licensable plant.

B. BPC Scope of Supply

For the equipment under the BPC scope of supply, procurement procedures were established to require GPC, BPC, and SCS participation. BPC prepared the inquiries and transmitted them to GPC and SCS for approval, allowing for review to ascertain whether sufficient information was contained to inform the bidders of all requirements for the supplied equipment including, but not limited to, material, documentation, and shipping requirements. From this point, BPC had the responsibility of sending the inquiry out for bids in accordance with a bidders list supplied by GPC. After review of the bids, requisition preparation by BPC, and approval by GPC, the purchase order was prepared by GPC.

13.1.1.3.3 Construction Stage

All construction activities at the site were under the supervision of GPC. Independent testing agencies were contracted as necessary to perform special testing and provided expertise in the interpretation of results.

13.1.1.3.4 Operating Stage

Georgia Power Company initially had the responsibility for the operation of HNP. Effective March 22, 1997, SNC is the exclusive operating licensee of HNP.

13.1.1.4 Nuclear Operations Organization

The nuclear operations organization, under the supervision of the president and CEO, has direct responsibility for the operation and maintenance of Southern Company's nuclear plants. The nuclear operations organization consists of the plant operating staff and corporate management, planning and performance, and quality assurance. Engineering support is provided primarily by SNC Technical Support.

As shown on figures 13.1-1 and 13.1-2, the president and CEO, executive vice president, and vice president-project (Hatch) provide line management direction for the operation of the plant. The plant staff personnel are highly qualified to perform their responsibilities. The SNC corporate support staff consists of the nuclear support general manager and his/her staff and the SNC nuclear support staff.

The structure of the nuclear operations organization is described in the following paragraphs. Portions of the SNC Technical Support, Corporate Services, General Counsel and External Affairs, and Human Resources organizations are also described in the following paragraphs.

13.1.1.4.1 President and Chief Executive Officer (CEO)

The president and 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 nonaffiliated contractors. The president and CEO directs the executive vice president, the vice president and general counsel, the chief financial officer and vice president corporate services, and the vice president technical support, in fulfillment of their responsibilities. The president/CEO reports to the Board of Directors with respect to all matters.

13.1.1.4.2 Executive Vice President

The executive vice president reports to the president/CEO. This individual is responsible for the safe, reliable, and efficient operation of HNP, the Joseph M. Farley Nuclear Plant (FNP), and the Vogtle Electric Generating Plant (VEGP). The executive vice president directs the efforts of the vice president-project (Hatch), the vice president-project (Vogtle), the vice president-project (Farley), the quality assurance manager (QAM), and the nuclear fleet security and emergency planning manager.

the QATR

the SNC Quality Assurance Topical Report (QATR)

13.1.1.4.2.1 Quality Assurance Manager. The responsibilities of the quality assurance manager are described in ~~section 17.2~~. In addition to the responsibilities for HNP, the QAM is similarly responsible for the QA programs of FNP and VEGP. The QAM reports to the executive vice president. The QAM is authorized to manage the QA program for design, testing, operation and maintenance and to ensure its implementation in accordance with the requirements of ~~section 17.2~~. The QA organization is composed of a staff at the corporate headquarters, a staff at ~~the HNP site, a staff at the FNP site, and a staff at the VEGP site~~.

and

at each SNC-operated plant

The QA organization does not provide technical support (as defined in subsection 13.1.1 of Regulatory Guide 1.70) for the operation of HNP. The activities of the QA organization are fully described in ~~section 17.2~~.

the QATR

13.1.1.4.2.2 Nuclear Fleet Security and Emergency Planning Manager. The nuclear fleet security and emergency planning manager reports to the executive vice president and is responsible for the overall coordination of fleet security activities and programs, the corporate emergency planning programs (including the common Emergency Operations Facility), and the Access Authorization Program. The nuclear fleet security and emergency planning manager will also have responsibility for site emergency response communication.

The POAGM is responsible for all onsite activities in connection with the operation and maintenance of the plant. The company support organizations for operation, modification, and maintenance are shown in figures 13.1-1 and 13.1-2.

13.1.2.1 Plant Organization

Operation of the plant is directed by the operations manager, who is responsible to the POAGM. Normal shift operation is under direct control of the shift manager, who is responsible to the operations manager. A shift manager is onsite at all times when at least one unit is loaded with fuel. A normal operating shift for each unit consists of the shift supervisor, shift support supervisor, two plant operators, a radwaste operator, and four system operators. The shift supervisor, as a minimum, will be qualified as a senior reactor operator.

Figure 13.1-4 is a shift manning chart for unit operation for both units and provides exceptions to the above when a unit is in the cold shutdown condition.

Normal plant maintenance is accomplished by plant personnel under the direction of the maintenance manager, who is responsible to the POAGM. Other employees and contract maintenance crews may be used to supplement the plant Maintenance Department, as necessary.

Plant QA is monitored by the Hatch QA site supervisor, who serves as the manager of QA site staff ~~(section 17.2)~~. The Hatch QA site supervisor's primary line of communication is with the QAM with liaison to the NPGM.

Quality control is the responsibility of an engineering supervisor, who is responsible to the engineering support manager, with assistance from designated inspection personnel. The NPGM has the site responsibility for implementation of the plant's QA program to ensure compliance with codes, standards, regulatory requirements, operating license, and company policies and rules for the operation, maintenance, and modification of the plant.

Technical support in the areas of reactor physics, plant performance, and onsite engineering support is under the direction of the engineering support manager, who is responsible to the PSAGM. Technical support in the areas of chemistry and radiochemistry is under the direction of the chemistry manager, and radiation protection is under the direction of the health physics superintendent/manager, who are both responsible to the POAGM.

The security organization, described in section 13.7, is responsible to the PSAGM for its day-to-day operation. The plant training and emergency preparedness manager is responsible to the PSAGM for administering the operator training and retraining program as described in section 13.2.

13.4 REVIEW AND AUDIT (HNP-1 AND HNP-2)

During construction of Hatch Nuclear Plant (HNP), Georgia Power Company's (GPC's) quality assurance (QA) program complied with the requirements of Title 10 Code of Federal Regulations (CFR) Part 50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants." The type of review and audit function performed by GPC during construction is briefly addressed in subsection 13.4.1.

In addition to the QA organization described in ~~section 17.2~~, SNC utilizes a formal committee method for review and audit. This review and audit function is at two levels:

the SNC Quality Assurance Topical Report (QATR)

- Plant operation level - plant review board (PRB).
- Corporate level - safety review board (~~SRB~~).

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NSRB

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These organizational units for the review and audit of plant operations are constituted and have the responsibilities and authorities outlined in ~~supplements 13.4A and 13.4B, and section 17.2~~.

NSRB

The ~~SRB~~ functions during HNP operational phase and is independent of direct responsibility for plant operations. The PRB reviews plant operations and plans for future activities. Proposed procedures/procedure revisions and tests are reviewed by ~~either a Qualified Reviewer or~~ the PRB. Guidance in development of the essential elements in SNC's review and audit program for tests and operations (which is discussed more fully in subsection 13.4.2) was derived from American National Standards Institute (ANSI) N18.7-1976, "Administrative Controls for Nuclear Power Plants." The charters for the PRB and ~~SRB~~ are presented ~~as supplements 13.4A and 13.4B, respectively~~.

NSRB

the QATR

Review and audit of the independent spent-fuel storage installation (ISFSI) is performed as described in subsection 13.4.3.

13.4.1 REVIEW AND AUDIT - CONSTRUCTION

Review and audit during construction of HNP was part of the QA program. This program utilized an organization unit responsible through the GPC manager of QA to provide formal review and audit. A second element of the QA program during construction was the QA committee.

In addition, the GPC administrative and technical staff reviewed design documentation such as specifications, drawings, and design changes for compliance with applicable codes, standards, engineering practice, and overall design intent. The QA field representatives also systematically audited activities at the plant site to assure that the required standards of quality were attained in all construction and installation work.

HISTORICAL

the SNC Quality Assurance Topical Report (QATR)

HNP-2-FSAR-13

13.4.2 REVIEW AND AUDIT - TEST AND OPERATION

A continuing review of operations is performed by the plant operating staff. The PRB, composed of plant employees, also reviews operations and serves in an advisory capacity to the nuclear plant general manager (NPGM). PRB responsibilities are outlined in ~~supplement 13.4A~~. Independent audits are made under the cognizance of the SRB, as specified in ~~supplement 13.4B~~, on a periodic basis as required. The QA organization implements the operations phase of the program as set forth in ~~section 17.2~~.

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13.4.2.1 ~~Qualified Reviewer~~

Section deleted

If 10 CFR 50.59/10 CFR 72.48 is determined to be applicable, proposed procedures/procedure revisions require that a 10 CFR 50.59/10 CFR 72.48 screen be performed. If the procedure is not an Administrative Control Procedure, and if all of the 10 CFR 50.59/10 CFR 72.48 screening questions are answered "No," the procedure and its 10 CFR 50.59/10 CFR 72.48 screen will be reviewed by a Qualified Reviewer.

Qualified Reviewers will satisfy the requirements as PRB Alternates (supplement 13.4A) and will be designated by the NPGM.

The review performed by Qualified Reviewers will ensure that the responses to the 10 CFR 50.59/10 CFR 72.48 screening questions reach the correct conclusions, and that the bases for the conclusions are adequate such that an independent reviewer would reach the same conclusions. This review and the signoff by the Qualified Reviewer constitute a determination in writing that the proposed procedure/procedure revision may be implemented without further evaluation under 10 CFR 50.59/10 CFR 72.48.

The Qualified Reviewer shall also determine whether or not additional cross-disciplinary review is necessary. If deemed necessary, such review shall be performed by appropriate review personnel of the appropriate discipline.

Following conclusion of his review, the Qualified Reviewer will recommend (in writing) the procedure for approval or disapproval, as appropriate.

If at least one of the 10 CFR 50.59/10 CFR 72.48 screening questions is answered "Yes," the 10 CFR 50.59/10 CFR 72.48 evaluation requires completion. In this case, the procedure and its 10 CFR 50.59/10 CFR 72.48 evaluation will be reviewed by the PRB as described in supplement 13.4A. Additionally, all revisions to Administrative Control Procedures are reviewed by the PRB as described in supplement 13.4A.

13.4.2.2 Administration of Plant Review Board

The PRB was established and functional 6 months prior to initial fuel loading. Prior to the 6-month period before initial fuel loading, a temporary PRB primarily reviewed and approved procedures required to bring HNP from the construction phase through the preoperational testing

as described in the QATR

phase. The PRB chairman had the authority to approve or disapprove PRB proposals. The plant manager assumed PRB chairmanship at least 6 months prior to initial fuel loading. Up to that time, the temporary board was chaired by the superintendent of operations.

The PRB meets the requirements of ANSI N18.7-1976. Membership, meeting frequency, quorum, responsibilities, authority, meeting minutes, and administrative procedures for PRB operations are discussed in ~~supplement 13.4A~~.

the QATR

described in the QATR

The PRB chairman is currently designated by the NPGM. The PRB charter defines the responsibilities and method of operation of the PRB. ~~The charter (supplement 13.4A) was formally approved by the NPGM.~~

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13.4.2.3 Administration of Safety Review Board

Activities of the ~~SRB~~ are addressed in ~~supplement 13.4B~~.

NSRB

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13.4.3 REVIEW AND AUDIT - ISFSI

NSRB

Review of ISFSI operations is performed by the PRB and ~~SRB~~ through review of 10 CFR 72.48 evaluations. ~~Proposed procedures/procedure revisions, and their associated 10 CFR 72.48 screen, may be reviewed by a Qualified Reviewer in lieu of the PRB if they meet the criteria in paragraph 13.4.2.1.~~

Review and audits of ISFSI activities are also conducted by the QA organization as described in ~~subsection 17.2A.18~~.

the QATR

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13.4A EDWIN I. HATCH PLANT REVIEW BOARD CHARTER (HNP-1 AND HNP-2)

13.4A.1 PURPOSE

The plant review board (PRB) is established to serve as a review and advisory organization to the nuclear plant general manager (NPGM) on any item that may affect either plant operation, independent spent fuel storage installation (ISFSI) operation, compliance with license requirements, or nuclear safety of the Edwin I. Hatch Nuclear Plant (HNP).

13.4A.2 ORGANIZATION

A. Membership

The PRB consists of, as a minimum, a supervisory or higher level individual from each of the following areas:

- Operations.
- Engineering Support.
- Maintenance.
- Health Physics.
- Performance Analysis.
- Quality Assurance (nonvoting).

Members are designated by the NPGM.

B. Qualifications

Individuals become qualified for membership on the PRB by virtue of being qualified to fill the above named positions.

C. Officers

The officers of the PRB are as follows:

- Chairman - designated by the NPGM.
- Secretary - designated by the PRB chairman.

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H.2 The plant review board (PRB) charter is provided in the SNC Quality Assurance Topical Report (QATR).

D. Alternate Members

The PRB chairman may appoint alternates to sit on the board for absent members. Alternates are noted in the PRB meeting minutes.

E. Subcommittees

The PRB may use subcommittees as deemed necessary to review specific areas. The chairman appoints at least one PRB member to a subcommittee, designating the PRB member as the chairman and to be responsible for subcommittee actions and reporting to the PRB. The subcommittee chairman and the function thereof are recorded in the minutes of the PRB meeting during which the subcommittee is appointed.

F. Consultants

Subjects that require special technical skill or knowledge are handled by one or more consultants, as necessary. The chairman appoints consultants who are either GPC or SNC employees or under contract to either GPC or SNC. Consultants to the PRB do not have voting privileges on matters before the board.

13.4A.3 METHOD OF OPERATION

A. Meeting Frequency

The PRB meets at least once a month at a time and place specified by the chairman. The PRB meets on call by the chairman. A request to call a meeting may be made by any member.

B. Quorum

A quorum consists of four voting members, one of whom is the chairman, or designated alternate. No meeting is conducted unless a quorum is present, and no more than two alternates shall be included in a quorum.

C. Attendance

For all scheduled PRB meetings, an effort is made to have all regular members or approved alternates present to conduct the scheduled meetings.

D. Reporting

Minutes are recorded for all PRB meetings. The minutes are numbered in chronological sequence and are approved by the PRB. The minutes are distributed in accordance with plant procedures.

E. Review and Approval by PRB Members

Items brought to the PRB for review fall into one of three basic classes:

1. Those receiving review and recommendation for approval.

2. Those receiving review and concurrence.

3. Those receiving only a review.

Unanimous decisions are desirable and sought for all items under consideration.

F. Voting

When more than a quorum is present, the chairman does not vote unless a decision is deadlocked. When only a quorum exists, the chairman votes, and the vote must be unanimous. Duly appointed and approved alternate PRB members have voting privileges. Consultants do not have voting privileges.

13.4A.4 AUTHORITY

The PRB is advisory to the NPGM in safety-related matters regarding the operation and maintenance of HNP. The board has the authority to conduct the reviews described in subsection 13.4A.5, Responsibilities. In addition, the PRB:

- Recommends to the NPGM written approval or disapproval, as appropriate, for items considered in subsection 13.4A.5.

- Renders determinations in writing with regard to whether appropriate items considered in subsection 13.4A.5 require prior NRC approval pursuant to 10 CFR 50.59/10 CFR 72.48.

- Provides written notification within 24 h to the vice president-Hatch project and the safety review board (SRB) of any disagreement between the PRB and either the NPGM, the plant operations assistant general manager (POAGM), or the plant support assistant general manager (PSAGM). However, the NPGM has responsibility for resolution of a disagreement.

13.4A.5 RESPONSIBILITIES

The responsibilities of the PRB are as follows:

- Review all Administrative Control Procedures and revisions thereto.
- Review plant or ISFSI procedures and revisions thereto for which a 10 CFR 50.59 or 10 CFR 72.48 evaluation (as applicable) was required.
- Review all proposed tests and experiments that affect nuclear safety.
- Review all proposed changes to the plant or ISFSI Technical Specifications and the Environmental Protection Plan (Nonradiological).
- Review all proposed changes or modifications to plant or ISFSI systems or equipment that affect nuclear safety.
- Investigate all reportable violations of the plant or ISFSI Technical Specifications, and prepare and forward reports covering evaluation and recommendations to prevent recurrence to the NPGM, the vice president-Hatch project, and the SRB.
- Review all reportable events.
- Review unit operations to detect potential nuclear safety hazards.
- Perform special reviews, investigations or analyses, and reports thereon as requested by the NPGM or the SRB.
- Review the Security Plan.
- Review the Emergency Plan.
- Review any unplanned onsite release of radioactive material to the environs when such release is in excess of 1 Ci, excluding dissolved and entrained gases and tritium for liquid effluents, and in excess of 150 Ci of noble gases or 0.02 Ci of radioiodines for gaseous effluents. Prepare and forward to the NPGM and the SRB reports covering evaluation, recommendations, and disposition of the corrective action to prevent recurrence.
- Review changes to the Process Control Program and the Offsite Dose Calculation Manual (ODCM), except for the section on the radiological environmental monitoring program in the ODCM.
- Review proposed changes to plant or ISFSI systems and equipment to determine whether the proposed changes have a potential radiological environmental impact. Report such changes to the NPGM or designee.

13.4A.6 DEFINITIONS

A. Alternate - a plant employee who qualifies to fill the plant supervisory position and is duly appointed and approved.

B. Consultant - an employee of either GPC or SNC, or under contract to either GPC or SNC, who may be requested to provide expert advice on a particular matter. The individual is a highly qualified specialist or one having special technical skill or knowledge.

C. Evaluate - to appraise or determine worth.

D. Investigate - to examine or search to determine facts.

E. Modification - any change to a structure, system, component, or procedure.

F. Review - a deliberately critical examination, including monitoring of plant operation, formal independent evaluations of certain contemplated actions, and after-the-fact investigations of anomalies or deviations.

G. Safety Related - those plant features necessary to ensure the integrity of the reactor coolant pressure boundary, the capability to shut down the reactor and maintain it in a safe shutdown condition, or the capability to prevent or mitigate the consequences of accidents which could result in offsite exposures comparable to the guideline exposures of Nuclear Regulatory Commission Title 10 Code of Federal Regulations (CFR) Part 100.

13.4A.7 REVISIONS TO CHARTER

The charter may be revised whenever the need is evident; however, approval of any change is made at the discretion of the NPGM. Charter revisions are shown in the minutes of PRB meetings.

13.4B EDWIN I. HATCH SAFETY REVIEW BOARD (HNP-1 AND HNP-2)

13.4B.1 GENERAL

The Safety Review Board (SRB) shall advise the executive vice president (EVP) on matters related to nuclear power plant safety for all SNC plants and corporate activities. The SRB 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.
- Administrative controls and quality assurance practices.
- Other appropriate fields associated with the unique characteristics of the nuclear power plants such as the independent spent fuel storage facility operation.

The SRB shall report to and advise the EVP on those areas of responsibility specified in paragraphs below ("Reviews" and "Audits"), and other areas as may be assigned. The SRB shall meet the requirements of ANS 3.2/N18.7-1976 for the Independent Review Program.

13.4B.2 MEMBERSHIP

The Board shall consist of at least five regular members, appointed in writing by the EVP, with no more than a minority of the members representing the onsite operating organization of any specific plant. The minimum membership of the Board will consist of the vice president–Farley, the vice president–Hatch, the vice president–Vogtle, the vice president–engineering, the Nuclear Fuel manager, and the Quality Assurance manager. A chairman and a vice chairman shall be appointed by the EVP from among the plant vice presidents for a term of 1 year.

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H.3 The nuclear safety review board (NSRB) charter is provided in the SNC Quality Assurance Topical Report (QATR).

Alternate members of the SRB shall be appointed in writing by the EVP to serve on a temporary basis for a specific member. The use of alternates shall be restricted to legitimate absences of regular members. In the absence of the SRB chairman, the vice chairman will assume the duties of the SRB chairman.

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

The SRB shall be composed of members who, as a group, provide the 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 and each member of the SRB, as a minimum, have a bachelor's degree in engineering or related sciences and 5 years of technical experience, of which at least 3 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.
- Administrative controls and QA practices.

Subcommittees may be appointed by the SRB chairman to perform designated activities. Subcommittee actions shall be reported to and acted on by the SRB. Subcommittee chairmen will be members or alternate members of the SRB.

Termination of membership on the SRB shall be authorized in writing by the EVP.

13.4B.3 MEETINGS

The SRB shall meet at least once per 6 months.

The quorum of the SRB necessary for the performance of the SRB review functions described below shall consist of the chairman or the vice chairman and at least a majority of the SRB 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 SRB activities at any one time.

13.4B.4 REVIEWS

The SRB 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 the provision 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.
- Proposed tests or experiments which require prior NRC approval pursuant to 10 CFR 50.59 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 designed 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.
- Performance of the Plant Review Board.

13.4B.5 AUDITS

Audits of plant activities shall be performed under the cognizance of the SRB. The audits to be performed are discussed in paragraph 17.2.18.1.

13.4B.6 RECORDS

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

- Minutes of each SRB meeting shall be prepared, approved, and forwarded to the EVP within 14 days following each meeting.
- Reports or subcommittee meeting minutes of reviews as described above shall be prepared, approved, and forwarded to the EVP within 14 days following completion of the review.
- Audit reports as described above shall be forwarded to the EVP and to the management positions responsible for the areas audited within 30 days after completion of the audit by the auditing organization.

13.5 PLANT PROCEDURES (HNP-1 AND HNP-2)

13.5.1 SYSTEM OR PLANT PROCEDURES

All safety-related operations are conducted in accordance with detailed written plant procedures.

the SNC Quality Assurance Topical Report (QATR)

The procedures manual, which includes all plant procedures, is prepared by the plant operating organization with the technical assistance of General Electric Company (GE), Bechtel Power Corporation (BPC), and other technical support organizations as needed. The plant procedures follow the guidance of standard American National Standards Institute (ANSI) N18.7-1976, "Administrative Controls for Nuclear Power Plants." Prior to initial use and if required, proposed procedures/procedure revisions are reviewed by ~~either a Qualified Reviewer or~~ the Plant Review Board ~~(as described in subsection 13.4.2 and supplement 13.4A)~~, and recommended for approval to the appropriate member of plant management designated by the nuclear plant general manager (NPGM), the plant support assistant general manager (PSAGM), or the plant operations assistant general manager (POAGM). The emergency implementing procedures are reviewed on an annual basis to determine adequacy, accuracy, and need. All other safety-related procedures are reviewed as described in the ~~discussion on Regulatory Guide 1.33~~. An updated set of plant procedures is always available in the main control room (MCR). A provision is made to ensure that emergency operating procedures and abnormal operating procedures are reviewed at least every 2 years by a knowledgeable individual to determine whether changes are necessary or desirable.

the QATR

As part of the overall quality assurance (QA) program, the QA group performs various audits ~~(described in section 17.2)~~ to assure that the procedural process is working and that procedures are being properly maintained.

the QATR

Day-to-day operations are carried out by the various plant departments. Each department is assigned an area of responsibility and operates with some degree of independence and freedom from close supervision; yet their actions are closely coordinated to best achieve the common purpose.

The NPGM, the POAGM, or the PSAGM issues procedures governing employee actions and established standards for plant operation. These procedures contain administrative restrictions and plant requirements established to ensure safe operation of the plant within the limitations set by plant licenses, the Technical Specifications, and the Technical Requirements Manual (TRM).[a] They assure plant activities are conducted in a manner to protect the general public, plant personnel, and equipment.

a. When the Technical Specifications were revised to be consistent with NUREG-1433, "Standard Technical Specifications," some previous Technical Specifications requirements were relocated to other documents. Some requirements were relocated to the TRM. Any changes to the relocated requirements contained in the TRM are reviewed pursuant to 10 CFR 50.59.

QATR

A formalized system of written procedures conforming to the requirements of the operating QA program (~~section 17.2~~) is employed in support of the standard practices.

Systems and components described in the FSAR are maintained with the aid of written procedures. These maintenance procedures consider vendor or manufacturer's technical manuals and recommendations, as well as engineering inputs and regulatory requirements.

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 the intent of the approved procedure may be made with the consurrence of two individuals, one of whom holds a senior reactor operator's license on the affected unit. Such revisions are documented and if required, reviewed by ~~either a Qualified Reviewer or~~ the Plant Review Board (as described in ~~subsection 13.4.2 and supplement 13.4A~~), and approved by the appropriate member of plant management (~~see paragraph 17.2.6.1~~) 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 departures are logged describing the prevailing conditions and the reasons for the action taken.

see QATR

the QATR

- Administrative procedures.
- Normal operating procedures.
- Annunciator response procedures.
- Surveillance procedures.
- Emergency procedures.
- Instrument calibration procedures.
- Maintenance procedures.
- Chemical control procedures.
- Radiation protection procedures.
- Core calculations and fuel handling procedures.
- Miscellaneous procedures.

Procedures are revised or added as experience dictates. Administrative controls require maintenance of an index that provides a current list of all plant procedures.

INSERT H.4

17.2 QUALITY ASSURANCE DURING THE OPERATIONS PHASE

This section describes the administrative controls and quality assurance (QA) program applied to safety-related structures, systems, and components during the operation, maintenance, and modification of the Edwin I. Hatch Nuclear Plant Unit-2 (HNP-2) to ensure conformance to regulatory requirements and the design bases. During commercial operation, the same engineering, operations, and QA organizations function for both HNP-1 and HNP-2. This section follows the format of Regulatory Guide 1.70.11, Information for Safety Analysis Reports Quality Assurance During Operations Phase, December 1974. This program implements, ANSI N18.7-1976, "Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants." Regulatory Guide and ANSI standard commitments and exceptions are addressed in appendix A.

Quality Assurance requirements for the Independent Spent Fuel Storage Installation are contained in section 17.2A.

The policies, goals, and objectives of the QA program are summarized below:

All participants in the QA program, including suppliers and contractors, meet appropriate sections of 10 CFR 50, Appendix B, criteria. The program is documented by written policies, procedures, or instructions. The QA program provides control over activities affecting the quality of structures, systems, and components consistent with their importance to safety. Activities affecting quality are accomplished under controlled conditions, which include the use of appropriate equipment, suitable environmental conditions, and assurance that all prerequisites for the given activity have been satisfied. The program takes into account the need for special controls, processes, test equipment, tools, and skills to attain the required quality. Verification of conformance to established requirements is accomplished by individuals or groups who do not have direct responsibility for performing the work being verified. The program provides for indoctrination and training of personnel performing activities affecting quality, as necessary, to ensure that suitable proficiency is achieved and maintained. Management regularly reviews the status, adequacy, and implementation of the QA program.

17.2.1 ORGANIZATION

17.2.1.1 Corporate Organization

The responsibility for the design, redesign, evaluation, and operation of the HNP rests with Southern Nuclear Operating Company (SNC). The nuclear power plant is designed, constructed, and operated in conformance with regulatory requirements, design bases, technical specifications, and the QA program. The responsibility for establishing the HNP QA policies, goals, and objectives, as stated in the introductory paragraph, is vested in the vice president-project (Hatch) who has delegated certain areas of responsibility and authority for the development and implementation of the QA program as set forth in the following paragraphs. Figure 17.2-1 shows the QA program organization for Plant Hatch.

17.2.1.1.1 Safety Review Board (SRB)

Hatch Nuclear Plant

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H.4 The operations phase quality assurance program for Hatch Nuclear Plant (HNP) is designed to assure the plant's safe and reliable operation and to satisfy the quality assurance (QA) requirements of Appendix B to 10 CFR Part 50. The quality assurance program applicable to operation phase activities for HNP is described in the Southern Nuclear Operating Company (SNC) Quality Assurance Topical Report (QATR). Quality assurance program requirements formerly contained in HNP FSAR Section 17.2 are superceded by those contained in the SNC QATR.

FSAR Table 17.2.2 provides a list of safety-related structures, systems, and components. This information is retained and is identified as historical information.

Activities of the SRB are addressed in supplement 13.4B.

17.2.1.1.2 Nuclear Operations

The vice president-project (Hatch) is responsible to the president/CEO through the executive vice president for the safe, reliable, and efficient operation and maintenance of the HNP. The vice president-project (Hatch) is responsible for the implementation of the QA program for plant operations at the HNP. He/she is an officer of SNC. The Hatch Project includes the plant staff, the corporate nuclear support staff, and the Quality Assurance Department.

The HNP corporate staff supports the vice president-project (Hatch) in the performance of his/her duties. The support staff reports to the vice president-project (Hatch) through the nuclear support general manager (NSGM). Reporting to the NSGM is the planning and performance supervisor. The nuclear plant general manager (NPGM) reports directly to the vice president-project (Hatch).

17.2.1.1.3 Quality Assurance Department

The quality assurance manager (QAM) reports to the executive vice president. The QAM is responsible for managing the activities of the QA Department, ensuring conformance to quality requirements in the engineering, design, procurement, construction, operation, testing, maintenance, and modification areas where activities affecting quality are performed. In addition to these responsibilities for Hatch, the QAM is similarly responsible for the QA programs of the Farley Nuclear Plant and the Vogtle Electric Generating Plant. By reporting to the executive vice president, the QAM has the authority and independence necessary to direct and control these QA programs. He/she can effectively ensure conformance to quality requirements and is independent of undue influence and responsibility for cost and schedules.

The minimum qualifications for the QAM are that he/she holds an engineering degree and has a minimum of 5 years experience in the areas of engineering, field construction, or plant operation. Two of these 5 years must consist of QA experience, of which at least 6 months must be nuclear QA experience.

The QA site supervisor and his/her QA field staff report to the QAM. The QA site supervisor is responsible for:

- Managing the Plant Hatch QA staff.
- Ensuring that satisfactory QA programs are in effect.
- Developing, scheduling, and carrying out the audit program on quality-related activities.

- Ensuring that site activities conform to QA program requirements during operation, maintenance, and modification of the plant.

The plant site and corporate QA personnel provide technical and administrative support to the QA Department in the performance of its assigned responsibilities.

Qualification requirements for HNP QA Department personnel are in accordance with Appendix A.146.

The QA Department personnel have the authority to stop work or plant operations through appropriate channels when the repair, modification, or operation of a safety-related system, structure, or component is not performed in accordance with the provisions of the QA program. Disputes arising from differences of opinion between QA personnel and other department personnel will be resolved at the appropriate level of management.

To assure that controls are in place to effectively maintain plant procedures, the QA staff performs a biennial audit of plant procedures, and the procedural development and maintenance program utilizing a representative sampling process.

The personnel responsible for performing QA/QC functions have sufficient authority and freedom to:

- Identify quality problems.
- Initiate, recommend, or provide solutions through designated channels.
- Verify implementation of solutions.

17.2.1.1.4 Hatch Support Manager

The Hatch support manager reports to the vice president-technical support through the plant support manager and the vice president-engineering. The Hatch support manager provides matrixed accountability to the nuclear support general manager. The Hatch support manager is responsible for assuring that adequate engineering and technical support are provided for Plant Hatch. He/she also maintains oversight of the engineering work to ensure it meets QA program requirements.

Southern Company Services, Inc. (SCS) was originally the architect/engineer (A/E) for Plant Hatch during operation. As a result of the consolidation of SCS and SNC nuclear expertise, and in addition to being the licensee, SNC also serves as its own A/E. The corporate QAM and staff will perform the functions previously performed by SCS-QA.

BPC is under contract to SNC to provide A/E services. The work scope includes plant design, engineering studies, and development of purchase recommendations for equipment and materials. Activities within the BPC work scope are governed by the Bechtel Project Quality Assurance Program Plan (PQAPP) and the SNC-approved Bechtel Nuclear Quality Assurance

Manual (NQAM). The QAM performs, or causes to be performed, audits of these procedures and functions.

17.2.1.1.5 Supply Chain Management

The supply chain general manager (SCGM) reports to the chief financial officer and vice president-corporate services. Supply chain management activities are governed by the SNC Support Services Quality Assurance Policy Manual. The SCGM provides matrixed accountability to the vice president – project (Hatch). In addition to the responsibilities for Hatch, the SCGM is similarly responsible for supply chain management for the Farley Nuclear Plant and the Vogtle Electric Generating Plant.

17.2.1.1.6 Environmental Affairs Manager

The environmental affairs manager reports to the vice president and general counsel and is responsible for managing environmental issues such as radiological environmental, nonradiological environmental, dose and shielding calculations, and low-level radioactive wastes.

17.2.1.2 Plant Organization and Responsibilities for QA/QC

17.2.1.2.1 Nuclear Plant General Manager (NPGM)

The NPGM has the site responsibility for implementation of the QA program at the plant site. He/she is responsible for compliance with the requirements of the Operating License and the Technical Specifications and for the safe, reliable, and efficient operation of the HNP. The plant operations assistant general manager (POAGM) and the plant support assistant general manager (PSAGM) report to the NPGM. The organizational structure, the interface with the general office, and the qualifications of plant personnel are discussed in chapter 13.

17.2.1.2.2 Qualified Reviewer/Plant Review Board

17.2.1.2.2.1 Qualified Reviewer. Qualified Reviewers are supervisory level (or equivalent) plant personnel designated by the Nuclear Plant General Manager to act in this capacity. The Qualified Reviewer reviews items which require screening for 10 CFR 50.59/10 CFR 72.48 applicability and for which the answers to the screening questions indicate that the completion of a 10 CFR 50.59/10 CFR 72.48 evaluation is not required. All such items are reviewed as described in paragraph 13.4.2.1.

17.2.1.2.2.2 Plant Review Board (PRB). The PRB is comprised of the designated plant supervisory personnel or alternates and has advisory duties to the NPGM. The PRB reviews items which require screening for 10 CFR 50.59/10 CFR 72.48 applicability and for which an answer to at least one of the screening questions indicates that the completion of a 10 CFR 50.59/10 CFR 72.48 evaluation is required. All such items will be reviewed as described in supplement 13.4A. The PRB reviews all reportable violations of the Technical Specifications and also screens subjects of potential concern to the SRB (paragraph 13.4.2.2).

17.2.1.2.3 Operations Manager

The operations manager reports to the POAGM and has the responsibility to ensure the plant operates in accordance with written, approved procedures and license requirements. He/she must ensure operations personnel are trained and qualified and operations activities are governed by effective administrative controls. He/she is also responsible for the operation of the radwaste facility.

17.2.1.2.4 Maintenance Manager

The maintenance manager reports to the POAGM and has the responsibility for supervision of all mechanical, electrical, and instrument and controls maintenance of plant equipment, systems, or structures, including those that are safety related. He/she is responsible for the material condition of the plant, as well as for the conduct of maintenance activities, building and grounds support, and maintenance support contractors.

17.2.1.2.5 Health Physics Superintendent/Manager and Chemistry Manager

The health physics superintendent/manager reports to the POAGM and has the responsibility for conducting routine and special radiation surveys, determining allowable exposure and protection requirements of personnel working in radiation areas, and maintaining records of these surveys and personnel exposures. He/she is also responsible for the monitoring of plant radwaste discharges and the radwaste program.

The chemistry manager reports to the POAGM and is responsible for the maintenance of plant water quality.

17.2.1.2.6 Security (Site) Manager

The security (site) manager reports to the PSAGM and has the responsibility for implementation of the Plant Hatch Security Plan. He/she is also responsible for ensuring that security personnel are trained and qualified to perform their assigned duties.

17.2.1.2.7 Deleted

17.2.1.2.8 Engineering Support Manager

The engineering support manager reports to the PSAGM and is responsible for the resolution of technical problems involved with the maintenance and operation of the plant. This includes engineering matters related to the reactor, reactor systems, fire protection, balance of plant, and implementation of major design change requests. The quality control function is also included.

17.2.1.2.9 Work Control Superintendent

The work control superintendent reports to the POAGM and is responsible for outage planning, scheduling, and management.

17.2.1.2.10 Plant Training and Emergency Preparedness Manager

The plant training and emergency preparedness manager reports to the PSAGM and is responsible for the preparation, scheduling, presentation, and administration of training programs at Plant Hatch to ensure that employees can accomplish their job functions and that the programs comply with Nuclear Regulatory Commission (NRC) requirements. He/she is responsible for training programs to qualify students for required NRC licenses; for maintenance and modification of the simulator; and for training programs in plant safety, plant operations, security, health physics, chemistry, and fire brigade training. Onsite activities relating to the emergency preparedness program are also the responsibility of this position, including associated training.

17.2.1.2.11 Performance Analysis Supervisor

The performance analysis supervisor reports to the NPGM and is responsible for managing the PRB, administering the Technical Specifications program, and for identifying program commitments. He/she is also responsible for coordinating the Operating Experience Review Program and for NRC/QA open item control. He/she is also responsible for the corrective action program, for maintaining the HNP documentation files, and for maintaining procedures, change logs, and distribution control (for plant originated procedures, PRB minutes, etc.).

17.2.2 QA PROGRAM DURING PLANT OPERATIONS

17.2.2.1 Policies, Goals, and Objectives

The policies, goals, and objectives of the QA program during plant operations are summarized in the introductory paragraph of this section.

The items covered under the QA Program are the safety-related structures, system, and components (SSCs). A detailed list of safety-related SSCs at the component level for HNP-1 and HNP-2 is contained in Volume 3 of the System Evaluation Document (SED). The criteria used for identifying the safety-related SSCs are described in Volume 3 of the SED and are procedurally controlled. Changes to Volume 3 of the SED are reviewed pursuant to 10 CFR 50.59.

A general list of the SSCs covered under the QA Program is provided in HNP-1-FSAR table D.9-1 and HNP-2-FSAR table 17.2-2. Systems included in these tables contain at least one safety related item; however, portions of some systems may not be considered safety related. Due to the high-level nature of the lists, only major plant modifications are expected to affect the content of these FSAR tables.

Consistent with HNP-2-FSAR paragraph 1.1.8.7, HNP-1-FSAR table D.9-1 and HNP-2-FSAR table 17.2-2 are designated as "Historical."

The QA program requires that safety-related activities be carried out under suitably controlled conditions, including use of approved procedures and appropriate equipment, proper environmental conditions, and assurance that all prerequisites have been satisfied. Quality policies, QA manuals, and procedures are mandatory requirements which must be implemented and enforced. These safety-related activities and other activities designated by management as outlined in the HNP QA manual include but are not limited to:

- Administrative controls and reporting requirements.
- Health physics and radiation protection.
- Radiological environmental monitoring and the Environmental Protection Plan.
- Plant chemistry.
- Radioactive waste control.
- Reactor and plant operations.
- Materials control (procurement, storage, and issue).
- QC (NDE, inspection, etc.).
- Surveillance program.
- Measuring and test equipment calibration and control.
- Balance-of-plant instrument calibration.
- Security Plan and procedures.

- Emergency Plan and procedures.
- Design changes and plant modification control.
- Departmental training programs.
- Maintenance programs.
- Fuel handling and special nuclear material control.
- Inservice inspection program.
- Procedure control and review.
- Records management and document control.
- Fire protection program.
- Corrective action programs.
- Radioactive material packages (procurement, maintenance, repair, and use).
- Computer software.

17.2.2.2 Overall Responsibility

The overall responsibility for developing and implementing the HNP QA program for engineering, construction, and operation is vested in the vice president-project (Hatch). The SRB regularly assesses the scope, implementation, and effectiveness of the QA program during plant operations and makes periodic reports to the executive vice president.

The QA program for plant operations is described in this section which is concurred with by the NRC. This is a description of how the program is implemented. The QA program is implemented through two levels of documents:

A. The HNP QA manual, approved by the vice president-project (Hatch), contains the requirements that must be met. The SNC QAM issues, controls, revises, and distributes the QA manual.

B. Implementing procedures are required to be written, reviewed, and approved by each responsible organization. A list of the major QA program procedures and applicable criteria is provided in table 17.2-1, and needed revisions will be documented through the required FSAR update process.

The QAM ensures that major contractors performing safety-related activities at, or in association with, HNP have an adequate QA/QC program commensurate with the scope of their activities. Applicable sections of ANSI N18.7-1976, Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants, are required by contractors and suppliers to the degree necessary to ensure compliance with the QA program.

It is the responsibility of support organizations to comply with the QA program for plant-associated activities, such as procurement, qualification of suppliers, new plant design, and the necessary redesign or evaluation of any of the safety-related systems, structures, or components.

17.2.2.3 Plant Responsibility

It is the responsibility of the NPGM and his/her staff to comply with the QA program and regulatory requirements for all safety-related site-based activities and to ensure the plant is being operated and maintained in accordance with approved procedures.

The engineering support supervisors report to the engineering support manager and are assisted by any required technical and inspection personnel. The engineering support supervisors monitor maintenance and modification activities through involvement in the maintenance work order system. They can specify any special inspection or test requirements and review results. They control nonconforming materials. They have the authority to stop work through appropriate channels on a repair or modification to a safety-related system if it is not being performed in accordance with the provisions of the QA program or if the material being used does not meet the applicable requirements.

17.2.2.4 Training and Indoctrination

The QAM is responsible for establishing the requirements for QA training and indoctrination for the QA Department. QA Department personnel, in accordance with QA Department procedures, receive formal and on-the-job training in QA policies and requirements, procedures, general plant operation, nonconformance control, and auditing. Records of training and qualification of QA Department personnel are maintained by the QAM, who ensures compliance to requirements.

Non-QA Department personnel, in addition to the training described in section 13.2, receive QA indoctrination. In addition to this indoctrination, plant operators, maintenance personnel, test personnel, engineering, health physics, and chemistry personnel receive specialized instruction in their areas of QA program implementation.

The plant training and emergency preparedness manager schedules and evaluates the training and indoctrination of plant personnel. Certain mechanical, QC, and other personnel require certification for specialized activities, e.g., welding, nondestructive examination, etc., in accordance with approved codes and standards. Written procedures indicate the personnel requiring special certification, method of certification, time limit, method of retraining, reexamination and/or recertification, and records to be retained. A suitable combination of

lectures, on-the-job instruction, videotape, and offsite schools is used to ensure that personnel whose jobs affect quality are adequately trained and qualified. The performance analysis supervisor is responsible for maintaining training and indoctrination records.

17.2.3 DESIGN CHANGE CONTROL

Section 3 of the HNP QA manual contains requirements for control of design changes and modification of safety-related systems, structures and components. Written procedures control all phases of plant design and modifications.

Design control measures are applied, as appropriate, to items such as the following: reactor physics, seismic, stress, thermal, hydraulic, radiation, and accident analyses; compatibility of materials; accessibility for inservice inspection, maintenance, and repair; and delineation of acceptance criteria of inspections and tests. Design procedures provide for review of applicable regulatory standards, design bases, and requirements of licenses, and ensure that these factors are taken into account in preparation of drawings, specifications, and other design documents. Changes in operating procedures made necessary by plant modifications are a consideration during design. Appropriate QA standards are specified in design specifications for control of the suppliers' and contractors' QA programs. Selection and review for suitability of application of materials, parts, equipment, and processes, including commercial-grade items that have been previously approved for a different application, are regarded as a part of design preparation and are performed in accordance with written procedures for design and specification preparation, review, approval, and release.

Procedures require all designs to be checked in accordance with the provisions of ANSI N45.2.11 to ensure that design characteristics are controlled, inspected, and tested and that inspection and test criteria are identified. New or innovative design is subjected to comprehensive design review, which may include calculational checks or a testing program under adverse design conditions. Design documents and revisions are collected, distributed, stored, and maintained in a systematic manner to prevent inadvertent use of superseded documents. Significant errors and deficiencies in design and design control processes that could adversely affect safety-related structures, systems, and components are documented and corrective action taken to preclude repetition.

The PRB reviews all proposed changes or modifications to plant systems or equipment that affect nuclear safety. The SRB reviews, in accordance with SRB procedures, 10 CFR 50.59 and 10 CFR 72.48 evaluations of changes to the plant, and changes to the plant that require prior NRC approval pursuant to 10 CFR 50.59 and 10 CFR 72.48.

Design change requests are forwarded to the Hatch support manager for evaluation. The detailed engineering will be performed by an approved A/E organization using similar procedures developed and used in the original design of the plant with audits being conducted under the direction of the QA Department. Minor design changes are forwarded to the engineering support manager for evaluation. The scope of minor design changes is discussed prior to implementation to determine whether design involvement is required. The responsible engineering organization establishes controls for the review, approval, release, distribution, and revision of documents involving design interfaces with participating organizations. The

completed detailed design is then forwarded to the NPGM, who uses the maintenance work order system for implementation. After implementation, as-built information for design change requests and minor design change requests is forwarded for incorporation in plant drawings and verification of design conformance.

17.2.4 PROCUREMENT DOCUMENT CONTROL

Corporate and site procedures describe the process by which materials and services are procured for safety-related systems, structures, and components.

17.2.4.1 Procurement Document Processing

A. Requisitions contain or reference sufficient information to identify end-use of all ordered items.

B. All procurement requisitions, with the exception of nonplant items, are reviewed, completed, and approved by Supply Chain Management Department personnel.

C. A graded procurement approach is applied through the use of a four-level procurement classification system based upon the end-use of each item or service.

D. Technical and quality procurement requirements to be imposed on vendors are included on procurement documents according to the procurement level established. Provisions for proper control of items and services after onsite arrival may be included in procurement documents as appropriate.

E. Completed, reviewed, and approved requests are forwarded to the Supply Chain Management Department for processing and conversion into purchase orders.

F. All quality assurance records generated during the procurement document preparation process are forwarded to the plant documentation file for retention.

The SCGM is responsible for ensuring that revisions or changes to procurement documents receive the same level of review and approval as did the original documents if the revision affects technical or quality requirements. SNC issues purchase orders from requisitions approved by SNC.

Assurance that the requirements of this section and those of applicable procedures are implemented is provided by the audit program described in subsection 17.2.18.

17.2.5 INSTRUCTIONS, PROCEDURES, AND DRAWINGS

Activities affecting quality are prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances and are accomplished in accordance with these instructions, procedures, or drawings. They contain appropriate quantitative (such as

dimensions, tolerances, and operating limits) or qualitative (such as workmanship and samples) acceptance criteria for determining whether important activities have been satisfactorily accomplished.

17.2.5.1 Plant Procedures, Instructions, and Drawings

The HNP procedures are used for periodic test and calibrations, special processes, modifications, maintenance, and other plant activities on safety-related systems, equipment, or structures. New procedures and revisions to existing procedures are reviewed by plant personnel. This review is for compliance with provisions of the QA program, applicable codes, standards and regulations, inclusion of appropriate acceptance criteria, and process controls. Following this review if required, procedures are reviewed by either a Qualified Reviewer or the PRB (paragraph 17.2.1.2.2), prior to being signed by a member of plant management.

Written administrative procedures ensure proper control of instructions such as temporary procedure changes and operating orders. These instructions are of limited scope and issued for limited time periods to ensure proper requirements included in the procedures are not bypassed or neglected.

Plant drawings reflect the properly reviewed and approved configuration of the plant. Changes as a result of design changes (subsection 17.2.3) or as-builts are controlled by written procedures the same as drawings until properly revised drawings are received. The design organization implements design control through written procedures.

17.2.5.2 Other Procedures

Each organization performing quality-related activities has properly reviewed and approved QA programs or procedures. These programs or procedures are reviewed for quality requirements and concurred with by the QAM or his/her representative.

Examples of procedures include selected corporate nuclear procedures.

17.2.6 DOCUMENT CONTROL

17.2.6.1 Procedure Revision and Control

Revisions to HNP procedures fall into two categories: permanent revisions and temporary revisions. On procedures that do not require immediate action, the revision is prepared and, if required, subsequently reviewed by either a Qualified Reviewer or the PRB (paragraph 17.2.1.2.2). Following recommended approval by the Qualified Reviewer/PRB (as appropriate), the appropriate member of plant management gives written approval prior to the revision being implemented and incorporated in the appropriate section of the procedure. Proposed temporary revisions must be written such that the intent of the original procedure is not altered and that the revision is approved by two members of the plant management staff, at least one of whom holds a senior reactor operator's license. The required action is taken as set forth in administrative procedures and further delineated in FSAR subsection 13.5.1.

All other instructions, procedures, and drawings are revised and controlled in a manner consistent with the original issue of that procedure unless otherwise specified in this paragraph.

The performance analysis supervisor establishes a system ensuring that the responsible supervisors receive current revisions of drawings, procedures, and other required documents and that superseded revisions or copies are removed and destroyed. The responsible supervisor is responsible for ensuring that the latest revision of appropriate documents is being used to perform safety-related activities. Documents controlled by offsite organizations receive comparable issue and control as site documents.

17.2.6.2 Licensing Document Revision and Control

The Hatch licensing supervisor coordinates the control of licensing documents and assures revisions to licensing documents are accurate, complete, and timely. Licensing documents include the following:

- Final Safety Analysis Report.
- ***Fire Hazards Analysis and Fire Protection Program (incorporated by reference into the FSAR).***
- Security Plan.
- Emergency Plan.
- Technical Specifications, Technical Specifications Bases, and Technical Requirements Manual.

Licensing document revisions receive written approval from the NPGM. Selected licensing document revisions also require SRB review (defined in supplement 13.4B).

17.2.6.3 Drawing Changes

Proposed drawing changes are reviewed to ensure that the drawing change conforms to the plant licensing basis set forth in the FSAR. Organizations revising drawings issue and control drawings in a manner to ensure that organizations requiring revised drawings are so provided. Temporary drawing changes, as-built revisions, and proposed drawing changes are reviewed and controlled to ensure that revised drawings contain the proper information. Design changes are described in subsection 17.2.3.

17.2.7 CONTROL OF PURCHASED MATERIAL, EQUIPMENT, AND SERVICES

Spare and replacement items and materials, as well as new items and materials, obtained for modifications are subject to controls imposed by applicable procedures.

17.2.7.1 Supplier Qualification

Safety-related items and services procured are obtained from either vendors included on the Qualified Suppliers List or other utilities holding an NRC nuclear plant license. Items and services that are procured commercial-grade are also obtained from vendors included on the Qualified Suppliers List when a vendor survey is used as an acceptance method in the dedication process.

The Supply Chain Management Department is responsible for initiating qualification of suppliers for HNP. All Hatch Project departments and supporting agencies are required to use only those suppliers included on the Qualified Suppliers List, in accordance with applicable procedures. The QAM has the responsibility to ensure that HNP suppliers have acceptable QA programs.

Corporate QAM performs evaluations, audits, and surveillances of suppliers as requested. Some of these activities may be performed, from time to time, by other qualified personnel.

Suppliers are periodically reviewed to establish the continued effectiveness of the supplier's quality program. In addition, supplier conformance to Hatch Project procurement requirements is determined through the use of source inspections and audits at the supplier's facilities. Review intervals and the use of source inspections and audits are commensurate with the complexity of the items or services being procured and their relative importance to safety.

Inclusion of a supplier on the Qualified Suppliers List is based upon the supplier's capability to provide acceptable items or services based upon one or more of the following criteria:

- The supplier's capability to comply with the applicable requirements of 10 CFR 50, Appendix B, for the type of items or services being provided.
- Reviews of previous records of supplier performance during procurements by other utilities.
- Survey of the supplier's facilities and QA program to establish the adequacy of the supplier's procedures for the control of activities related to the items or services being procured.

  If a survey is performed, the results are documented and filed.

NRC licensed nuclear utilities are not included on the Qualified Supplier's List based on their possession of a NRC approved Appendix B QA program. Therefore audits, surveys, and periodic evaluations are not required.

17.2.7.2 Evaluation Procedures

The evaluation of suppliers, including spare and replacement parts for safety-related systems and surveillance during fabrication, inspection, testing, and shipment, is performed in

accordance with procedures established among the Supply Chain Management Department, Plant Nuclear Support, and the QA Department. These procedures include:

- Instructions that specify the characteristics of processes to be witnessed, inspected, verified, and accepted; the method of surveillance and the extent of documentation required; and those responsible for implementing these instructions and releasing documentation.

- Audits and surveillance that ensure the supplier complies with the quality requirements. Audits and/or surveillance are performed on those items where verification of procurement requirements cannot be determined upon receipt, as specified by engineering or materials engineering.

17.2.7.3 Receiving Inspection

Receipt inspection of safety-related items is performed in accordance with requirements contained in SNC procedures. Items are tagged with QC hold tags or otherwise controlled to prevent inadvertent use until required documentation is received and compliance with procurement documents is established by inspection.

Items are inspected during receiving for shipping damage and for proper identification in accordance with established procedures. Receipt inspection to verify those physical attributes established during procurement document generation is conducted by qualified personnel. In addition, conformance to vendor-supplied documentation is also verified. The adequacy of all inspection and vendor-supplied documentation is evaluated by qualified SNC personnel. After all inspections and document reviews are satisfactorily completed, the item is released for use or for storage as described in subsection 17.2.13.

If items are found to be unacceptable during inspection or documentation is found to be either inadequate or incomplete, items are appropriately tagged and segregated to prevent inadvertent use. The Supply Chain Management Department is responsible for resolution of nonconforming items or documentation.

The QA Department conducts periodic audits of the supplier qualification and evaluation processes and the plant receiving inspection activities to ensure the requirements of this section are implemented properly.

17.2.8 IDENTIFICATION AND CONTROL OF MATERIALS, PARTS, AND COMPONENTS

Documented procedures require identification and control measures for all safety-related materials, components, and parts procured for the HNP. These measures are used as a mechanism for providing traceability of each safety-related item from fabrication to installation, including partially fabricated subassemblies. The location and method of identification do not affect the function or quality of the item. These measures allow traceability through the manufacturing process and QC tests to the raw material for all materials, components, or

equipment, with the exception of commercial-grade items. Commercial-grade items are traceable to a manufacturer's catalog number, lot, or similar means of identification.

Audits of suppliers and/or inspection of items requiring surveillance during manufacture include a review of procedures, which require documenting correct identification of materials, parts, and components prior to release for fabrication, assembling, shipping, and installation.

In receiving this material, the applicable supervisory personnel are responsible for ensuring that proper unloading and movement techniques are used at the plant. Incorrect or defective materials, parts, and components are segregated and/or marked to prevent their improper use. (See subsection 17.2.15.)

17.2.9 CONTROL OF SPECIAL PROCESSES

The applicable supervisory personnel are responsible for ensuring that special processes, including welding and heat treating on equipment, are accomplished in accordance with the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code and any other existing specifications or criteria that pertain to the HNP. He/she is also responsible for ensuring such special processes are controlled and accomplished only by qualified personnel using approved procedures that have been qualified in accordance with the specified code requirements. These qualifications, along with approved procedures, material specifications, and all other QA documents, including verifications, are filed in the plant documentation file.

Audits of special processes, personnel qualifications, procedures, and records are performed as described in subsection 17.2.18.

17.2.10 INSPECTION

The QA manual section 10 requires that activities concerning safety-related systems executed by plant personnel according to instructions, procedures, and drawings be inspected by personnel other than those performing the activity to verify conformance with the documented instructions, procedures, and drawings. Inspectors are qualified in accordance with training and qualification procedures which include appropriate codes and standards. Their qualifications and certifications are kept current. Inspection procedures or checklists are used with necessary drawings and specifications and contain requirements for maintaining the following records:

- Description of the type of observation.
- Evidence of completing and verifying the inspection operation.
- Date and results of the inspection.
- Information related to conditions adverse to quality.
- Inspector or data recorder identification.

- Evidence as to the acceptability of the results.

Only calibrated test equipment is used for any tests or inspections.

The engineering support supervisor responsible for nondestructive examination ensures the review of results of all tests and inspections performed on safety-related equipment. He/she has the authority to prevent the equipment or system from being returned to service if the repair or modification was not performed in accordance with an approved procedure, specification, or drawing.

When additional inspections or tests are required beyond those required by procedures, he/she designates mandatory inspection hold or witness points, identifies inspectors, ensures the review of inspection results, and ensures documentation in accordance with the above requirements. Process methods, equipment, and personnel are monitored when direct inspection is impossible.

Safety-related materials and equipment, which are in the process of being manufactured and ordered for plant use, are inspected by qualified personnel as specified in the purchase order.

Assurance that the requirements of this subsection are implemented is provided by the audit program described in subsection 17.2.18.

17.2.11 TEST CONTROL

The QA program requires that appropriate tests be performed and documented to ensure satisfactory performance of structures, systems, and components. Plant management is responsible for the conduct of plant tests. The QA manual requires all tests, including surveillance tests, testing following modifications, receiving inspection tests, and tests of special equipment, to be conducted under control of approved written test procedures, which include:

- The requirements and acceptance limits contained in applicable procurement documents.
- Instructions for performing the test.
- Test prerequisites such as:
  - Calibrated instrumentation.
  - Adequate and appropriate equipment.
  - Trained, qualified, and licensed or certified personnel.
  - Completeness of item to be tested.

- Suitable and controlled environmental conditions.
- Provisions for data collection and storage.

- Mandatory inspection hold points for witness by inspector.
- Acceptance and rejection criteria.
- Methods of documenting or recording test data and results.

In instances where less restrictive acceptance limits are set, the justification for this action is documented. Changes to approved test procedures receive review and approval equivalent to that given the original procedures. Departures from approved test procedures are permitted only under controlled conditions where the intent of the procedure is not changed. Test records contain:

- Description of the type of observation.
- Evidence of completing and verifying the test operation.
- Date and results of the test.
- Information related to nonconformances.
- Identification of person performing test.
- A statement as to the acceptability of the results.

Test results are recorded and are reviewed, evaluated, and approved by the appropriate plant department supervisors and the PRB, as appropriate. Tests performed at a supplier's facility are controlled by procedures for inspections. (See subsection 17.2.10.) The QA Department periodically audits to these requirements.

17.2.12 CONTROL OF MEASURING AND TEST EQUIPMENT

The HNP QA manual requires the selection of appropriate measuring and test equipment for inspection and test operations based on a review, which establishes the necessary accuracy of the measuring and test equipment as a result of the tolerance of the characteristic to be measured and ensures that the measuring and test equipment is of the proper range and type to verify conformance to the established requirements. All items under the calibration system are recorded and maintained current on records traceable to the instrument. Contrary to ANSI N18.7-1976, paragraph 5.2.16, installed process instrumentation at HNP is not tagged or labeled with the next date due for calibration. (See appendix A, page A.33-1.)

The calibration of measuring and test equipment using working standards is done according to written procedures at intervals specified on the working standard tags (next date due), using

tolerance for accuracy established by the manufacturer. The calibration interval is based on the required accuracy, purpose, degree of usage, stability characteristics, and other conditions affecting the measurement. Working standards have an uncertainty (error) requirement of no more than one-fourth of the tolerance of the measuring and test equipment being calibrated; a greater uncertainty is acceptable when limited by the state of the art. Equipment and standards not meeting this requirement are identified, and the basis for their calibration accuracy is documented.

Comparison standards used in the calibration of working standards have more stringent tolerances than the working standards. They are traceable to the corresponding standards housed in the National Institute of Standards and Technology and are supported by certification reports and data sheets when applicable.

Measuring and testing equipment is traceable to the calibration test data and is maintained current by the cognizant supervisors as assurance that the appropriate calibrations were performed with the required intervals. An investigation is conducted and documented to determine the validity of previous inspections performed when measuring and test equipment is found to be out of calibration.

Assurance that the requirements described in this subsection are implemented is provided by the audit program described in subsection 17.2.18.

17.2.13 HANDLING, STORAGE, AND SHIPPING

All safety-related material is shipped, handled, stored, cleaned, and preserved according to established procedures which take into consideration the requirements listed in the manufacturer's technical manual. These procedures establish classifications and storage criteria for safety-related equipment, systems, and structures. Items requiring special provisions for storage, such as in a protective environment, are treated in accordance with specially prepared procedures. Special handling, if required for certain items, is similarly controlled by specially prepared and approved procedures, which provide, if necessary, for testing of lifting equipment.

The QA manual requires inspection of items on arrival at the plant and routine surveillance as required while in storage to assure they are preserved and identified satisfactorily. Procedures require that the manufacturer's recommendations be considered in storage of items at the plant for further use. The requirements set forth in the QA manual are implemented by plant procedures. The QA Department periodically audits to these requirements as described in subsection 17.2.18.

17.2.14 INSPECTION, TEST, AND OPERATING STATUS

Approved suppliers provide the means for identifying the inspection and test status of equipment for shop inspections where required as described in subsection 17.2.10. Bypassing of required inspections, tests, and other critical operations is procedurally controlled under the cognizance of the responsible engineering organization or equivalent.

Plant inspections and tests are controlled by written procedures as described in subsections 17.2.10 and 17.2.11. Removal of equipment from service for maintenance, inspection, or testing is controlled by clearance and tagging procedures and temporary modification control procedures. The shift supervisor maintains control and records of equipment status with appropriate tags or indications on, or in the proximity of, the remote and local controls for equipment in an off-normal state. Application and removal of inspection and welding stamps and status indicators, such as tags, markings, labels, and stamps, are controlled by documented procedures. The responsible engineering support supervisor has cognizance over the bypassing of required inspections, tests, and other critical operations resulting from maintenance of safety-related systems, parts, and components. The QA Department periodically audits to these requirements as described in subsection 17.2.18.

17.2.15 NONCONFORMING MATERIALS, PARTS, OR COMPONENTS

Materials, parts, or components failing to meet requirements which are identified during receipt inspections or inspections of repaired, fabricated, or modified items prior to use or installation are considered to be nonconforming items. These items are dispositioned through the use of the condition reporting system. Nonconforming items are reported by the individual identifying the undesirable condition and sent to the plant dispatcher who reviews and dispositions the condition report.

Condition reports that are deemed potentially significant are dispositioned by sending them to the responsible shift supervisor for his/her assessment of plant operability implications and immediate reporting requirements. (Condition reports are then routed to the responsible department for further corrective actions.) The site engineering support manager is responsible for controlling the item through tagging or segregation and appropriate documentation to prevent its inadvertent installation or plant use.

Condition reports are reviewed to determine regulatory reportability and severity level. Those items determined to be significant conditions adverse to quality (Severity Level 1 and 2 condition reports) also are reviewed by the PRB. Corrective actions taken for significant items are reviewed by the performance analysis supervisor for assurance that appropriate action has been taken.

Deficiencies or discrepancies identified during quality control inspections are documented and dispositioned in accordance with approved procedures.

Nonconforming items requiring rework, repair, or replacement are inspected and tested in accordance with the original inspection and testing requirements or acceptable alternatives as determined by the engineering support manager. Rework, repair, and associated inspection and testing at suppliers' facilities are performed according to documented procedures; the disposition is documented, and the documentation is forwarded with the hardware to the plant site.

Identified condition reports are analyzed for trends by the performance analysis supervisor. Handling of these trends is discussed in subsection 17.2.16.

The QA Department conducts regular audits of these processes, including a review of the handling, corrective action, and disposition of nonconforming items.

17.2.16 CORRECTIVE ACTION

Corrective action is initiated following the determination of conditions adverse to quality. Failures, malfunctions, deficiencies, deviations, defective materials and equipment, and nonconformances on safety-related systems are documented as required by appropriate procedures.

Various processes are used to identify problems requiring corrective action. Items requiring prompt evaluation and correction are handled through the condition report process which is used for nonconforming items, as discussed in subsection 17.2.15, and for other conditions adverse to quality, such as operational deficiencies, unusual events or conditions, failures to meet Technical Specifications/requirements, etc. Other processes for identifying problems include QA audits, NRC inspections, plant surveillances, quality control inspections, etc.
The assigned supervisory personnel are responsible for coordinating the investigation of any problem determined to be a significant condition adverse to quality (Severity Level 1 or 2 condition report) to determine the root cause(s). The supervisory personnel assigned the necessary immediate and long-term corrective actions for condition reports considered to be significant are responsible for tracking and implementing these actions. Problems determined not to be significant are sent to the appropriate department where corrective action(s) is (are) initiated in a timely manner. However, a root cause determination is not performed for those condition reports determined not to be significant.
The performance analysis supervisor is responsible for analyzing condition reports for adverse trends. Any identified trends are reported to the appropriate department(s) for corrective action(s), and to the POAGM and/or the PSAGM, as applicable, and the QA site supervisor. The performance analysis supervisor also is responsible for analyzing QA audit findings and NRC violations for adverse trends and forwarding any identified trends to the POAGM and/or the PSAGM, who is responsible for assessing these trends. Based on these inputs, as well as inputs from other processes, the POAGM and/or PSAGM are responsible for ensuring that proper corrective action(s) is (are) being taken.

17.2.17 QA RECORDS

The QA program requires that records be prepared to document all significant activities affecting quality and that these records be properly stored. Written procedures, which are consistent with applicable codes, standards, and procurement documents, control the storage and retention of records. The minimum records to be controlled and retained are described in subsection 13.6.5 with additional records being retained per approved procedures. Typical records include plant history; operating logs; principal maintenance and modification activities; reportable occurrences; results of reviews, inspections, tests, audits, and material analyses; monitoring of work performance; qualification of personnel, procedures, and equipment; other documentation such as drawings, specifications, procurement documents, calibration procedures, Severity Level 1 and 2 condition reports; significant occurrence reports; and corrective action reports.

The performance analysis supervisor is responsible for the receipt, storage, retrievability, issue, and control of all required plant documents. All personnel and organizations submitting records and documents to the documentation staff for storage are responsible for providing adequate information with that record or document to allow its systematic storage and retrieval.

For electronic storage of QA records, HNP complies with the technical aspects of the Nuclear Information and Records Management Association, Inc. (NIRMA) guidelines, specifically NIRMA Technical Guide (TG) 11-1998, "Authentication of Records and Media," and NIRMA TG 15-1998, "Management of Electronic Records." Relevant criteria of 10 CFR 50, Appendix B, will continue to be satisfied when electronic media are used for managing QA records.

Inspection records submitted to the documentation staff for storage are reviewed by the responsible supervisor to ensure the requirements in subsection 17.2.10 are included.

Record-storage facilities are constructed, located, and secured to prevent destruction of the records by fire, flooding, theft, and deterioration by environmental conditions such as temperature or humidity.

The QA Department periodically audits the records storage and retention requirements as described in subsection 17.2.18.

17.2.18 AUDITS

The QA Department is responsible for making planned and scheduled audits of plant preoperational testing, fuel loading, startup testing, and operations to verify compliance with the QA program, license requirements, Technical Specifications, and other applicable regulations. Audits are conducted by trained personnel not having direct responsibilities in the areas being audited. In the performance of these audits, the QAM furnishes technical expertise and assistance to the QA site organization as necessary. In any special areas such as fuel, health physics, etc., where the QA site supervisor or his/her staff does not possess adequate technical expertise, the QAM has the authority to obtain this expertise whenever necessary. These audits are conducted using a preplanned checklist with the results, including recommendations being made, in writing to the SRB and the management positions responsible for the areas audited.

The audit program is regularly reviewed by the QAM to ensure implementation of requirements in the QA manual, chapter 17, and other regulatory documents. Unless otherwise noted, the areas are scheduled for audit at least once per 24 months to ensure compliance with the criteria of 10 CFR 50, Appendix B, unless more frequent audits are required by one or more of the following conditions:

- When significant changes are made in functional areas of the QA program 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 QA program.

- When a systematic, independent assessment of program effectiveness is necessary.
- When it is necessary to verify implementation of required corrective actions.

The QAM has the responsibility and authority for making or causing to be made audits, as necessary, of the nonnuclear support organizations within GPC, such as Environmental Affairs, or SCS, such as Protection Engineering. The QAM also has the responsibility to assure that HNP suppliers have acceptable QA programs.

The QA Department uses audit finding reports or other appropriate methods to assure that responsible management has implemented corrective action.

The QA Department receives formal and on-the-job training prior to the initiation of the program, as outlined in this section.

Plant management is responsible for making available all plant records, reports, log books, and other QA documents requested by the audit teams.

17.2.18.1 Required Audits

Audits of facility activities shall be performed under the cognizance of the SRB. Each audit shall be performed within the specified time interval with the following allowances:

A. 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.

B. A maximum extension not to exceed 25% of the audit interval shall be allowed. That is to say that, 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.

C. When an audit interval extension greater than 1 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.

D. Item B shall also apply to supplier audits and evaluations except that a total combined time interval for any three consecutive inspection or audit intervals shall not exceed 3.25 times the specified inspection or audit interval.

The following audits are required:

A. The conformance of reactor and plant operation to provisions contained within the Technical Specifications and applicable license conditions, at least once per 24 months.

B. The performance, training, and qualification of the entire plant staff, at least once per 24 months.

C. 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.

D. The performance of activities required by the operations quality assurance program to meet criteria of 10 CFR 50, appendix B, at least once per 24 months.

E. The Emergency Plan and implementing procedures, at least once per 12 months.

F. The Security Plan and implementing procedures, at least once per 24 months.

G. 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. At least once per 36 months, the audit team will include an outside qualified fire protection consultant.

H. The radiological environmental monitoring program and the results thereof, at least once per 24 months.

I. The Offsite Dose Calculation Manual (ODCM) and implementing procedures, at least once per 24 months.

J. The Process Control Program (PCP) and implementing procedures for processing and packaging of radioactive waste, at least once per 24 months.

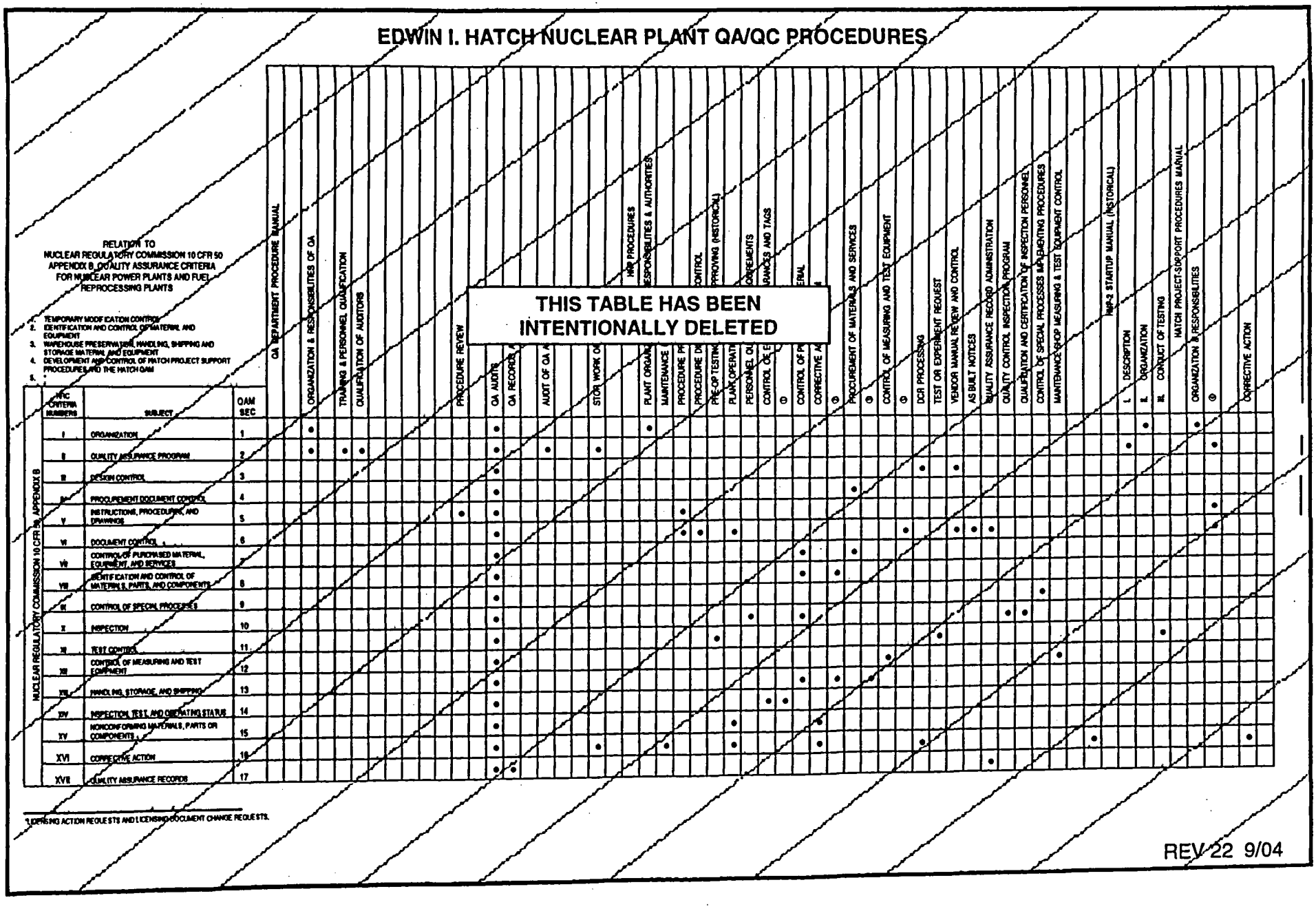
K. The Environmental Protection Plan (EPP), at least once per 24 months.

L. Any other area of plant operation considered appropriate by the SRB or the plant vice president.

DOCUMENTS INCORPORATED BY REFERENCE INTO THE FSAR

Edwin I. Hatch Nuclear Plant Units 1 and 2 Fire Hazards Analysis and Fire Protection Program.

TABLE 17.2-1


EDWIN I. HATCH NUCLEAR PLANT QA/QC PROCEDURES
THIS TABLE HAS BEEN INTENTIONALLY DELETED
RELATION TO NUCLEAR REGULATORY COMMISSION 10 CFR 50 APPENDIX B, QUALITY ASSURANCE CRITERIA FOR NUCLEAR POWER PLANTS AND FUEL REPROCESSING PLANTS
1. TEMPORARY MODIFICATION CONTROL
2. IDENTIFICATION AND CONTROL OF MATERIAL AND EQUIPMENT
3. WAREHOUSE PRESERVATION, HANDLING, SHIPPING AND STORAGE MATERIAL AND EQUIPMENT
4. DEVELOPMENT AND CONTROL OF HATCH PROJECT SUPPORT PROCEDURES AND THE HATCH QAM
5.
NUCLEAR REGULATORY COMMISSION 10 CFR 50, APPENDIX B
NRC CRITERIA NUMBERS
SUBJECT
QAM SEC
I ORGANIZATION 1
II QUALITY ASSURANCE PROGRAM 2
III DESIGN CONTROL 3
IV PROCUREMENT DOCUMENT CONTROL 4
V INSTRUCTIONS, PROCEDURES, AND DRAWINGS 5
VI DOCUMENT CONTROL 6
VII CONTROL OF PURCHASED MATERIAL, EQUIPMENT, AND SERVICES 7
VIII IDENTIFICATION AND CONTROL OF MATERIALS, PARTS, AND COMPONENTS 8
IX CONTROL OF SPECIAL PROCESSES 9
X INSPECTION 10
XI TEST CONTROL 11
XII CONTROL OF MEASURING AND TEST EQUIPMENT 12
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QA DEPARTMENT PROCEDURE MANUAL
ORGANIZATION & RESPONSIBILITIES OF QA
TRAINING & PERSONNEL QUALIFICATION
QUALIFICATION OF AUDITORS
PROCEDURE REVIEW
QA AUDITS
AUDIT OF QA
PLANT ORGANIZATION
MAINTENANCE
PRE-OP TESTING
PROCUREMENT OF MATERIALS AND SERVICES
CONTROL OF MEASURING AND TEST EQUIPMENT
DCR PROCESSING
TEST OR EXPERIMENT REQUEST
VENDOR MANUAL REVIEW AND CONTROL
AS BUILT NOTICES
QUALITY ASSURANCE RECORD ADMINISTRATION
QUALITY CONTROL INSPECTION PROGRAM
QUALIFICATION AND CERTIFICATION OF INSPECTION PERSONNEL
CONTROL OF SPECIAL PROCESSES IMPLEMENTING PROCEDURES
MAINTENANCE/SHOP MEASURING & TEST EQUIPMENT CONTROL
HNP-2 STARTUP MANUAL (HISTORICAL)
I. DESCRIPTION
II. ORGANIZATION
III. CONDUCT OF TESTING
HATCH PROJECT-SUPPORT PROCEDURES MANUAL
ORGANIZATION & RESPONSIBILITIES
CORRECTIVE ACTION
1 LICENSING ACTION REQUESTS AND LICENSING DOCUMENT CHANGE REQUESTS.
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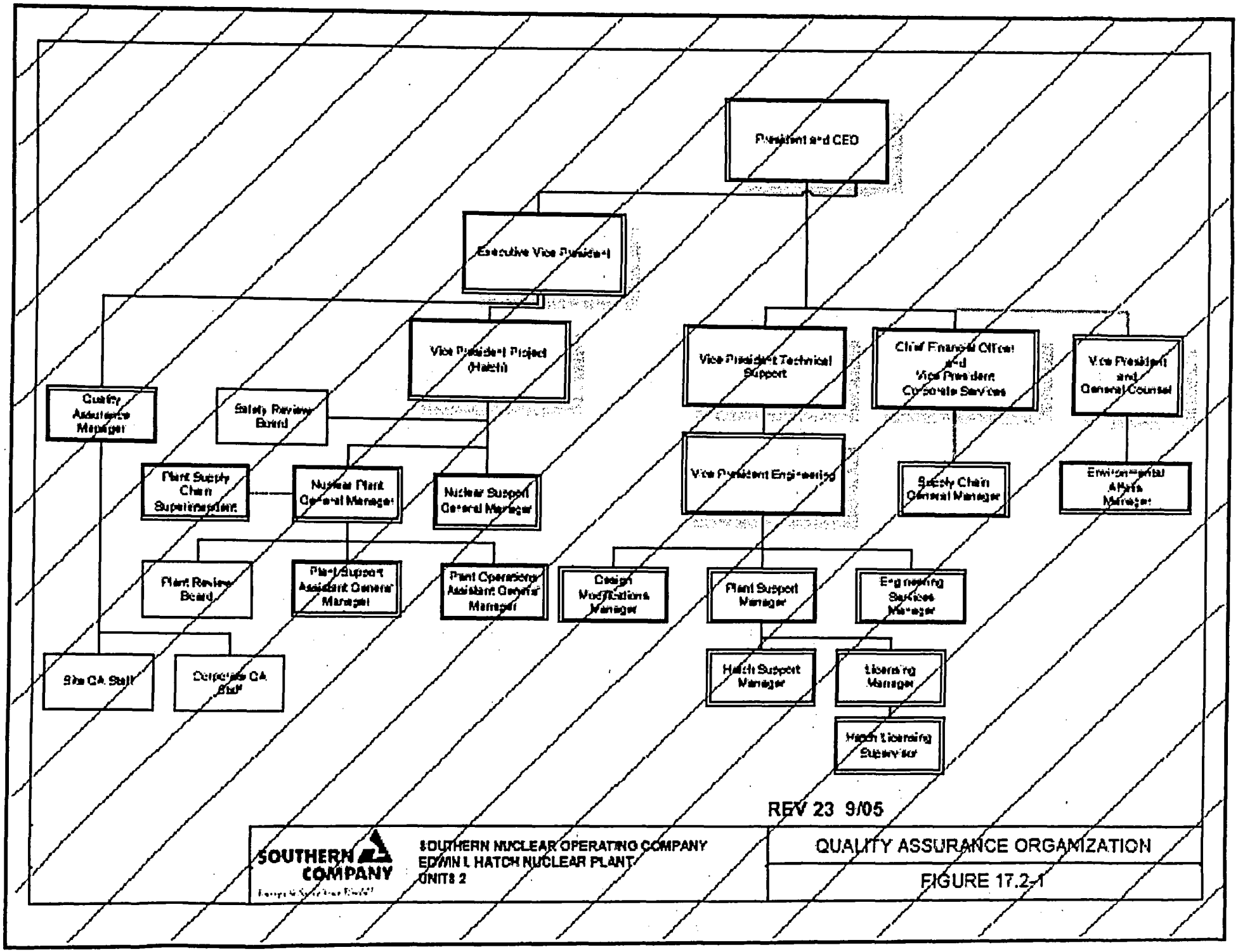
President and CEO
Executive Vice President
Vice President Project (Hatch)
Vice President Technical Support
Chief Financial Officer and Vice President Corporate Services
Vice President and General Counsel
Quality Assurance Manager
Safety Review Board
Plant Supply Chain Superintendent
Nuclear Plant General Manager
Nuclear Support General Manager
Vice President Engineering
Supply Chain General Manager
Environmental Affairs Manager
Plant Review Board
Plant Support Assistant General Manager
Plant Operations Assistant General Manager
Design Modifications Manager
Plant Support Manager
Engineering Services Manager
Site QA Staff
Corporate QA Staff
Hatch Support Manager
Licensing Manager
Hatch Licensing Supervisor
REV 23 9/05
SOUTHERN COMPANY
SOUTHERN NUCLEAR OPERATING COMPANY
EDWIN I. HATCH NUCLEAR PLANT
UNITS 2
QUALITY ASSURANCE ORGANIZATION
FIGURE 17.2-1

INSERT H.5

SUPPLEMENT 17.2A

QUALITY ASSURANCE OF THE INDEPENDENT SPENT FUEL STORAGE INSTALLATION

This Supplement describes the administrative controls and the quality assurance (QA) program applied to important-to-safety (ITS) structures, systems, and components associated with the Edwin I. Hatch Nuclear Plant (HNP) onsite independent spent fuel storage installation (ISFSI) to assure conformance to regulatory requirements and the design bases. This program is an extension of the QA program described in section 17.2, modified to address 10 CFR 72 Subpart G items specific to ISFSI and related support activities.

The QA program described in section 17.2 is applicable to ISFSI items classified as ITS Category A and ITS Category B. Specific aspects of the QA program are applied to ITS Category C items as specified in the individual subsections.

The following definitions are applicable to the HNP ISFSI QA program:

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 and 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 taken from NUREG/CR-6407, "Classification of Transportation Packaging and Dry Spent Fuel Storage System Components According to Importance to Safety."

A. 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.

B. 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 the failure of an additional item, could result in an unsafe condition.

C. Category C - ITS Category C items include structures, components, and systems whose failure or malfunction would not significantly reduce the packaging

Hatch Nuclear Plant

FSAR INSERTS
LDCR 2006-021FS,DC

H.5 The operations phase quality assurance program for Hatch Nuclear Plant (HNP) is designed to assure the plant's safe and reliable operation and to satisfy the quality assurance (QA) requirements of Appendix B to 10 CFR Part 50. The quality assurance program applicable to important-to-safety (ITS) structures, systems, and components associated with the HNP independent spent fuel storage installation (ISFSI) is described in the Southern Nuclear Operating Company (SNC) Quality Assurance Topical Report (QATR). Quality assurance program requirements formerly contained in HNP FSAR Section 17.2A are superceded by those contained in the SNC QATR.

effectiveness and would not be likely to create a situation adversely affecting public health and safety.

The QA program, as described in the following identified FSAR subsections, is applied to ITS Category A, B, and C items, unless modified by the description below:

1. 17.2.1 Organization

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

   Additional offsite support is provided by the cask vendor.

   Those HNP organizations with review responsibilities pursuant to 10 CFR 50.59 also perform the corresponding ISFSI reviews pursuant to 10 CFR 72.48.

2. 17.2.2 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 items are identified in table 17.2A-1. Items identified as not important to safety in table 17.2A-1 are excluded from the QA program.

   The HNP organization has the same responsibilities as described in subsection 17.2.2 for ITS Category A and Category B items.

3. 17.2.3 Design Change Control

   Design control measures for ITS Category A and Category B items are applied where appropriate per the controls in subsection 17.2.3. 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.

4. 17.2.4 Procurement Document Control

   A graded approach is applied through the use of a multilevel 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 subsection 17.2.4. Items procured commercial grade when filling ITS Category A or Category B 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.

5. 17.2.5 Instructions, Procedures, and Drawings

6. 17.2.6 Document Control

7. 17.2.16 Corrective Actions

8. 17.2.17 QA Records

   Retention of records is as described in 17.2.17, with the following clarification. Where subsection 17.2.17 refers to record retention duration as being the duration of the unit operating license, this requirement is applied to the ISFSI as meaning the duration of the General License granted under Subpart K of 10 CFR 72.

   Records pertaining to design, fabrication, erection, testing, maintenance, and use of ITS items are maintained for the duration of the General License granted under 10 CFR 72 for the specific storage system.

9. 17.2.18 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, as described in the following identified FSAR subsections, is applied to ITS Category A and B items:

- 17.2.7 Control of Purchased Material, Equipment, and Services
- 17.2.8 Identification and Control of Materials, Parts, and Components
- 17.2.9 Control of Special Processes
- 17.2.10 Inspection
- 17.2.11 Test Control
- 17.2.12 Control of Measuring and Test Equipment
- 17.2.13 Handling, Storage, and Shipping
- 17.2.14 Inspection, Test, and Operating Status
- 17.2.15 Nonconforming Materials, Parts, or Components

TABLE 17.2A-1

CLASSIFICATION OF INDEPENDENT SPENT FUEL STORAGE INSTALLATION'S STRUCTURES, SYSTEMS, AND COMPONENTS

I. CATEGORY A

- Items specified as Category A in the applicable dry cask storage vendor's Safety Analysis Report (SAR), unless other category is assigned by this document.

II. CATEGORY B

- Items specified as Category B in the applicable dry cask storage vendor's SAR, unless other category is assigned by this document.

III. CATEGORY C

- Items specified as Category C in the applicable dry cask storage vendor's SAR, unless other category is assigned by this document.
- HI-STAR cradle.
- Concrete storage pad.
- Roadways for transport of cask and associated equipment.

IV. NOT IMPORTANT TO SAFETY

- Items specified as not important to safety by dry cask storage vendor in SAR, unless other category is assigned by this document.
- Security system.
- Dose rate boundary fence.
- Facility lighting.
- Electric power system and backup.
- Railways for transport of cask and associated equipment.
- Transfer cart.

G. Corrective Actions

the SNC Quality Assurance Topical Report (QATR)

The corrective action program is initiated following the determination of conditions adverse to quality, and documented as required by appropriate procedures. Various processes are used to identify problems requiring corrective action. The primary vehicle for initiating corrective action is the condition reporting process described in ~~subsection 17.2.15~~.

The various components of the corrective action program provide for timely corrective actions, including root cause determination and prevention of recurrence. The QA program provides control over activities affecting the quality of systems, structures and components consistent with their importance to safety. In accordance with plant procedures, condition reports are analyzed for adverse trends. Any identified adverse trends are reported to the appropriate department for corrective action.

the QATR

H. Confirmation Process

As described in ~~subsection 17.2.15~~: condition reports are reviewed to determine the regulatory reportability and significance. Those items determined to be significant conditions adverse to quality (significant occurrence reports) are also reviewed by the Plant Review Board. Corrective actions taken for significant items are reviewed for assurance that appropriate action has been taken.

I. Administrative Controls

Activities affecting quality are prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances and are accomplished in accordance with these instructions, procedures, or drawings. They contain appropriate acceptance criteria and documentation requirements for determining whether important activities have been satisfactorily accomplished. Site procedures establish review and approval requirements.

18.2.9 INSERVICE INSPECTION PROGRAM

The inservice inspection (ISI) program is a condition monitoring program that provides for the implementation of ASME Section XI[6] in accordance with the provisions of 10 CFR 50.55a[7]. The ISI program also includes augmented examinations required to satisfy commitments made by SNC. The 10-year examination plan provides a systematic guide for performing required examinations. The period of extended operation will include the fifth and sixth inservice inspection intervals. Only a portion of the ISI program is credited for license renewal.

A. Program Scope

LDCR 2006-021 FS, DC
Quality Assurance Topical Report

Changes to the HNP ISFSI 10 CFR 72.212 Report

Table of Contents

Section	Title
	Introduction
1	**10 CFR 72.212(a) (1)** – Spent Fuel Authorized for Possession
2	**10 CFR 72.212(a) (2) and (3)** – Use of Approved Casks/License Expiration Date
3	**10 CFR 72.212(b) (1) (i) and (ii)** – Notifications Required
4	**10 CFR 72.212(b) (2) (i) (A)** – Conditions of the Certificate of Compliance
5	**10 CFR 72.212(b) (2) (i) (B)** – Storage Pad Design Adequacy
6	**10 CFR 72.212(b) (2) (i) (C)** – Radioactive Materials in Effluents and Direct Radiation
7	**10 CFR 72.212(b) (3)** – Reactor Site Parameters
8	**10 CFR 72.212(b) (4)** – Facility Technical Specification/License Amendment
9	**10 CFR 72.212(b) (5)** – Physical Security
10	**10 CFR 72.212(b) (6)** – Program Effectiveness: Reactor Emergency Plan, Quality Assurance Program, Training Program, Radiation Protection Program
11	**10 CFR 72.212(b) (7)** – Document Retention/Compliance with Certificate Terms and Conditions
12	**10 CFR 72.212(b) (8)** – Records
13	**10 CFR 72.212(b) (9)** – Procedures
14	**10 CFR 72.212(b) (10)** – Availability of Records and Casks
Attachment A	Certificate of Compliance Number 1008 Evaluation
Attachment B	Certificate of Compliance Number 1014 Evaluation
Attachment C	Summary of Design Parameters by CoC Amendment
Attachment D	Site-specific Changes to HI-STAR 100 System
Attachment E	Site-specific Changes to HI-STORM 100 System
Attachment F	Financial Assurance and Record Keeping for Decommissioning

Attachment G

Classification of Structures and Components

SNC

the SNC Quality Assurance Topical Report (QATR)

10.2.b Quality Assurance Program

The ~~HNP~~ Quality Assurance Program (QAP) was established in accordance with 10 CFR 50 Appendix B and is described in ~~HNP-2 Updated Final Safety Analysis Report (UFSAR) section 17.2~~. In preparation for operating an ISFSI in accordance with the general license provisions of 10 CFR 72, Subpart K, SNC revised the ~~HNP~~ QAP to extend existing controls for Part 50 reactor plant operation to the ISFSI in a graded approach, consistent with 10 CFR 72, Subpart G, and NUREG/CR-6407, Classification of Transportation Packaging and Dry Spent Fuel Storage System Components According To Importance to Safety (ITS).

S

the QATR.

The graded quality assurance approach for the ISFSI is described in ~~HNP-2 UFSAR supplement 17.2A~~ ~~and includes the s~~afety classifications ~~applied~~ to items associated with the ISFSI. Safety classifications for the HI-STAR 100 components are defined in Holtec Report HI-941184, Topical Safety Analysis Report for the Holtec International Storage, Transport, and Repository Cask System (TSAR), Chapter 13. Safety classifications for the HI-STORM 100 components are defined in Holtec Report HI-2002444, Final Safety Analysis Report for the Holtec International Storage and Transfer Operation Reinforced Module Cask System (FSAR), Chapter 13. Classification of the ISFSI components are consistent with the guidance of NUREG/CR-6407, Classification of Transportation Packaging and Dry Spent Fuel Storage System Components According To Importance to Safety, and have been reviewed and approved by the NRC in accordance with the requirements of 10 CFR 72, Subpart L. NRC approval of the Holtec HI-STAR 100 and HI-STORM 100 cask systems is provided via the NRC Certificate of Compliance (CoC) No. 1008 and CoC No. 1014, respectively.

are provided in Attachment G of this report

applicable

The described changes to the existing Hatch QAP have been evaluated in accordance with the requirements of 10 CFR 50.54(a) and determined that the changes do not reduce the commitments in the QAP description previously accepted by the NRC. Therefore, the above described QAP changes do not require prior NRC approval.

Additionally, 10 CFR 72.140(d) requires notification to the NRC prior to first use of a previously NRC approved QA program for Part 72 activities. This notification was provided by SNC letter dated November 3, 1999.

10.2.c Training Program

The HNP training program provides a systems approach to training as defined by 10 CFR 55.4 in accordance with the requirements of 10 CFR 50.120. In preparation for operating an ISFSI in accordance with the general license provisions of 10 CFR 72, Subpart K, SNC revised the HNP training program to incorporate the requirements of section 12.2.1 of the HI-STAR 100 and HI-STORM 100 SARs. The purpose of this review is to demonstrate that the effectiveness of the HNP training program is not decreased due to changes to the program required to address the training requirements associated with operation of the ISFSI.

The Hatch training program has been modified to incorporate the following elements required by section 12.2.1 of the applicable SAR for the HI-STAR 100 and HI-STORM 100 systems:

- HI-STAR 100/HI-STORM 100 system design (overview);
- ISFSI facility design (overview);
- Systems, structures, and components important to safety (overview);

Attachment G

CLASSIFICATION OF STRUCTURES AND COMPONENTS

CLASSIFICATION OF STRUCTURES AND COMPONENTS

I. CATEGORY A

- Items specified as Category A in the dry cask storage vendor's Topical Safety Analysis Report (TSAR), unless other category is assigned by this document.

II. CATEGORY B

- Items specified as Category B in the dry cask storage vendor's TSAR, unless other category is assigned by this document.

III. CATEGORY C

- Items specified as Category C in the dry cask storage vendor's TSAR, unless other category is assigned by this document.
- Concrete storage pad
- ISFSI Soil Test and Analysis
- Roadways for transport of cask and associated equipment

IV. NOT IMPORTANT TO SAFETY

- Items specified as not important to safety by the dry cask storage vendor's TSAR, unless other category is assigned by this document.
- Security System
- Dose rate boundary fence
- Facility lighting
- Electric power system and backup
- Railways for transport of cask and associated equipment

components within its scope of supply using the guidelines of ANSI N18.2-1973 and ANSI N18.2a-1975, which is an acceptable alternative to this regulatory guide.

1.9.27 REGULATORY GUIDE 1.27, REVISION 2, JANUARY 1976, ULTIMATE HEAT SINK FOR NUCLEAR POWER PLANTS

1.9.27.1 Regulatory Guide 1.27 Position

This guide describes a method acceptable to the NRC for designing an ultimate heat sink used for dissipation of residual heat following reactor shutdown or an accident.

1.9.27.2 VEGP Position

HISTORICAL

Conform. Refer to subsection 9.2.5.

1.9.28 REGULATORY GUIDE 1.28, REVISION 2, FEBRUARY 1979, QUALITY ASSURANCE PROGRAM REQUIREMENTS (DESIGN AND CONSTRUCTION)

1.9.28.1 Regulatory Guide 1.28 Position

The overall quality assurance program (QAP) requirements for the design and construction phases that are included in ANSI N45.2-1977 provide an adequate basis for complying with the QAP requirements of Appendix B to 10 CFR 50, as supplemented or modified by this guide.

1.9.28.2 VEGP Position

The VEGP quality assurance program for design and construction phases is in conformance with Regulatory Guide 1.28, formerly Safety Guide 28, June 7, 1972, Quality Assurance Program Requirements (Design and Construction) which invokes ANSI N45.2-1971 as an acceptable standard for nuclear quality assurance programs. The VEGP QAP for design and construction is discussed in chapter 17.1.

1.9.29 REGULATORY GUIDE 1.29, REVISION 3, SEPTEMBER 1978, SEISMIC DESIGN CLASSIFICATION

1.9.29.1 Regulatory Guide 1.29 Position

Defines systems to withstand the safe shutdown earthquake (SSE).

1.9.29.2 VEGP Position

VEGP conforms with this regulatory guide as shown in table 3.2.2-1.

With regard to regulatory position C.1, each nuclear steam supply system (NSSS) component important to safety is classified as Safety Class 1, 2, or 3; these classes are qualified to remain functional in the event of the SSE, except where exempted by meeting all of the below requirements. Portions of systems required to perform the same safety function as required of a safety class component which is part of that system shall be likewise qualified or granted exemption. Conditions to be met for exemption are:

- Failure would not directly cause a Condition III or IV event (as defined in ANSI N18.2-1973).
- There is no safety function to mitigate, nor could failure prevent mitigation of, the consequence of a Condition III or IV event.
- Failure during or following any Condition IV event would result in consequences no more severe than allowed for a Condition III event.
- Routine post-seismic procedures would disclose loss of the safety function.

1.9.30 REGULATORY GUIDE 1.30, AUGUST 1972, QUALITY ASSURANCE REQUIREMENTS FOR THE INSTALLATION, INSPECTION, AND TESTING OF INSTRUMENTATION AND ELECTRIC EQUIPMENT

HISTORICAL

1.9.30.1 Regulatory Guide 1.30 Position

The requirements for the installation, inspection, and testing of nuclear power plant instrumentation and electric equipment which are included in ANSI N45.2.4-1972, Installation, Inspection, and Testing Requirements for Instrumentation and Electric Equipment During the Construction of Nuclear Power Generating Stations (also designated IEEE Std. 336-1971) are generally acceptable and provide an adequate basis for complying with the pertinent quality assurance requirements of Appendix B to 10 CFR 50, subject to the qualifications in the regulatory guide.

1.9.30.2 VEGP Position

HISTORICAL

The VEGP QAP during design and construction conforms to ANSI N45.2.4-1972 and IEEE 336-1971, as described in section 17.1.

The VEGP operations QAP conforms with the requirements of ANSI N45.2.4-1972 as it is endorsed by Regulatory Guide 1.30-72 (Revision 0) with the following clarifications.

1. Paragraph 1.5, Referenced Documents. Guides issued after 1972 have normally stated that when standards are referenced, the NRC position is that as described in the Regulatory Guide which endorses that standard. Since

Regulatory Guide 1.80-72 does not include such a statement, VEGP feels justified in stating that standards referenced in ANSI N45.2.4-1972 are addressed in appropriate sections of the VEGP FSAR.

2. Paragraph 2.2, Prerequisites. VEGP will conform to the conditions as stated in this paragraph in accordance with the VEGP position taken to the applicable codes and standards.

3. Paragraph 8, Records, requires certain records to be prepared. VEGP has stated its position on records in section 17.2 and the VEGP position to Regulatory Guide 1.88.

4. For operations phase maintenance and modification activities, VEGP shall control these activities under the operations QAP (section 17.2). VEGP shall conform with the regulatory position in that QA programmatic/ administrative requirements (subject to the clarifications below) shall apply to modification activities. Technical requirements will be made at least to the technical requirements of the FSAR.

5. Paragraph 2.3, Procedures and Instructions, will be implemented as set forth in section 17.2 and by conformance with the Technical Specifications and VEGP position to Regulatory Guide 1.38.

6. Paragraph 2.4, Results, will be implemented as set forth in section 17.2 and with VEGP position to Regulatory Guide 1.33.

7. Paragraph 2.5, Measuring and Test Equipment. VEGP conforms with this paragraph as discussed in section 17.2.

8. Paragraph 3, Preconstruction Verification. VEGP conforms with this paragraph as discussed in subsections 17.2.10 and 17.2.11.

9. Paragraph 4, Installation. VEGP conforms with this paragraph as discussed in section 17.2.

10. Paragraph 5.1, Inspections, including subparagraphs 5.1.1, 5.1.2, 5.1.3, will be implemented as set forth in section 17.2.

11. Paragraph 5.2, Tests, including subparagraphs 5.2.1 through 5.2.3. VEGP conforms with this paragraph as discussed in section 17.2.

12. Paragraph 6, Post-Construction Verification. VEGP conforms with this paragraph as discussed in subsections 17.2.10 and 17.2.11.

13. Paragraph 6.2.1, Equipment Tests. The last paragraph of this section deals with tagging and labeling. VEGP will follow the requirements for tagging and labeling as set forth in section 17.2 and the VEGP position to Regulatory Guide 1.33.

14. Paragraph 7, Data Analysis and Evaluation. VEGP conforms with this paragraph as discussed in subsections 17.2.10 and 17.2.11. VEGP shall have

procedures for the performance of analyzing test data, but these procedures are not referred to as data processing procedures.

INSERT V.1

1.9.31 REGULATORY GUIDE 1.31, REVISION 3, APRIL 1978, CONTROL OF FERRITE CONTENT IN STAINLESS STEEL WELD METAL

1.9.31.1 Regulatory Guide 1.31 Position

This guide describes a method acceptable to the NRC for implementing requirements for the control of welding in fabricating and joining safety-related austenitic stainless steel components and systems in light-water-cooled nuclear power plants.

1.9.31.2 VEGP Position

Conforms to the basic concept of controlling delta ferrite content except for magnetic measurement of the delta ferrite in procedure qualification samples and in production welds. To meet the intent of the regulatory guide, the control of ferrite content in weld metal is attained by chemical analysis and/or magnetic measurement of the weld metal, as applicable.

Welding materials for welding austenitic stainless steel to austenitic stainless may contain 8- to 25-percent delta ferrite. For welding austenitic stainless steel to carbon, or low alloy, steel welding materials may contain 5- to 15-percent delta ferrite. The use of welding materials with a delta ferrite exceeding the recommended Ferrite Number 20 is done in accordance with the regulatory guide since austenitic stainless steel items are not postweld heat treated above 350°F (except during welding) unless they are given a full solution anneal at the material manufacturer's recommended temperature and holding period, followed by water quenching or spraying from the solution heat treating temperature rapidly enough to prevent carbide precipitation.

Control of ferrite content in stainless steel weld metal for NSSS equipment is discussed in paragraph 5.2.3.4.6.

1.9.32 REGULATORY GUIDE 1.32, REVISION 2, FEBRUARY 1977, CRITERIA FOR SAFETY-RELATED ELECTRIC POWER SYSTEMS FOR NUCLEAR POWER PLANTS

1.9.32.1 Regulatory Guide 1.32 Position

For the portion of safety-related electric power systems within its scope, the criteria, requirements, and recommendations in IEEE Std.-308-1974 are generally acceptable to the NRC staff and provide an adequate basis for complying with General Design Criteria 17 and 18 of Appendix A to 10 CFR 50 with respect to the design, operation, and testing of electric power systems, subject to the qualifications identified in the guide.

Vogtle Electric Generating Plant

FSAR Inserts
LDCR 2006-012

V.1 Regulatory Guide 1.30 provided NRC endorsement of ANSI N45.2.4 (IEEE 336-1971). The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of IEEE 336-1985. Accordingly, the quality assurance requirements for the installation, inspection, and testing of instrumentation and electric equipment formerly contained in IEEE 336-1971 are superseded by those contained IEEE 336-1985 as described in the QATR.

1.9.32.2 VEGP Position

Conform except for the periodic test schedule for batteries. Safety-related batteries will be tested periodically in accordance with the Technical Specifications and the version of IEEE 450 as described in the Bases for the Technical Specifications. Refer to comparisons for Regulatory Guides 1.6, 1.9, 1.75, 1.81, 1.93 and 1.129. Further discussion is provided in sections 8.1 and 8.3.

HISTORICAL

1.9.33 REGULATORY GUIDE 1.33, REVISION 2, FEBRUARY 1978, QUALITY ASSURANCE PROGRAM REQUIREMENTS (OPERATION)

1.9.33.1 Regulatory Guide 1.33 Position

The overall QAP requirements for the operation phase that are included in ANSI N18.7-1976/American Nuclear Society (ANS) 3.2 are acceptable to the NRC and provide an adequate basis for complying with the QAP requirements of Appendix B to 10 CFR 50, subject to the qualifications in the guide.

1.9.33.2 VEGP Position

The VEGP operations QAP conforms with this guide, which endorses ANSI N18.7-1976, with the following clarifications:

1. It is SNC's understanding that ANSI N18.7-1976 applied to the operational phase of plant life. Section 17.2 of the FSAR defines when the operations QAP becomes effective for plant systems, structures, or components.

2. ANSI N18.7-1976 identifies other ANSI standards. SNC addresses its position on those standards/regulatory guides in the appropriate parts of this section.

3. Paragraph 1, Scope, recommends that this standard apply to activities other than those associated with safety-related equipment, activities, and procedures. ANSI N18.7-1976 has not fully taken into account the requirements of regulations other than 10 CFR 50. Conflicts may exist between ANSI N18.7-1976 and those other regulations, such as Occupational Safety and Health Administration, 10 CFR 19, 20, 21, 30, 40, 70, 71, 73, and ASME. Therefore, VEGP shall apply ANSI N18.7-1976 only to those activities determined to be safety related, which are defined as those plant features necessary to assure the integrity of the reactor coolant pressure boundary (RCPB), the capability to shut down the reactor and maintain it in a safely shutdown condition, or the capability to prevent or mitigate the consequences of accidents which would result in offsite exposures comparable to the guideline exposures of 10 CFR 100.

4. Paragraph 2.2 defines the term quality assurance. The last sentence of this definition, "It applies to all activities associated with doing a job correctly as well as verifying and documenting the satisfactory completion of the work", is

inconsistent with that of ANSI N45.2.10-1974 and 10 CFR 50 Appendix B. The VEGP definition of quality assurance is consistent with 10 CFR 50 Appendix B.

5. Paragraph 3.4.2 indicated the requirements to have personnel qualified in accordance with ANSI N18.1-1971 and ANSI N45.2.6-1973. The applicability of ANSI N18.1-1971 for qualifying plant personnel has been addressed in FSAR subsection 13.1.3; in that section, it is stated that personnel will either meet the minimum education and experience recommendations of ANSI N18.1-1971 or will complete a qualification program which will demonstrate their ability to perform their job functions. The 1973 version of ANSI N45.2.6 shall not apply for the VEGP; however, the applicability of ANSI N45.2.6-1978 for qualifying plant personnel has been addressed in FSAR paragraph 1.9.58.2.

6. Paragraph 5.1 of Program Description. The fourth sentence in this section required a "Summary Document;" section 17.2 provides a description of the operations QAP. The plant procedure index lists plant procedures that will address the applicable requirements.

7. Paragraph 5.2.6, Equipment Control. VEGP will conform with the independent verification requirements based on the definition of this phrase as given under the VEGP position to Regulatory Guide 1.74.

   Since SNC sometimes uses descriptive names to designate equipment, the sixth paragraph, second sentence, is replaced with: "Suitable means include identification numbers or other descriptions which are traceable to records of the status of inspections and tests."

   The first sentence in the seventh paragraph will be complied with after clarifying operating personnel to mean trained employees assigned to, or under the control of SNC management at an operating nuclear facility.

8. Paragraph 5.2.7, Maintenance and Modifications, discusses retaining documents as specified in section 5.2.12. VEGP shall retain records as required by FSAR subsection 17.2.17 and the VEGP position on Regulatory Guide 1.88 as stated in the FSAR.

9. Paragraph 5.2.7, Maintenance and Modification. Since some emergency situations could arise which preclude preplanning of all activities, SNC will conform with an alternate to the first sentence in the second paragraph which reads: "Except in emergency or abnormal operating conditions where immediate actions are required to protect the health and safety of the public, to protect equipment or personnel, or to prevent the deterioration of plant conditions to a possibly unsafe or unstable level, maintenance or modification of equipment shall be preplanned and performed in accordance with written procedures which conform to applicable codes, standards, specifications, and criteria. Where written procedures would be required and are not used, the activities that were accomplished shall be documented after-the-fact and receive the same degree of review as if they had been preplanned."

10. Paragraph 5.2.7.1, Maintenance Programs. VEGP will conform with the requirements of the first sentence of the fifth paragraph, where practical. This clarification is needed since it is not always possible to promptly determine the

cause of the malfunction. In all cases, SNC will initiate proceedings to determine the cause, and will make such determination promptly, when practical.

11. Paragraph 5.2.7.2, Modifications, discusses ANSI N45.2.11-1974. VEGP shall perform modifications as specified in section 17.2 and in the VEGP position on Regulatory Guide 1.64.

12. Paragraph 5.2.9, Plant Security and Visitor Control, requires certain procedures and controls. The VEGP position on security is addressed in its position on Regulatory Guide 1.17. An NRC approved security plan shall be implemented prior to fuel loading.

13. Paragraph 5.2.10, Housekeeping and Cleanliness Control. The requirements of this section, beginning with the last sentence of the first paragraph and continuing through the end of the section, will be implemented as described to VEGP conformance to ANSI N45.2.3 and N45.2.1 as described in the FSAR.

14. Paragraph 5.2.11, Corrective Action. VEGP shall follow the requirement as discussed in subsection 17.2.16.

15. Paragraph 5.2.17, Inspections, requires inspection of modifications and nonroutine maintenance to be conducted in a manner similar to the construction phase. VEGP will inspect modification and nonroutine maintenance activities in a manner so as to ensure the reliability and integrity of the item.

16. Paragraph 5.2.17, second to the last sentence, "Deviations, their cause, and any..." to be consistent with paragraph 5.2.11, the cause of the condition will be determined for only significant conditions adverse to safety.

17. Paragraph 5.3.9 and subsections, Emergency Procedures. As directed by the NRC, SNC will follow a format for emergency operating procedures in accordance with item I.C.1 of NUREG-0737.

Exceptions to Regulatory Guide 1.33-1978 are as follows:

1. Paragraph C.5.e of Regulatory Guide 1.33 (and Section 5.2.13.4 of ANSI N18.7, which it references) will be implemented as discussed in section 17.2.

2. Paragraph 5.2.16, Measuring and Test Equipment, of ANSI N18.7-1976, which required equipment be suitably marked to indicate calibration status. Installed process instruments at VEGP are identified by unique instrument numbers. These instrument numbers are traceable to calibration schedules and calibration records. These instruments are not tagged or labeled with the date due to next calibration.

3. Paragraph C.5.g of Regulatory Guide 1.33 will be implemented with the addition of the modifier "normally" after each of the verbs (should) which the Regulatory Guide converts to "shall." It is SNC's intent to fully comply with the requirements of this paragraph, and any conditions which do not fully comply will be documented and approved by management personnel. In these cases,

the reason for the exception shall be retained for the same period of time as the affected preoperational tests.

4. During original plant licensing, a 2-year review process for plant procedures was developed to meet the requirements of Regulatory Guide 1.33 and ANSI 18.7-1976. Since the procedural process has now matured and adequate programs to assure procedural revisions consistent with plant design, operational, and regulatory requirements are in place, this original commitment has been modified to require biennial quality assurance audits of procedures and the procedural development and maintenance program utilizing a representative sampling process. Nonroutine procedures, which are emergency operating procedures (EOPs) and abnormal operating procedures (AOPs), will continue to be reviewed at least every 2 years and revised as appropriate. Therefore, the 2-year review process for procedures, except EOPs and AOPs and other programs where a review requirement is specifically stated, is no longer required.

5. Paragraph 4 of Regulatory Guide 1.33 provides that the following program elements be audited at the indicated frequencies: the results of actions taken to correct deficiencies that affect nuclear safety and occur in facility equipment, structures, systems, or method of operation at least once per 6 months; the conformance of facility operation to provisions contained within the Technical Specifications and applicable licensing conditions at least once per 12 months; and the performance, training, and qualifications of the facility staff at least once per 12 months. Audit frequencies for each of these program elements is now established as at least once per 24 months.

INSERT V.2

1.9.34 REGULATORY GUIDE 1.34, DECEMBER 1972, CONTROL OF ELECTROSLAG WELD PROPERTIES

1.9.34.1 Regulatory Guide 1.34 Position

This guide describes an acceptable method of implementing requirements with regard to the control of weld properties when fabricating electroslag welds for nuclear components made of ferritic or austenitic materials.

1.9.34.2 VEGP Position

Conform. Refer to paragraph 5.2.3.4.6.

Vogtle Electric Generating Plant

FSAR Inserts
LDCR 2006-012

V.2 Regulatory Guide 1.33 provided NRC endorsement of ANSI N18.7 as an acceptable basis for a quality assurance program that meets the requirements of 10 CFR 50, Appendix B. In addition, Regulatory Guide 1.33 includes regulatory positions that qualify NRC endorsement of ANSI N18.7.

The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 and incorporates the applicable requirements of ANSI N18.7-1976. Accordingly, SNC complies with the applicable requirements of ANSI N18.7-1976 via compliance with the QATR without an explicit (or implied) commitment to either Regulatory Guide 1.33 or ANSI N18.7-1976.

1.9.35 REGULATORY GUIDE 1.35, REVISION 2, JANUARY 1976, INSERVICE INSPECTION OF UNGROUTED TENDONS IN PRESTRESSED CONCRETE CONTAINMENT STRUCTURES

1.9.35.1 Regulatory Guide 1.35 Position

This guide describes an acceptable basis for developing an appropriate inservice inspection and surveillance program for ungrouted tendons in prestressed concrete containment structures.

1.9.35.2 VEGP Position

Conform as discussed in subsection 3.8.1.

1.9.36 REGULATORY GUIDE 1.36, FEBRUARY 1973, NON-METALLIC THERMAL INSULATION FOR AUSTENITIC STAINLESS STEEL

1.9.36.1 Regulatory Guide 1.36 Position

This guide describes an acceptable method for implementing criteria for the selection and use of nonmetallic thermal insulation to minimize contamination that could promote stress-corrosion cracking in stainless steel components.

1.9.36.2 VEGP Position

Conform. Refer to paragraphs 5.2.3.2.3 and 6.1.1.1.3.

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1.9.37 REGULATORY GUIDE 1.37, MARCH 1973, QUALITY ASSURANCE REQUIREMENTS FOR CLEANING OF FLUID SYSTEMS AND ASSOCIATED COMPONENTS OF WATER-COOLED NUCLEAR POWER PLANTS

1.9.37.1 Regulatory Guide 1.37 Position

The requirements and recommendations for onsite cleaning of materials and components, cleanness control, and preoperational cleaning and layup of water-cooled nuclear power plant fluid systems that are included in ANSI N45.2.1-1973, Cleaning of Fluid Systems and Associated Components During Construction Phase of Nuclear Power Plants, are generally acceptable and provide an adequate basis for complying with the pertinent quality assurance requirements of Appendix B to 10 CFR 50, subject to the qualifications identified in the guide.

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1.9.37.2 VEGP Position

The VEGP QAP during design and construction conforms to ANSI N45.2.1-1973 with the following exceptions and clarifications.

Exceptions are as follows:

1. The VEGP QAP during design and construction conforms to ANSI N45.2.1-1973 except in regard to installation cleaning. Carbon steel piping is stored with the end caps removed and without dessicants. The piping is stored to allow drainage and to prevent entry of rainwater. Prior to installation the piping is inspected and cleaned if necessary.

Clarifications are as follows:

1. This guide applies to onsite cleaning of materials and components and, therefore, not in the direct scope of NSSS supply. However, controls for cleaning processes during manufacture of NSSS equipment satisfy the objective of ANSI N45.2.1-1973, which is to assure that components delivered to the plant site require only water flushing or rinsing to render them ready for service.

2. The items shall be flushed at the design velocity or other flow velocity as specified in the procedures.

The VEGP operations QAP conforms with ANSI N45.2.1-1973, as it is endorsed by Regulatory Guide 1.37 (3/73), with the following clarifications:

1. Paragraph 5, Installation Cleaning. The recommendation that local rusting on corrosion-resistant alloys be removed by mechanical methods is interpreted to mean that local rusting may be removed mechanically, but the use of other removal means is not precluded.

2. Refer to paragraph 5.2.3.4.1 and subsection 17.1.2.

In addition to the above clarifications, the operations QAP (section 17.2) conforms with Regulatory Guide 1.37 for modification activities only with the following clarification. (For operation and maintenance activities, cleanliness will be maintained per VEGP position on Regulatory Guide 1.33.)

1. Paragraph C.3 of Regulatory Guide 1.37. The water quality for final flushing of fluid systems and associated components shall meet the requirements of ANSI N45.2.1-1973, but this does not infer that other additives normally in the system water will be added to the flush water.

2. Paragraph C.4 of Regulatory Guide 1.37. This paragraph includes requirements that chemical compounds which are to be used with austenitic stainless steels and nickel-based alloys should not contain chlorides, fluorides, lead, zinc, copper, sulfur, or mercury where such elements are leachable or where they could be released by breakdown of the compounds under expected environmental conditions. To meet this requirement, for expendable consumable materials which are to be used in contact with austenitic stainless steels and nickel-base alloys, VEGP shall establish prescribed maximum levels of water leachable contaminants (chlorides, total

halogens, sulfur, etc.) These levels shall be established so as to prevent any contribution to intergranular cracking or stress-corrosion cracking that could occur. Criteria for approving the use of a specific type or product of consumable material at VEGP include the requirements that its water leachable contaminant content is below the prescribed maximum level and that it does not contain these contaminants as basic and essential chemical constituents. Approved for use consumable materials are delineated in a controlled specification. Refer to the clarification made to paragraph 3.6 of ANSI N45.2.2 - 1972, FSAR paragraph 1.9.38.2, for a further discussion of the use of consumable materials at VEGP.

INSERT V.3

1.9.38 REGULATORY GUIDE 1.38, REVISION 2, MAY 1977, QUALITY ASSURANCE REQUIREMENTS FOR PACKAGING, SHIPPING, RECEIVING, STORAGE AND HANDLING OF ITEMS FOR WATER-COOLED NUCLEAR POWER PLANTS

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1.9.38.1 Regulatory Guide 1.38 Position

The requirements for the packaging, shipping, receiving, storage, and handling of items for water-cooled nuclear power plants that are included in ANSI N45.2.2-1972, Packaging, Shipping, Receiving, Storage, and Handling of Items for Nuclear Power Plants During the Construction Phase, are acceptable to the NRC staff and, when supplemented by the guidelines identified in regulatory position 2, provide an adequate basis for complying with the pertinent quality assurance requirements of Appendix B to 10 CFR 50, subject to the qualifications identified in this guide.

1.9.38.2 VEGP Position

The VEGP QAP during design and construction as described in section 17.1, conforms with Regulatory Guide 1.38 (March 16, 1973) which also endorses ANSI N45.2.2-1972, with the following exceptions and clarifications.

Exceptions are as follows:

1. Exception is taken to the requirements for use of nonhalogenated wrappings.

Clarifications are as follows:

1. Brightly or specially colored tape will not be used due to the rigorous flushing program scheduled prior to preoperation. Tapes and vapor barriers used in packaging processes for NSSS equipment contrast with the material being packaged when such packing materials are commercially available.

2. Caps and plugs are used only when required by the specification. See Regulatory Guide 1.37 comparison. Tape near a weld may be removed to clean, setup, and inspect surface.

3. The contact preservative used on the main condenser is not water flushable; it will be chemically cleaned.

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V.3 Regulatory Guide 1.37 provided NRC endorsement of ANSI N45.2.1. The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.1. Accordingly, quality assurance requirements for cleaning of fluid systems and associated components are described in the SNC QATR.

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4. Quality assurance for packaging, shipping, receiving, storage, and handling of NSSS equipment is described in WCAP-8370/7800, Table 17-1. Refer to section 17.1 for further discussion.

The VEGP operations QAP conforms with this guide, which endorses ANSI N45.2.2-1972, with the following clarifications and exceptions.

Clarifications are as follows:

1. Paragraph 2.5, Measuring and Test Equipment (2.5.2). VEGP meets the requirements of paragraph 2.5 of ANSI N45.2.2 by providing for calibration and control of appropriate warehouse monitoring instruments under the VEGP planned maintenance program. The VEGP planned maintenance program provides for calibration and control of all appropriate installed process plant equipment in accordance with the VEGP position to Regulatory Guide 1.33, paragraph 5.2.16.

2. Paragraph 3.3, Cleaning (third sentence). VEGP interprets "documented cleaning methods" to allow generic cleaning procedures to be written which are implemented, as necessary, by trained personnel. Each particular cleaning operation may not have an individual cleaning procedure, but the generic procedures will specify which methods of cleaning or which types of solvent may be used in a particular application.

3. Paragraph 3.4, Methods of Preservation (first sentence). VEGP will conform with these requirements subject to the exception taken to the requirements paragraph 3.2.1 and the definition of the phrase "deleterious corrosion" to mean that corrosion which cannot be subsequently removed and which adversely affects form, fit, or function.

4. Paragraph 3.6, Barrier and Wrap Materials and Desiccants. This section contains requirements that; "Barrier and Wrap Materials shall be non-halogenated when used in direct contact with austenitic stainless steels, shall be noncorrosive, shall not readily support combustion, and shall not be otherwise harmful to the item packaged." To meet the requirement for this material being nonhalogenated, VEGP shall establish a prescribed maximum level for water leachable halogen content for barrier and wrap materials to be used in contact with austenitic stainless steels. In general, VEGP shall establish prescribed maximum levels for any water leachable contaminants contained in any consumable materials which are to be used in contact with austenitic stainless steels and nickel-based alloys. The levels for water leachable contaminants shall be established so as to prevent any contribution to intergranular cracking or stress corrosion cracking that could occur. At VEGP, only the specific products or types of consumable materials which have undergone an engineering evaluation and have been approved as qualified will be used in contact with austenitic stainless steels. Criteria for approving the use of a specific type or product of consumable material include the requirements that its water leachable contaminant content is below the prescribed maximum level and that it does not contain these contaminants as basic and essential chemical constituents. Approved for use consumable materials are delineated in a controlled specification, while consumable materials specified or supplied by a component vendor that are not covered by this specification shall be used only for the application and in the manner specified by the vendor's drawings, technical manuals, or other official documentation. Refer to the clarification of Regulatory Position C.4 of Regulatory

Guide 1.37, March 1973, contained in FSAR paragraph 1.9.37.2 for further discussion of the use of consumable materials at VEGP.

5. Sections 4.3, 4.4, and 4.5 of ANSI N45.2.2-1972 titled, respectively, Precautions During Loading and Transit, Identification and Marking, and Shipment from Countries Outside the United States. VEGP will conform with the requirements of these sections on a case by case basis.

6. Paragraph 5.2, Receiving Inspection Requirements. Preliminary visual inspection will be performed prior to unloading where practical; however, the receiving inspection of record will be performed in an area and in a manner which does not adversely affect the quality of the item being inspected.

7. Paragraph 5.3.1, Acceptable. Item acceptance status will be indicated by application of tags, stickers, ribbons, or signs. Storage areas are not designated as accept areas except for bulk items (e.g., rebar, structural steel, aggregate, etc.).

8. Paragraph 5.7, Documentation. Receiving inspection records will provide traceability to the item and its status. Superfluous identification and tagging will not be recorded except when they are the subject of a nonconformance or specifically required by site inspection procedures.

9. Paragraph 6.2.1, Access to Storage Areas. Items which fall within the Level D classification of the standard will be stored in areas which may be posted to limit access, but other positive controls such as fencing or guards will not normally be provided.

10. Paragraph 6.3.3, Storage of Hazardous Materials. VEGP shall conform to this sentence by providing for storage of hazardous chemicals, paints, solvents, and other materials of a like nature in approved cabinets or containers which are not in close proximity to installed systems required for safe shutdown or installed systems which assure the capability to prevent or mitigate the consequences of accidents which could result in potential off-site exposures comparable to those referenced in 10 CFR 100.11.

11. Paragraph 6.4.2, Care of Items. The following clarifications are provided for indicated subparts:

    (5) "Space heaters in electrical equipment shall be energized unless a documented engineering evaluation determines that such space heaters are not required."

    (6) "Rotating electrical equipment shall be given insulation resistance tests on a scheduled basis unless a documented engineering evaluation or manufacturer's recommendations determine that such tests are not required."

    (7) Prior to being placed in storage, rotating equipment weighing over approximately 50 lb shall be evaluated by engineering personnel to determine if shaft rotation in storage is required; the results of the evaluation shall be documented. If rotation is required, it shall be performed at specified intervals, and documented. Parts will receive a coating of lubrication where applicable, to protect them from excessive friction and corrosion. So that the shaft does not come to rest in the same position occupied prior to rotation, the shaft shall be rotated X + 1/4 turns.

For long shafts or heavy equipment subject to undesirable bowing, shaft orientation after rotation shall be specified and obtained.

12. Paragraph 7.3, Hoisting Equipment. Rerating of hoisting equipment will be considered only when absolutely necessary. Prior to performing any lift above the load rating, the equipment manufacturer should be contacted for his approval and direction. The manufacturer should be requested to supply a document granting approval for a limited number of lifts at the new rating and any restrictions involved, such as modifications to be made to the equipment, the number of lifts to be made at the new rating, and the test lift load. At all times, the codes governing rerating of hoisting equipment must be observed.

    If rerating of hoisting equipment is necessary and VEGP cannot or does not contact the equipment manufacturer as described above, the test weight used in temporarily rerating hoisting equipment for special lifts will be at least equal to 110 percent of the lift weight. A dynamic load test over the full range of the lift using a weight at least equal to 110 percent of the lift weight will be performed.

Exceptions are as follows:

1. Paragraph 3.2.1, Level A Items. As an alternate to the requirements for packaging and containerizing items in storage to control contaminants (items 4 and 5), VEGP may choose a storage atmosphere which is free of harmful contaminants in concentrations that could produce damage to stored items. Similarly (for item 7), VEGP may delete the need for caps and plugs with an appropriate storage atmosphere. VEGP will protect weld-end preparations while in storage; however, VEGP may delete the use of caps and plugs for items stored in an appropriate storage atmosphere. Prior to installation weld-end preparations will be inspected for any damage which may have occurred during storage. These clarifications apply to items 4, 5, or 7 and paragraph 3.4, Methods of Preservation.

INSERT V.4

1.9.39 REGULATORY GUIDE 1.39, REVISION 2, SEPTEMBER 1977, HOUSEKEEPING REQUIREMENTS FOR WATER-COOLED NUCLEAR POWER PLANTS

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1.9.39.1 Regulatory Guide 1.39 Position

This guide describes an acceptable method of complying with regulations with regard to housekeeping requirements for the control of work activities, conditions, and environments at water-cooled nuclear power plant sites.

1.9.39.2 VEGP Position

Conform except for the following:

Paragraph 2.1 of ANSI N 45.2.3-1973 requires a written record of the entry and exit of all personnel and material be established and maintained for Zones I, II, and III. The following exceptions are taken:

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V.4 Regulatory Guide 1.38 provided NRC endorsement of ANSI N45.2.2. The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.2. Accordingly, quality assurance requirements for packaging, shipping, receiving, storage, and handling are described in the SNC QATR.

- Establishing and maintaining a written record for personnel accountability will not be required as part of the housekeeping requirements. The primary emphasis of ANSIN45.2.3-1973 is during the construction phase. VEGP is currently in the operational phase. In the operational phase there are various administrative controls which will ensure adequate control of plant personnel accountability. These controls apply to the entire facility. The radiation work permit program will provide personnel accountability for Zone I, II, and III areas that are located inside a radiation control area. A written record for personnel accountability requirements for housekeeping Zone I, II, and III is unnecessary and redundant.

- The details of bulk consumable HP materials used for contamination control (paper towels, latex gloves, etc.) are exempt from the accountability requirement for Zones I, II, and III. This requirement will be satisfied by signature of the material accountability forms by responsible personnel to signify that all consumable material used was disposed of properly.

- Items that are buoyant.

- Items taken into Zones I, II, or III that will not physically fit through the opening of an open system or component.

- Items taken into Zones I, II, or III that are of large physical size, such as a cabinet, a ladder, or a large torque wrench, etc.

INSERT V.5 →

1.9.40 REGULATORY GUIDE 1.40, MARCH 1973, QUALIFICATION TESTS OF CONTINUOUS-DUTY MOTORS INSTALLED INSIDE THE CONTAINMENT OF WATER-COOLED NUCLEAR POWER PLANTS

1.9.40.1 Regulatory Guide 1.40 Position

The procedures for conducting qualification tests of continuous-duty motors installed inside the containment of water-cooled nuclear power plants which are specified by IEEE Std. 334-1971, IEEE Trial-Use Guide for Type Tests of Continuous-Duty Class I Motors Installed Inside the Containment of Nuclear Power Generating Stations, are generally acceptable and provide an adequate basis for complying with the qualification testing requirements of Criterion III of Appendix B to 10 CFR 50, to verify adequacy of design for service under the most adverse design conditions, subject to the qualifications identified in the guide.

1.9.40.2 VEGP Position

To the extent practicable, the procedures for conducting qualification tests specified by IEEE Std. 334-1974 are used to supplement the requirements of IEEE 323-1974 for Class 1E motors inside the containment. Refer to Regulatory Guide comparison 1.100 and section 3.11.

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FSAR Inserts
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V.5 Regulatory Guide 1.39 provided NRC endorsement of ANSI N45.2.3. The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.3. Accordingly, housekeeping requirements are described in the SNC QATR.

Refer to section 3.8 for further discussion.

1.9.56 REGULATORY GUIDE 1.56, REVISION 1, JULY 1978, MAINTENANCE OF WATER PURITY IN BOILING WATER REACTORS

Not applicable to VEGP.

1.9.57 REGULATORY GUIDE 1.57, JUNE 1973, DESIGN LIMITS AND LOADING COMBINATIONS FOR METAL PRIMARY REACTOR CONTAINMENT SYSTEM COMPONENTS

1.9.57.1 Regulatory Guide 1.57 Position

This guide delineates acceptable design limits and appropriate combinations of loadings associated with normal operation, postulated accidents, and specified seismic events for the design of components of metal primary reactor containment systems.

1.9.57.2 VEGP Position

Conformance is discussed in subsection 3.8.2.

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1.9.58 REGULATORY GUIDE 1.58, REVISION 1, SEPTEMBER 1980, QUALIFICATION OF NUCLEAR POWER PLANT INSPECTION, EXAMINATION, AND TESTING PERSONNEL

1.9.58.1 Regulatory Guide 1.58 Position

The requirements and recommendations for qualification of nuclear power inspection, examination, and testing personnel that are included in ANSI N45.2.6-1978 are generally acceptable and provide an adequate basis for complying with the pertinent quality assurance requirements of Appendix B to 10 CFR 50, subject to the qualifications identified in the guide.

1.9.58.2 VEGP Position - Prelicense

VEGP shall conform with this guide, which endorses ANSI N45.2.6-1978, with the following exceptions and clarifications:

Exceptions are as follows:

1. Position C.8 of Regulatory Guide 1.58. Exposure during construction is restricted to radiography, and training in radiation protection is supplied in the radiography certification course. Construction personnel entering restricted areas of the

operative plant will receive training in radiation protection from power generation prior to being allowed access.

Clarifications are as follows:

1. Paragraph 1.2 of ANSI N45.2.6-1978, Applicability. VEGP personnel who approve preoperational, startup, and test results and who direct or supervise the conduct of individual preoperational, startup, and operational tasks shall be qualified in accordance with the VEGP position to Regulatory Guide 1.8 in lieu of being qualified to ANSI N45.2.6 as allowed by regulatory position C.1 of Regulatory Guide 1.58, Rev. 1. For nuclear operations, VEGP elects to apply the requirements of this guide to quality control inspection personnel.

   Regulatory position C.2 of Regulatory Guide 1.58, Rev. 1, states that the 1975 version of SNT-TC-1A is acceptable for the qualification of personnel performing nondestructive examinations. In lieu of this, VEGP Construction personnel (SNC only) and Nuclear Operations personnel shall use the requirements of the 1980 version of SNT-TC-1A for qualifying personnel performing nondestructive inspection, examination, or testing, and in addition VEGP shall supplement these requirements by replacing the "shoulds" contained in the 1980 version with "shalls" except as follows:

   a. The "should" in the last sentence of Section 4.3 (3) of SNT-TC-1A - 1980, which refers to a NDE level III being qualified to instruct and examine NDT personnel, is not replaced with "shall." For the VEGP, a NDE level III individual shall be responsible for the training and examination of NDT personnel; while conducting of actual training and examination may be delegated to qualified individuals appointed by the level III individual.

   b. The "should" in the second sentence of Section 8.4.3 of SNT-TC-1A - 1980 remains as a "should," as allowed by Section 8.4.2. VEGP elects to use a composite grade based on the simple average of the examinations; this shall be prescribed in VEGP's written practice.

   Contractors may use the 1975 or later version of SNT-TC-1A, as allowed, for qualifying their personnel.

   For personnel performing calibration, installation, checkouts, or routine surveillances the requirements of this guide will not be applied, as allowed by Section 1.2 of ANSI N45.2-6-1978; personnel performing these functions shall either meet the minimum education and experience recommendations of ANSI N18.1-1971 or will complete a qualification program which will demonstrate their ability to perform their job functions.

   FSAR table 13.1.3-1 designates the minimum education and experience recommendations for plant personnel, while FSAR subsection 13.2.2 describes the training programs which demonstrate the ability of plant personnel to perform their job functions.

2. Paragraph 2.5 of ANSI N45.2.6-1978, Physical. VEGP will implement the requirements of this section with the stipulation that, where no special physical

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characteristics are required, none will be specified. The converse is also true; if no special physical requirements are stipulated by VEGP, none are considered necessary. SNC employees receive an initial physical examination to assure satisfactory physical condition; SNC management shall determine which personnel are required to receive an annual examination.

3. Paragraph 3 of ANSI N45.2.6-1978, Qualification. Same clarification as 1.

4. Personnel performing visual examinations (VT-2, 3, and 4) per the requirements of ASME Section XI will either meet the experience requirements in sections 3.5.1, 3.5.2, or 3.5.3 of ANSI N45.2.6-1978 or alternately, a program based on experience, comprehensive training, and testing as allowed in section 3.5 of ANSI N45.2.6-1978. Detailed training and testing will be accomplished either through the visual examination training program at the Electric Power Research Institute's NDE Center or an equivalent program.

5. The Georgia Power Company (GPC) Construction Department Inspector Certification Program utilizes level III administrators to coordinate training, certify qualified level I & II personnel, and maintain records. Level III administrators must be high school graduates as a minimum. Level III administrators are appointed by the manager of quality control. They must be members of the quality control staff, and must have extensive inspection, technical or engineering construction experience that has been appropriately documented. The primary responsibility of the level III administrator is to evaluate the adequacy of specific programs used to train and test inspection, examination and testing personnel. The level III administrator does not plan, implement, record, evaluate, or report inspections.

1.9.58.3 VEGP Position - Post-License

VEGP shall conform with this guide, which endorses ANSI N45.2.6-1978, with the following clarifications:

1. Paragraph 1.2 of ANSI N45.2.6-1978, Applicability. VEGP personnel who approve preoperational, startup, and test results and who direct or supervise the conduct of individual preoperational, startup, and operational tasks shall be qualified in accordance with the VEGP position to Regulatory Guide 1.8 in lieu of being qualified to ANSI N45.2.6 as allowed by regulatory position C.1 of Regulatory Guide 1.58, Rev. 1. VEGP elects to apply the requirements of this guide to personnel who perform quality control inspections.

   Regulatory position C.2 of Regulatory Guide 1.58, Rev. 1, states that the 1975 version of SNT-TC-1A is acceptable for the qualification of personnel performing nondestructive examinations. In lieu of this, the version of SNT-TC-1A or other similar document used for qualifying personnel at VEGP to perform nondestructive inspection, examination, or testing shall be in accordance with Section XI of the ASME

   Boiler and Pressure Vessel Code and applicable addenda as required by 10 CFR 50.55a, except where specific written relief has been granted by the NRC. The document used for the qualification of such personnel shall be specifically identified in the Inservice Inspection Program for VEGP. In addition, VEGP shall supplement

these requirements by replacing the "shoulds" contained in SNT-TC-1A with "shalls" except as follows:

a. The "should" in the last sentence of Section 4.3 (3) of SNT-TC-1A which refers to a NDE level III being qualified to instruct and examine NDT personnel, is not replaced with "shall." For VEGP, a NDE level III individual shall be responsible for the training and examination of NDT personnel; while conducting of actual training and examination may be delegated to qualified individuals appointed by the level III individual.

b. The "should" in the second sentence of Section 8.4.3 of SNT-TC-1A remains as a "should," as allowed by Section 8.4.2. VEGP elects to use a composite grade based on the simple average of the examinations; this shall be prescribed in VEGP's written practice.

For personnel performing calibrations, installation, checkouts, or routine surveillances, the requirements of this guide will not be applied as allowed by Section 1.2 of ANSI N45.2.6-1978; personnel performing these functions shall meet the minimum education and experience recommendations of ANSI N18.1-1971 as specified in updated FSAR subsection 1.9.8.

2. Paragraph 2.5 of ANSI N45.2.6-1978, Physical. VEGP will implement the requirements of this section with the stipulation that where no special physical characteristics are required VEGP will determine if any are to be specified. If any physical requirements are required or specified, then inspection personnel requiring these characteristics shall have them verified by annual examination.

3. Paragraph 3 of ANSI N45.2.6-1978, Qualification. Same clarification as 1.

4. Personnel performing nondestructive examinations per the requirements of ASME Section XI will meet the experience requirements of the version of SNT-TC-1A or other similar document identified in ASME Section XI and applicable addenda as required by 10 CFR 50.55a, except where relief has been granted by the NRC. The document used for qualifying personnel performing nondestructive examinations shall be specifically identified in the Inservice Inspection Program for VEGP. Detailed training and testing in visual examinations will be accomplished either through the visual examination training program at the Electric Power Research Institute's NDE Center or an equivalent program.

INSERT V.6 →

1.9.59 REGULATORY GUIDE 1.59, REVISION 2, AUGUST 1977, DESIGN BASIS FLOODS FOR NUCLEAR POWER PLANTS

1.9.59.1 Regulatory Guide 1.59 Position

This guide describes the conditions resulting from the worst site-related flood probable at a nuclear power plant that safety-related structures, systems, and components must be designed to withstand and retain capability for cold shutdown and maintenance thereof.

1.9.59.2 VEGP Position

Conform. See subsections 2.4.3, 2.4.4, and 3.4.1 for a detailed discussion on flood protection.

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V.6 Regulatory Guide 1.58 provided NRC endorsement of ANSI N45.2.6. The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.6. Accordingly, the requirements for qualification of inspection, examination, and testing personnel are described in the SNC QATR.

level control circuits and instrument circuits is limited and does not need backup overload protection.

2. C.2 The X/R ratios used in calculating faults at the penetrations are consistent with the X/R ratios used in establishing the interrupting capability of the protective device associated with the penetration assembly conductors. Fault currents are based on: the full interrupting capability of the associated switchgear or X/R ratios as recommended by Regulatory Guide 1.63; X/R ratios as provided by industry standard for motor fault contribution; X/R ratios from actual transformer impedances and conservative cable impedances.

3. C.3 Clearing time of the circuit breakers supplying the penetrations is used to determine the penetration conductor capability.

4. C.4 Conform.

5. C.5 Conform.

6. C.6 Conform.

7. C.7 Not applicable.

Refer to subsection 8.3.1 for further discussion.

1.9.64 REGULATORY GUIDE 1.64, REVISION 2, JUNE 1976, QUALITY ASSURANCE FOR THE DESIGN OF NUCLEAR POWER PLANTS

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1.9.64.1 Regulatory Guide 1.64 Position

The requirements and recommendations for establishing and executing a QAP during the design phase of nuclear power plants that are included in ANSI N45.2.11-1974 are acceptable to the NRC staff and provide an adequate basis for complying with the pertinent quality assurance requirements of Appendix B to 10 CFR 50, subject to the following:

1. C.1 Subdivision 1.5 of ANSI N45.2.11-1974 states that other documents that are required to be included as a part of this standard will be identified at the point of reference and described in Section 12 of the standard. The specific acceptability of these listed documents has been or will be covered separately in other regulatory guides or in Commission regulations where appropriate.

2. C.2 Instead of the second sentence of the second paragraph of Section 6.1 on design verification, the following should be used: "The duties of a supervisor and the relationship with subordinates vary widely in different organizations. Regardless of their title, individuals performing design verification should not (1) have immediate supervisory responsibility of the individual performing the design, (2) have specified a singular design approach, (3) have ruled out certain design considerations, or (4) have established the design inputs for the particular design aspect being verified. While design verification by the designer's immediate supervisor is encouraged, it should not be construed that such verification constitutes the required independent

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design verification, nor should the independent design verification be construed to dilute or replace the clear responsibility of supervisors for the quality of work performed under their supervision."

3. C.3 In the first sentence of Section 8 of N45.2.11-1974, the word "effecting" should be inserted before "design changes" for clarification. Further, the term "approved design document" should be construed to mean "design output" (Section 1.4) approved by the organization performing the design.

4. C.4 Sections 4.3, 4.4, and 4.5 of N45.2.11-1974 concern the establishment of procedures for the preparation and control of drawings, specifications, and other design documents. These sections list typical subjects to be covered by such procedures. One of the subjects to be covered is "nonconformances." The NRC staff considers the "nonconformances" listed in these sections to be nonconformances with procedural requirements. Thus in Section 4.3, item (11), "Nonconformance with drawing requirements," should be construed to mean "Nonconformance with procedures for the preparation and control of drawings;" in Section 4.4, item (7), "Nonconformance with specification requirements," should be construed to mean "Nonconformance with procedures for the preparation and control of specifications;" and in Section 4.5, item (7), "Nonconformance with design document requirements," should be construed to mean "Nonconformance with procedures for the preparation and control of design documents."

1.9.64.2 VEGP Position

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The VEGP QAP during design and construction phase conforms to ANSI N45.2.11, Quality Assurance Requirements for the Design of Nuclear Power Plants (Draft 2, Revision 2, May 1973) as discussed in section 17.1 and appendix 17A. With regard to the design of NSSS equipment, alternatives and clarification to the text of ANSI N45.2.11-1974 are contained in WCAP-8370/7800 Table 17-1.

VEGP operations QAP conforms with this guide, which endorses ANSI Standard N45.2.11-1974, as described below.

Clarifications are as follows:

1. For operations phase modification activities, VEGP shall control these activities under the requirements described in section 17.2. VEGP shall conform with the regulatory position in that quality assurance programmatic/administrative requirements shall apply to these modification activities even though such requirements may not have been in effect originally. Technical requirements associated with modifications shall be made at least to technical requirements of the FSAR.

2. ANSI N45.2.11-1974, Section 11, Audits. The SNC audit program will be implemented in accordance with the requirement set forth in section 17.2 and the VEGP position on Regulatory Guide 1.144.

Exceptions are as follows:

1. Paragraph C.2(1). For the exceptional circumstances in which the designer's immediate supervisor is the only technically qualified individual available, this review can be conducted by the supervisor, provided that:

   a. The other provisions of the Regulatory Guide are satisfied.

   b. The justification is individually documented and approved in advance by the supervisor's management.

   c. Quality assurance audits cover frequency and effectiveness of the use of supervisors as design verifiers to guard against abuse.

The VEGP operations QAP is described in section 17.2.

INSERT V.7

1.9.65 REGULATORY GUIDE 1.65, OCTOBER 1973, MATERIALS AND INSPECTIONS FOR REACTOR VESSEL CLOSURE STUDS

1.9.65.1 Regulatory Guide 1.65 Position

This guide defines acceptable materials and testing procedures for implementing criteria with regard to reactor vessel closure stud bolting for light-water-cooled reactors.

1.9.65.2 VEGP Position

VEGP conforms with this guide except as noted below:

1. The use of modified SA-540 Grade B24 material as specified in ASME Boiler and Pressure Vessel Code Case 1605 is not specified in the guide but is used by Westinghouse. The use of this Code Case has been approved by the NRC via Regulatory Guide 1.85.

2. The maximum limit of 170 ksi ultimate tensile strength is not explicitly specified by Westinghouse as required by the guide. Westinghouse does specify fracture toughness of 45 ft/lb and 25 mils lateral expansion as required by the ASME Code and 10 CFR 50, Appendix G. These requirements also result in strength levels below the maximum limit, as demonstrated by the actual stud material properties for VEGP which are listed in tables 5.3.1-4 and 5.3.1-5.

3. Inservice inspection of the bolting will be performed using the following guidelines.

   a. All surface examinations will be performed in accordance with ASME Section XI in lieu of paragraph NB-2545 or NB-2546 of ASME Section III.

   b. Washers will be examined using the visual techniques as required by ASME Section XI in lieu of the surface examination in Section C.4.

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FSAR Inserts
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V.7 Regulatory Guide 1.64 provides NRC endorsement of ANSI N45.2.11. The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.11. Accordingly, quality assurance requirements applicable to design activities are described in the SNC QATR.

1.9.73 REGULATORY GUIDE 1.73, JANUARY 1974, QUALIFICATION TESTS OF ELECTRIC VALVE OPERATORS INSTALLED INSIDE THE CONTAINMENT OF NUCLEAR POWER PLANTS

1.9.73.1 Regulatory Guide 1.73 Position

The procedures specified by IEEE Std. 382-1972, IEEE Trial-Use Guide for Type Test of Class I Electric Valve Operators for Nuclear Power Generating Stations, dated April 10, 1973, for conducting qualification tests of electric valve operators for service inside the containment vessel of water-cooled and gas-cooled nuclear power plants are generally acceptable and provide an adequate basis for complying with the qualification testing requirements of Section III of Appendix B to 10 CFR 50 to verify adequacy of design for service under design basis event conditions, subject to the qualifications in the guide.

1.9.73.2 VEGP Position

Qualification is discussed in paragraph 3.9.B.3.2.2, subsection 3.11.B.2, and WCAP-8587. The NSSS components are qualified to meet IEEE Std. 382-1972 using the qualification program described in WCAP-8587. See Regulatory Guide comparisons 1.40, 1.89, and 1.100 for additional information.

1.9.74 REGULATORY GUIDE 1.74, FEBRUARY 1974, QUALITY ASSURANCE TERMS AND DEFINITIONS

HISTORICAL

1.9.74.1 Regulatory Guide 1.74 Position

The quality assurance terms and definitions contained in ANSI N45.2.10-1973 are generally acceptable for use in describing and implementing quality assurance programs for the design, construction, and operation of nuclear power plant structures, systems, and components subject to the following:

The definition of "procurement documents" should be considered to include such documents as contracts, letters of intent, work orders, purchase orders, or proposals and their acceptances which authorize the seller to perform services or supply equipment, material, or facilities on behalf of the purchaser.

1.9.74.2 VEGP Position

Conform for the design and construction QAP. The VEGP QAP is described in chapter 17.

VEGP operations QAP conforms with the requirements of this guide, which endorses ANSI N45.2.10-1973, with the following clarifications:

1. Independent verification - Verification that required actions have been completed by an individual other than the person who performed the operation or activity being verified. Such verification will not require confirmation of the identical action when other indications provide assurance or indication that the prescribed activity is in fact complete. Examples include, but are not limited to: verification of a breaker opening by observing remote breaker indication lights; verification of a setpoint (made with a voltmeter or ammeter, for example) by observing the actuation of status or indicating lights are the required panel-meter indicated value; verification that a valve has been positioned by observing the starting or stopping of flow on meter indications or by remote valve position indicating lights.

2. Concurrent verification - Verification by a second individual of a component's condition as the action is being performed. Examples include, but are not limited to, equipment being removed from service (provided the equipment being removed from service will not cause any adverse system condition), lifting a lead, removing a fuse, and opening a link. Concurrent verification should not be used when performing restoration activities unless the action will produce an immediate result; in this case, both concurrent and independent verification may be performed.

INSERT V.8 →

1.9.75 REGULATORY GUIDE 1.75, REVISION 2, SEPTEMBER 1978, PHYSICAL INDEPENDENCE OF ELECTRIC SYSTEMS

1.9.75.1 Regulatory Guide 1.75 Position

The IEEE Std. 384-1974 sets forth criteria for the separation of circuits and equipment that are redundant.

The guidance in IEEE Std. 384-1974, IEEE Trial-Use Standard Criteria for Separation of Class 1E Equipment and Circuits, dated March 15, 1974, is generally acceptable to the NRC staff and provides an adequate basis for complying with IEEE Std. 279-1971 and the Commission's General Design Criteria 3, 17, and 21 of Appendix A to 10 CFR 50 with respect to the physical independence of the circuits and electric equipment comprising or associated with the Class 1E power system, the protection system, systems actuated or controlled by the protection system, and auxiliary or supporting systems that must be operable for the protection system and the systems it actuates to perform their safety-related functions, subject to the qualifications in the guide.

1.9.75.2 VEGP Position

Effective April 1990, VEGP has adopted IEEE 384-1981 as the "Standard Criteria for Independence of Class 1E Equipment and Circuits," effectively replacing IEEE 384-1974. The 1981 version of IEEE 384 is generally consistent with the 1974 version and provides clearer, more concise criteria. IEEE 628-1987, "Standard Criteria for the Design, Installation and Qualification of Raceway Systems for Class 1E circuits for Nuclear Power Generating Station" requires VEGP to meet the criteria of IEEE 384-1981. Independence of Class 1E equipment and circuits has not been adversely affected by the adoption of IEEE 384-1981.

Conform as discussed below and in paragraph 7.1.2.2.

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V.8 Regulatory Guide 1.74 provided NRC endorsement of ANSI N45.2.10. The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.10. Accordingly, terms and definitions used in the quality assurance program are provided in the SNC QATR.

1.9.88 REGULATORY GUIDE 1.88, REVISION 2, OCTOBER 1976, COLLECTION, STORAGE, AND MAINTENANCE OF NUCLEAR POWER PLANT QUALITY ASSURANCE RECORDS

HISTORICAL

1.9.88.1 Regulatory Guide 1.88 Position

The requirements and guidelines for collection, storage, and maintenance of nuclear power plant quality assurance records that are included in ANSI N45.2.9-1974 are acceptable to the NRC staff and provide an adequate basis for complying with the pertinent quality assurance requirements of Appendix B to 10 CFR 50, subject to the following:

1. C.1 Subdivision 1.5 of ANSI N45.2.9-1974 states, "Other documents that are required to be included as part of this standard are either identified at the point of reference or described in Section 8 of this standard." The specific applicability or acceptability of these documents has been or will be covered separately in other regulatory guides or in Commission regulations where appropriate.

2. C.2 Two methods for protection of quality assurance records from the hazards of fire are described in Subdivision 5.6 of ANSI N45.2.9-1974. The National Fire Protection Association (NFPA) No. 232-1975, "Standard for the Protection of Records," also contains provisions for records protection equipment and records handling techniques that provide protection from the hazards of fire. This standard, within its scope of coverage, is considered by the NRC staff to provide an acceptable alternative to the fire protection provisions listed in Subdivision 5.6 of N45.2.9-1974. When NFPA No. 232-1975 is used, quality assurance records should be classified as NFPA Class 1 records (NFPA No. 23-1975, Chapter 5, Section 5222).

1.9.88.2 VEGP Position

HISTORICAL

The VEGP QAP for the design and construction phase is designed to conform with ANSI N45.2.9 (Draft 11, Revision 0, 1/17/73) as described in chapter 17.1. With regard to quality assurance, records for NSSS equipment, alternatives, clarifications, and exceptions to ANSI N45.2.9-1974 are contained in WCAP 8370/7800 table 17-1.

The VEGP QAP conforms for the operations phase with the requirements of ANSI N45.2.9-1974 as endorsed by Regulatory Guide 1.88, Rev. 2.

The VEGP QAP for both the design and construction phase and the operations phase conform with the revision to ANSI N45.2.9 referenced above with the following clarification.

1. Subdivision 3.2.1 states that quality assurance records "shall be legible, completely filled out, and adequately identifiable to the item involved." Completely filled out is considered to mean "completed as appropriate to the work accomplished," as clarified in the 1979 Revision.

The VEGP QAP is described in chapter 17.

INSERT V.9

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V.9 Regulatory Guide 1.88 provided NRC endorsement of ANSI N45.2.9. The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.9. Accordingly, the requirements for collection, storage, and maintenance of quality assurance records are described in the SNC QATR.

1.9.92.2 VEGP Position

Conform with the exception that Westinghouse uses an alternative method of combining modal responses to satisfy Regulatory Guide 1.92, Revision 1, as described in paragraph 3.7.N.2.7.

Refer to sections 3.7.B and 3.7.N for discussion on this subject.

1.9.93 REGULATORY GUIDE 1.93, DECEMBER 1974, AVAILABILITY OF ELECTRIC POWER SUPPLIES

1.9.93.1 Regulatory Guide 1.93 Position

This guide describes operating procedures and restrictions acceptable to the NRC which should be implemented if the available electric power sources are less than the limiting conditions for operation (LCO).

1.9.93.2 VEGP Position

VEGP will conform with this guide by implementing the appropriate NRC approved Technical Specifications.

Refer to the Technical Specifications for further discussion.

1.9.94 REGULATORY GUIDE 1.94, REVISION 1, APRIL 1976, QUALITY ASSURANCE REQUIREMENTS FOR INSTALLATION, INSPECTION, AND TESTING OF STRUCTURAL CONCRETE AND STRUCTURAL STEEL DURING THE CONSTRUCTION PHASE OF NUCLEAR POWER PLANTS

HISTORICAL

1.9.94.1 Regulatory Guide 1.94 Position

This guide describes a method acceptable to the NRC for complying with the quality assurance requirements for installation, inspection, and testing of structural concrete and structural steel during the construction phase of nuclear power plants. This guide endorses ANSI N45.2.5-1974 as generally acceptable to the NRC as a basis for complying with Appendix B to 10 CFR 50.

1.9.94.2 VEGP Position

HISTORICAL

The VEGP QAP is described in section 17.1 for the design and construction phase and in section 17.2 for the operations phase. The VEGP QAP does not conform to Regulatory Guide 1.94, Revision 1, which endorses ANSI N45.2.5-1974. Instead, VEGP QAP for both the design and construction and the operations phases conforms to the requirements of ANSI/ASME N45.2.5-1978, Supplementary Quality Assurance Requirements for Installation, Inspection, and

Testing of Structural Concrete, Structural Steel, Soils, and Foundations during the Construction Phase of Nuclear Power Plants with the following clarifications:

1. Paragraph 3.2, Materials Suitability (3.2.1)

   This paragraph, Table A, states reinforcement shall be tested for physical properties per (ASTM A615) ASTM A370. VEGP conforms to this guidance in that the certification of compliance provided by the vendor ensures materials have been tested for physical properties (ASTM A615) per ASTM A370. In such a case, the vendor is subject to QA/QC provisions in accordance with 10 CFR 50, Appendix B.

2. Paragraph 4.6, In-Process Tests on Compacted Fill

   This paragraph, Table B, requires one grain-size test in accordance with ASTM D-422 (hydrometer or sieve as appropriate) for each compaction test. VEGP specifications require one grain-size test per ASTM D-422 without hydrometer test for every 26,250 yd^3 (i.e., one for every 5 compaction tests).

3. Paragraph 4.6, In-Process Tests on Compacted Fill

   This paragraph, Table B, requires borrow moisture test per ASTM D-1556, 2167, 3017, or 2937 for each soil type, each work shift, and when moisture content changes or is questionable. VEGP specifications require fill to be within an acceptable range of optimum moisture at the time of placement. Testing per ASTM D-2216, or rapid method correlation, is performed each time soil is compacted.

4. Paragraph 4.6, In-Process Tests on Compacted Fill

   This paragraph, Table B, requires field density test per ASTM D-1556, 2167, 2922, or 2937 as specified at a minimum of every 10,000 ft^2. VEGP specifications require one test per ASTM D-1556 for every 20,000 ft^2 per ft of depth.

5. Paragraph 6.11, Inprocess Tests on Concrete and Reinforcing Steel

   This paragraph, Table B, requires in-process compressive strength tests shall be performed daily on grout in accordance with ASTM C109. VEGP tests batch plant grout daily in accordance with ASTM C109, while nonshrink grout is tested in accordance with CRD621-82A prior to its initial use on the jobsite.

6. Paragraph 6.11, Inprocess Tests on Concrete and Reinforcing Steel

   This paragraph, Table B, requires that fly ash and pozzolans be checked for physical properties (ASTM C618) in accordance with ASTM C311 every 400 tons. VEGP specifications requires this testing to be performed every 1000 tons except for loss of ignition and sieve no. 325 which are performed every 200 tons.

7. Paragraph 6.12, Mechanical (Cadweld) Splice Testing (6.12.2)

   This paragraph requires visual inspection on completed splices shall be performed only after the splices have cooled to ambient temperatures. The VEGP specification does not require splices to be cooled to ambient temperature prior to inspection.

Cadwelds are inspected after they have cooled such that it will allow the inspection to be performed without any danger of burns.

8. Paragraph 6.12, Mechanical (Cadweld) Splice Testing (6.12.4)

   This paragraph, Item 2.C, requires that one splice, either production or sister splice, be tested for the next and subsequent units of 33 splices. VEGP specifications require three test splices for the next and subsequent units of 100 splices.

9. Paragraph 7.5, Welding

   This paragraph requires inspection of structural steel welding to be performed in accordance with the provisions of Section 6 of the AWS D1.1. Visual welding inspection performed on or after December 2, 1985, is in accordance with the Visual Weld Acceptance Criteria (VWAC) for Structural Welding at Nuclear Power Plants, NCIG-01, Revision 2, prepared by the Nuclear Construction Issues Group (NCIG) and accepted by the NRC in their letter to the NCIG dated June 26, 1985.

   For inspection performed prior to December 2, 1985, the visual acceptance criteria is in accordance with AWS D1.1-75 with the clarifications and modifications described below and in NRC Inspection Report Nos. 50-424/86-03 and 50-425/86-02.

10. Paragraph 8.2 Evaluation of Aggregate Test Results (8.2.3)

    This paragraph states that, when aggregate tests specified fail to meet specified requirements, two additional tests shall be made from samples of the same lot of aggregate. If one or both of the two additional tests fail to meet the specified requirements, the data shall be submitted to the responsible engineering organization for evaluation and corrective action. The VEGP specifications require that, when a running average of five gradation tests fails to meet the specified requirements, the data shall be submitted to the responsible engineering organization for evaluation and corrective action. In addition, the VEGP construction procedures require that all failing aggregate production tests be reported to construction engineering for evaluation.

    In order to designate the specific set of visual acceptance criteria applicable for a weld, structural steel weld joints within the jurisdiction of AWS D1.1 are classified into the following categories:

    - Category A - Structural steel joints which are a part of the main building frame and those joints which connect miscellaneous structural steel with the main building frame.

    - Category B - Miscellaneous structural steel joints, not covered in Category A, but provide auxiliary support or framing for systems, components, and equipment (e.g., supports for cable tray and heating, ventilation, and air-conditioning (HVAC) ductwork, miscellaneous stiffeners and bracing, etc.).

The base metal adjacent to a weld joint of dissimilar categories shall meet the visual inspection acceptance criteria of the category under which that base metal falls.

A. AWS D1.1, paragraph 3.1.4, is clarified as follows:

For Category A and B joints, the fillet leg dimension may underrun the nominal fillet size by 1/16 in. provided the undersize length does not exceed 10 percent of the weld length. For flange to web joints, the undersize may not be within two flange thicknesses of the weld end.

For Category A and B joints, where an intermittent weld is specified, a continuous weld of the same size is acceptable.

B. AWS D1.1, paragraph 3.6.1, is modified as follows:

For Category A and B joints, the faces of fillet welds may be slightly convex, flat, or slightly concave as shown in figure 3.6A, B, and C, with none of the unacceptable profiles shown in Figure 3.6.D. Convexity height may not exceed 1/8 in.

C. AWS D1.1, paragraph 3.6.4, is modified as follows:

For Category A joints, undercut not exceeding 1/32 in. for the full length of the weld is acceptable. For members welded from both sides, the cumulative undercut depth includes the sum of both sides if the undercuts on both sides are directly opposite to each other.

For Category B joints, undercut not exceeding 1/32 in. for the full length of the weld is acceptable.

Undercut greater than 1/32 in. but not exceeding 1/16 in. is acceptable provided the width is greater than the depth, and the undercut does not exhibit an acute intersection at its root. The cumulative length of 1/16 in. undercut shall not exceed 50 percent of the total weld length. For members welded from sides, the cumulative undercut depth or length includes the sum of both sides if the undercuts on both sides are directly opposite to each other.

D. AWS D1.1, paragraph 3.6.6, is modified as follows:

For Category A and B joints, overlap/rollover may not exceed 1/8 in.

E. AWS D1.1, paragraph 3.10.1, is clarified as follows:

For Category A and B joints, "trap" slag on the root and/or end of fillet and partial penetration welds is acceptable.

For Category A joints, loose spatter is not acceptable. Tightly adhering spatter is acceptable, if it will not interfere with subsequent NDE (when required).

For Category B joints, spatter is not a cause for rejection.

HISTORICAL

F. AWS D1.1, paragraph 4.4, is modified as follows:

For Category A joints, arc strikes shall be blended with the surface.

For Category B joints, arc strikes are acceptable provided the craters do not contain cracks and the material specification minimum gauge thickness is not violated.

G. AWS D1.1, paragraph 8.15.1.3, is modified as follows:

Underfill of a weld is not acceptable. A crater is not considered as an underfill.

For Category A joints, underfilled groove weld craters are acceptable provided the depth of underfill is 1/32 in. or less. Underfilled single-pass fillet weld craters are acceptable provided the crater length is less than 10 percent of the weld length. On multipass fillet weld, crater depth of 1/32 in. or less is acceptable.

For Category B joints, underfilled groove weld craters are acceptable provided the depth of underfill is 1/16 in. or less. Underfilled single-pass fillet weld craters are acceptable provided the crater length is less than 10 percent of the weld length. On multipass fillet welds, crater depth of 1/16 in. or less are acceptable.

H. AWS D1.1 paragraph 8.15.1.5, is clarified as follows:

For Category A joints, the sum diameters of porosity shall not exceed 3/8 in. in one linear in. of weld and 3/4 in. in 12 linear in. of weld.

For Category B joints, piping porosity is not a cause for rejection if the major axis is equal to or less than 1/16 in. For porosity greater than 1/16 in., the sum of the diameters shall not exceed 3/8 in. in any linear in. of weld nor 3/4 in. in any 12 in. of weld.

Refer to Regulatory Guide 1.55 comparison for a discussion of the standards being used in the placement of concrete in Category 1 structures.

INSERT V.10

1.9.95 REGULATORY GUIDE 1.95, REVISION 1, JANUARY 1977, PROTECTION OF NUCLEAR POWER PLANT CONTROL ROOM OPERATORS AGAINST AN ACCIDENTAL CHLORINE RELEASE

1.9.95.1 Regulatory Guide 1.95 Position

This guide describes design features and procedures that are acceptable to the NRC for the protection of nuclear plant control room operators against an accidental chlorine release.

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V.10 Regulatory Guide 1.94 provided NRC endorsement of ANSI N45.2.5. The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.5. Accordingly, the quality assurance requirements for installation, inspection, and testing of structural concrete and structural steel applicable during the operation phase of nuclear power plants are described in the SNC QATR.

1.9.116 REGULATORY GUIDE 1.116, REVISION O-R, JUNE 1976, QUALITY ASSURANCE REQUIREMENTS FOR INSTALLATION, INSPECTION, AND TESTING OF MECHANICAL EQUIPMENT AND SYSTEMS

HISTORICAL

1.9.116.1 Regulatory Guide 1.116 Position

This guide endorses ANSI N45.2.8-1975 which describes a method acceptable to the NRC for complying with regulations with regard to quality assurance requirements for installation, inspection, and testing of mechanical equipment and systems for water-cooled nuclear power plants.

1.9.116.2 VEGP Position

HISTORICAL

The VEGP QAP for design and construction as described in section 17.1 does not address this Regulatory Guide nor ANSI N45.2.8. The VEGP operations QAP is described in section 17.2.

The VEGP operations QAP conforms with the requirements of ANSI N45.2.8-1975 as it is endorsed by this guide with the following clarifications.

1. Paragraph 2.7, Personnel Qualifications. VEGP has addressed this requirement in its position to Regulatory Guide 1.58.
2. Paragraph 7, Records, will be implemented in accordance with the VEGP position to Regulatory Guide 1.88.
3. For modification activities, VEGP shall control these activities under the operations QAP as described in section 17.2. Technical requirements associated with modifications shall be the original requirements or better (e.g., code requirements, material properties, design margins, manufacturing processes, and inspection requirements).
4. Paragraph 1.4, Definitions in this Standard, and definitions which are included in ANSI N45.2.10 will be used as clarified in VEGP position to Regulatory Guide 1.74.
5. Paragraph 2.2, Procedures and Instructions, will be implemented as set forth in section 17.2 and by conformance with the VEGP position to Regulatory Guide 1.33.
6. Paragraph 2.3, Results, will be implemented as set forth in section 17.2 and by VEGP position to Regulatory Guide 1.33.
7. Paragraph 2.4, Cleaning, will be implemented as set forth in the VEGP position to Regulatory Guide 1.37.
8. Paragraph 2.5, Receiving, Storage, and Handling, will be implemented as set forth in the VEGP position to Regulatory Guide 1.38.
9. Paragraph 2.6, Housekeeping, will be implemented as set forth in the VEGP position to Regulatory Guide 1.39.

10. Paragraph 6, Data Analysis and Evaluation. Where required the plant shall have procedures for the performance of analyzing test data, but these procedures are not referred to as data processing procedures.

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1.9.117 REGULATORY GUIDE 1.117, REVISION 1, APRIL 1978, TORNADO DESIGN CLASSIFICATION

1.9.117.1 Regulatory Guide 1.117 Position

This guide describes a method acceptable to the NRC for identifying those structures, systems, and components of light-water-cooled reactors that should be protected from the effects of the design basis tornado (including tornado missiles) and remain functional.

1.9.117.2 VEGP Position

Conform, with exception of the nuclear service cooling water tower fans which are not missile protected. Refer to section 3.5 for discussion on this subject.

1.9.118 REGULATORY GUIDE 1.118, REVISION 2, JUNE 1978, PERIODIC TESTING OF ELECTRIC POWER AND PROTECTION SYSTEMS

1.9.118.1 Regulatory Guide 1.118 Position

The requirements and recommendations contained in IEEE Std. 338-1977 are considered acceptable methods for the periodic testing of electric power and protection systems, subject to the qualifications identified in the guide.

1.9.118.2 VEGP Position

Conform, with the following clarifications.

The definition of auxiliary or supporting system is interpreted to mean the first auxiliary or supporting system to prevent expanding the safety system to encompass all plant systems.

Overlap testing is considered to have occurred if a relay coil is included in one test and the contacts are included in another test, or if a pressure switch is included in one test and its contacts included in a different test. If contacts are shown to function with one test, they may be replaced with jumper wires for other tests. Complete systems tests is interpreted to mean completion of all overlapping tests where overlapping tests are used. Each overlapping test will normally be completed on its own interval.

Test equipment, portable or installed, that must be connected to the safety system by cable and/or wire to perform the test, is not considered part of the safety system.

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V.11 Regulatory Guide 1.116 provided NRC endorsement of ANSI N45.2.8. The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.8. Accordingly, the quality assurance requirements for installation, inspection, and testing of mechanical equipment and systems applicable to operation phase activities are described in the SNC QATR.

postulated condition are normally done to entirely different bases and criteria are not within the scope of this guide.

Refer to subsection 5.4.2 for further discussion.

1.9.122 REGULATORY GUIDE 1.122, REVISION 1, FEBRUARY 1978, DEVELOPMENT OF FLOOR DESIGN RESPONSE SPECTRA FOR SEISMIC DESIGN OF FLOOR-SUPPORTED EQUIPMENT OR COMPONENTS

1.9.122.1 Regulatory Guide 1.122 Position

This guide describes the procedures acceptable to the NRC for combining and smoothing the floor response spectra, with peaks broadened, to obtain the floor design response spectra.

1.9.122.2 VEGP Position

Conform. Refer to subsection 3.7.B.2 for discussion on this subject.

1.9.123 REGULATORY GUIDE 1.123, REVISION 1, JULY 1977, QUALITY ASSURANCE REQUIREMENTS FOR CONTROL OF PROCUREMENT OF ITEMS AND SERVICES FOR NUCLEAR POWER PLANTS

HISTORICAL

1.9.123.1 Regulatory Guide 1.123 Position

The requirements that are included in ANSI N45.2.13-1976 for control of procurement of items and services for nuclear power plants are acceptable to the NRC staff and provide an adequate basis for complying with the pertinent quality assurance requirements of Appendix B to 10 CFR 50, subject to the qualifications identified in the guide.

1.9.123.2 VEGP Position

HISTORICAL

The VEGP QAP during the design and construction phase (except for NSSS components) conforms to the AEC Extracts from ANSI N45.2.13, Supplementary Quality Assurance Requirements for Control of Procurement of Equipment, Materials, and Services for Nuclear Power Plants (draft dated 5/31/73), as discussed in section 17.1.

VEGP QAP during the design and construction and the operation phases for components purchased from the NSSS vendor conform with ANSI N45.2.13-1976, except for regulatory position C.6b. The NSSS vendor routinely identifies notification points in procurement documents when applicable. Such points are not always identified in pre- and post-award meetings. However, the required notification/hold points are specified by changes to the procurement documents in a reasonable time prior to their being accomplished to allow the purchaser the opportunity to witness the event.

HISTORICAL

Alternatives and clarifications to the text of ANSI N45.2.13-1976 are contained in the text of WCAP-8370/7800, table 17-1. The VEGP QAP for NSSS components is described in chapter 17, appendix 17B.

The VEGP operations QAP conforms with the requirements of ANSI N45.2.13-1976 as it is endorsed by this guide with the following clarifications:

1. Paragraph 1.3, Definitions. With two exceptions, procurement document and QAP requirements, definitions in this standard and the definitions which are included in the VEGP position to Regulatory Guide 1.74 will be used. The two exceptions are defined in the VEGP position to Regulatory Guide 1.74.

2. Paragraph 1.2.2, Purchaser's Responsibilities. Item c is one of the options which may be used by VEGP to assure quality; however, any of the options given in 10 CFR 50, Appendix B, Criterion VII, as implemented by section 17.2, may also be used.

3. Paragraphs 3.2.3, 3.2.4, and 3.2.6. VEGP does not consider that these paragraphs or vendor qualifications apply for the procurement of off-the-shelf items. Off-the-shelf items (which include original as well as spare and replacements) are commercial grade items which are:

   a. Not subject to design or specification requirements that are unique to facilities or activities licensed by the Nuclear Regulatory Commission.

   b. Used in applications other than facilities or activities licensed by the NRC.

   c. Ordered from the manufacturer, distributor, supplier, or retailer on the basis of the manufacturer's catalog or product description.

4. Paragraph 3.3 requires procurement documents to be reviewed prior to bid or award of contract. The quality assurance review of procurement documents is satisfied through review of the applicable procurement specification, including the technical and quality procurement requirements, prior to bid or award of contract.

5. Paragraph 4.2, Selection Measures, outlines certain methods acceptable for the selection of suppliers. SNC's history of using similar methods has proven adequate in the procurement of items; therefore, VEGP wishes to replace paragraph 4.2(a), (b), and (c) with the following selection methods:

   a. The supplier's quality assurance capabilities as determined by a direct survey of his facilities and personnel, and the implementation of his QAP.

   b. Evaluating the supplier's history of providing a product which performs satisfactorily in actual use. One or more of the following information shall be evaluated:

      (1) Experience of users of identical or similar products of the same prospective supplier.

      (2) SNC records that have been accumulated in connection with previous procurement actions and product operating experience. Historical data

should be representative of the supplier's current capability. If there has been no recent experience with the supplier or if he is a new supplier, the prospective supplier shall be requested to submit information on a similar item or service for evidence of his current capabilities.

(3) Evaluating the supplier's current quality records supported by documented qualitative and quantitative information which can be objectively evaluated. This would include review and evaluation of the supplier's QAP manual and procedures, as appropriate, to ensure that the applicable requirements of 10 CFR 50, Appendix B, Quality Assurance Criteria for Nuclear Power Plants, are met.

(4) Verification that the supplier holds an active certificate of authorization from ASME to supply or manufacture materials or the items described in the purchase requisition.

(5) A supplier may be considered acceptable, without a survey, to supply off-the-shelf items. An inspection shall be performed to assure that the correct item was received and no damage exists. A supplier may be considered acceptable to supply a "Q" quality commodity (off-the-shelf item) without a survey. Such items procured must be produced to a standard and must have defined ratings, such as pressure, temperature, voltage. The procurement of such items shall be based upon a documented engineering evaluation. At receipt, an inspection shall be performed by an ANSI N45.2.6 qualified receipt inspector to verify compliance to the description and that it has been approved for use by an evaluation.

(6) Verification that the supplier is listed in the current Nuclear Procurement Issues Committee (NUPIC) data base. However, the audit report which formed the basis for listing the supplier in the NUPIC data base must be obtained and reviewed for applicability to the procurement. All deficiencies which could degrade the procured item must be resolved prior to the procurement. This review shall be documented and, together with the audit report, be retained.

(7) Verification that the supplier's QAP is acceptable to the NRC under the Licensee Contractor and Vendor Inspection Program and has been satisfactorily implemented as evidenced by a confirming letter from NRC-IE. Alternately, the acceptability of the supplier's QAP and its implementation may be determined by reviewing the NRC's inspection report(s) for applicability to the procurement. All such reviews shall be documented, and together with the NRC's inspection report(s) retained.

6. Paragraph 5.2 shall be applicable only for new procurement; it shall not be applicable for spares or replacements parts that do not change the original design.

7. Paragraph 6.2, Planning and Coordination. SNC will conform with the exception that the NSSS vendor routinely identifies notification points in procurement documents when applicable. Such points are not always identified in pre- and post-award meetings. However, the required notification/hold points are specified by changes to the procurement documents in a reasonable time prior to their being accomplished to allow the purchaser the opportunity to witness the event.

8. Paragraph 7.5, Personnel Qualification. Refer to VEGP Position to Regulatory Guide 1.58 (Clarification 1).

9. Paragraph 8 provides guidance for purchaser review and disposition of vendor nonconformances. SNC, as purchasing agent, satisfies this requirement by requiring, as a minimum, deviations to specifications that cannot be brought into conformance with specification requirements, prior to shipment of the material to be submitted to SNC for approval. Such deviations, when approved by the purchaser, are required to be submitted along with shipment of the material.

10. Regulatory Position C.3 indicates that the purchaser should verify the implementation of the supplier's corrective action systems when such a system is required, but this verification need not be included as part of the purchaser's corrective action measures. SNC interprets this statement to mean that once corrective action has been verified by purchaser on nonconforming vendor items, the items can be released for use in its intended application. The cause and action to preclude recurrence of deficiencies is the responsibility of the vendor, and independent verification of such vendor action by purchaser or vendor notification of such action to purchaser is not required on the basis that the vendor's QAP has been accepted by the purchaser. The QAP provides for determining cause and action to preclude recurrence of significant deficiencies, and purchaser audits are conducted to ensure vendor's compliance with his accepted QAP commitments.

INSERT V.12 →

1.9.124 REGULATORY GUIDE 1.124, REVISION 1, JANUARY 1978, SERVICE LIMITS AND LOADING COMBINATIONS FOR CLASS 1 LINEAR-TYPE COMPONENT SUPPORTS

1.9.124.1 Regulatory Guide 1.124 Position

This guide delineates acceptable levels of service limits and appropriate combinations of loadings associated with normal operation, postulated accidents, and specified seismic events for the design of Class 1 linear-type component supports as defined in Subsection NF of Section III of the ASME Code.

1.9.124.2 VEGP Position

In general, VEGP conforms. Additional information is provided in subsection 3.8.3. For the NSSS scope, the following exceptions are taken.

Paragraph C.2 of the regulatory guide presents two methods of estimating the ultimate tensile strength S, at temperature. It is believed that method No. 2 is not conservative at elevated metal temperature (in excess of 800°F). In Westinghouse's judgment, values of S at these elevated temperatures should be determined by test rather than via the method given in C.2(b).

Paragraph C.4 of the regulatory guide states: "However, all increases; i.e., those allowed by NF-3231.1(a), XVII-2110(a), and F-1370(a), should always be limited by XVII-2110(b) of Section III." Paragraph XVII-2110(b) specifies that member compressive axial loads shall be limited to

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V.12 Regulatory Guide 1.23 provided NRC endorsement of ANSI N45.4.13. The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.13. Accordingly, quality assurance requirements for control of procurement of items and services during the operation phase are described in the SNC QATR.

piping in the north end of the radwaste transfer tunnel are not hydro tested as stipulated. In lieu of the hydro test, a full volumetric radiographic or ultrasonic NDE is performed on these welds in conjunction with an inservice leak test at nominal operating pressure and temperature. This ensures VEGP radwaste process piping continues to meet or exceed the inspection requirements of Regulatory Guide 1.143.

- Regulatory Guide 1.143 stipulates that radwaste piping is to be hydro tested to 1.5 times design pressure and held for 30 minutes. In lieu of hydrostatic testing following repair replacement activities (by welding) of ASME Class 1, 2, and 3 components, the NRC has endorsed the use of Code Case N-416-2 with a stipulation that hold time for use of this Code Case is conditionally acceptable provided the provisions of IWA-5213, "Test Condition Holding Times," 1989 Edition, are to be used (Ref. RG 1.147, Rev 13, January 2004, Inservice Inspection Code Case Acceptability). IWA 5213 requires a 10 minute hold time unless the system has been in operation for at least 10 minutes for an uninsulated system; 4 hours for an insulated system. Additionally, this Code Case stipulates that NDE shall be performed on welded repairs and fabrication and installation joints in accordance with the methods and acceptance criteria of the applicable subsection of the 1992 Edition of Section III. This requirement applies to piping and safety systems (ASME Section III, Class 1, 2, and 3). Apply the Code Case requirements for Class 3 piping to radwaste system piping. For applications related to radwaste systems, the requirements in the Code Case to complete an NIS-2 form are not applicable. Also, there are no size exemptions that can be utilized when applying this Code Case to radwaste systems. Additionally, as stated above, the surface examination requirements of Class 3 will also apply, i.e., welds 2-1/2 in. and greater will require a magnetic particle or liquid penetrant examination. All welds 2 in. and under will require a visual examination.

See section 11.4 for further discussion.

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1.9.144 REGULATORY GUIDE 1.144, REVISION 1, SEPTEMBER 1980, AUDITING OF QUALITY ASSURANCE PROGRAMS FOR NUCLEAR POWER PLANTS

1.9.144.1 Regulatory Guide 1.144 Position

The requirements that are included in ANSI/ASME N45.2.12-1977 for auditing QAPs for nuclear power plants are acceptable to the NRC staff and provide an adequate basis for complying with the pertinent quality assurance requirements of Appendix B to 10 CFR 50, subject to the qualifications identified in the guide.

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1.9.144.2 VEGP Position

The VEGP QAP for the design and construction phase conforms with Regulatory Guide 1.144, January 1979, which also endorses ANSI/ASME N45.2.12-1977, subject to qualification identified in the guide, with the following clarifications. VEGP does not conform to the latest revision of the following ANSI standards: ANSI N45.2, ANSI N45.2.9, and ANSI N45.2.10. VEGP conforms to ANSI N45.2-1971, ANSI N45.2.9 (Draft 11, Revision 0, January 17, 1973),

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and ANSI N45.2.10-1973. The VEGP quality assurance program is described in section 17.1, appendix 17A, and appendix 17C.

VEGP QAP for operations conforms with Regulatory Guide 1.144 with the following clarification. VEGP does not conform to the latest revisions of the following ANSI standards: ANSI N45.2, ANSI N45.2.9, and ANSI N45.2.10. VEGP conforms to ANSI N45.2-1971, ANSI N45.2.9-1974, and ANSI N45.2.10-1973. Conformance to Regulatory Guides 1.28, 1.74, and 1.88 is indicated in this section. The VEGP quality assurance program is described in chapter 17.

INSERT V.13

1.9.145 REGULATORY GUIDE 1.145, AUGUST 1979, ATMOSPHERIC DISPERSION MODELS FOR POTENTIAL ACCIDENT CONSEQUENCE ASSESSMENTS AT NUCLEAR POWER PLANTS

1.9.145.1 Regulatory Guide 1.145 Position

This guide identifies acceptable methods for:

- Calculating atmospheric relative concentration (χ/Q) values.
- Determining χ/Q values on an overall site basis.
- Determining χ/Q values on a directional basis.
- Choosing χ/Q values to be used in evaluations of the types of events described in Regulatory Guides 1.3 and 1.4.

1.9.145.2 VEGP Position

Conform. Refer to subsection 2.3.4.

1.9.146 REGULATORY GUIDE 1.146, AUGUST 1980, QUALIFICATION OF QUALITY ASSURANCE PROGRAM AUDIT PERSONNEL FOR NUCLEAR POWER PLANTS

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1.9.146.1 Regulatory Guide 1.146 Position

This guide describes a method acceptable to the NRC for complying with regulations with regard to qualification of QAP audit personnel for nuclear power plants.

1.9.146.2 VEGP Position

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Conform except as discussed below.

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V.13 Regulatory Guide 1.144 provided NRC endorsement of ANSI N45.2.12. The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.12. Accordingly, requirements for auditing quality assurance programs applicable to operations phase activities are described in the QATR.

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ANSI N45.2.23-1978, Section 2.3.4 states that the prospective lead auditor shall have participated in a minimum of five quality assurance audits within a period of time not to exceed 3 years prior to the date of qualification, one audit of which shall be a nuclear QA audit within the year prior to his or her qualification.

In lieu of the requirements of Section 2.3.4 of ANSI N45.2.23-1978, the prospective lead auditor shall demonstrate their ability to effectively implement the audit process and effectively lead an audit team. The demonstration process will be described in written procedures and shall evaluate and document the results of the demonstration. Regardless of the methods used for the demonstration, the prospective lead auditor shall have participated in at least one nuclear QA audit within the year preceding the individual's effective date of qualification. Upon successful demonstration of the ability to effectively implement the audit process and lead audits, and having met the other provisions of Section 2.3 of ANSI N45.2.23-1978, the individual may be certified as being qualified to lead audits.

The QAP is discussed in Chapter 17.

INSERT V.14

1.9.147 REGULATORY GUIDE 1.147, REVISION 12, MAY 1999, INSERVICE INSPECTION CODE CASE ACCEPTABILITY, ASME SECTION XI, DIVISION 1

1.9.147.1 Regulatory Guide 1.147 Position

This regulatory guide lists those Section XI ASME code cases that are generally acceptable to the NRC for implementation in the ISI of light-water-cooled nuclear power plants.

1.9.147.2 VEGP Position

Conform. Refer to section 6.6 for further discussion.

1.9.148 REGULATORY GUIDE 1.148, MARCH 1981, FUNCTIONAL SPECIFICATION FOR ACTIVE VALVE ASSEMBLIES IN SYSTEMS IMPORTANT TO SAFETY IN NUCLEAR POWER PLANTS

1.9.148.1 Regulatory Guide 1.148 Position

This guide delineates a procedure acceptable to the NRC for implementing regulations with respect to the detailed specification of information pertinent to defining operating requirements for active valve assemblies in light-water-cooled nuclear power plants.

1.9.148.2 VEGP Position

Conformance is addressed in table 3.9.B.3-10.

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V.14 Regulatory Guide 1.146 provided NRC endorsement of ANSI N45.2.23. The SNC Quality Assurance Topical Report (QATR) is based on ASME NQA-1-1994 which incorporates the requirements of ANSI N45.2.23. Accordingly, requirements for qualification of quality assurance program audit personnel applicable to operation phase activities are described in the SNC QATR.

When sufficiently reliable data and proven analytical methods are available, environmental qualification may be based on analysis.

Qualification by analysis includes justification of the methods, theories, and assumptions used (i.e., mathematical or logical proof based on actual test data) that the equipment meets or exceeds its specified performance when subjected to normal, abnormal, and design basis event (DBE) environmental conditions.

For mechanical equipment in the harsh environmental, post-DBA environmental effects on structural components such as valve and pump casings and bodies is considered negligible. Critical subcomponents are evaluated and qualified as required. Organic materials, such as gaskets, seals, and O-rings, are evaluated for their function and evaluated separately. Combined test and analysis therefore is the qualification approach used for this equipment if located in harsh environments.

With the exception of diaphragm valves, which are addressed in table 1.9-1, replacement/refurbishment intervals for safety-related equipment located in a mild environment and safety-related mechanical equipment in a harsh environment are based on a combination of design life, trending, and periodic maintenance and surveillance.

Prior to fuel loading, VEGP will implement administrative controls of component qualification involving an equipment qualification file, handling of documentation, internal acceptance review procedures, and a maintenance surveillance program. ~~The maintenance surveillance program will follow the guidance of Regulatory Guide 1.33, Revision 2. The conformance to Regulatory Guide 1.33 is set forth in subsection 1.9.33 of the Final Safety Analysis Report (FSAR).~~

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Planned maintenance and surveillance is a VEGP program that schedules equipment maintenance, calibration, and surveillance activities. Its purpose is to maintain equipment in a condition safe for operations, minimize unplanned outages due to breakdown, and provide a mechanism by which greater than anticipated degradation of safety-related equipment can be detected and remedied. The program is being developed using personnel experience in the area of maintenance and surveillance of electrical, mechanical, and instrumentation and controls equipment.

3.11.N.2 QUALIFICATION TESTS AND ANALYSIS

3.11.N.2.1 Environmental Qualification Criteria

The methods of meeting the general requirements for environmental design and qualification of safety-related equipment as described by General Design Criteria (GDC) 1, 2, 4, 23, and 50 are described in section 3.1. Additional specific information concerning the implementation of GDC 23 and 50 is provided in paragraph 7.2.2.2 and section 6.2, respectively. The general methods of implementing the requirements of Appendix B to 10 CFR 50 are described in chapter 17. Regulatory Guides 1.40, 1.73, and 1.89 concerning environmental qualification are addressed in section 1.9. Administrative control of component qualification is addressed in paragraph 3.11.B.2~~, and the extent of compliance with Regulatory Guide 1.33 is discussed in subsection 1.9.33~~.

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3.11.N.2.2 Environmental Design of Mechanical Equipment

Westinghouse-supplied safety-related mechanical components have been designed to perform their required safety functions under the appropriate environmental effects of normal, abnormal, accident, and post-accident conditions as required by GDC 4. For mild environments, the area conditions do not change as the result of an accident; as a result, there are no degrading environmental effects that could lead to common mode failure of safety-related equipment. However, mechanical equipment located in harsh environmental zones must be designed to perform under the appropriate environmental conditions.

For safety-related mechanical equipment, there are two basic categories of components as follows:

A. Active equipment - equipment that must perform a mechanical motion as part of its safety function.

B. Nonactive equipment - equipment whose only safety function is structural integrity. Nonactive components are designed for structural integrity in accordance with Section III of the American Society of Mechanical Engineers (ASME) Code as discussed in section 3.9.N.

Based on the above information, the VEGP program for environmental qualification of mechanical equipment discussed in this section pertains strictly to active components that must perform their safety functions in a harsh environment. The post-accident environmental effects are considered to be

6. Coating used for the banding of piping.

7. Concrete designated to receive a sealer coat only.

D. The majority of the coatings specified for use inside the containment are the inorganic type (ethyl silicate inorganic zinc). The mode of failure of inorganic zinc is powdering rather than blistering and delamination. This failure mode minimizes the accumulation of solid debris in the containment sumps. Any particles of appreciable size that do occur either settle out prior to reaching the sump screens or are trapped by the sump filter screens. The screen opening size (1/8 in.) is smaller than the line piping, the residual heat removal heat exchanger tubes, the spray nozzles, pump running clearances, and clearances in the reactor core so particles that could potentially block the system are filtered out. (Refer to section 6.2 for a discussion of the sump design and consideration given to screen clogging.)

E. "N" AREAS

Areas within the containment are identified as "N" areas. Coatings used inside the containment, where required, are the prequalified coating systems. These coatings are prequalified to the intent of ANSI N101.2 and applicable portions of ANSI N5.12. Quality assurance and documentation requirements of ~~ANSI N45.2-71~~ and ANSI N101.4 (Class I) are enforced for both coating materials and applications procedures as discussed in table 6.1.2-1.

ASME NQA-1-1994, as described in the SNC Quality Assurance Topical Report (QATR)

F. "D" AREAS

Areas outside the containments, but with potential contamination from radioactive sources, are identified as "D" areas. Coating materials specified for "D" areas are either the same or similar materials which are used in "N" areas, except the quality assurance program and the documentation requirements of ANSI do not apply (Class II).

G. "C" AREAS

Areas outside the containments, and not subject to potential contamination from radioactive sources are identified as "C" areas. "C" area coatings are standard commercial coatings formulated to withstand exposure to industrial environment and require minimum maintenance (Class II).

TABLE 6.1.2-1 (SHEET 1 OF 4)

REGULATORY GUIDE 1.54, REVISION 0, JUNE 1973, QUALITY ASSURANCE REQUIREMENTS FOR PROTECTIVE COATINGS APPLIED TO WATER-COOLED NUCLEAR POWER PLANTS

Regulatory Guide 1.54 Position	Position on Non-NSSS Components	Position on NSSS Components
The requirements and guidelines included in ANSI N101.4-1972, Quality Assurance for Protective Coatings Applied to Nuclear Facilities, for protective coatings applied to ferritic steels, aluminum, stainless steel, zinc-coated (galvanized) steel, concrete, or masonry surfaces of water-cooled nuclear power plants are generally acceptable and provide an adequate basis for complying with the pertinent quality assurance requirements of Appendix B to 10 CFR 50 subject to the following:		Westinghouse has developed an alternate approach to ANSI N101.4 for satisfying Reg. Guide 1.54 for the NSSS components inside containment. Stringent requirements are specified for the painting of major components in Westinghouse Process Specifications that are imposed on vendors by procurement documents. Large equipment must have coating systems qualified to meet ANSI N101.2 and requirements are defined for surface preparation, use of undercoating, and where applicable, inspection. Other major equipment is either fabricated from stainless steel or covered by insulation. For small items of equipment, conventional industry practices are applied. Details of this approach follow:
A. ANSI N101.4-1972 should be used in conjunction with ~~ANSI N45.2-1971, Quality Assurance Program Requirements for Nuclear Power Plants~~ ASME NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Applications, as described in the SNC QATR	A. The requirements of VEGP are that practical and adequate corrosion protection shall be provided for all surfaces being painted. All surfaces, however, are not coated with coating materials tested and accepted under ANSI N101.2 or ANSI N5.12 criteria, nor are all coatings documented as outlined under ANSI N101.4-1972. Coating materials used for items located outside of the containment are not documented, since removal of the coating from such items does not affect the safe shutdown of the facility. Coating materials used for items located within the containment shall meet, whenever possible, the requirements of ANSI N101.2 and selected portions of ANSI N5.12 and are documented in accordance with ANSI N101.4.	NSSS equipment located in the containment building is separated into four categories to identify the applicability of this regulatory guide to various types of equipment. These categories of equipment are as follows: Category 1 - Large equipment Category 2 - Intermediate equipment Category 3 - Small equipment Category 4 - Insulated/stainless steel equipment A discussion of each equipment category follows: Category 1 - Large Equipment The Category 1 equipment consists of the following: • Reactor coolant system supports. • Reactor coolant pumps (motor and motor stand). • Accumulator tanks. • Refueling machine. Since this equipment has a large surface

TABLE 7.1.1-1 (SHEET 4 OF 9)

Criteria	Title	Conformance Discussed In
IEEE Std 317-1976	Electric Penetration Assemblies in Containment Structures for Nuclear Power Generating Stations	7.1.2, 8.1, 8.3
IEEE Std 323-1974	Qualifying Class 1E Equipment for Nuclear Power Generating Stations	3.11, 1.9, 8.1, 8.3 (RG 1.89)
IEEE Std 336-1971 (ANSI N45.2.4-1972)	Installation, Inspection and Testing Requirements for Instrumentation and Electric Equipment During the Construction of Nuclear Power Generating Stations	7.1.2, 8.0
IEEE Std 338-1975	Trial-Use Criteria for the Periodic Testing of Nuclear Power Generating Station Protection Systems	7.1.2, 8.0
IEEE Std 344-1975 (ANSI N41.7)	Recommended Practices for Seismic Qualification of Class 1E Equipment for Nuclear Power Generating Stations	3.10, 7.1.2, 8.1, 8.3
IEEE Std 379-1972 (ANSI N41.2)	Trial-Use Guide for the Application of the Single Failure Criterion to Nuclear Power Generating Station Protection Systems	7.1.2, 8.0
IEEE Std 383-1974	Standard for Type Test of Class 1E Electric Cables, Field Splices, and Connectors for Nuclear Power Generating Stations	1.9.131, 8.1.4, 8.3

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IEEE Std 336-1985 (ASME NQA-1-1994)	Installation, Inspection, and Testing Requirements for Power, Instrumentation, and Control Equipment at Nuclear Facilities	7.1.2, 8.0

C. The auxiliary fuel oil tank is located above ground, away from safe shutdown buildings, and is surrounded by dikes. The auxiliary fuel oil tank will be utilized as described in paragraph 9.5.4.2.2.

D. When necessary, storage of ion exchange resins in areas containing safety-related systems will be in accordance with CMEB 9.5-1 requirements of paragraph C.2.b (Administrative Controls). Portable extinguishers and standpipe hoselines are provided for these areas, in addition to the preaction system. Selected storage areas are adequately drained and curbed as necessary.

E. Materials that collect and contain radioactivity such as spent ion exchange resins, charcoal filters, etc., are stored in metal containers located in areas which do not expose safety-related systems or equipment.

F. Bulk hazardous chemical storage is maintained in an area that does not house or expose areas containing safety-related systems. Portable fire extinguishers are provided. Hoselines are provided for those chemicals which will not react with water.

Precautions are taken in the use and storage of flammable construction items such as paint and solvents. Special precautions are utilized in conjunction with cutting and welding operations. Housekeeping is applied to prevent accumulation of trash or other combustible materials in accordance with ~~Regulatory Guide 1.39. (See section 1.9 for exceptions.)~~ The nuclear plant general manager will implement a periodic inspection program to promote fire prevention.

ASME NQA-1-1994, as described in the SNC Quality Assurance Topical Report (QATR).

9.5.1.3 Safety Evaluation

A. Noncombustible construction is employed throughout all buildings to minimize fire potential. Interior wall and structural components, thermal insulation materials, radiation shielding, and soundproofing materials are fire resistant. Interior finishes are fire resistant and are listed by UL or FM for flame spread, smoke, and fuel contribution of 25 or less in their use configuration in accordance with ASTM E-84, Surface Burning Characteristics of Building Materials. The use of plastic materials is minimized. Halongenated plastics such as polyvinyl chloride and neoprene are used only when substitute noncombustible materials are not available.

Employment of heat and flame resistant construction materials throughout all buildings reduces the potential for fire, particularly in areas that contain or may expose safety equipment or that rely on manual fire protection.

B. Electrical cables are installed with permanently colored exteriors for channel identification and separation. Insulation for electrical conductors is designed to be resistant to moisture, radiation, continuous conductor operating temperatures of 90°C and 130°C emergency overload temperatures, and a short circuit temperature of 250°C.

Power, control, instrumentation, and communications cable is flame-retardant in accordance with IEEE 383-1974. Exceptions are detailed in appendix 9B. Fire protection for cable systems is further described in subsection 8.3.3.

C. Thermal antisweat insulation, with ASTM E-84 ratings of 25 for flame spread, 50 for fuel contributed, and 50 for smoke generated, is provided for service and cooling water piping. The auxiliary feedwater pump turbine is covered with an insulated, removable galvanized steel shell.

CMEB 9.5-1 Requirements	VEGP Position	Clarification of Conformance or Justification of Deviation
(2) The fire protection program for an entire reactor unit should be fully operational prior to initial fuel loading in that reactor unit.	Conforms	(2) Prior to initial fuel loading, the applicable unit's fire protection program shall be fully operational.
(3) On reactor sites where there is an operating reactor and construction or modification of other units is under way, the fire protection program should provide for continuing evaluation of fire hazards. Additional fire barriers, fire protection capability, and administrative controls should be provided as necessary to protect the operating unit from construction fire hazards.	Conforms	(3) The fire hazards analysis provides for the capability to assess the impact of plant construction or modification activities in any plant area on the ability to achieve safe shutdown for both units. Continuing evaluation of fire hazards for both units during construction or modification activities is provided for in the plant administrative procedures. Fire protection capability for Unit 2 construction during Unit 1 operation will be provided by a temporary fire water standpipe system manned by the construction department fire brigade. Unit 2 administrative controls will be implemented to meet Nuclear Mutual Limited requirements for nuclear plant construction sites as determined by the loss prevention consultant.
C.2. Administrative Controls		C.2. Administrative Controls
Administrative controls should be used to maintain the performance of the fire protection system and personnel. These controls should establish procedures to:		
a. Prohibit bulk storage of combustible materials inside or adjacent to safety-related buildings or systems during operation or maintenance periods. Regulatory Guide 1.39 provides guidance on housekeeping, including the disposal of combustible materials.	Conforms	a. Combustible material storage areas may be located in or adjacent to safety-related buildings or systems but are administratively controlled through the administrative fire protection procedures.
b. Govern the handling and limitation of the use of ordinary combustible materials, combustible and flammable gases and liquids, high-efficiency particulate air and charcoal filters, dry ion exchange resins, or other combustible supplies in safety-related areas.	Conforms	b. The use and handling of flammable gases, liquids, and other combustibles in safety-related areas are governed by the administrative fire protection procedures.

Housekeeping requirements are in accordance with ASME NQA-1-1994, as described in the Quality Assurance Topical Report (QATR).

CMEB 9.5-1 Requirements		VEGP Position	Clarification of Conformance or Justification of Deviation
C.7.m.	Spent Fuel Pool Area Protection for the spent fuel pool area should be provided by local hose stations and portable extinguishers. Automatic fire detection should be provided to alarm and annunciate in the control room and to alarm locally.	Partial conformance	C.7.m. Spent Fuel Pool Area Protection for the spent fuel pool area is provided by portable extinguishers and hose stations. Due to minimal combustible loading in this zone and excessive ceiling height, fire detectors are not provided in general areas. However, in confined areas where safety-related equipment is present, such as spent fuel pool cooling pumps and heat exchangers, ionization detectors are provided for the actuation of fire protection systems installed in the room. Manual fire alarm stations are provided in strategic locations throughout the fuel handling building, usually near a hose station. These will alarm and annunciate in the control room.
C.7.n.	Radwaste and Decontamination Areas Fire barriers, automatic fire suppression and detection, and ventilation controls should be provided.	Conforms	C.7.n. Radwaste and Decontamination Areas Fire barriers, automatic fire suppression and detection, and ventilation controls are used to provide assurance that a fire will not significantly increase the risk of radioactive releases to the environment.
C.7.o.	Safety-Related Water Tanks Storage tanks that supply water for safe shutdown should be protected from the effects of an exposure fire. Combustible materials should not be stored next to outdoor tanks.	Conforms	C.7.o. Safety-Related Water Tanks The safe shutdown water tanks are separated from other areas of the plant. These tanks are located outdoors and are easily accessible to fire hoses from the outside fire hydrants and other portable extinguishing equipment. There are no combustibles stored near the water tanks.
C.7.p.	Records Storage Areas Records storage areas should be so located and protected that a fire in these areas does not expose safety-related systems or equipment. (See Regulatory Guide 1.88, Collection, Storage, and Maintenance of Nuclear Power Quality Assurance Records.)	Conforms	C.7.p. Record Storage Areas The main record storage area is located in the service building. This building contains no safe shutdown equipment. The records storage file area on the 220-ft elevation of the control building is provided with 3-h barriers, automatic smoke detection, automatic Halon 1301 system, manual water hose stations, and portable extinguishers to protect safe shutdown systems.

It should be noted that ASME NQA-1-1994 subsequently replaced Regulatory Guide 1.88 as the applicable guidance for record storage as described in the SNC Quality Assurance Topical Report (QATR).

TABLE 10.3.5-1 (SHEET 1 of 4)

CONFORMANCE TO BRANCH TECHNICAL POSITION MTEB 5-3, MONITORING OF SECONDARY SIDE WATER CHEMISTRY IN PWR STEAM GENERATORS

Branch Technical Position	
1. Crevices between the tubing and the tube sheets or tubing supports should be minimized to prevent concentration of impurities or solids in these areas. To achieve this goal the tubes at the tube/tube sheet interface should be expanded for the full depth of the tube sheet. To minimize the deposition of corrosion products and sludge between the tubes and the supporting structure, the tube/tube support interface should be designed to promote high velocity water flow at the interface. This would improve the washing of this area.	1. Conform. Refer to 5.4.2.4.
2. Regulatory Guide 1.37 endorses ANSI N45.2.1 and states in part, "The surface (of components) shall appear metal clear. Scattered areas of rust are permissible provided the aggregate area of rust does not exceed two square inches in any one square foot area." Experimental work has shown that a porous packing of oxide in the tube support annulus is one of the conditions resulting in the concentration of contaminants, which leads to runaway corrosion of the tube support plate. Nuclear plant operators should start up the steam generators with metal clean surfaces. A method of confirmation such as photographing the inside of the steam generator should be undertaken after hot functional testing to confirm the metal clean condition.	2. Conform. Refer to section 1.9 and paragraph 5.4.2.4. INSERT V.16
3. A. In the FSAR, the applicant should describe implementation of a secondary water chemistry and monitoring program (in accordance with reference nuclear steam system supplier's recommended procedure) to inhibit steam generator corrosion and tube degradation. This program should cover the following operational modes: power operation (normal), startup, hot standby, hot shutdown, and cold shutdown/ cold wet layup Each of the above modes should be defined with regard to percent rated thermal power and approximate temperature range, °F.	3.A. Conform. Refer to paragraphs 10.3.5.5 and 10.3.5.6. Table 1.1 in chapter 16 lists the percent rated thermal power and temperatures for the appropriate operational modes.
B. The secondary water chemistry monitoring and control program should include the following:	3.B. Conform, except additives are injected into the condensate providing protection for the condensate/feedwater system. Concentrations in each steam generator can be controlled to a certain extent with blowdown.

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V.16 (Note: Regulatory Guide 1.37 has been replaced by NQA-1-1994 as described in the SNC Quality Assurance Topical Report (QATR)).

- ASME SA-515, GR70.
- ASME SA-106, GR B (impact tested).
- ASME SA-234, GR WPC or WPCW (impact tested).
- ASME SA-234, GR WPCW.
- ASME SA-234, GR WPC.
- ASME SA-105.
- ASME SA-193, GR B7.
- ASME SA-194, GR 2H, or ASME SA-194, GR 7
- ASME SA-216, GR WCB.
- ASME SA-333, GR 6 (impact tested).
- ASME SA-420, GR WPL6 (impact tested).
- ASME SA-508, Class 1 (impact tested).
- ASME SA-312, TP 304.
- ASME SA-403, WP-304.
- ASME SA-403, WP-304 W.
- ASME SA-182, F-304.
- ASME SA 672, GR C70.

Conformance with the following regulatory guides is discussed in section 1.9:

- Regulatory Guide 1.31, Control of Ferrite Content in Stainless Steel Weld Metal.
- Regulatory Guide 1.36, Nonmetallic Thermal Insulation of Austenitic Stainless Steel.
- Regulatory Guide 1.37, Quality Assurance Requirement for Cleaning of Fluid Systems and Associated Components of Water-Cooled Nuclear Power Plants.
- Regulatory Guide 1.44, Control of the Use of Sensitized Stainless Steel.

INSERT V.17

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V.17 (Note: Regulatory Guide 1.37 has been replaced by NQA-1-1994 as described in the SNC Quality Assurance Topical Report (QATR)).

personnel exposure due to a sudden surge of reactor coolant to the PRT.

- Additional shielding for spent resin lines. Concrete floor slabs in pipe chases were locally thickened to reduce radiation levels from spent resin lines (during resin transfer) to less than 2.5 mrem/h in access corridors.

12.1.1.2 Operation Policies

It is the responsibility of the nuclear plant general manager to implement a program to maintain occupational radiation exposures ALARA, consistent with recommendations of Section C.1 of Regulatory Guide 8.8, Revision 3, and Regulatory Guide 8.10, Revision 1.

To verify that the overall radiation protection program is functioning properly, the plant review board will review the written reports from audits of the ALARA program. Independent audits will be conducted by the quality assurance department, as delineated in administrative procedures. ~~(See section 17.2.)~~

The VEGP plant procedures manual is one of the major means of instituting the operational ALARA policy. It is available to each member of the plant staff, and each staff member will receive training covering the contents. This policy is further promoted in the health physics program, the training program, and plant procedures. (See section 12.5.) The "radiation protection plan," as defined in Section 5 of NUREG-0761, is a part of the plant procedures.

In addition to defining management's commitment to ALARA, the procedures manual designates the plant personnel who have the responsibility and authority to implement the ALARA program. The nuclear plant general manager, as with all other aspects of plant operation, bears the final responsibility for implementing the ALARA program but will delegate this responsibility to the health physics manager. The authority to prevent unsafe practices and to direct steps to prevent any unnecessary radiation exposures also lies within the health physics manager's responsibilities.
The health physics support supervisor will assist the health physics manager in ensuring that radiation exposures are maintained ALARA. The health physics support supervisor will report to the health physics manager who serves as the radiation protection manager referred to in Regulatory Guide 8.8. The plant health physicist or health physics support supervisor may also serve as the radiation protection manager if qualified to do so. The health physics foremen handle the day-to-day operation of the site radiation protection program and report to the

12.5.3 PROCEDURES

Procedures will be developed to cover all necessary areas of plant operations and maintenance. Section 13.5 provides information on the procedures to be developed. The procedures describe certain methods that will be used to ensure that occupational radiation exposures will be as low as reasonably achievable (ALARA). The Company's commitment to regulatory guides will be incorporated into procedures as appropriate.

Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR Part 20 and shall be approved, maintained, and adhered to for all operations involving personnel radiation exposure. Strict adherence to the VEGP radiation protection procedures will ensure that personnel radiation exposures are both ALARA and within the limits of 10 CFR 20. Policy and operational considerations for radiation protection are set forth in subsections 12.1.1 and 12.1.3. Radiation protection procedures will be subject to the requirements of the quality assurance program for the operational phase of plant life ~~as discussed in Regulatory Guide 1.33.~~

described in the SNC Quality Assurance Topical Report (QATR).

12.5.3.1 Radiation and Contamination Surveys

Health physics personnel normally perform routine radiation and contamination surveys, the techniques of which are delineated in plant procedures. Surveys are performed on a frequency that varies with the potential radiological hazards associated with the given area. Survey frequency will be specified in plant procedures. These surveys consist of radiation measurements and/or contamination surveys, as appropriate for the specific area. Air samples are also routinely taken in portions of the controlled area. Survey information is factored into exposure stay time determinations and radiation work permit (RWP) specifications. (See paragraph 12.5.3.7.) An RWP may specify the need for additional surveys for specific operations and/or maintenance activities. Radiation level surveys will be performed for alpha, gamma, beta, and/or neutron exposure rates, as specified in plant procedures. Contamination surveys are normally performed to establish gross beta-gamma contamination level but may be processed for specific radionuclides (via gamma spectroscopy). Air samples are normally taken to establish airborne concentrations of particulates, noble gases, and/or radioiodine. Availability of current survey information will aid in keeping exposures ALARA.

A survey instrument may be used to check radiation levels. The liquid sample container is normally washed with clean water and dried before being brought into the radiochemistry laboratory for analysis. The dose from sample bottles is minimized by grasping the bottle at the top, by using tongs, or by using a sample carrier.

12.5.3.2.8 Calibration

Calibration of most ranges of the portable gamma detection instruments is performed inside a shielded calibrator, thus almost eliminating exposure from calibration of portable instruments. Portable sources used to calibrate fixed instruments (such as the area radiation monitoring system) are transported in shielded containers.

Where possible, fixed instruments requiring routine calibration are situated so that the necessary test signals can be inserted from a low radiation area with the instruments in place.

12.5.3.2.9 Housekeeping

Plant procedures specify that the plant be maintained in a clean condition to avoid, to the extent practicable, conditions which lead to possible contamination. Plant personnel will be made aware of the importance of a clean plant to radiation protection. ~~The recommendation of Regulatory Guide 1.39 and the referenced American National Standards Institute Standard N45.2.3 will be implemented to the maximum practicable extent in the plant housekeeping.~~

INSERT V.18

12.5.3.3 Controlling Access and Stay Time

The area within the primary security boundary is broken down into nonradiation (clean) areas and radiation controlled areas (for radiation protection purposes). Radiation controlled areas are further categorized as radiation areas, high radiation areas, very high radiation areas, airborne radioactivity areas, contamination areas, and radioactive materials areas, to comply with 10 CFR 20 and plant procedures and instructions.

Personnel entering the radiation controlled areas of the plant must be trained in radiation protection and emergency procedures as specified in paragraph 12.5.3.8 or must be escorted. Entrance to the radiation controlled area is normally through the access control area (previously discussed in subsection

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V.18 Housekeeping requirements are performed in accordance with NQA-1-1994, as described in the SNC Quality Assurance Topical Report (QATR).

13.1.1.2.1.2.1 Quality Assurance Manager. The responsibilities of the QAM are described in ~~section 17.2~~. ~~In addition to the responsibilities for VEGP, the QAM is similarly responsible for the QA programs of FNP and the HNP.~~ The QAM reports to the executive vice president. The QAM is authorized to manage the QA program for design, testing, operation, and maintenance and to ensure its implementation in accordance with the requirements of ~~section 17.2~~. The QA organization is composed of a staff at the corporate headquarters~~, VEGP site, FNP site,~~ and ~~HNP site~~.

The QA organization does not provide technical support (as defined in subsection 13.1.1 of Regulatory Guide 1.70) for the operation of VEGP. The activities of the QA organization are fully described in ~~section 17.2~~.

13.1.1.2.1.2.2 Nuclear Fleet Security and Emergency Planning Manager. The nuclear fleet security and emergency planning manager reports to the executive vice president and is responsible for the overall coordination of fleet security activities and programs, the corporate emergency planning programs (including the common Emergency Operations Facility), and the Access Authorization Program. The nuclear fleet security and emergency planning manager will also have responsibility for site emergency response communication.

13.1.1.2.1.3 Vice President - Project (Vogtle). The vice president - project (Vogtle) reports to the executive vice president regarding operation issues and support matters. As vice president - project (Vogtle), he/she is responsible for operation and maintenance of VEGP. He/she directs the nuclear plant general manager, the nuclear support general manager (Vogtle), and the administrative support coordinator.

13.1.1.2.1.3.1 Nuclear Support General Manager (NSGM)(Vogtle). The NSGM (Vogtle) reports to the vice president - project (Vogtle) and is responsible for coordinating corporate support in the areas of engineering, licensing, maintenance, planning and performance, and budgeting. The NSGM (Vogtle) directs the planning and performance supervisor. He/she is responsible for providing corporate support to VEGP in matters related to design control and engineering support for VEGP. The VEGP engineer in charge is the NSGM. The NSGM meets the requirements of ANSI N18.1-1971.

13.1.1.2.1.4 Vice President – Technical Support. The vice president – technical support reports directly to the president/CEO. This organization includes both project-specific and generic engineering support organizations. Additionally, the vice president – technical support is responsible for nuclear fuel and generic special projects. The vice president – technical support directs the vice president – engineering, the special projects general manager, and the nuclear fuel manager. Some specific responsibilities include:

A. Direct design engineering for plant modifications and provide project management for major improvement projects.

B. Assure that specialized engineering expertise is available as needed for normal operations and emergency situations.

support for plant operation, maintenance support, and implement the plant modification program and the quality control program.

Supervisors reporting to the engineering support manager determine when to call consultants and contractors for dealing with complex problems beyond the scope of available capabilities. The supervisors correspond closely to that identified as "engineer in charge" by ANSI 18.1-1971.

The health physics manager reports to the plant operations assistant general manager and is responsible for the radiation protection program. The health physics manager also ensures that appropriate monitoring devices and protective clothing are available and is responsible for radiation monitoring devices used by personnel entering the plant and for the maintenance of all required radiation exposure records of plant support and visiting personnel. Reporting to the health physics manager is the health physics staff.

The chemistry manager reports to the plant operations assistant general manager and is responsible for chemical and radiochemical activities at the plant. The chemistry manager is responsible for administrative control of effluent releases from the plant to ensure that the releases are maintained ALARA and within the required limits.

The chemistry support supervisor and plant chemist work under the direction of the chemistry manager and are responsible for performing chemical and radiochemical sample analyses, and for monitoring and maintaining the plant makeup water demineralizer to ensure proper water quality. Laboratory personnel advise operations staff on the operation of plant systems to maintain water quality within the specified limits.

The maintenance manager directs and plans maintenance activities with the assistance of other departments. The maintenance manager is also responsible for ensuring the building and grounds upkeep. Reporting to him are maintenance superintendents and team leaders. The team leaders and assistant team leaders direct the team technical staff, electricians, I&C technicians, and mechanics in the upkeep of equipment. The team leaders and assistant team leaders are responsible for directing technicians in testing, calibration, surveillance checks, and repair of plant instrumentation and control systems. A maintenance superintendent reporting to the maintenance manager also supervises a group of plant helpers who conduct minor maintenance, painting, and decontamination activities. The maintenance manager oversees outage craftsmen who are brought in during outages to supplement the permanent staff.

13.1.2.2.4 Quality Assurance and Quality Supervision

The NPGM is responsible for the development and implementation of the quality assurance program to comply with the OQAM with the exception of the controls assigned to the Quality Assurance (QA) organization ~~(chapter 17)~~. Reporting to the engineering support manager, the designated engineering supervisor will provide for inspection activities required by the quality assurance program. Personnel performing quality control inspections have procedural authority to stop work and to control further processing, use, or installation of nonconforming items.

The quality assurance manager (QAM), as described in ~~section 17.2 of the FSAR~~, is responsible for managing activities of the QA organization. The QA organization will provide a comprehensive independent audit of safety-related activities to verify that they are in compliance with the quality assurance program. The quality assurance program during operations is discussed in ~~section 17.2~~.

the QATR

the SNC Quality Assurance Topical Report (QATR)

13.2.1.1 Training Program Records

Records to document course completion and documentation of qualification are retained as quality records in accordance with Regulatory Guide 1.88, subject to the conditions specified in paragraph 1.9.88.1 and in accordance with paragraph 17.2.17.1, Records Retention.

the SNC Quality Assurance Topical Report (QATR).

13.2.1.2 Simulator

The VEGP simulator conforms to the guidance given in Regulatory Guide 1.149, Revision 1. The certification of the VEGP simulator as a plant-referenced simulator is complete and certification shall be maintained as described in 10 CFR 55.45 (b)(5). Exceptions to ANSI 3.5 are listed in the certification report filed with the NRC every 4 years.

13.2.1.3 Instructor Qualification

Accreditation of training programs includes criteria for qualification and requalification of instructors. In addition, the fire protection training instructor also meets the requirements outlined in paragraph 9B.C.3.d(2).

13.2.2 OTHER TRAINING PROGRAMS

13.2.2.1 GENERAL EMPLOYEE TRAINING PROGRAM

All persons regularly employed at VEGP are trained in the following areas commensurate with their job duties:

- Fitness for duty
- General plant description
- Radiological protection
- Emergency preparedness
- Industrial safety
- Fire protection
- Security
- Quality assurance

13.2.2.2 FIRE BRIGADE TRAINING

Personnel assigned to any fire brigade complete initial training and periodic retraining as designated by appendix 9B.

13.2.2.3 QUALITY CONTROL TRAINING PROGRAM

ASME NQA-1-1994

Plant personnel who perform quality control (QC) inspections, both receipt and in-plant, shall meet the minimum education and experience requirements of ~~ANSI N45.2.6-1978~~ as described in ~~subsection 1.9.58~~ prior to being certified to perform inspections. Initial training consists of quality assurance procedures training, codes and standards training, and on-the-job training. On-the-job training for receipt personnel and QC inspection personnel is based on job requirements. Initial training has a minimum duration of 40 h. QC inspection personnel and the engineering supervisor (programs) responsible for inspection activities must receive additional training in plant systems. QC inspection personnel will complete the plant systems training within 1 year of assignment to their position and the engineering supervisor must complete this training prior to being qualified. Material receipt inspection personnel are not required to receive additional training in plant systems.

After completing initial qualification, QC plant inspection and material receipt inspection personnel normally receive training annually to improve and maintain their inspection skills. This annual training will be in subjects applicable to their inspection duties and qualification.

the SNC Quality Assurance Topical Report (QATR)

INSERT V.19

13.4 OPERATIONAL REVIEW

Operating activities that affect nuclear safety are reviewed. The review program was implemented prior to initial fuel loading and ensures review and evaluation of tests and experiments, unplanned events, and proposed changes. The program complies with the requirements of 10 CFR 50.59 relating to proposed changes, tests, and experiments. This program is conducted following the recommendations of Regulatory Guide 1.33, Rev.2 1978, Quality Assurance Program Requirements (Operations), and ANSI N18.7-1976, Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants.

The nuclear plant general manager (NPGM) has responsibility for safe operation of the plant. He is kept abreast of plant operating conditions by the managers, superintendents, and supervisors who are knowledgeable of and experienced in their areas of job responsibility. These individuals monitor operating and maintenance activities as part of their normal duties.

In addition, a formal review program is carried out for changes to systems, procedures, tests, experiments, and after-the-fact review and evaluation of unplanned events that affect nuclear safety. The NPGM shall approve, prior to implementation, each proposed test, experiment, or modification to systems or equipment that affect nuclear safety. In addition to this requirement for NPGM approval as described above, this program is also implemented through standing committees, as referenced below.

the SNC Quality Assurance Topical Report (QATR)

13.4.1 ONSITE REVIEW

Refer to ~~paragraph 17.2.1.2.1~~ for discussion related to the Plant Review Board (PRB), which performs the onsite review function.

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V.19 in accordance with the requirements of the SNC Quality Assurance Topical Report (QATR).

Nuclear

the SNC Quality Assurance Topical Report (QATR)

13.4.2 INDEPENDENT REVIEW

Refer to ~~paragraph 17.2.1.1.1~~ for discussion related to the Safety Review Board (~~SRB~~), which performs the independent review function.

NSRB

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13.5 PLANT PROCEDURES

This section describes administrative, maintenance, and operating procedures that are used by the operating organization to ensure that routine, off-normal, and emergency activities are conducted in a safe manner. Operations affecting safety are conducted in accordance with detailed written and approved procedures.

13.5.1 ADMINISTRATIVE PROCEDURES

Administrative procedures provide rules, instructions, policies, practices, or guidelines for the plant staff. VEGP administrative procedures establish control which govern changes to programs and changes or modifications to systems or equipment affecting nuclear safety. These controls ensure that these programs and changes or modifications are independently reviewed by qualified personnel and approved by appropriate personnel.

13.5.1.1 Administrative Procedure Descriptions

A. Procedures for Preparation, Review, and Control of Procedures

the SNC Quality Assurance Topical Report (QATR).

These procedures establish the controls for the preparation, review, and control of plant procedures which cover activities ~~as~~ described in ~~Appendix A of Regulatory Guide 1.33, Rev. 2.~~

Included within these procedures are provisions to ensure that new or revised procedures are reviewed for adequacy by appropriately qualified personnel other than the originator. In accordance with these procedures, a reviewer shall acquire knowledge of the applicable requirements for a procedure and shall verify the proper incorporation of these requirements in the procedure; additionally, a reviewer shall assess whether the procedure or procedure revision potentially involves a change in the VEGP Technical Specifications or requires prior NRC approval pursuant to 10 CFR 50.59. The acceptability of procedure reviews is assured by the review and approval by the responsible VEGP department heads or their designee. Department heads shall further ensure that procedures ~~described in paragraph 17.2.1.2.1~~ are forwarded to the ~~Plant Review Board (~~PRB~~) for additional review~~.

requiring Plant Review Board (PRB) review in accordance with the SNC QATR

ASME NQA-1-1994, as described in the QATR

For procedures not forwarded to the PRB, reviewers will meet requirements of section 4.4 of ANSI N18.1-1971 for applicable disciplines. For those disciplines not described in section 4.4 of ANSI 18.1-1971, the reviewer will have a minimum of 5 years experience. A maximum of 4 years of this 5 years may be fulfilled by related technical or academic training. Reviewers of quality control inspection procedures shall meet the requirements of ~~Regulatory Guide 1.58~~. Also, those procedures not forwarded to the PRB and impacting another department's area of responsibility, shall be forwarded to the impacted departments for their review.

plant procedures

The nuclear plant general manager (NPGM) has ultimate responsibility for all plant procedures. Specific procedures for which NPGM approval is required are ~~discussed in paragraph 17.2.5.1.2~~. Department heads are established as the approving authority for other procedures covering activities within their area of responsibility. Additional guidance regarding this approval authority for specific procedures is provided in ~~paragraph 17.2.5.1.2~~.

plant procedures

Additional provisions of these procedures exist to ensure that changes or revisions to procedures are reviewed and approved in accordance with the same administrative controls used for review and approval of new procedures. A provision is made to ensure that EOPs and AOPs are reviewed at least every 2 years by a knowledgeable individual to determine whether changes are necessary or desirable.

the QATR

As a part of the overall quality assurance program, the QA group performs various audits (described in ~~section 17.2~~) to assure that the procedural process is working and that procedures are being properly maintained. Also, provisions exist to ensure that procedures, once approved, are distributed appropriately so that only the most current procedures are used by plant personnel.

B. Procedures for Making Temporary Changes to Procedures

This procedure provides the method for making a temporary change to an approved plant procedure.

Included in this procedure is a provision to ensure that any such change be approved by at least two knowledgeable members of the plant staff, one of whom shall hold a senior operator license. Also included in this procedure is a provision to ensure that temporary changes to procedures are documented and incorporated as appropriate into the next revision of the procedure.

the QATR

Additional guidance regarding temporary changes to procedures for specific procedures is provided in ~~paragraph 17.2.5.1.3~~.

C. Procedures for Feedback of Operating Experience

These procedures include measures to ensure that pertinent operating experience information originating from both within and outside of the plant organization is fed back to operators and other appropriate personnel in accordance with NUREG-0737, item I.C.5. This information can include industry event reports, vendor reports, inhouse event reports, and Nuclear Regulatory Commission publications. These procedures establish management responsibility for direction, control, and administration of the operations assessment program. Included in these procedures is the identification of organizational responsibilities for reviewing and prioritizing operating experience, and for ensuring distribution of pertinent information to the appropriate plant personnel. Steps exist to ensure that information is reviewed by individuals of appropriate technical knowledge and that appropriate corrective actions (such as procedure or program revisions), if needed, are specified. The procedures include steps which ensure records are maintained to reflect the status and disposition of operating experience evaluations and their associated corrective actions. Completion status and followup verification status of completed action is tracked to ensure implementation. Additional steps ensure that plant personnel do not routinely receive a large volume of operating experience that might obscure the lessons to be learned from more significant events, and also that the program receives periodic evaluation for effectiveness.

13.5.2 OPERATING AND MAINTENANCE PROCEDURES

13.5.2.1 Operating Procedures

These procedures are for operation of plant equipment. These procedures are developed and provided to ensure an effective system for verifying the correct performance of operating activities and to reduce human error. These procedures meet the intent of NUREG-0737, item I.C.6. Conformance of these procedures with ~~Regulatory Guide 1.33 is discussed in section 1.9.~~

Although format can be varied depending on their nature, these procedures usually have the following format:

ASME NQA-1-1994 is discussed in the SNC Quality Assurance Topical Report (QATR).

The purpose for which the procedure is intended is to be briefly and clearly stated.

2.0 PRECAUTIONS AND LIMITATIONS

Precautions are to be established to alert the individual performing the task of those important measures which will be used to protect equipment and personnel, or will serve to avoid an abnormal or emergency situation.

Limitations on the parameters being controlled and appropriate corrective measures to return the parameter to normal are established. Control band may be specified where applicable.

3.0 PREREQUISITES OR INITIAL CONDITIONS

Each procedure will identify those independent actions or procedures which must be completed, or those plant conditions which must exist, prior to its use. Prerequisites applicable only to certain sections of a procedure will be so identified.

4.0 MAIN BODY

The main body of a procedure will contain step by step instructions in the degree of detail necessary for a qualified person performing a function or task.

Subsections of this section will vary according to procedure type. Format for each procedure type will be consistent.

13.5.2.3.2 Program

The Process Control Program (PCP) is described below.

A. The PCP shall contain the current formulas, sampling, analyses, tests, and determinations to be made to ensure that processing and packaging of solid radioactive wastes based on demonstrated processing of actual or simulated wet solid wastes will be accomplished in such a way as to assure compliance with 10 CFR Parts 20, 61, and 71, State regulations, burial ground requirements, and other requirements governing the disposal of solid radioactive waste.

B. Licensee-initiated changes to the PCP:

1. Shall be documented and records of reviews performed shall be retained as required by paragraph ~~17.2.17.1.3.c~~. This documentation shall contain:

13.7.1

a. Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s), and

b. A determination that the change will maintain the overall conformance of the solidified waste product to existing requirements of Federal, State, or other applicable regulations.

2. Shall become effective after review and acceptance by the PRB and the approval of the nuclear plant general manager.

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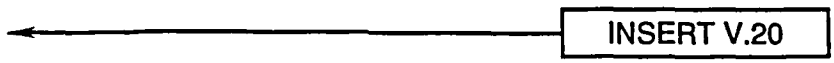
13.6 INDUSTRIAL SECURITY

A description of the physical security program for VEGP Units 1 and 2 has been provided to the Nuclear Regulatory Commission as a separate part of the application which is withheld from public disclosure pursuant to paragraph 10 CFR 2.790(d), Rules of Practice.



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13.7 Plant Records

Records documenting the quality of the design, construction, testing, operation, maintenance, and modification of the Vogtle Electric Generating Plant (VEGP) are maintained at the plant site. The records are stored and maintained in accordance with the requirements of Criteria XVII of Appendix B of 10 CFR 50 as described in the SNC Quality Assurance Topical Report (QATR).

13.7.1 Record Retention

In addition to the applicable record retention requirements of Title 10, Code of Federal Regulations, the following records shall be retained for at least the minimum period indicated.

The following records shall be retained for at least 5 years:

A. Records and logs of plant operation covering time interval at each power level;

B. Records and logs of principal maintenance activities, inspections, repair, and replacement of principal items of equipment related to nuclear safety;

C. All reportable events;

D. Records of surveillance activities, inspections, and calibrations required by technical specifications;

E. Records of changes made to the procedures required by paragraph 17.2.5.1.1;

F. Records of radioactive shipments;

G. Records of sealed source and fission detector leak tests and results; and

H. Records of annual physical inventory of all sealed source material of record.

The following records shall be retained for the duration of the plant operating license:

A. Records and drawing changes reflecting plant design modifications made to systems and equipment described in the FSAR;

B. Records of new and irradiated fuel inventory, fuel transfers, and assembly burnup histories;

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V.20 (Continued)

C. Records of radiation exposure for all individuals entering radiation control areas;

D. Records of gaseous and liquid radioactive material released to the environs;

E. Records of transient or operational cycles for those plant components identified in table 3.9.N.1-2;

F. Records of reactor tests and experiments;

G. Records of training and qualification for current members of the plant staff;

H. Records of inservice inspections performed pursuant to the VEGP inservice inspection program;

I. Records of quality assurance activities required by the FSAR;

J. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59;

K. Records of meetings of the PRB and SRB;

L. Records of the service lives of all hydraulic and mechanical snubbers required by the technical requirements manual, including the date at which the service life commences and associated installation and maintenance records;

M. Records of secondary water sampling and water quality;

N. Records of analyses required by the radiological environmental monitoring program that would permit evaluation of the accuracy of the analysis at a later date. This should include procedures effective at specified times and QA records showing that these procedures were followed; and

O. Records of reviews performed for change made to the offsite dose calculation manual (ODCM) and the process control program (PCP).

14.2.3 CONFORMANCE OF TEST PROGRAM WITH REGULATORY GUIDES

The initial test program for VEGP Units 1 and 2 is, in general, consistent with the requirements of Regulatory Guide 1.68. The following is a list of regulatory guides that are specifically associated with VEGP's initial test program and will be conformed with except as noted in FSAR section 1.9:

A. Regulatory Guide 1.18, Structural Acceptance Test for Concrete Primary Reactor Containments.

B. Regulatory Guide 1.20, Comprehensive Vibration Assessment Program for Reactor Internals During Preoperational and Initial Startup Testing.

C. Regulatory Guide 1.30, Quality Assurance Requirements for the Installation, Inspection, and Testing of Instrumentation and Electric Equipment (Safety Guide 30).

D. Regulatory Guide 1.37, Quality Assurance Requirements for Cleaning of Fluid Systems and Associated Components of Water-Cooled Nuclear Power Plants.

E. Regulatory Guide 1.41, Preoperational Testing of Redundant Onsite Electric Power Systems to Verify Proper Load Group Assignments.

F. Regulatory Guide 1.52, Design, Testing, and Maintenance Criteria for Engineered Safety Features Atmosphere Cleanup System Air Filtration and Absorption Units of Light-Water-Cooled Nuclear Power Plants.

G. Regulatory Guide 1.68, Initial Test Programs for Water-Cooled Nuclear Power Plants.

H. Regulatory Guide 1.68.2, Initial Startup Test Program to Demonstrate Remote Shutdown Capability for Water-Cooled Nuclear Power Plant.

I. Regulatory Guide 1.68.3, Preoperational Testing of Instrument and Control Air Systems.

J. Regulatory Guide 1.79, Preoperational Testing of Emergency Core Cooling Systems for Pressurized Water Reactors.

K. Regulatory Guide 1.95, Protection of Nuclear Power Plant Control Room Operators Against an Accidental Chlorine Release.

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L. Regulatory Guide 1.108, Periodic Testing of Diesel Generators Used as Onsite Electric Power Systems at Nuclear Power Plants.

M. Regulatory Guide 1.116, Quality Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Systems.

N. Regulatory Guide 1.129, Maintenance Testing and Replacement of Large Lead Storage Batteries for Nuclear Power Plants.

O. Regulatory Guide 1.139, Guidance for Residual Heat Removal (For Comment).

P. Regulatory Guide 1.140, Design, Testing, and Maintenance Criteria for Normal Ventilation Exhaust System Air Filtration and Absorption Units of Light-Water-Cooled Nuclear Power Plant.

INSERT V.21

17.2 OPERATIONS QUALITY ASSURANCE PROGRAM

Southern Nuclear Operating Company (SNC) has established a total quality program to maintain standards of quality covering the engineering, design, procurement, manufacturing, construction, testing, maintenance, repair, refueling, and modifications of applicable structures, components, and systems for VEGP. As the exclusive operating licensee, SNC assumes full responsibility for the quality program and will take appropriate action to guarantee that VEGP is designed, constructed, and operated with sound engineering principles and safe operating practices.

The responsibility for establishing the operations quality assurance program policies, goals, and objectives, as summarized below, is vested in the vice president-project (Vogtle).

A. All participants in the quality assurance program, including suppliers and contractors, shall meet appropriate sections of 10 CFR 50, Appendix B criteria.

B. The program described herein shall be documented by written procedures or instructions, appropriate to the circumstances.

C. The quality assurance program shall provide control over activities affecting the quality of structures, systems, and components consistent with their importance to safety.

D. Activities affecting quality shall be accomplished under controlled conditions which include the use of appropriate equipment, suitable environmental conditions, and assurance that prerequisites for the given activity have been satisfied.

E. The quality program shall take into account the need for special controls, processes, test equipment, tools, and skills to attain the required quality.

F. Verification of conformance to established requirements shall be accomplished by individuals or groups who do not have direct responsibility for performing the work being verified.

G. The quality program shall provide for indoctrination and training of personnel performing activities affecting quality, as necessary, to ensure that suitable proficiency is achieved and maintained.

H. Management shall regularly review the status, adequacy, and implementation of the quality program through direct oversight and the quality assurance auditing process.

This section describes the operations quality assurance program (OQAP) for VEGP and SNC. It defines responsibility and authority and prescribes measures for the control and accomplishment of activities affecting the quality of safety-related structures, systems, and components of VEGP. The OQAP requirements herein are implemented in approved procedures, which provide requirements for the performance of safety-related activities. The OQAP is implemented by SNC and executed by various responsible parties to ensure the plant's safe and reliable operation and to satisfy the quality assurance requirements of Appendix B of 10 CFR 50, as delineated in Regulatory Guide 1.33, Revision 2, Quality Assurance Program Requirements (Operation). American National Standards Institute N18.7-1976, Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants, was used for guidance in developing the OQAP.

The organizational structure of SNC is described in section 13.1. The following subsection amplifies upon section 13.1 with regard to establishment and execution of the OQAP.

Vogtle Electric Generating Plant

FSAR Inserts
LDCR 2006-012

V.21 The operations phase quality assurance program for Vogtle Electric Generating Plant (VEGP) is designed to assure the plant's safe and reliable operation and to satisfy the quality assurance (QA) requirements of Appendix B to 10 CFR Part 50. The quality assurance program applicable to operation phase activities for VEGP is described in the Southern Nuclear Operating Company (SNC) Quality Assurance Topical Report (QATR). Quality assurance program requirements formerly contained in VEGP FSAR Section 17.2 are superseded by those contained in the SNC QATR.

17.2.1 ORGANIZATION

The principal elements implementing the OQAP are as follows:

- Corporate organization.
- Nuclear support organization.
- Plant organization.
- Quality Assurance (QA).

Figure 17.2.1-1 shows the relationship of the above elements involved in the OQAP.

17.2.1.1 Corporate Organization

The vice president - project (Vogtle) is the final management authority responsible for the development, implementation, changes to, and review of the OQAP. These responsibilities are accomplished through the organization shown in figure 17.2.1-1 and are discussed in the following paragraphs.

The vice president - project (Vogtle) is responsible to the president/CEO through the executive vice president for the effective implementation of the quality assurance program for operation of the VEGP. The nuclear plant general manager reports to the vice president - project (Vogtle) and is responsible for the day-to-day operation of the VEGP.

The vice president - project (Vogtle) regularly assesses the scope, adequacy, and compliance of the OQAP to 10 CFR 50, Appendix B, through a combination of direct oversight, frequent meetings with the quality assurance manager (QAM), review of safety review board activities, and assessment of quality assurance audits.

A periodic audit of the effectiveness of the quality assurance auditing program is performed and results are reported to the vice president – project (Vogtle). The frequency shall be in accordance with audit frequency requirements in paragraph 17.2.18.1.D.

Refer to chapter 13 for more details of the nuclear operations corporate organization.

17.2.1.1.1 Safety Review Board

17.2.1.1.1.1 General. The safety review board (SRB) shall advise the executive vice president (EVP) on matters related to nuclear power plant safety for all SNC plants and Corporate activities. The SRB 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
- Administrative controls and quality assurance practices
- Other appropriate fields associated with the unique characteristics of the nuclear power plants such as the independent spent fuel storage facility operation

The SRB shall report to and advise the EVP on those areas of responsibility specified in paragraphs below (Reviews and Audits), and other areas as may be assigned. The SRB shall meet the requirements of ANS 3.2/ N18.7-1976 for the Independent Review Program.

17.2.1.1.1.2 Membership. The Board shall consist of at least five regular members, appointed in writing by the EVP, with no more than a minority of the members representing the onsite operating organization of any specific plant. The minimum membership of the board will consist of the vice president – Farley, the vice president – Hatch, the vice president – Vogtle, the vice president – engineering, the nuclear fuel manager, and the quality assurance manager. A chairman and a vice chairman shall be appointed by the EVP from among the plant vice presidents for a term of 1 year.

Alternate members of the SRB shall be appointed in writing by the EVP to serve on a temporary basis for a specific member. The use of alternates shall be restricted to legitimate absences of regular members. In the absence of the SRB chairman, the vice chairman will assume the duties of the SRB chairman.

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

The SRB shall be composed of members who, as a group, provide the 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 and each member of the SRB, as a minimum, have a bachelor's degree in engineering or related sciences and 5 years of technical experience of which at least 3 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
- Administrative controls and QA practices

Subcommittees may be appointed by the SRB chairman to perform designated activities. Subcommittee actions shall be reported to and acted on by the SRB. Subcommittee chairmen will be members or alternate members of the SRB.

Termination of membership on the SRB shall be authorized in writing by the EVP.

17.2.1.1.1.3 Meetings. The SRB shall meet at least once per 6 months.

The quorum of the SRB necessary for the performance of the SRB review functions described below shall consist of the chairman or the vice chairman and at least a majority of the SRB 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 SRB activities at any one time.

17.2.1.1.1.4 Reviews. The SRB shall be responsible for the review of:

A. The 10 CFR 50.59 and 10 CFR 72.48 evaluations for:
   1. Changes to procedures, equipment, or systems; and
   2. Tests or experiments completed under the provision of 10 CFR 50.59 or 10 CFR 72.48 to verify that such actions did not require prior NRC approval.

B. Proposed changes to procedures, equipment, or systems which require prior NRC approval pursuant to 10 CFR 50.59 or 10 CFR 72.48.

C. Proposed tests or experiments which require prior NRC approval pursuant to 10 CFR 50.59 or 10 CFR 72.48.

D. Proposed changes to the plant or Independent Spent Fuel Storage Installation (ISFSI) Technical Specifications or licenses.

E. Violations of codes, regulations, orders, Technical Specifications, license requirements, or of internal procedures or instructions having nuclear safety significance or abnormal degradation of systems designed to contain radioactive material.

F. Significant operating abnormalities or deviations from normal and expected performance of plant or ISFSI equipment that affect nuclear safety.

G. All reportable events.

H. All recognized indications of an unanticipated deficiency in some aspect of design or operation of structures, systems, or components that could affect nuclear safety.

I. Performance of the Plant Review Board.

17.2.1.1.1.5 Audits. Audits of plant activities shall be performed under the cognizance of the SRB. The audits to be performed are discussed in paragraph 17.2.18.1.

17.2.1.1.1.6 Records. Records of SRB activities shall be prepared, approved, and distributed as indicated below:

A. Minutes of each SRB meeting shall be prepared, approved, and forwarded to the EVP within 14 days following each meeting.

B. Reports or subcommittee meeting minutes of reviews as described above shall be prepared, approved, and forwarded to the EVP within 14 days following completion of the review.

C. Audit reports as described above shall be forwarded to the EVP and to the management positions responsible for the areas audited within 30 days after completion of the audit by the auditing organization.

17.2.1.1.2 Nuclear Support

The nuclear support general manager (Vogtle) reports to the vice president-project (Vogtle) and is responsible for providing support services for the operation of VEGP in accordance with the OQAP.

17.2.1.2 Plant Organization

The plant staff (as described in this chapter and in chapter 13) will perform safety-related activities in accordance with written, approved procedures. Quality assurance requirements will be included in detailed plant procedures. The managers, superintendents, and supervisors in the VEGP organization will be responsible for implementation of the OQAP for activities under their purview. The nuclear plant general manager will regularly assess the workload of all departments involved in the OQAP to ensure that a sufficient number of personnel are available for complete and efficient implementation.

Refer to chapter 13 for more details of plant staff organization and responsibilities. Specific discussion of PRB organization and responsibilities follows.

17.2.1.2.1 Plant Review Board (PRB)

The Plant Review Board (PRB) serves as a review and advisory group to the NPGM. The PRB reviews plant administration, maintenance, and operations related to nuclear safety and environmental aspects; ensures these activities are consistent with company policy, approved procedures, and operating license provisions; and makes recommendations to the NPGM on matters brought before it.

The PRB is composed of department superintendents or managers, or supervisory personnel reporting to department superintendents or managers, from the departments listed in paragraph 17.2.1.2.1.2 below. The qualification levels for the PRB members are at least equivalent to those described for supervisors as listed in table 13.1.3-1. For supervisors not listed in table 13.1.3-1, the individual shall have a minimum of 5 years of power plant experience

of which 4 years may be substituted by a bachelor's degree in engineering or related science and of which 1 year is nuclear experience.

Collectively, these members possess the type and degree of expertise required to review unplanned events and proposed changes to systems, procedures, tests, and experiments that affect nuclear safety. The chairman, his/her alternate, and other members of the PRB are designated by the NPGM. The minimum quorum of the PRB consists of the PRB chairman or his/her designated alternate and four members (including not more than two voting alternates). The PRB meets at least once per calendar month and as convened by the PRB chairman or his/her designated alternate.

Further detail of the policies for the PRB is provided in the following discussion. Plant procedures implement these policies for the PRB and also contain other necessary detail regarding the activities and duties of the PRB.

17.2.1.2.1.1 Function. The PRB shall function to advise the NPGM on all matters related to nuclear safety.

17.2.1.2.1.2 Composition. The PRB shall be composed of at least five but no more than nine department superintendents or managers, or supervisory personnel reporting directly to department superintendents or managers, including representation from the functional areas listed below:

- Operations.
- Maintenance.
- Health physics and chemistry.
- Engineering.

The plant health physicist or plant chemist is acceptable for the health physics and chemistry PRB representative. The chairman, his/her alternate, and other members and their alternates of the PRB shall be designated by the NPGM.

17.2.1.2.1.3 Alternates. No more than two alternates shall participate as voting members in PRB activities at any one time.

17.2.1.2.1.4 Meeting Frequency. The PRB shall meet at least once per calendar month and as convened by the PRB chairman or his/her designated alternate.

17.2.1.2.1.5 Quorum. The quorum of the PRB necessary for the performance of the PRB responsibility and authority provisions of these requirements (paragraph 17.2.1.2.1) shall consist of the chairman or his/her designated alternate and four members including alternates.

17.2.1 2.1.6 Responsibilities.

The PRB shall be responsible for:

A. Review of:

1. Procedures which establish plant-wide administrative controls to implement the QA program or technical specifications surveillance program;
2. Procedures for changing plant operating modes,
3. Emergency and abnormal operating procedures,
4. Procedures for effluent releases of radiological consequences, and
5. Fuel handling procedures

B. Review of:

1. The following programs and changes thereto:
   a. Primary coolant sources outside containment
   b. In-plant radiation monitoring
   c. Secondary water chemistry
   d. Deleted
   e. Post-accident monitoring instrumentation
   f. Radioactive effluent controls
2. Proposed procedures and changes to procedures which require prior NRC approval pursuant to 10 CFR 50.59.

C. Review of all proposed tests and experiments that affect nuclear safety;

D. Review of all proposed changes to the Technical Specifications;

E. Review of all proposed changes or modifications to plant systems or equipment that affect nuclear safety, including proposed changes to chapter 16.3;

F. Investigation of all violations of the technical specifications, including the preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence, to the vice president-project (Vogtle) and to the SRB.

G. Review of all reportable events;

H. Review of plant operations to detect potential hazards to nuclear safety;

I. Performance of special reviews, investigations, or analyses and reports thereon as requested by the NPGM or the SRB;

J. Review of the Security Plan and implementing procedures and submittal of recommended changes to the NPGM and the SRB;

K. Review of the Emergency Plan and implementing procedures and submittal of recommended changes to the NPGM and the SRB;

L. Review of any accidental, unplanned, or uncontrolled radioactive release including the preparation of reports covering evaluation, recommendations, and disposition of the corrective action to prevent recurrence and the forwarding of these reports to the vice president-project (Vogtle) and to the SRB;

M. Review of changes to the PCP, the ODCM, and the radwaste treatment systems.

17.2.1.2.1.6.1 The PRB shall:

A. Recommend in writing to the NPGM approval or disapproval of items considered under paragraph 17.2.1.2.1.6.1.A through E prior to their implementation;

B. Render determinations in writing with regard to whether or not each item considered under paragraph 17.2.1.2.1.6.1.A through F requires prior NRC approval; and

C. Provide written notification within 24 hours to the vice president - project (Vogtle) and the SRB of disagreement between the PRB and the NPGM; however, the NPGM shall have responsibility for resolution of such disagreements pursuant to Technical Specification 5.1.1.

17.2.1.2.1.7 Records. The PRB shall maintain written minutes of each PRB meeting that, at a minimum, document the results of all PRB activities performed under the responsibility provisions of these requirements. A copy shall be provided to the SRB.

17.2.1.3 Quality Assurance

QA under the direction of the QAM has been established to provide a comprehensive independent audit program to verify that safety-related activities are performed and controlled in compliance with the OQAP. The audit program will be conducted by the quality assurance supervisor (QAS) and staff stationed at the VEGP, and the corporate QAS and staff located in the general office.

QA is independent of the nuclear support and VEGP plant staffs. The QAM reports to the executive vice president. (See figure 17.2.1-1.)

The qualifications for QA personnel meet the requirements of Regulatory Guide 1.146, Qualification of Quality Assurance Program Audit Personnel for Nuclear Power Plants, as described in section 1.9.

The minimum qualification for the QAM is to hold an engineering or related science degree and have a minimum of 5 years experience in the areas of engineering, field construction, or plant operation. Two of these 5 years must involve working under a nuclear quality assurance program.

The size of the QA organization is based on meeting the commitment for the required audits and on experience gained at the Hatch and Farley Nuclear Plants. The approximate size of the site QA organization is eight technical people for two unit operation.

The corporate QAS and staff provide technical and administrative support to onsite QA in the performance of its assigned responsibilities.

As a result of the consolidation of SCS and SNC nuclear expertise, and in addition to being the licensee, SNC also serves as its own architect/engineer (A/E). The corporate QAM and staff carry out the audit function of safety-related activities performed by the engineering organization.

17.2.1.3.1 Quality Assurance Manager

The QAM reports to the executive vice president.

The QAM, located at the corporate office, is responsible for assuring implementation of the OQAP and for managing activities of the QA organization. The QAM can effectively assure conformance to the quality assurance requirements and is sufficiently independent from cost and schedule concerns when opposed to safety considerations. The QAM has a corporate QAS with staff at the corporate office and a QAS with staff located at the site to conduct quality assurance activities. The QAM has been given authority by the executive vice president to stop work on the VEGP site, in a timely manner, which is not being performed in accordance with the provisions of the OQAP. The QAM keeps management informed on the effectiveness and implementation of the OQAP through direct interface and distribution of audit reports and other documents.

Specific duties and responsibilities of the QAM are as follows:

A. Manages the QA organization.

B. Develops the QA portions of OQAP to conform to approved policies.

C. Maintains close liaison with the vice president-project (Vogtle) to ensure that program policies and procedures are being implemented and enforced.

D. Keeps the vice president - project (Vogtle) informed orally on routine matters, but reports significant items immediately, both orally and in writing. In addition, major audit reports, including summaries of audits by major contractors, are forwarded to the vice president - project (Vogtle).

E. Informs management of quality assurance activities through distribution of audit reports and other correspondence.

F. Reviews and concurs with quality assurance programs of SNC, contractors (Gaithersburg Regional Office of Bechtel Power Corporation (Bechtel), Westinghouse, and plant contractors) including changes thereto prior to the start of work governed by such programs.

G. Audits or verifies accomplishment of delegated audits of the quality assurance programs of SNC, Bechtel, Westinghouse, and suppliers of materials, equipment, or services, to ensure compliance with approved quality assurance programs and procedures.

H. Assures that site activities conform to quality assurance program requirements and procedures.

I. Assures that audit and monitoring requirements are carried out on project quality-related functions.

J. Ensures the proper implementation of the supplier quality surveillance functions/activities and changes thereto.

K. Ensures that review, audit, reporting, and record-keeping requirements of the SRB are accomplished in accordance with license commitments.

L. Ensures the availability of adequate technical support to the SRB.

17.2.1.3.2 Quality Assurance Supervisor

Located at the plant site and reporting to the QAM, the QAS directs the onsite QA group.

The QAS will assist in the review of administrative procedures for comment as requested by the QAM. The QAS will develop QA procedures to be approved by the QAM and utilized in the performance of his/her activities. The QAS will serve as a nonvoting member of the PRB, which is discussed in subsection 17.2.15. The QAS has the responsibility and authority to identify problems, recommend solutions, and verify corrective actions. The QAS will also provide input for an onsite operations QA indoctrination program as described in subsection 17.2.2. Copies of all site QA audits and verifications will be sent to the QAM.

17.2.1.3.3 Quality Assurance (Onsite)

The QA staff will selectively audit those quality-related activities that are within the scope of the OQAP, as described in subsection 17.2.2, to verify compliance with the requirements of the OQAP. These consist of activities performed onsite and those performed offsite in support of VEGP when directed. The results of all such audits will be reported to the organization audited and the vice president - project (Vogtle).

QA personnel have written authority to stop work on a system, structure, or component that affects nuclear safety if the work is not in accordance with provisions of the OQAP. Disputes arising from differences of opinion between QA personnel and other department personnel will be resolved by the lowest level of management possible. If necessary, the executive vice president will make the final disposition. The QAM shall regularly assess the QA workload to ensure a sufficient number of personnel are available for complete and efficient implementation of their quality assurance responsibilities. Specific duties and responsibilities of the QA onsite group (headed by the QAS) are as follows:

A. Prepares annual schedule and performs planned audits of organizations and activities (and contractors).

B. Provides the QAM with information onsite activities on a routine basis.

C. Maintains open-items list of QA onsite group audit results; follows up until resolved and closed out.

D. QA participates in the development process for plant procedures by evaluating procedure adequacy and implementation in the QA audit program and through its nonvoting membership in the Plant Review Board.

E. To assure that controls are in place to effectively maintain plant procedures, the QA staff will perform a biennial audit of plant procedures and the procedural development and maintenance program utilizing a representative sampling process. The audit will ensure the acceptability of the procedures and verify that the procedure review and revision program is being implemented effectively. The root cause of significant deficiencies will be determined and corrected.

Quality assurance review personnel have access to meetings where quality matters are discussed. The QAM shall designate the types of meetings his staff or representative(s) from his staff will routinely attend, including day-to-day work planning meetings and staff meetings.

17.2.1.4 Vogtle Support Manager

The Vogtle support manager reports to the vice president - technical support through the plant support manager and the vice president – engineering. The Vogtle support manager provides matrixed accountability to the nuclear support general manager. The Vogtle support manager is

responsible for assuring that adequate engineering and technical support are provided for VEGP. He/she also maintains oversight of the engineering work performed in plant support to ensure it meets QA program requirements.

Southern Company Services, Inc. (SCS) was the A/E for VEGP during initial operation. As a result of the consolidation of SCS and SNC nuclear expertise, and in addition to being the licensee, SNC also serves as its own A/E. The corporate QAM and staff carry out the audit function of safety-related activities performed by the engineering organization.

In addition to providing design engineering/modification support as requested, SNC provides quality assurance support, including audits, supplier qualification and surveillances, and engineering procedure reviews. SNC also administers for VEGP the contract for engineering services provided by Bechtel and selected engineering services provided by Westinghouse. Activities within this work scope are governed by SNC Work Procedures and the Support Services Quality Assurance Policy Manual. These activities, as well as A/E activities performed by others under contract to SNC, will meet the requirements of the OQAP. The QAM performs or causes to be performed audits of these functions.

Bechtel is under contract to SNC to provide A/E services for structures, systems, and components assigned to them by SNC. The work scope includes plant design, development of purchase recommendations, and support of the SNC supplier surveillance functions by providing procurement surveillance services for selected items. All engineering work is performed in accordance with SNC Work Procedures.

The GPC System Protection and Control Department is responsible for the development and implementation of the protection policy for the GPC transmission system and distribution substations. SNC Engineering is responsible for the development and implementation of the protection policy for the nuclear generating plants including the development of protective relay applications and settings for 13,800-V and 4160-V safety-related systems. SNC Engineering also provides 480-V protective device setpoints where necessary to provide coordination between the 4160-V and 480-V safety-related systems. VEGP site engineering is responsible for the development and implementation of the protective settings for the 480-V safety-related systems. The procedures governing protective relaying activities are part of the design change process which is periodically audited by the QAM.

17.2.1.5 Supply Chain Management

The supply chain general manager (SCGM) reports to the chief financial officer and vice president – corporate services and is responsible for procurement, receipt, storage, and shipping. Supply chain management activities are governed by the SNC Support Services Quality Assurance Policy Manual. The SCGM provides matrixed accountability to the vice president – project (Vogtle). In addition to the responsibilities for the VEGP, the SCGM is similarly responsible for supply chain management for the Farley Nuclear Plant and the Hatch Nuclear Plant.

17.2.1.6 Environmental Affairs Manager

The environmental affairs manager reports to the vice president and general counsel and is responsible for managing environmental issues such as radiological environmental, nonradiological environmental, dose and shielding calculations, and low-level radioactive wastes.

17.2.2 OPERATIONS QUALITY ASSURANCE PROGRAM

The operations quality assurance program (OQAP) requirements and controls are established to comply with the requirements of 10 CFR 50, Appendix B, and 50.54a, as described in the Final Safety Analysis Report.

The policies, goals, and objectives of the OQAP are established in section 17.2. The items to be covered under the OQAP are designated as "Q" items and are listed for general guidance in table 3.2.2-1. This list was prepared and kept current by the architect/engineer during plant design, construction, and startup, and is now maintained by Nuclear Support through the Technical Support group. The following guidance is considered when specifying quality requirements:

- The importance of malfunction or failure of the item to plant safety or reliability.
- The design and fabrication complexity or uniqueness of the item.
- The need for special controls and surveillance over process and equipment.
- The degree to which functional compliance can be demonstrated by inspection or test.
- The quality history and degree of standardization of the item.

Safety-related activities will be carried out under suitably controlled conditions, including use of written, approved procedures and appropriate equipment, proper environmental conditions, and assurance that prerequisites have been satisfied. Quality-affecting procedures required for the administration of the OQAP are reviewed for consistency with program commitments and corporate policies and are properly documented and controlled. These policies are documented and approved by the nuclear plant general manager. Quality policies and procedures are mandatory requirements which must be implemented and enforced. Documented procedures control the actions of the various organizations involved, such as QA, quality control, engineering, and operations, including actions to determine the extent of quality assurance control to be applied. These activities include but are not limited to certain aspects of the following as they apply to safety-related structures, equipment, and systems:

- Administrative controls and reporting requirements.
- Health physics and radiation protection.
- Environmental monitoring and environmental technical specifications.
- Plant chemistry.
- Radioactive waste control.
- Reactor and plant operations.
- Materials control (procurement, storage, and issue).
- Quality control (nondestructive examination, inspection, etc.).

- Surveillance program.
- Test equipment calibration and control.
- Security Plan and procedures.
- Emergency Plan and procedures.
- Design changes and plant modification control.
- Departmental training programs.
- Maintenance programs.
- Fuel handling and special nuclear material control.
- Inservice inspection program.
- Procedure control and review.
- Records management and document control.
- Fire protection program (subsection 9.5.1).
- Corrective action programs.
- Computer code programs.

Measures shall be established to ensure that major contractors performing safety-related activities at or in association with VEGP have an adequate quality assurance/quality control program commensurate with the scope of their activities. Applicable sections of American National Standards Institute N18.7-1976 will be required of contractors and suppliers to the degree necessary to ensure compliance with the OQAP.

It is the responsibility of SNC and Southern Company Services, Inc., to comply with the OQAP for plant-associated activities, such as procurement, qualification of suppliers, new plant design, and the necessary redesign or evaluation of any of the safety-related systems, structures, or components.

As delegated by management, the nuclear plant general manager shall have the overall site responsibility for developing and implementing the OQAP with the exception of controls that are assigned to QA. The Quality Assurance group conducts independent audits of quality activities, as necessary, to assess the scope, status, implementation, and effectiveness of the OQAP. These audits will be conducted in accordance with predetermined schedules, with audit results documented in reports and a followup system utilized to ensure corrective action is taken when necessary and to verify implementation. The QA supervisor (Vogtle) transmits the results of the audit findings to the vice president - project (Vogtle).

Measures shall be provided for indoctrination and training of personnel performing safety-related activities to ensure that high levels of quality are attained in job performance which complies with SNC quality policies and procedures. (See section 13.2 for training description.)

Quality assurance personnel, in accordance with QA procedures, will receive formal and on-the-job training in quality assurance policies, requirements, procedures, techniques, plant operation,

maintenance, nonconformance control, and auditing. These procedures also prescribe methods for documenting the accomplishment of training.

Records of training and qualifications of QA personnel will be maintained by the QAM and will document compliance with appropriate requirements. Personnel of departments other than QA, in addition to the training described in section 13.2, will receive indoctrination which includes quality assurance policies and procedures. In addition to this indoctrination, plant operators, engineering personnel, maintenance personnel, quality control personnel, and health physics personnel will receive instruction in their areas of the OQAP. The plant training and emergency preparedness manager will schedule, evaluate, and maintain records of training and indoctrination of plant personnel. Records of training programs shall be maintained as discussed in section 13.2.

Changes that reduce commitments to the OQAP will be submitted in writing to the Nuclear Regulatory Commission (NRC) for approval prior to implementation.

Changes to the OQAP description that do not reduce the commitments will be submitted to the NRC at least every 18 months, consistent with the current FSAR revision cycle.
The commitments of this subsection are audited according to the quality assurance audit program, which is described in subsection 17.2.18.

17.2.3 DESIGN CHANGE CONTROL

Measures are established to ensure that, for design activities associated with modifications to the operating plant, applicable regulatory requirements for design bases are properly translated into specifications, drawings, and procedures. The quality assurance requirements for design change control are consistent with the position of Regulatory Guide 1.64, Quality Assurance Requirements for the Design of Nuclear Power Plants, as discussed in section 1.9.

Plant management shall have the responsibility for controlling, approving, and implementing plant design modifications. Written procedures will identify the positions or organizations responsible for design verification and define their authority and responsibility. The plant review board shall review all proposed modifications to safety-related systems to determine whether prior NRC approval pursuant to 10 CFR 50.59 is required. 10 CFR 50.59 evaluations of design changes and procedure changes for safety-related systems shall be reviewed by the safety review board.

If plant management determines that engineering assistance is required, the change request shall be forwarded to an appropriate engineering organization for evaluation. The detailed engineering will be performed by an approved architect/engineering organization. The responsible engineering organization including the verifier shall have access to pertinent background information, have demonstrated competence in the specific design area, and have an understanding of the requirements of the original design.

Design procedures shall be approved by the appropriate authorities before any design modifications are performed. These procedures will also ensure that the design control is commensurate with the original design and that proper design review and verification are performed. Measures are provided to ensure that the designer is provided with the latest revisions to drawings, specifications, and other applicable design documents.

Design changes made to VEGP are accomplished in a planned and controlled manner in accordance with written, approved procedures. These procedures include provisions, as necessary, to ensure that:

A. Design documents, specifications, drawings, calculations, procedures, and instructions reflect applicable regulatory requirements and design bases.

B. Design documents specify quality requirements or reference quality standards as necessary.

C. There is adequate review of suitability of materials, parts, equipment, and processes which are essential to the safety-related functions of structures, systems, and components.

D. Materials, parts, and equipment which are standard commercial (off the shelf) or which have been previously approved for a different application are evaluated for suitability prior to selection.

E. Design documents and plant procedures are revised to reflect design modifications.

F. Internal and external design interfaces between organizations participating in design modifications are adequately controlled, including the review, approval, release, and distribution of design documents and revisions. These controls ensure that structures, systems, and components are compatible geometrically, functionally, and with processes and the environment.

G. Computer codes used for design computation are verified and certified for their intended use.

The above controls are applied, as necessary, to such aspects of design as reactor physics, seismic stress, thermal, hydraulic, radiation, and accident analyses; compatibility of materials; and accessibility for inservice inspection, maintenance, and repair.

The adequacy of design changes shall be verified by the performance of design reviews, alternate calculations, or qualification testing. The control measures specified herein for control of design verification activities are as follows:

A. Personnel responsible for design verification do not include the original designer. Verification may be performed by the same organization responsible for the original design change.

B. Written procedures identify the positions or organizations responsible for design verification and define their authority and responsibility. In addition, procedures will identify the verifier responsibilities, the area to be verified, the pertinent considerations to be verified, and the extent of documentation.

C. Qualification tests to verify the adequacy of design are performed, as applicable, using the most adverse specified design conditions practical to provide or to simulate.

D. Design changes are reviewed to ensure that design criteria are defined and that inspection and test criteria are identified.

E. New or innovative designs will be subjected to comprehensive design review, which may include calculational checks or a testing program under adverse design conditions.

F. Written procedures will require a documented check to verify the dimensional accuracy and completeness of design documents (design change packages, active drawings, ABNs) and specifications.

G. Design verification, if other than by qualification testing of a prototype or lead production unit, is completed prior to release for procurement, manufacturing, and installation, or to another organization for use in other design activities. In those cases where this timing cannot be met, the design verification may be deferred, providing that the justification for this action is documented and that the unverified portion of the design output document and all design output documents, based on the unverified data, are appropriately identified and controlled. In all cases, verification is completed prior to relying upon the item to perform its function.

There is a comprehensive audit system to verify that the design control system maintained by the responsible organizations during the operation of the VEGP is adequate and functioning properly.

Any errors or deficiencies found in the design process or the design itself are documented and corrective action taken, as described in subsection 17.2.16.

Design documents and revisions thereto are controlled and distributed as described in subsection 17.2.6. Records of design activities and design changes are collected, stored, and maintained in a systematic manner to prevent inadvertent use of superseded documents.

VEGP plant procedures require that plant personnel are made aware of design changes/modifications which may affect the performance of their duties. Methods by which plant personnel are made aware will include procedure revision training, night orders, and structured training for major modifications.

Compliance with design control commitments is ensured by the quality assurance audit program, which is described in subsection 17.2.18.

17.2.4 PROCUREMENT DOCUMENT CONTROL

The quality requirements for the control of documents prepared by SNC or its designated agents, for safety-related components, materials, and services are consistent with the provisions of Regulatory Guide 1.123, Quality Assurance Requirements for Control of Procurement of Items and Services for Nuclear Power Plants, as described in section 1.9. The vice president - project (Vogtle) is responsible for procurement planning of VEGP.

To satisfy the quality assurance requirements for procurement document control, the following specific requirements shall be implemented. Measures shall be established to ensure:

A. Procedures are established delineating the sequence of actions to be accomplished in the preparation, review, approval, and control of procurement documents. The supply chain general manager (SCGM) is responsible for the preparation, review, approval, and control of procurement documents.

B. A review and concurrence of the adequacy of quality assurance requirements stated in procurement documents is performed by qualified personnel knowledgeable in the quality assurance requirements. SNC procedures will define training requirements for ensuring knowledge of quality assurance requirements. This review is to determine that all quality assurance requirements are correctly stated, can be inspected and controlled, and provide adequate acceptance and rejection criteria and that the procurement document has been prepared in accordance with quality assurance program requirements.

C. The person performing the review will be an individual independent of the procurement document originator. Documented evidence of the review and approval of procurement documents is provided and available for verification.

D. Procurement documents identify those 10 CFR 50, Appendix B, requirements that must be complied with and described in the supplier's quality assurance program. This quality assurance program or portions thereof shall be reviewed and concurred with by the quality assurance manager (QAM) and qualified personnel knowledgeable in quality assurance prior to implementation of activities affected by the program.

E. Procurement documents contain or reference applicable design basis technical requirements including regulatory requirements, component and material identification, drawings, specifications, codes and industrial standards, including their revision status, test and inspection requirements, and special process instructions, for activities such as fabrication, cleaning, erecting, packaging, handling, shipping, storing, and inspecting.

F. Procurement documents contain applicable requirements which identify the documentation to be prepared, maintained, submitted, and made available to the SCGM for review and/or approval, such as drawings, specifications, procedures, inspection and fabrication plans, inspection and test records, personnel and procedure qualifications, materials, and chemical and physical test results.

G. Procurement documents contain the requirements for the retention, control, and maintenance of vendor records.

H. Procurement documents contain the procuring agency's right of access to vendor's facilities and records for source inspection and audit.

I. Changes and/or revisions to procurement documents are subject to the same review and approval requirements as the original documents.

J. Procurement documents for spare or replacement parts of safety-related structures, systems, and components are reviewed for adequacy by qualified personnel knowledgeable in quality assurance requirements. The review is to determine similarity, compatibility, and inclusion of the quality assurance requirements and acceptance criteria of the original item.

Assurance that the requirements for procurement document control are implemented will be provided by the audit program described in subsection 17.2.18.

17.2.5 INSTRUCTIONS, PROCEDURES, AND DRAWINGS

Activities affecting quality shall be prescribed by and accomplished in accordance with documented instructions, procedures, or drawings. The nuclear plant general manager is responsible for ensuring that procedures are prepared and followed and that personnel are trained on the procedures. They shall contain appropriate quantitative (such as dimensions, tolerances, and operating limits) or qualitative (such as workmanship and samples) acceptance criteria for determining that important activities have been satisfactorily accomplished. The requirements dealing with instructions, procedures, or drawings are consistent with the provisions of Regulatory Guide 1.30, Quality Assurance Requirements for the Installation, Inspection, and Testing of Instrumentation and Electric Equipment; Regulatory Guide 1.33, Quality Assurance Program Requirements (Operation); and Regulatory Guide 1.116, Quality

Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Services, as described in section 1.9.

17.2.5.1 Plant Procedures, Instruction, and Drawings

The VEGP procedure manuals will contain procedures which shall be used for periodic tests and calibrations, special processes, modifications, maintenance, and other plant activities on safety-related systems, equipment, or structures. Certain procedures important to safety shall be reviewed by the plant review board before being signed by a member of plant management. Inspection plans, tests, calibrations, special processes, maintenance, modifications, repair procedures, and changes thereto will be reviewed and concurred with by a person knowledgeable in quality assurance requirements. Plant procedures will define training requirements for ensuring knowledge of quality assurance requirements.

Written administrative procedures will ensure proper control of instructions such as temporary procedure changes and standing orders. These instructions will be of limited scope and will be issued for limited time periods to ensure proper requirements, included in the procedures, are not bypassed or neglected.

Design documents (active drawings, closed design change packages, ABNs) will reflect the properly reviewed and approved configuration of the plant. Changes will be as a result of design changes (subsection 17.2.3) or "as-builts" which will be controlled by written procedures. The design organization will implement design and drawing control on design documents through written procedures.

Specific requirements for VEGP procedures are provided in the following paragraphs.

17.2.5.1.1 Required Procedures

Written procedures shall be established, implemented, and maintained covering the activities referenced below:

A. The applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978;

B. The emergency operating procedures required to implement the requirements of NUREG-0737 and Supplement 1 to NUREG-0737 as stated in Generic Letter No. 82-33;

C. Security Plan implementation;

D. Emergency Plan implementation;

E. Process Control Program implementation;

F. Quality assurance for effluent and environmental monitoring;

G. Fire Protection Program implementation;

H. Technical Specifications Improvement Program implementation; and

I. All programs specified in Technical Specification 5.5.

17.2.5.1.2 **Procedure Approval**

Each procedure of paragraph 17.2.5.1.1 above, and changes thereto, shall be reviewed as set forth in administrative procedures and approved by either the nuclear plant general manager (NPGM) or the department head of the responsible department prior to implementation with the exception of the following which shall be approved by the NPGM:

1. Procedures which establish plant-wide administrative controls (which implement the quality assurance program and the Technical Specification surveillance program),
2. Unit operating procedures (UOPs)
3. Emergency operating procedures (EOPs)
4. Abnormal operating procedures (AOPs)
5. Procedures for implementing the Security Plan, Emergency Plan, and the Fire Protection Program, and
6. Fuel handling procedures.

PRB responsibilities for procedures are delineated in paragraph 17.2.1.2.1.

17.2.5.1.2.1 Department heads may designate (in plant-wide administrative procedure) the positions or individuals within their area of responsibility who may approve procedures.

17.2.5.1.3 **Temporary Changes to Procedures**

Temporary changes to procedures of paragraph 17.2.5.1.1 may be made provided:

A. The intent of the original procedure is not altered;

B. The change is approved by two members of the plant management staff, at least one of whom holds a senior operator license; and

C. The change is documented, reviewed in accordance with paragraph 17.2.5.1.2, and approved by the NPGM or department head of the responsible department within 14 days of implementation.

17.2.5.2 **Other Procedures**

Each contractor performing quality-related activities shall have properly reviewed and approved quality assurance programs or procedures or function under the control of the operations quality assurance program. These programs or procedures shall be reviewed to ensure that they meet the applicable quality assurance requirements contained herein.

Confirmation that these instructions and procedures are properly implemented is accomplished through activities performed by the QA organization. See subsection 17.2.18 for details.

17.2.6 DOCUMENT CONTROL

Herein are contained the requirements for the control of documents that prescribe activities affecting quality. The documents which are to be controlled include:

A. Manufacturing, design, construction, and installation drawings for safety-related structures, systems, or components.

B. Approved procurement documents for safety-related structures, systems, or components.

C. Plant procedures which implement requirements of the operations quality assurance program.

D. Maintenance, modification, and operating procedures which implement requirements of the operations quality assurance program.

E. Final Safety Analysis Report, Emergency Plan, Security Plan, environmental reports, Technical Specifications, and Operating License Stage Environmental Report.

F. Inspection and test procedures for safety-related structures, systems, or components.

G. Design documents (e.g., calculations, specifications, and analyses) including documents related to computer codes.

H. Instructions and procedures for such activities as fabrication and installation.

I. As-built documents.

J. Quality assurance and quality control manuals.

K. Deficiency reports.

The requirements for document control are consistent with the position of Regulatory Guide 1.33, Quality Assurance Program Requirements (Operation), as described in section 1.9. Provisions are included which require that:

A. Documents and changes thereto are reviewed for adequacy and approved for release by authorized personnel in accordance with written procedures. These procedures identify those positions responsible for reviewing, approving, and issuing documents and revisions thereto. Measures are also established to review documents prior to release to ensure that the quality assurance requirements are sufficiently, clearly, and accurately stated. The individuals responsible for the quality assurance requirement review shall be an individual other than the person who generated the document. Individuals authorized to perform the quality assurance requirement review shall be knowledgeable of the quality assurance requirements. The approving authority is responsible for implementing review of the document for quality assurance requirements.

B. Documents and changes thereto are promptly distributed to ensure availability prior to commencement of work. "As-built" documents are prepared in a timely manner to accurately reflect the actual plant design.

C. Changes to documents are reviewed and approved by the same organization that performed the original review and approval unless another qualified organization is designated.

D. Master status lists identifying the current revision of documents are periodically updated and utilized to preclude the use of superseded documents. Procedures are established for control of document revision. These procedures will specify the types of documents to be controlled and the periodic updating and distribution of controlled documents.

E. Obsolete or superseded documents are destroyed or identified to prevent their inadvertent use.

The performance analysis supervisor is responsible for ensuring that plant personnel are provided with current documents. The responsible supervisors are responsible for ensuring that the latest revision of appropriate documents is being used to perform safety-related activities. Documents controlled by offsite organizations will receive control comparable to that of site documents.

Quality Assurance will audit activities to determine proper implementation of the quality requirements contained herein. The quality assurance audit function is described in subsection 17.2.18.

17.2.7 CONTROL OF PURCHASED MATERIAL, EQUIPMENT, AND SERVICES

Spare and replacement parts of safety-related structures, systems, and components are subject to quality assurance program controls in place when the procurement is made and to technical requirements that comply with Final Safety Analysis Report requirements. Expendable or consumable items will be procured in accordance with the provision described herein. The requirements for the control of purchased materials, equipment, and services are consistent with the positions of Regulatory Guide 1.38, Quality Assurance Requirements for Packing, Shipping, Receiving, Storage, and Handling of Items for Water-Cooled Nuclear Power Plants, and Regulatory Guide 1.123, Quality Assurance Requirements for Control of Procurement of Items and Services for Nuclear Power Plants, as described in section 1.9.

17.2.7.1 Supplier Qualification (Vogtle)

The Supply Chain Management Department is responsible for ensuring qualification of suppliers of safety-related equipment, materials, or services, including spare and replacement parts, for the VEGP. These activities are in accordance with the operations quality assurance program. SNC shall review the effectiveness of quality control of approved suppliers or subsuppliers at intervals designed to maintain confidence in the suppliers' programs. The review intervals shall be determined according to the complexity of the product or services received from these suppliers. These reviews will also include periodically evaluating the suppliers' certificates of conformance by audits, independent inspections, or tests to ensure they are valid. Prior to accepting a prospective supplier as a qualified GPC nuclear supplier, qualified personnel will evaluate the prospective supplier's capability to provide services or products of acceptable quality based on one or more of the following:

A. The supplier's capability to comply with the elements of 10 CFR 50, Appendix B, that are applicable to the type of material, equipment, or services being procured.

B. A review of previous records and performance of suppliers who have provided similar articles of the type being procured.

C. A survey of the supplier's facilities and quality assurance program to determine the capability to supply a product which meets the design, manufacturing, and quality assurance requirements. If a survey is performed, the results will be documented and filed. The method used and information analyzed to qualify a supplier will also be documented. Where surveys or audits cannot be conducted, acceptable alternatives will be provided.

SNC procedures will require that procurement documents specify:

A. Documentation that identifies the purchased item and the specific procurement requirements (e.g., codes, standards, and specifications) met by the item.

B. Documentation identifying any procurement requirements that have not been met.

C. A description of those nonconformances from the procurement requirements dispositioned "use as is" or "repair."

17.2.7.2 Evaluation Process

The evaluation of suppliers, including spare and replacement parts for safety-related systems and surveillance during fabrication, inspection, testing, and shipment, shall be performed in accordance with approved procedures. These procedures shall include the following:

A. Instructions that specify the characteristics or processes to be witnessed, inspected or verified, and accepted; the method of surveillance and the extent of documentation required; and those responsible for implementing these instructions and releasing documentation.

B. Audits and surveillance which ensure that the supplier complies with the quality requirements. Surveillance shall be performed on those items where verification of procurement requirements cannot be determined upon receipt.

17.2.7.3 Receiving Inspection

Receipt inspections at VEGP are performed in accordance with written procedures to ensure that:

A. Materials, equipment, or components are verified by a receipt inspector qualified to ANSI N45.2.6 to be identifiable and traceable to associated documentation.

Review of documentation required by the purchase order is performed by the supply chain management department. Receipt inspection of safety-related items will be performed by a receipt inspector qualified to ANSI N45.2.6.

B. Inspections, tests, and other specified records attesting to the acceptance of materials, equipment, and components are completed and available at VEGP prior to installation or use.

C. Materials, equipment and components are inspected and judged acceptable in accordance with predetermined inspection instructions prior to installation or use.

D. Maintenance and test equipment (MTE) calibration services documentation is verified by the responsible departments to be identifiable and tracable to the respective M&TE. This verification includes the review of documentation required by the appropriate calibration services purchase order.

Items accepted and released are identified as to their inspection status prior to forwarding them to a controlled storage area or releasing them for installation or further work.

Nonconforming items are clearly identified, controlled, and segregated where practical, until proper disposition is made.

For commercial (off-the-shelf) items, where specific quality assurance controls appropriate for nuclear applications cannot be imposed in a practical manner, special quality verification requirements shall be established to ensure the necessary quality of the item.

Quality Assurance will audit the control of purchased materials, equipment, and services to ensure proper implementation of the requirements. See subsection 17.2.18 for a description of the quality assurance audit system.

17.2.8 IDENTIFICATION AND CONTROL OF MATERIALS, PARTS, AND COMPONENTS

The quality assurance requirements for the identification and control of safety-related materials, parts, and components, including spare or replacement parts, are consistent with the position of Regulatory Guide 1.33, Quality Assurance Program Requirements (Operation), and Regulatory Guide 1.38, Quality Assurance Requirements for Packing, Shipping, Receiving, Storage, and Handling of Items for Water-Cooled Nuclear Power Plants, as described in section 1.9.

Materials, parts, and components will be identified and controlled to prevent the use of incorrect or defective items. The location and method of identification shall not affect the quality or the function of the item.

Procedures implementing requirements for the identification and control of materials (including consumables), parts, and components provide for the following:

A. Verification that the items received at VEGP are properly identified and can be traced to the appropriate documentation, such as drawings, specifications, purchase orders, manufacturing and inspection documents, nonconformance reports, or mill test reports, or can be identified by a manufacturer's catalog.

B. Verification of item identification consistent with the inventory control system and traceable to documentation which identifies the proper uses or applications of the item.

Prior to release to the plant staff, the supply chain management department is responsible for the identification and control of materials, parts, and components which are received and stored at VEGP. After release from supply chain management, the plant staff is responsible for the identification and control of materials, parts, and components which are installed and used at VEGP. An ANSI N45.2.6 qualified receipt inspector, who is responsible for receipt inspection, and warehouse personnel, who are responsible for storing and releasing items, ensures the verification and documentation of correct item identification prior to release for fabrication, assembly, shipment, and installation. Plant administrative procedures shall describe plant staff activities and responsibilities for identifying and controlling this equipment.

Quality Assurance will audit the above activities. See subsection 17.2.18 for description of audit activities.

17.2.9 CONTROL OF SPECIAL PROCESSES

The requirements for the control of special processes, which are those processes where direct inspection is impossible or disadvantageous, such as welding, heat treating, nondestructive testing, brazing, chemical cleaning, electroplating, and protective coating, are consistent with the position of Regulatory Guide 1.30, Quality Assurance Requirements for the Installation, Inspection, and Testing of Instrumentation and Electric Equipment; Regulatory Guide 1.37, Quality Assurance Requirements for Cleaning of Fluid Systems and Associated Components of Water-Cooled Nuclear Power Plants; and Regulatory Guide 1.58, Qualification of Nuclear Power Plant Inspection, Examination, and Testing Personnel, as described in section 1.9.

Activities dealing with special processes shall be performed by qualified personnel using proper equipment and in accordance with written, approved procedures. These personnel and procedures will be qualified in accordance with the applicable code requirements. These qualifications, along with the approved procedures, material specifications, and other quality assurance documents, including verification, are available in the plant documentation file.

Qualification of special processes, equipment, and personnel is the responsibility of the superintendents and supervisors for activities under their purview. Qualified test laboratories and consultants may be used in qualification of special processes. Procedures shall be developed which delineate the requirements for special processes. These procedures will specify the responsibilities of qualified personnel for control of the special processes through the use of inspection hold points and the performance of nondestructive testing. These procedures will ensure recording evidence of acceptable accomplishment of special processes using qualified procedures and personnel and suitable and controlled equipment.

Audits of special processes, personnel qualifications, procedures, and records will be performed as described in subsection 17.2.18.

17.2.10 INSPECTIONS

An inspection program to verify the conformance of activities affecting quality shall be implemented at VEGP. The requirements of this program shall be consistent with the position of Regulatory Guide 1.30, Quality Assurance Requirements for the Installation, Inspection, and Testing of Instrumentation and Electric Equipment; Regulatory Guide 1.38, Quality Assurance Program Requirements; Regulatory Guide 1.58, Qualifications of Nuclear Power Plant Inspection, Examination, and Testing Personnel; and Regulatory Guide 1.116, Quality Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Systems, as described in section 1.9.

Inspection activities shall be performed to ensure work activities and conditions affecting quality comply with specified requirements. Inspections of material, modifications, and nonroutine maintenance activities shall be conducted in a manner which ensures compliance to design requirements and the reliability and integrity of safety-related systems, components, and structures. Where a sampling method of inspection is used to determine compliance or acceptability, the sampling will be based on recognized standard sampling practices and will provide justification for the sample size and selection process.

Monitoring, including the monitoring of equipment processes, material controls, measuring and test equipment controls compliance, and personnel qualifications, will be used to provide assurances of compliance to quality assurance program requirements. Monitoring will also be used when inspection is impractical or disadvantageous. Both monitoring and inspection will be conducted when quality verification is inadequate without both.

Inspections, for the purpose of verifying conformance with instructions, procedures, and drawings, will be conducted, where necessary. Inspectors will be assigned as appropriate for the activity being inspected. An inspector may be a member of the organization performing the activity. However, inspectors will be qualified and will not be the person performing the activity or the supervisor directly responsible for the activity. Maintenance inspection personnel are under the administrative direction of the designated engineering supervisor responsible for quality control when performing quality control inspections. These independent inspections will be in addition to those checks and inspections normally conducted by personnel who perform or directly supervise work activities, as a normal course of their duties.

Inspections at VEGP will be conducted in accordance with written, approved procedures, instructions, or checklists. These documents will contain criteria for determining when inspections are to be performed and requirements for documenting inspections, including:

A. Identification of characteristics and activities inspected.

B. Description of the method of inspection.

C. Inspector or data recorder identification.

D. Acceptance and rejection criteria.

E. Identification of required procedures, drawings, or specifications.

F. Date and results of inspection.

G. Evidence of acceptability of results.

H. Information related to conditions adverse to quality.

I. Action taken to resolve any discrepancy noted.

Measuring and test equipment used for inspections of safety-related systems, components, and equipment shall comply with the written procedures which implement the requirements of subsection 17.2.15. The accuracy and calibration requirements of inspection equipment will be included in plant procedures, when applicable.

If specified inspection hold points requiring inspection or verification and beyond which work is not to proceed without inspector approval are necessary, the hold point will be indicated in the work procedure or document. If witness points are indicated, which are for the inspector's option to perform an inspection and/or monitor an activity or work function, the work may proceed after notification to the inspector. If during inspection or monitoring an unsatisfactory condition or activity is noted, the condition will either be resolved or documented in order to provide for evaluation and resolution. If further processing of the activity or item would be detrimental to quality, work on the item will be suspended until the problem is resolved.

Procedures and work instructions will be reviewed by qualified personnel prior to the performance of work to ensure that inspection criteria is established, if needed. This review will include a check for the identification of hold or witness points, where required, and will ensure that inspection requirements, methods, and acceptance criteria have been identified.

Plant departments are responsible for performance of assigned inspections. Those personnel performing independent quality control inspections have written stop-work authority, including authority to prevent equipment or systems from being returned to service if an activity was not performed according to an approved procedure, specification, or drawing, or could impact safe operation or function of the system or equipment.

Independent inspection personnel are involved in work planning and in the review of safety-related work documents which allows for the inclusion of inspection requirements.

Between the quality control section and plant departments, approximately 15 personnel will be qualified to perform quality control inspections. Plant quality control inspection personnel may be augmented by contract inspection personnel.

The quality control section is responsible for oversight and monitoring of the implementation of the quality control inspection program.

Inspection personnel will be qualified to conduct inspections. (Training and qualifications of quality control inspection personnel are discussed in section 13.2.) Documented evidence of qualification will indicate the inspection functions which an individual is qualified to perform and will be kept current. Proficiency of these personnel will be maintained by reevaluation of performance, retraining, reexamination, or retesting according to VEGP commitments to applicable codes, standards, and regulations.

The quality assurance audit system, described in subsection 17.2.18, assures that the foregoing requirements are implemented.

17.2.11 TEST CONTROL

Appropriate tests are conducted and documented to ensure satisfactory performance of structures, systems, and components. Plant management is responsible for the conduct of plant tests and will ensure that the plant personnel adhere to the written, approved procedures. Safety-related tests, surveillance tests, testing following modifications, receiving inspection tests, and tests of special equipment are consistent with the positions of Regulatory Guide 1.30, Quality Assurance Requirements for the Installation, Inspection, and Testing of Instrumentation and Electric Equipment; Regulatory Guide 1.33, Quality Assurance Program Requirements (Operation); Regulatory Guide 1.58, Qualification of Nuclear Power Plant Inspection, Examination, and Testing Personnel; Regulatory Guide 1.108, Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants; Regulatory Guide 1.116, Quality Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Systems, and Regulatory Guide 1.118, Periodic Testing of Electric Power and Protection Systems, as described in section 1.9. Test procedures shall include the following where applicable:

A. The requirements and acceptance limits contained in applicable procurement documents.

B. Instructions for performing the test.

C. Test prerequisites such as:

1. Calibrated instrumentation.
2. Adequate and appropriate equipment.
3. Trained, qualified, or licensed personnel when required.
4. Preparation, condition, and completeness of item to be tested.
5. Suitable and, if required, controlled environmental conditions.
6. Provisions for data collection and storage.
7. Specified inspection hold points for witness by quality control specialists.
8. Acceptance and rejection criteria.

9. Methods of documenting or recording test data and results.

10. Verification that prerequisites are met.

Changes to test procedures will receive review and approval equivalent to that given in the original procedures. Departures from approved test procedures will be permitted only under controlled conditions where the intent of the procedure is not changed. Test records shall contain the following information:

A. A description of the type of observation.

B. Evidence of completing and verifying the test operation.

C. A statement on reason for departure, if applicable.

D. The date and results of the test.

E. Information related to nonconformances.

F. Identification of the person performing the test.

G. A statement of the acceptability of the results.

H. Action taken to resolve any discrepancies noted.

Test results will be recorded, reviewed, evaluated, and approved by the appropriate plant supervisory personnel and/or the plant review board, as appropriate. Tests performed at a supplier's facility will be controlled by procedures.

Quality Assurance will audit the above activities to verify that the testing program requirements are satisfied. The quality assurance audit program is described in subsection 17.2.18.

17.2.12 CONTROL OF MEASURING AND TEST EQUIPMENT

Measures for the control of measuring and test equipment are consistent with the position of Regulatory Guide 1.33, Quality Assurance Program Requirements (Operation), as described in section 1.9.

Provisions for the control of applicable measuring and test equipment require that:

A. Procedures shall be established which describe the calibration technique, calibration frequency, maintenance and control of measuring and test instruments, tools, gauges, fixtures, reference standards, transfer standards, and nondestructive test equipment to be used in the measurement and inspection of safety-related components, systems, and structures.

B. Measurement and test equipment shall be uniquely identified and have traceability to calibration test data.

C. Measuring and test instruments shall be calibrated and maintained at specific intervals, based on the required accuracy, purpose, degree of usage, stability characteristics, and other conditions affecting the measurement.

D. Measuring and test equipment shall be calibrated on or before the designated due date or removed from service until corrective action can be taken.

E. When measuring and test equipment is found to be out of calibration, an investigation shall be conducted and documented to determine the validity of previous inspections performed and the acceptability of those items previously inspected since the previous calibration. Procedures are established to ensure

that measurements made with measuring and test equipment found to be out of calibration will be evaluated to determine the need for reinspection.

F. Calibrating instruments shall have known, valid relationships to a nationally recognized standard or natural physical constant. If no national standard or natural physical constant exists, the basis of calibration will be documented and approved by the responsible team leader or higher management.

G. Records will be maintained which indicate the complete status of all items under the calibration system and reflect the last and future calibration dates or the last calibration date and frequency, if applicable.

H. Calibration facilities used for calibrating sensitive and close tolerance measuring and test equipment shall provide an environment that is sufficiently controlled to allow the measuring device to be evaluated and calibrated to its required accuracy.

Reference standards will have an uncertainty (error) requirement of no more than one-fourth of the tolerance of the measuring and test equipment being calibrated; a greater uncertainty will be acceptable provided the equipment and standards not meeting this requirement are documented and approved by the responsible team leader or higher management. Comparison standards used in calibration of reference standards will have a tolerance equal to or smaller than the reference standard and will be traceable to the standards housed in the National Institute of Standards and Technology. The calibration of reference standards using comparison standards will be supported by certification reports and data sheets.

The appropriate team leader or higher management is responsible to the nuclear plant general manager for the development, approval, and implementation of procedures which provide for calibrations and for maintenance and control of measuring and test equipment within their scope or responsibility. The administrative procedures that control the calibration program are reviewed by the plant review board and approved by the nuclear plant general manager. Quality control inspection personnel are responsible for verifying the control of measuring and test equipment during inspections of work activities and ensuring that it is in compliance with plant procedures.

Effectiveness of the program is ensured through periodic audits performed under the quality assurance audit system that is described in subsection 17.2.18.

17.2.13 HANDLING, STORING, AND SHIPPING

Requirements for the control, handling, storing, shipping, cleaning, and preservation of materials and equipment is in accordance with established instructions, procedures, or drawings. These requirements are consistent with provisions of Regulatory Guide 1.33, Quality Assurance Program Requirements (Operation), and Regulatory Guide 1.38, Quality Assurance Requirements for Packing, Shipping, Receiving, Storage, and Handling of Items for Water-Cooled Nuclear Power Plants; as described in section 1.9. Measures prescribed by the program and associated procedures include the following provisions:

A. Inspection of items by an ANSI N45.2.6 qualified receipt inspector and warehouse personnel will be made prior to use at the plant site, and routine surveillance will be made during storage.

B. For critical, sensitive, perishable, or high value items, specific written procedures for handling, storing, packing, shipping, and preserving are used. These procedures reflect design and specification requirements such as inert gas

atmosphere, specific moisture content levels, and temperature levels and also reflect manufacturers' recommendations in regard to special handling and storage requirements, such as shelf life and environmental controls. Personnel responsible for handling these items are qualified.

C. Special handling tools and equipment are inspected and tested in accordance with written procedures to verify that they are adequately maintained.

These requirements will be implemented in accordance with approved plant procedures. Quality Assurance will audit the above program requirements to verify proper implementation. The quality assurance audit program is described in subsection 17.2.18.

17.2.14 INSPECTION, TESTING, AND OPERATING STATUS

The requirements for identification and control of the inspection, test, and operating status of safety-related structures, systems, and components are consistent with the position of Regulatory Guide 1.33, Quality Assurance Program Requirements (Operation), as discussed in section 1.9.

Provisions for the inspection, test, and operating status of safety-related structures, systems, and components require that:

A. Procedures shall be established to control the use of welding stamps and inspection status indicators, including the authority for application and removal of tags, markings, and labels.

B. Measures to preclude bypassing of required inspections, tests, and other critical operations are controlled through documented procedures. Procedures shall be established to control altering the sequence of safety-related tests, inspections, and other critical operations such that the alterations are subject to the same control as the original.

C. Procedures shall be established and documented to identify the inspection, test, and operating status of structures, systems, and components throughout manufacturing, installation, and operation.

D. The status of nonconforming, inoperative, or malfunctioning structures, systems, or components is clearly identified to prevent inadvertent use.

Plant management shall ensure that appropriate plant and contractor personnel at VEGP are instructed regarding the purpose of, and precautions associated with, the various tags and labels used at VEGP. Control of nonconforming, inoperative, or malfunctioning equipment shall be maintained to prevent inadvertent use that could affect plant safety.

Effectiveness of the above requirements is ensured through periodic audits performed by Quality Assurance. The quality assurance audit system is described in subsection 17.2.18.

17.2.15 NONCONFORMING MATERIALS, PARTS, OR COMPONENTS

Requirements for the control of nonconforming materials, parts, or components are consistent with the position of Regulatory Guide 1.33, Quality Assurance Program Requirements (Operation); Regulatory Guide 1.38, Quality Assurance Requirements for Packing, Shipping, Receiving, Storage, and Handling of Items for Water-Cooled Nuclear Power Plants; and Regulatory Guide 1.123, Quality Assurance Requirements for Control of Procurement of Items

and Services for Nuclear Power Plants, as described in section 1.9. SNC and its contractors follow written requirements to identify, document, segregate, disposition and report to the affected organization(s) any nonconformance, deviation, or other conditions adversely affecting quality. Provisions for control of nonconforming materials, parts, or components require that:

A. Measures and procedures shall be established to control the identification, documentation, segregation, review, disposition, and notification of the affected organization(s) of nonconformance of materials, parts, components, computer codes, or services.

B. Documentation shall be provided which clearly identifies the nonconforming item, describes the nonconformance and disposition of the nonconformance inspection requirements, and includes signature approval of the disposition.

C. Materials, parts, or components which fail to meet requirements are identified through the use of a condition report. These reports, prepared by the individual identifying the deficiency, are logged and processed. Those reports which may have operability implications or immediate reporting requirements are reviewed by the shift supervisor. The applicable supervisor is responsible for ensuring that the item is controlled through tagging, segregation, or by appropriate documentation to prevent its inadvertent installation or use in the plant.

D. These reports are reviewed by appropriate operations and engineering personnel for regulatory reportability and to ensure that appropriate corrective actions are being taken. In addition, the PRB will review these reports when they document significant conditions adverse to quality.

E. Nonconforming items are segregated from other acceptable items (where feasible) and uniquely identified as nonconforming until properly dispositioned. Items that are unique, identified, properly marked, and have their own specified storage location need not be segregated.

F. Items which require rework, repair, or replacement are inspected and tested in accordance with the original inspection and testing requirements or acceptable alternatives in accordance with plant procedures. Rework, repair, and associated inspection and testing at the suppliers' facilities are performed according to documented procedures, the disposition is documented, and the documentation is forwarded to the plant site with the hardware.

G. Condition reports for nonconforming items which are dispositioned "use as is" or "repair" are made part of the quality assurance records associated with the item.

H. Condition reports are analyzed for trends by the performance analysis supervisor. Handling of these trends is discussed in subsection 17.2.16.

I. VEGP procedures provide assurance that deficiencies are resolved prior to the affected system being considered operable and reliance being placed on such system to fulfill its intended safety function.

Approved procedures provide provisions for an independent review of nonconformances. The quality assurance audit system (subsection 17.2.18) will verify compliance of nonconformance control measures with the operations quality assurance program.

17.2.16 CORRECTIVE ACTION

Approved plant procedures shall be written to ensure that conditions adverse to quality, failures, malfunctions, deficiencies, deviations, defective materials and equipment, and nonconformances on safety-related systems are promptly identified, documented, and corrected. The program described herein requires the identification and correction of conditions adverse to quality. These requirements are consistent with the provisions of Regulatory Guide 1.33, Quality Assurance Program Requirements (Operation), as described in section 1.9.

Corrective action is initiated and tracked following the determination of conditions adverse to quality. Failures, malfunctions, deficiencies, deviations, defective materials and equipment, and nonconformance on safety-related systems are documented by appropriate procedures.

Various processes are used to identify problems requiring corrective action. Items requiring prompt evaluation and correction are handled with a condition report. Condition reports are also used for handling nonconforming items as discussed in subsection 17.2.15 and for other conditions adverse to quality, such as operational deficiencies, unusual events or conditions, and failures to meet Technical Specifications requirements. Other processes for identifying problems include quality assurance (QA) audits and Nuclear Regulatory Commission (NRC) inspections.

The shift supervisor is responsible for necessary immediate corrective action and reporting when condition reports identify conditions significantly compromising plant safety.

When significant conditions adverse to quality exist, the performance analysis supervisor is responsible for ensuring the investigation of the problem to determine the root cause and for ensuring and tracking the necessary corrective action to prevent recurrence.

The performance analysis supervisor is responsible for analyzing condition reports, QA audit findings, and NRC violations and deviations for adverse trends. Any identified trends are reported to the appropriate department for corrective action and to the nuclear plant general manager and QA supervisor. Based on this input, as well as inputs from other processes, the nuclear plant general manager is responsible for making sure that proper corrective action is being taken.

Reports of significant conditions adverse to quality are reviewed by the plant review board, and its recommendations regarding corrective action are forwarded to appropriate management personnel. Verification of proper implementation of corrective action program requirements is achieved by the quality assurance audit program, as described in subsection 17.2.18.

17.2.17 QUALITY ASSURANCE RECORDS

Plant procedures require the proper identification of documents which furnish objective evidence of activities affecting the quality of the VEGP. Written procedures which are consistent with applicable codes, standards, and procurement documents will control the storage and retention of records. The minimum records to be controlled and retained are described in paragraph 17.2.17.1, Record Retention; additional records are retained in accordance with approved procedures. Typical records include plant history, operating logs, reportable occurrences, results of reviews, inspections, tests, audits, material analyses, qualification of personnel, procedures, and equipment; and other documentation, such as drawings, specifications, procurement documents, calibration procedures and reports, nonconformance reports, and corrective action reports.

The performance analysis supervisor is responsible for the receipt, storage, retrievability, issue, and control of specified plant documents. Personnel and organizations submitting records and

documents to the documentation staff for storage shall be responsible for providing adequate information with that record or document to allow its systematic storage and retrieval.

For electronic storage of QA records, VEGP complies with the technical aspects of the Nuclear Information and Records and Management Association, Inc., guidelines NIRMA TG 11-1998, "Authentication of Records Media", and NIRMA TG 15-1998, "Management of Electronic Records." Relevant criteria of 10 CFR 50 Appendix B will continue to be satisfied when electronic media is used for managing QA records.

Inspection records submitted to the documentation staff for storage will be reviewed by the responsible organization to ensure that the requirements in subsection 17.2.10 are included.

Record storage facilities have been constructed, located, and secured to prevent destruction of applicable records by fire, flooding, theft, and deterioration by environmental conditions. Activities associated with quality assurance records are consistent with the position of Regulatory Guide 1.88, Collection, Storage, and Maintenance of Nuclear Power Plant Quality Assurance Records, and Regulatory Guide 1.33, Quality Assurance Program Requirements (Operation), as described in section 1.9.

Quality Assurance will audit activities to ensure the records and retention requirements described herein are implemented. (See subsection 17.2.18.)

Specific requirements for quality assurance records are provided in the following paragraphs of this subsection.

17.2.17.1 Record Retention

In addition to the applicable record retention requirements of Title 10, Code of Federal Regulations, the following records shall be retained for at least the minimum period indicated.

The following records shall be retained for at least 5 years:

A. Records and logs of plant operation covering time interval at each power level;

B. Records and logs of principal maintenance activities, inspections, repair, and replacement of principal items of equipment related to nuclear safety;

C. All reportable events;

D. Records of surveillance activities, inspections, and calibrations required by technical specifications;

E. Records of changes made to the procedures required by paragraph 17.2.5.1.1;

F. Records of radioactive shipments;

G. Records of sealed source and fission detector leak tests and results; and

H. Records of annual physical inventory of all sealed source material of record.

The following records shall be retained for the duration of the plant operating license:

A. Records and drawing changes reflecting plant design modifications made to systems and equipment described in the FSAR;

B. Records of new and irradiated fuel inventory, fuel transfers, and assembly burnup histories;

C. Records of radiation exposure for all individuals entering radiation control areas;

D. Records of gaseous and liquid radioactive material released to the environs;

Relocated to FSAR Section 13.7.1 (new)

Relocated to FSAR Section 13.7.1 (new)

E. Records of transient or operational cycles for those plant components identified in table 3.9.N.1-2;

F. Records of reactor tests and experiments;

G. Records of training and qualification for current members of the plant staff;

H. Records of inservice inspections performed pursuant to the VEGP inservice inspection program;

I. Records of quality assurance activities required by the FSAR;

J. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59;

K. Records of meetings of the PRB and SRB;

L. Records of the service lives of all hydraulic and mechanical snubbers required by the technical requirements manual, including the date at which the service life commences and associated installation and maintenance records;

M. Records of secondary water sampling and water quality;

N. Records of analyses required by the radiological environmental monitoring program that would permit evaluation of the accuracy of the analysis at a later date. This should include procedures effective at specified times and QA records showing that these procedures were followed; and

O. Records of reviews performed for change made to the offsite dose calculation manual (ODCM) and the process control program (PCP).

17.2.18 AUDITS

Quality Assurance (QA) is responsible for the program of planned and scheduled audits devised to verify the effectiveness of and compliance with all aspects of the operations quality assurance program (OQAP). The objectives of the quality assurance audit system are to:

A. Ensure that the OQAP has been developed in accordance with applicable requirements.

B. Verify by audit that the OQAP has been implemented.

C. Assess the effectiveness of the OQAP.

D. Identify program deficiencies.

E. Verify resolution of deficiencies and nonconformances.

F. Ensure compliance with Final Safety Analysis Report commitments.

The quality assurance audit program requirements are consistent with the provisions of Regulatory Guide 1.33, Quality Assurance Program Requirements (Operation); Regulatory Guide 1.144, Auditing of Quality Assurance Programs for Nuclear Power Plants; and Regulatory Guide 1.146, Qualification of Quality Assurance Program Audit Personnel for Nuclear Power Plants, as described in section 1.9. To satisfy the requirements for the audit system, the following measures shall be established and implemented:

A. The performance of audits is in accordance with written procedures or checklists and is conducted by appropriately trained and qualified personnel not having direct responsibilities in the areas being audited.

B. Audit results are documented, including the formal identification of problems found and the recommended corrective actions where appropriate, and are issued through preparation of audit finding reports.

C. Responsible management takes the necessary action to correct the deficiencies revealed by the audit.

D. Deficient areas are monitored until corrections have been accomplished.

E. Audits include an objective evaluation of quality-related practices, procedures, and instructions; the effectiveness of implementation; and the conformance with policy directives.

F. The audits include the evaluation of work areas, activities, and processes and the review of documents and records.

G. The following types of audits shall be performed:

1. Audits to provide a comprehensive independent verification and evaluation of quality-related procedures and activities to ensure that they are adequate and effectively comply with the OQAP requirements. These audits are performed under the direction of the QA manager (QAM).

2. External audits performed or delegated by the QAM on principal contractors and suppliers performing activities on safety-related structures, systems, and components. These audits include verification and evaluation of their quality assurance program, procedures, and activities to ensure that they are adequate and effectively comply with all aspects of the OQAP and procedure requirements.

H. Audits are regularly scheduled on the basis of status and safety importance of the activities being performed; they are initiated early enough to ensure effective quality. Audit schedule changes reflecting more frequent audits are required by one or more of the following conditions:

1. When significant changes are made in functional areas of the OQAP, such as significant reorganization or procedure revisions.

2. When there is evidence that the performance or reliability of safety-related items is in jeopardy due to deficiencies or nonconformances in the OQAP.

3. When a systematic, independent assessment of OQAP effectiveness is necessary.

4. When it is necessary to verify implementation of required corrective actions.

The QA audit personnel will receive formal and on-the-job training prior to the initiation of the OQAP as outlined in this chapter. The QA organization under the QAM will implement the quality assurance audit system. Paragraph 17.2.1.3 describes the QA organization.

Plant management is responsible for making available plant records, reports, log books, and other quality assurance documents requested by QA auditors.

I. Analysis of audits performed and reports which indicate quality trends and the effectiveness of the OQAP will be provided to management.

17.2.18.1 **Performance of Audits**

Audits of facility activities shall be performed under the cognizance of the SRB. Each audit shall be performed within the specified time interval with the following allowances:

1. 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.
2. A maximum extension not to exceed 25% of the audit interval shall be allowed. That is to say that, 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.
3. When an audit interval extension greater than 1 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.
4. Item 2 shall also apply to supplier audits and evaluations except that a total combined time interval for any three consecutive inspection or audit intervals shall not exceed 3.25 times the specified inspection or audit interval.

The following audits are required:

1. The conformance of reactor and plant operation to provisions contained within the Technical Specifications and applicable license conditions, at least once per 24 months.
2. The performance, training, and qualification of the entire plant staff, at least once per 24 months.
3. 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.
4. The performance of activities required by the operations Quality Assurance Program to meet criteria of 10 CFR 50, Appendix B, at least once per 24 months.
5. The Emergency Plan and implementing procedures, at least once per 12 months.
6. The Security Plan and implementing procedures, at least once per 24 months.
7. 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. At least once per 36 months, the audit team will include an outside qualified fire protection consultant.
8. The Radiological Environmental Monitoring Program and the results thereof, at least once per 24 months.
9. The Offsite Dose Calculation Manual (ODCM) and implementing procedures, at least once per 24 months.

10. The Process Control Program (PCP) and implementing procedures for processing and packaging of radioactive waste, at least once per 24 months.
11. The Environmental Protection Plan (EPP), at least once per 24 months.
12. Any other area of plant operation considered appropriate by the Safety Review Board or the plant vice president.

17.2.19 INDEPENDENT TECHNICAL REVIEWS

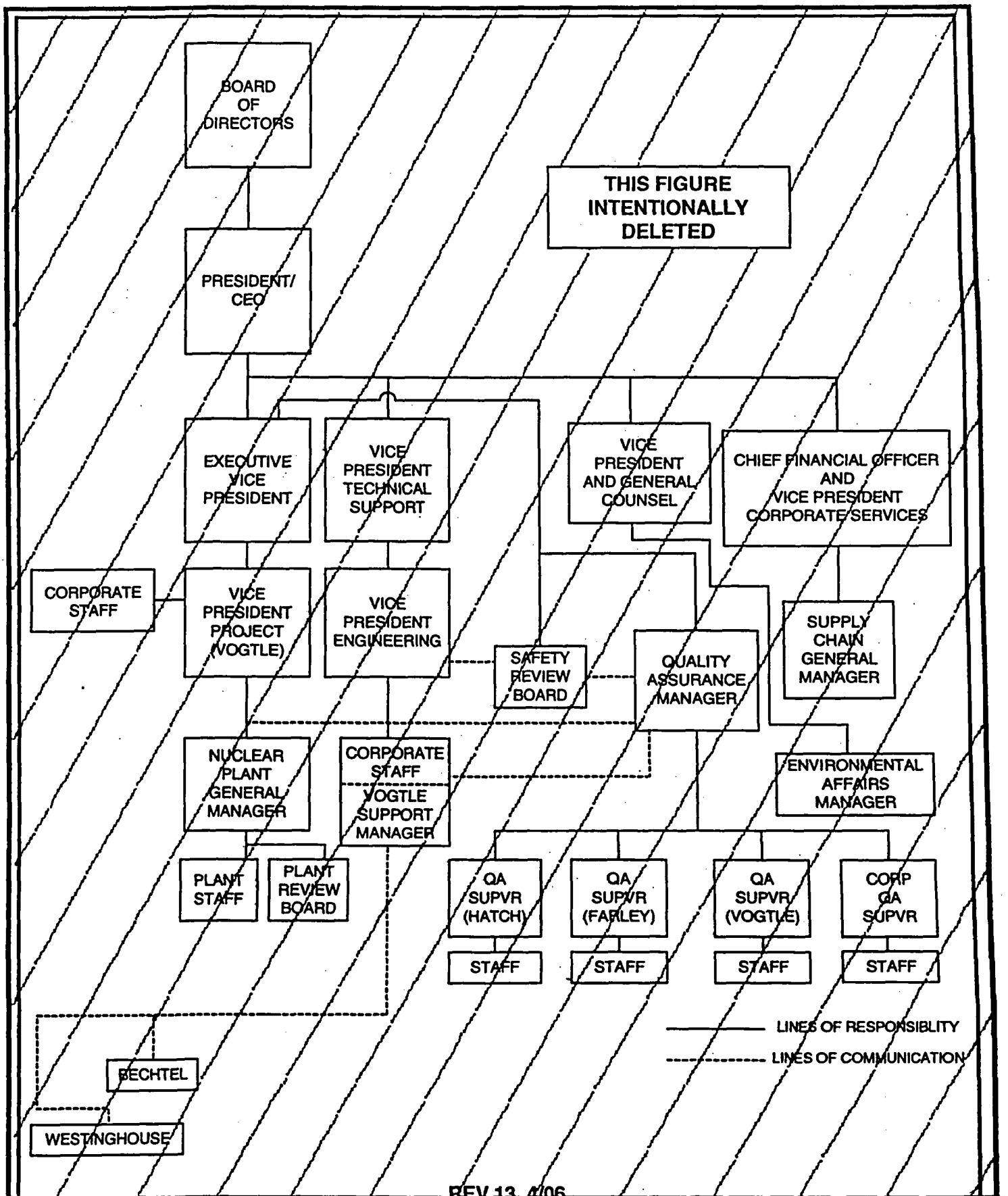
Independent Technical Reviews (ITR) shall be conducted through periodic surveillance of plant activities to examine subjects including, but not limited to plant operating characteristics, NRC issuances, industry advisories, Licensee Event Reports, and other sources of plant design and operating experience 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 monthly summary report shall be provided to the vice president - project (Vogtle).

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

Persons performing ITRs will be sufficiently qualified to properly conduct the reviews. The following qualifications will be met for anyone conducting an ITR:

1. A bachelor's degree in engineering or related science and at least 2 years professional level experience in his/her field, at least 1 year of which shall be in the nuclear field, or
2. At least 5 years of nuclear experience and hold or have held a senior reactor operator's license, or
3. At least 10 years of professional level experience in his/her field, at least 5 years of which shall be in the nuclear field.

ITRs are performed under the direction of the QAM.



REV 13 4/06

SOUTHERN COMPANY
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VOGTLE
ELECTRIC GENERATING PLANT
UNIT 1 AND UNIT 2

SNC ORGANIZATIONAL CHART FOR QUALITY ASSURANCE DURING PLANT OPERATIONS

FIGURE 17.2.1–1