June 21, 2007

Mr. Jeffrey T. Gasser Executive Vice President Southern Nuclear Operating Company, Inc. Post Office Box 1295 Birmingham, Alabama 35201-1295

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT, UNITS 1 AND 2 (FNP), EDWIN I. HATCH NUCLEAR PLANT, UNIT NOS. 1 AND 2 (HNP), VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 AND 2 (VEGP) - APPROVAL OF SOUTHERN NUCLEAR OPERATING COMPANY, INC.'S QUALITY ASSURANCE TOPICAL REPORT (TAC NOS. MD2486, MD2487, MD2488, MD2489, MD2490 AND MD2491)

Dear Mr. Gasser:

By letter dated June 29, 2006, as supplemented by letters dated April 30 and May 23, 2007, (References 1, 2 and 3), Southern Nuclear Operating Company, Inc. (SNC) submitted its Quality Assurance Topical Report (QATR) for review and approval by the Nuclear Regulatory Commission (NRC) staff in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Section 50.54(a)(4), and Parts 71 and 72 for the FNP, HNP and VEGP.

Based on evaluation of the SNC submittal and the referenced correspondence, the NRC staff concludes that the QATR provides an acceptable means of consolidating the QA programs for the FNP, HNP and VEGP. The NRC staff finds that the QA program described in the QATR satisfies the Commission's requirements for QA programs as established in 10 CFR Part 50, Appendix B. The program description adequately describes how the requirements of Appendix B will be implemented. The basis for the conversion of the current QA program description for the individual plants conforms to the change requirements of 10 CFR 50.54(a). Therefore, the NRC staff concludes that the proposed QATR continues to meet the 10 CFR Part 50, requirements for QA programs, and is, therefore, acceptable. Also, the NRC staff has concluded that the QATR provides a single QA program description which meets the requirements of 10 CFR Part 71, Subpart H, "Quality Assurance," and 10 CFR Part 72, Subpart G, "Quality Assurance."

J. Gasser

Please contact me at (301) 415-1493, if you have any other questions on these issues.

Sincerely,

#### /RA/

Robert E. Martin, Senior Project Manager Plant Licensing Branch II-1 Division of Operating Reactor Licensing Office of Nuclear Reactor Regulation

Docket Nos. 50-348, 50-364, 50-321, 50-366, 50-424, and 50-425

Enclosure: Safety Evaluation

cc w/encl: See next page

J. Gasser

-2-

#### June 21, 2007

Please contact me at (301) 415-1493, if you have any other questions on these issues.

Sincerely,

### /RA/

Robert E. Martin, Senior Project Manager Plant Licensing Branch II-1 Division of Operating Reactor Licensing Office of Nuclear Reactor Regulation

Docket Nos. 50-348, 50-364, 50-321, 50-366, 50-424, and 50-425

Enclosure: Safety Evaluation

cc w/encl: See next page

DISTRIBUTION:
PUBLIC
LPL2-1 R/F
RidsRgn2MailCenter
RidsNrrDeEqvbaPPrescott
RidsNrrDorlLpl2-1 (EMarinos)
RidsNrrDeEqvbaKHeck

RidsNrrPMRMartin (hard Copy) RidsNmssSfst(KWilliams) RidsNrrLAMO'Brien (hard Copy) RidsOgcRp RidsNrrPmas RidsAcrsAcnwMailCenter RidsNrrDeEqvb(DThatcher)

Accession No.: ML071510506			NRR-088	* by memo	
OFFICE	NRR/LPL2-1/PM	NRR/LPL2-1/LA	DE/EQVB/BC	NMSS/SFST/BC	NRR/LPL2-1/BC
NAME	RMartin:nc	MO'Brien	DThatcher	KWilliams	EMarinos
DATE	06/14/07	06/14/07	5/29/2007 *	06/18/07	06/21/07

**OFFICIAL RECORD COPY** 

Edwin I. Hatch Nuclear Plant, Units 1 & 2

CC:

Mr. Dennis R. Madison Vice President - Hatch Edwin I. Hatch Nuclear 11028 Hatch Parkway North Baxley, GA 31513

Laurence Bergen Oglethorpe Power Corporation 2100 E. Exchange Place P.O. Box 1349 Tucker, GA 30085-1349

Mr. R. D. Baker Manager - Licensing Southern Nuclear Operating Company, Inc. P.O. Box 1295 Birmingham, AL 35201-1295

Resident Inspector Plant Hatch 11030 Hatch Parkway N. Baxley, GA 31531

Harold Reheis, Director Department of Natural Resources 205 Butler Street, SE., Suite 1252 Atlanta, GA 30334

Steven M. Jackson Senior Engineer - Power Supply Municipal Electric Authority of Georgia 1470 Riveredge Parkway, NW Atlanta, GA 30328-4684

Mr. Reece McAlister Executive Secretary Georgia Public Service Commission 244 Washington St., SW Atlanta, GA 30334

Arthur H. Domby, Esq. Troutman Sanders Nations Bank Plaza 600 Peachtree St, NE, Suite 5200 Atlanta, GA 30308-2216 Chairman Appling County Commissioners County Courthouse Baxley, GA 31513

Mr. Jeffrey T. Gasser Executive Vice President Southern Nuclear Operating Company, Inc. P.O. Box 1295 Birmingham, AL 35201-1295

Mr. Dennis R. Madison, General Manager Edwin I. Hatch Nuclear Plant Southern Nuclear Operating Company, Inc. U.S. Highway 1 North P.O. Box 2010 Baxley, GA 31515

Mr. K. Rosanski Resident Manager Oglethorpe Power Corporation Edwin I. Hatch Nuclear Plant P.O. Box 2010 Baxley, GA 31515 Joseph M. Farley Nuclear Plant, Units 1 & 2

CC:

Mr. J. Randy Johnson Vice President - Farley Joseph M. Farley Nuclear Plant 7388 North State Highway 95 Columbia, AL 36319

Mr. B. D. McKinney, Licensing Manager Southern Nuclear Operating Company, Inc. P.O. Box 1295 Birmingham, AL 35201-1295

Mr. M. Stanford Blanton Balch and Bingham Law Firm P.O. Box 306 1710 Sixth Avenue North Birmingham, AL 35201

Mr. J. Gasser Executive Vice President Southern Nuclear Operating Company, Inc. P.O. Box 1295 Birmingham, AL 35201

State Health Officer Alabama Department of Public Health 434 Monroe St. Montgomery, AL 36130-1701

Chairman Houston County Commission P.O. Box 6406 Dothan, AL 36302

Resident Inspector U.S. Nuclear Regulatory Commission 7388 N. State Highway 95 Columbia, AL 36319

William D. Oldfield SAER Supervisor Southern Nuclear Operating Company, Inc. P.O. Box 470 Ashford, AL 36312 Vogtle Electric Generating Plant, Units 1 & 2

CC:

Mr. Tom E. Tynan Vice President - Vogtle Vogtle Electric Generating Plant 7821 River Road Waynesboro, GA 30830

Mr. N. J. Stringfellow Manager, Licensing Southern Nuclear Operating Company, Inc. P.O. Box 1295 Birmingham, AL 35201-1295

Mr. Jeffrey T. Gasser Executive Vice President Southern Nuclear Operating Company, Inc. P.O. Box 1295 Birmingham, AL 35201-1295

Mr. Steven M. Jackson Senior Engineer - Power Supply Municipal Electric Authority of Georgia 1470 Riveredge Parkway, NW Atlanta, GA 30328-4684

Mr. Reece McAlister Executive Secretary Georgia Public Service Commission 244 Washington St., SW Atlanta, GA 30334

Mr. Harold Reheis, Director Department of Natural Resources 205 Butler Street, SE, Suite 1252 Atlanta, GA 30334

Attorney General Law Department 132 Judicial Building Atlanta, GA 30334

Mr. Laurence Bergen Oglethorpe Power Corporation 2100 East Exchange Place P.O. Box 1349 Tucker, GA 30085-1349 Arthur H. Domby, Esquire Troutman Sanders Nations Bank Plaza 600 Peachtree Street, NE Suite 5200 Atlanta, GA 30308-2216

Resident Inspector Vogtle Plant 8805 River Road Waynesboro, GA 30830

Office of the County Commissioner Burke County Commission Waynesboro, GA 30830

## SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION - PART I

## AND THE OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS - PART II

## CHANGE TO THE COMMON QUALITY ASSURANCE PROGRAM

# JOSEPH M. FARLEY NUCLEAR PLANT, UNITS 1 AND 2

## EDWIN I. HATCH NUCLEAR PLANT, UNIT NOS. 1 AND 2

## VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 AND 2

# DOCKET NOS. 50-348, 50-364, 50-321, 50-366, 50-424, AND 50-425

## <u>PART I</u>

## 1.0 INTRODUCTION

By letter dated June 29, 2006 (Reference 1), Southern Nuclear Operating Company, Inc. (SNC, the licensees) submitted the SNC Quality Assurance (QA) Topical Report (QATR) for the Nuclear Regulatory Commission (NRC) staff (staff) review and approval in accordance with the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Section 50.54(a)(4). The licensees proposed that the QA topical report would replace the current QA program descriptions for the Joseph M. Farley Nuclear Plant, Units. 1 and 2 (FNP), the Edwin I. Hatch Nuclear Plant, Unit Nos. 1 and 2 (HNP), and the Vogtle Electric Generating Plant, Units 1 and 2 (VEGP), as docketed in the Final Safety Analysis Report (FSAR) for each plant. The submittal was subsequently revised by SNC letter dated April 30, 2007 (Reference 2) to reflect SNC's response to an NRC request for additional information necessary to make a determination regarding acceptability of the proposed SNC QATR, and a clarifying letter dated May 23, 2007 (Reference 3).

## 2.0 REGULATORY EVALUATION

The Commission's regulatory requirements related to QA programs are set forth in Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to 10 CFR Part 50, 10 CFR 50.34(b)(6)(ii), and 10 CFR 50.54(a), Appendix B.

Appendix B establishes QA requirements for the design, construction, and operation of structures, systems, and components (SSCs) of the facility. The pertinent requirements of Appendix B to 10 CFR Part 50 apply to all activities affecting the safety-related functions of those SSCs and include designing, purchasing, fabricating, handling, shipping, storing, cleaning, erecting, installing, inspecting, testing, operating, maintaining, repairing, refueling, and modifying.

Section 50.34, "Contents of applications; technical information," requires that every applicant for an operating license include information in its FSAR on the managerial and administrative controls to be used to assure safe operation. The information on the controls shall also include a discussion of how the applicable requirements of Appendix B will be satisfied.

Section 50.54(a) states that licensees may make a change to a previously accepted QA program 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. Changes to the QA program description that do reduce the commitments must be submitted to the NRC and receive NRC approval prior to implementation.

## 3.0 EVALUATION

## 3.1 Background

The proposed QA topical is similar in many respects to submittals approved for other nuclear operating companies (Reference 4, 5, 6, and 7) for the purpose of consolidating the QA programs of their nuclear fleets in order to support establishment of common processes and increased efficiencies.

The QATR is based on the guidance of the American Society of Mechanical Engineers (ASME), Nuclear Quality Assurance (NQA) Standard NQA-1-1994, "Quality Assurance Requirements for Nuclear Applications." Part I of the standard sets forth programmatic requirements for the establishment and execution of QA programs for the siting, design, construction, operation, and decommissioning of nuclear facilities. Part II of the standard sets forth non-programmatic QA requirements for the planning and execution of identified tasks during the fabrication, construction, modification, repair, maintenance, and testing of systems, components and structures for nuclear facilities. NQA-1-1994 provides guidance that is similar to that provided by the American National Standards Institute (ANSI) N45.2 series of standards, which were developed in the 1970s and early 1980s. The proposed QATR is based on NQA-1-1994 in lieu of current commitments to N45.2 and supplemental "daughter" standards.

The SNC QATR makes no commitment to the guidance of ANSI N18.7-1976/American Nuclear Society (ANS) 3.2, "Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants," as endorsed by Regulatory Guide 1.33, Revision 2. The licensee considers the collective requirements of the QATR and NQA-1-1994 to be equivalent to N18.7-1976. Much of the guidance provided by N18.7-1976 is similar to the guidance of NQA-1-1994; the additional guidance provided by N18.7-1976 is incorporated directly in the QATR.

The significant changes to the QA programs of the individual plants in consolidating commitments in the QATR are: (1) a commitment to NQA-1-1994 as the basis for the QA program; (2) explicit incorporation of N18.7-1976 operational administrative and QA controls in the QATR; (3) consolidation of organizational descriptions of the individual plants, using generic organizational titles to denote position titles, supplemented by descriptive text; (4) reliance on alternatives and exceptions to NQA-1-1994 that have previously been approved by NRC safety evaluations.

## 3.2 Evaluation

This section evaluates the adequacy of the QATR in describing how the requirements of Section 50.34(b)(6)(ii), Appendix B and the administrative controls of N18.7-1976 will be satisfied and conformance to the regulatory requirements of Section 50.54(a) for making changes to approved QA programs.

The format and content of the QATR are evaluated in accordance with the guidance of NUREG-0800, "Standard Review Plan," Section 17.5 (SRP 17.5), which provides a basis for staff review of QA programs based on NQA-1-1994. The acceptability of the level of detail provided by the QATR is determined, in part, by its adequacy in addressing the acceptance criteria of SRP 17.5.

A change to a QA program submitted under 50.54(a)(4) should identify each change, the reason for the change, and the basis for concluding that the revised program incorporating the change continues to satisfy the criteria of Appendix B. The staff reviewed the basis for the change, provided as Enclosure 2 of the SNC submittal (Reference 2), retention of current QA commitments in the proposed QATR, and proposed alternatives and exceptions to methods endorsed by regulatory guides. The staff also reviewed changes considered not to be reductions in QA program commitments for conformance with the provisions of 50.54(a)(3).

## 3.2.1 Format and Content of the QATR

The format used for the following evaluation follows the sequence of the 18 criteria of Appendix B and the acceptance criteria of SRP 17.5.

#### 3.2.1.1 Organization

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 QA program.

The QATR describes the organizational structure, functional responsibilities and levels of authority and interfaces for establishing, executing, and verifying QA program 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 the QATR. Management gives careful consideration to the timing, extent and effects of organizational structure changes.

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

#### 3.2.1.2 Quality Assurance Program

SNC has established the necessary measures and governing procedures to implement the QA program described in the QATR. SNC commits to meeting the QA program in all aspects of

work that are important to safety and reliability of the nuclear plants as described in the QATR. SNC ensures through the systematic process described in the QATR that its suppliers of safety-related equipment or services meet the applicable requirements of 10 CFR Part 50, Appendix B. Senior management is regularly apprised of audit results evaluating the adequacy of implementation of the QA program.

Personnel working directly or indirectly for SNC are responsible for the achievement of acceptable quality in the work covered by the QATR. SNC personnel performing verification activities are responsible for verifying the achievement of acceptable quality. Activities governed by the QA program 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. The senior QA manager is responsible for verification that processes and procedures comply with the QATR and other applicable requirements, that such processes or procedures are implemented, and that management appropriately ensures compliance.

Personnel assigned to implement elements of the QA program 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 QA program to assure that suitable proficiency is achieved and maintained.

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 exceptions to 2S-1, 2S-2, and 2S-3, which are addressed in Section 3.2.2.

#### 3.2.1.3 Design Control

SNC has established and implemented a process to control the design, design changes and temporary modifications of items that are subject to the provisions of the QATR. The design process includes provisions to control design inputs, outputs, changes, interfaces, records, and organizational interfaces. 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 authorized by the design authority. Temporary design changes are controlled by procedures that include requirements for appropriate installation and removal verifications and status tracking.

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

#### 3.2.1.4 Procurement Document Control

SNC has established the necessary measures and governing procedures to assure that purchased items 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 documents are subject to the same degree of control as utilized in the preparation of the original documents.

In establishing controls for procurement, SNC commits to compliance with NQA-1-1994, Basic Requirement 4 and Supplements 4S-1, with clarifications and exceptions to 4S-1, which are addressed in Section 3.2.2.

#### 3.2.1.5 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 include quantitative or qualitative acceptance criteria to implement the QA program as described in the QATR. Means are provided for identification 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.

In establishing procedural controls, SNC commits to compliance with NQA-1-1994, Basic Requirement 5. In addition, as stated in position C.1 of RG 1.33, Revision 2, SNC commits to use Appendix A of RG 1.33 as guidance for establishing the types of procedures that are necessary to control and support plant operation.

#### 3.2.1.6 Document Controls

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.

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

#### 3.2.1.7 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 of completion.

In establishing procurement verification controls, SNC commits to compliance with NQA-1-1994, Basic Requirement 7 and Supplement 7S-1, with clarifications and exceptions to 7S-1, which are addressed in Section 3.2.2.

3.2.1.8 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 maintained through 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.

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

### 3.2.1.9 Control of Special Processes

SNC has established the necessary measures and governing procedures to assure that special processes requiring 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.

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

### 3.2.1.10 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.

In establishing inspection requirements, SNC commits to compliance with NQA-1-1994, Basic Requirement 10, Supplement 10S-1 and Subpart 2.4, with clarifications to Subpart 2.4, which are addressed in Section 3.2.2. For situations comparable to original construction, SNC commits to Subparts 2.5 and 2.8 for establishing inspection requirements.

### 3.2.1.11 Test Control

SNC has established the necessary measures and governing procedures to demonstrate that items subject to the provisions of the 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 to demonstrate that performance of plant systems is in accordance with design. 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.

In establishing provision for testing, SNC commits to compliance with NQA-1-1994, Basic Requirement 11 and Supplement 11S-1. 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. Accordingly, SNC commits to compliance with the requirements of NQA-1994, Basic Requirement 11, Supplement 11S-2 and Subpart 2.7.

## 3.2.1.12 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 are accomplished through the plant maintenance programs to ensure that each plant is operated within its design and technical requirements. Appropriate documentation is maintained for these devices to indicate the control status, when the next calibration is due, and identify any limitations on the use of the equipment.

SNC has also established the necessary measures and governing procedures to control the calibration, maintenance, and use of measuring and test equipment that are 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 equipment.

In establishing provisions for control of measuring and test equipment, SNC commits to compliance with NQA-01-1994, Basic Requirement 12, Supplement 12S-1 and Subpart 2.16, with clarifications and exceptions to 2.16, which are addressed in Section 3.2.2.

## 3.2.1.13 Handling, Storage, and Shipping

SNC has established the necessary measures and governing procedures to control the handling, storage, packaging, shipping, clearing, 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 for 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.

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 clarifications and exceptions to 2.1, 2.2, and 2.3, which are addressed in Section 3.2.2.

#### 3.2.1.14 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 the 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.

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

### 3.2.1.15 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 identify, describe, and document the nonconformance. 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 establishing measures for nonconforming materials, parts, or components, SNC commits to compliance with NQA-1-1994, Basic Requirement 15, and Supplement 15S-1.

#### 3.2.1.16 Corrective Action

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

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

### 3.2.1.17 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 reelect completed work. The provisions of such procedures establish the scope for the records retention program. This includes requirements for records administration, include receipt, preservation, retention, storage, safekeeping, retrieval, and final disposition.

In establishing provisions for records, SNC commits to compliance with NQA-1-1994, Basic Requirement 17 and Supplement 17S-1, with clarifications and exceptions to 17S-1, which are addressed in Section 3.2.2.

### 3.2.1.18 Audits

SNC has established the necessary measures and governing procedures to implement audits to verify that activities covered by the QATR are performed in conformance with established requirements. The audit programs are themselves reviewed for effectiveness as a part of the overall audit process. In addition to audits of facility activities, performed under the cognizance of the Nuclear Safety Review Board, SNC commits to perform periodic surveillances of plant activities to examine subjects such as plant operating characteristics and plant design and operating experience information for the purpose of improving plant safety. Periodic summaries of these activities are provided to appropriate vice presidents.

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

## 3.2.1.19 Operational Review

The review processes for the plant review board (PRB) and the nuclear safety review board (NSRB) are described in the QATR, Appendixes A and B. The PRB advises the plant general manager for each plant on matters related to nuclear power plant safety. The NSRB advises the chief nuclear officer on matters related to nuclear power plant safety for all SNC plants and corporate activities. The review processes follow the guidance of Section 4.3 and Section 4.4 of N18.7-1976, as endorsed by RG 1.33, Revision 2.

#### 3.2.2 Basis for Proposed Changes to the SNC QA Programs

The proposed QATR consolidates the QA program descriptions for SNC plants into a single program common to the SNC-operated fleet of plants in order to support establishment of common processes and increased efficiencies. Enclosure 2 of the submittal provides the basis for concluding that the proposed QATR provides an acceptable basis for compliance with the requirements of Appendix B to 10 CFR Part 50. Enclosures 3, 4, and 5 provide information supporting the basis developed in Enclosure 2.

Enclosure 3 contains the current QA program descriptions for each of the SNC plants, comparing current commitments to those in the proposed QATR, as supplemented by NQA-1-1994 commitments. Enclosure 4 provides a matrix of conformance between QATR commitments and the guidance of NQA-1-1994 and documents the basis of acceptability for each variance. Enclosure 5 compares the guidance of N18.7-1976, on a paragraph-by-paragraph basis, with the collective commitments of the QATR and NQA-1-1994.

The proposed QATR represents a change from a QA program description based on RG 1.28 and RG 1.33 to a program based on NQA-1-1994, as supplemented by the requirements of N18.7-1976. As stated in Part III of the QATR, the licensees consider that the collective requirements of the QATR and NQA-1-1994 are equivalent to N18.7-1976 and RG 1.33, Revision 2. This approach has previously been approved by the NRC staff as an acceptable approach to adopting NQA-1-1994 as the basis for licensee QA programs (Reference 3).

The NRC staff determined that current QA program commitments for each of the SNC plants had been acceptably retained by the common QATR. The staff further determined that the QATR, as supplemented by the guidance of NQA-1-1994, provides an acceptable alternative to an explicit commitment to N18.7-1976 and RG 1.33, Revision 2.

Enclosure 4 provides a matrix of conformance between the QATR commitments and the guidance of NQA-1-1994 and the basis of acceptability for variances. The cited variances are allowed under the provisions of 10 CFR 50.54(a)(3), which defines changes to the QA assurance program that do not reduce commitments. Clarifications, alternatives, and exceptions to the guidance of NQA-1-1994 fall within the scope of 50.54(a)(3)(ii), which allows the use of alternatives or exceptions approved by an NRC safety evaluation (SE), provided the bases of approval are applicable to a licensee's facility. Clarifications, alternatives, and exceptions to NQA-1-1994 are explicitly stated in the QATR; SNC provides justification for these variances in Section 4.2 of Enclosure 2. The NRC staff reviewed the references (References 5, 6, 1) cited as precedents and found the bases to be applicable to the SNC facilities, and, therefore, acceptable.

Based on review of the QATR and supplemental information described above, the staff finds that the proposed common QA program provides an acceptable basis for consolidating the QA programs for each of the subject SNC plants that meets the requirements of Appendix B to 10 CFR Part 50.

## 4.0 <u>CONCLUSION</u>

Based on evaluation of the SNC submittal and the referenced correspondence, the NRC staff concludes that the QATR (Reference 2) provides an acceptable means of consolidating the QA programs for the FNP, HNP and the VEGP. The QA program described in the QATR satisfies the Commission's requirements for QA programs as established by Appendix B to 10 CFR Part 50. The program description adequately describes how the requirements of Appendix B will be implemented. The basis for the conversion of the current QA program description for the individual plants conforms to the change requirements of 10 CFR 50.54(a).

Therefore, it is concluded that the proposed QATR continues to meet the 10 CFR Part 50 requirements for the QA program, and is, therefore, acceptable.

Principal Contributor: K. Heck

- 5.0 <u>REFERENCES</u>
- 1. SNC letter submitting QATR to NRC, June 29, 2006, ADAMS ML061930023.
- 2. SNC letter providing additional information, April 30, 2007, ADAMS ML071270281.
- 3. SNC letter providing additional information, May 23, 2007, ADAMS ML071440427.
- 4. NRC letter on QATR for Exelon/Amergen plants, December 24, 2002, ADAMS ML023440030.
- 5. NRC letter on Nuclear Management Company QATR, March 24, 2005, ADAMS ML050700416.
- 6. NRC letter on Dominion Nuclear Connecticut and Virginia Electric Power Company QA program, September 9, 2005, ADAMS ML052490337.
- 7. NRC letter on QA program including commercial grade calibration services, September 28, 2005, ADAMS ML052710224.

#### PART II

## 1.0 INTRODUCTION

The purpose of the review was to determine the acceptability of the SNC QATR SNC-1, Appendix F, submitted on June 29, 2006, for activities conducted pursuant to 10 CFR Part 71, "Packaging and Transportation of Radioactive Material" and 10 CFR Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater Than Class C Waste." The QATR, including Appendix F, was reviewed in regard to application at the FNP, HNP, and VEGP. The QATR provides a single QA program description which the NRC staff finds meets the requirements of 10 CFR Part 71, Subpart H, "Quality Assurance," and 10 CFR Part 72, Subpart G, "Quality Assurance."

The references noted below provide the guidance used for evaluating the SNC QATR against the 18 quality criteria found in 10 CFR Part 71, Subpart H, and 10 CFR Part 72, Subpart G. Based on the review of the QATR, the staff has determined that the QATR meets the requirements of Subpart H of 10 CFR Part 71 and Subpart G of 10 CFR Part 72. While this evaluation has determined that the QATR is acceptable, continued proper implementation of the QATR will be assessed during future NRC inspections.

### 2.0 NRC STAFF'S EVALUATION FINDINGS

The QATR describes requirements, procedures, and controls that, when properly implemented, comply with the requirements of 10 CFR Part 71 and 10 CFR Part 72.

The structure of the organization and assignment of responsibility for each activity ensure that designated parties will perform the work to achieve and maintain specified quality requirements.

Conformance to established requirements will be verified by qualified personnel and groups not directly responsible for the activity being performed. These personnel and groups report through a management hierarchy which grants the necessary authority and organizational freedom and provides sufficient independence from economic and scheduling influences.

The QATR provides a quality program description which is well-documented and provides adequate control over activities affecting quality, as well as structures, systems, and components important to safety, consistent with their relative importance to safety.

The NRC staff finds the SNC QATR to be acceptable based on the review described above.

## 3.0 <u>REFERENCES</u>

- 1. NUREG-1567, Standard Review Plan for Spent Fuel Dry Storage Facilities
- 2. Regulatory Guide 7.10, Revision 1, Establishing Quality Assurance Programs for Packaging used in the Transport of Radioactive Material Packaging

Principal Contributor: J. Pearson, NMSS/SFST

Date: June 21, 2007