

Enclosure 5  
Southern Nuclear Operating Company  
Quality Assurance Topical Report

ANSI N18.7-1976 Conformance Matrix

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>																		
<p><b>1. Scope</b></p> <p>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.</p>		<p>Policy Statement:</p> <p>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.</p> <p>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.</p>																			
<p>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,</p>		<p>Part I, Section 1.1:</p> <p>This QATR applies to activities affecting the quality performance of safety-related structures, systems, and components, including, but not limited to:</p> <table border="0"> <tr> <td>Designing</td> <td>Handling</td> <td>Testing</td> </tr> <tr> <td>Constructing</td> <td>Refueling</td> <td>Receiving</td> </tr> <tr> <td>Procuring</td> <td>Operating</td> <td>Storing</td> </tr> <tr> <td>Fabricating</td> <td>Training</td> <td>Erecting</td> </tr> <tr> <td>Cleaning</td> <td>Inspecting</td> <td>Installing</td> </tr> <tr> <td>Modifying</td> <td>Maintaining</td> <td>Repairing</td> </tr> </table>	Designing	Handling	Testing	Constructing	Refueling	Receiving	Procuring	Operating	Storing	Fabricating	Training	Erecting	Cleaning	Inspecting	Installing	Modifying	Maintaining	Repairing	
Designing	Handling	Testing																			
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repairing, refueling and modifying.			
<p>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.</p>		<p>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.</p>	
<p>This Standard incorporates criteria that permit a degree of flexibility, since administrative practices vary among organizations operating nuclear power plants.</p>			<p>This is a comment on the format of the standard. It establishes no requirements.</p>

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<p>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 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.</p>			<p>This is a comment on the format of the standard and the necessity to differentiate between construction and operation. It establishes no requirement.</p>
<p>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</p>	<p>NQA-1 was developed based on ANSI N45.2.</p>	<p>Part I, Introduction: "The QATR describes the methods and establishes quality assurance program and administrative control requirements that meet 10CFR50, Appendix B."</p>	

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<p>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.</p>			
<p><b>2. Definitions</b></p>			
<p><b>2.1 Limitations</b></p> <p>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].</p>	<p>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."</p> <p>N45.2.10 has been rescinded and replaced by NQA-1.</p>		
<p><b>2.2 Glossary of Terms</b></p> <p>The following terms are defined:</p>	<p>Introduction Section 4 "Terms and Definitions"</p>	<p>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:</p>	

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<p>*administrative controls</p> <p>*audit. A formal, independent examination with intent to verify conformance with established requirements</p> <p>*emergency procedures</p> <p>*experiments</p> <p>*independent review</p> <p>*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.</p> <p>*maintenance and modification</p>	<p>(no definition provided)</p> <p>*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 acceptance.</p> <p>(no definition provided)</p> <p>(no definition provided)</p> <p>(no definition provided)</p> <p>inspection — examination or measurement to verify whether an item or activity conforms to specified requirements.</p> <p>(no definition provided)</p>		

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<p>procedures</p> <p>*nuclear power plant</p> <p>*off normal condition procedures</p> <p>*on-site operating organization</p> <p>*operating activities</p> <p>*operating procedures</p> <p>*operational phase</p> <p>*owner organization. The organization, including the onsite operation organization, which has overall legal, financial and technical responsibility for the operation of one or more nuclear power plants.</p> <p>*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.</p> <p>*review</p>	<p>(no definition provided)</p> <p>*owner—the person, group, company, agency, or corporation, who has or will have title to the nuclear power plant.</p> <p>*quality assurance — all those planned and systematic actions necessary to provide adequate confidence that a structure, system, or component will perform satisfactorily in service.</p> <p>(no definition provided)</p>		

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<p>*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.</p> <p>*supervision</p> <p>*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.</p> <p>*system</p> <p>*testing Performance of those steps necessary to determine that systems or components function in accordance with predetermined specifications.</p>	<p>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.</p> <p>(no definition provided)</p> <p>*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.</p> <p>(no definition provided)</p> <p>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.</p>		
<b>3 Owner Organization</b>			
<p><b>3.1 General</b></p> <p>The owner organization shall</p>		<p>Policy Statement:</p>	

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<p>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.</p>		<p>'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.'</p> <p>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.'</p>	
<p><b>3.2 Assignment of Authority and Responsibility</b></p> <p>[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</p>	<p>Basic Requirement 1 "Organization" states "The organizational structure, functional responsibilities, levels of authority, and lines of communication for activities affecting quality shall be documented."</p>	<p>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.'</p>	<p>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.</p>

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<p>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.</p>			
<p>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.</p>		<p>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.'</p>	

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<p>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,</p>	<p>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:</p> <ul style="list-style-type: none"> <li>(a) identify quality problems;</li> <li>(b) initiate, recommend, or provide solutions to quality problems through designated channels;</li> <li>(c) verify implementation of solutions;"</li> </ul>		
<p>The organizational structure and the functional responsibility assignments shall be such that:</p> <p>(1) Attainment of program objectives is accomplished by those who have been assigned responsibility for performing work. [This may</p>		<p>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.'</p> <p>Part II, Section 10: 'Inspections are carried out by properly qualified persons independent of those who performed or directly supervised</p>	

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<p>include interim examinations, checks, and inspections of the work by the individual performing the work.]</p> <p>(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.</p>		<p>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.'</p> <p>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.'</p>	
<p>[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 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</p>			<p>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.</p>

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<p>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.]</p>			
<p><b>3.3 Indoctrination and Training.</b></p> <p>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,</p>		<p>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.'</p>	
<p>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 which implement the program related to the specific job-related activity,</p>	<p>NQA-1 Supplement 2S-4 Section 3 states "Personnel shall be indoctrinated in the following subjects as they relate to a particular function:</p> <ul style="list-style-type: none"> <li>(a) general criteria, including applicable codes, standards, and company procedures;</li> <li>(b) applicable quality assurance elements; and</li> <li>(c) job responsibilities and authority."</li> </ul>	<p>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.'</p>	

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<p><b>3.4 Onsite Operating Organization</b></p> <p><b>3.4.1 General</b></p> <p>[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.</p> <p>A nuclear power plant onsite operating organization may change with time. For example, the number and qualifications of personnel making up the onsite technical support-staff can generally be reduced as a plant progresses through initial operation to operational maturity.]</p>	<p>Supplement 1S-1</p>	<p>Part II, Section 1 describes the organization and relationships among the positions within the organization.</p>	<p>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.</p>

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<p>Management shall give careful consideration to the timing and extent of such changes.</p>			
<p><b>3.4.2 Requirements for the Onsite Operating Organization</b></p> <p>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.</p>		<p>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."</p>	
<p>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 Personnel, N18.1-1971.</p>		<p>Part II, Section 2.3 Personnel Qualifications:</p> <p>'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</p>	

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		<p>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.'</p>	
<p>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.</p>	<p>N45.2.6 = NQA-1, BR 2, Supplements 2S1, 2S-2 and Non-mandatory Appendix 2A-1</p>	<p>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).</p>	
<p>The owner organization shall designate those positions in the onsite operating organization which shall be filled by personnel holding</p>		<p>N/A</p>	<p>Designation of the cited positions in site procedures complies with 10CFR50 and plant Technical Specification requirements that establish</p>

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<p>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.</p>			<p>license-holder requirements and minimum staffing. Since these requirements are explicit and supersede N18.7 statements, they are not included in the QATR.</p>
<p>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.</p>		<p>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.'</p> <p>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.'</p>	<p>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.</p>

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<p>[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.]</p>			<p>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.</p>
<p>[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.</p>		<p>Part II, Section 1, includes an organization chart showing the reporting relationships.</p> <p>1.2.1.1.1.2 Senior manager responsible for quality assurance</p> <p>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.</p>	
<p>The individual or organizational unit shall report on the effectiveness of the program to the Plant Manager and to other cognizant</p>		<p>Part II, Section 18</p> <p>'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</p>	

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management as may be designated. Their activities shall be periodically audited by designated offsite personnel.		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.'	
<b>4. Reviews and Audits</b>			
<p><b>4.1 General</b></p> <p>Programs for reviews and for audits of activities affecting plant safety during the operational phase shall be established by the owner organization to:</p> <p>(1) Verify that these activities are performed in conformance with this Standard and with company policy and rules, approved operating procedures and license provisions</p> <p>(2) Review significant proposed plant changes, tests and procedures</p> <p>(3) Verify that reportable events, which require reporting to NRC in writing within 24 hours, are promptly investigated and corrected in a manner</p> <p>(4) Detect trends which may not be apparent to a day-today observer.</p>	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.

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<p>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.]</p>		<p>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.'</p>	<p>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.</p>
<p>[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</p>			<p>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.</p>

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<p>responded-to the resulting demand. This growing pool of talent in the, aggregate, is sufficient to encourage alternative approaches to the review and audit committees commonly- used in the past.]</p>			
<p>[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.]</p>			<p>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.</p>
<p>[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</p>			<p>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.</p>

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
has been used previously to meet the independent review function.]			
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.

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p><b>4.2 Program Description</b></p> <p>Written programs for both audits and independent reviews shall be prepared that contain: (1) Subjects to be audited and independently reviewed.</p>		<p>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.'</p>	
<p>(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.]</p>	<p>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:</p> <ul style="list-style-type: none"> <li>(a) Identify quality problems;</li> <li>(b) initiate, recommend, or provide solutions to quality problems through designated channels;</li> <li>(c) verify implementation of solutions..."</li> </ul>		<p>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.</p>

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
(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		Part II, Section 16, Significant conditions adverse to quality and significant adverse trends are documented and reported	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
other records to appropriate staff members and managers in the owner organization.		to responsible management. 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.		

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
(10) Other provisions required for effective audits and independent reviews.		Part II, Section 18 provides the audit frequency for SNC.	
<p><b>4.3 Independent Review Program.</b></p> <p>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.]</p> <p><b>4.3.1 Personnel.</b> 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:</p> <p>(1) Nuclear power plant operations (2) Nuclear engineering (3) Chemistry and radiochemistry (4) Metallurgy</p>		<p>Appendix A describes the Plant Review Board and Appendix B of the QATR describes the Nuclear Safety Review Board responsible for independent reviews.</p> <p>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:</p> <p style="padding-left: 40px;">Nuclear power plant operations Nuclear engineering Chemistry and radiochemistry Metallurgy Nondestructive testing Instrumentation and control</p>	<p>The bracketed wording is not applicable to plants already in operation.</p>

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>(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 plant involved</p>		<p>Radiological safety                      Mechanical and electrical engineering, and</p>	
<p>[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.</p>		<p>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.</p>	<p>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.</p>
<p><b>4.3.2 Standing Committees Functioning as Independent Review Bodies</b>   <b>4.3.2.1 Committee Composition</b></p>		<p>Appendix B states in part:</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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 permitted if designated in advance. The use of alternates shall be restricted to legitimate absences of principals.</p>		<p>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.</p> <p>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.</p>	
<p><b>4.3.2.2 Meeting Frequency</b></p> <p>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.</p>		<p>Appendix B: 3.0 Meetings The SRB shall meet at least once per 6 months.</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p><b>4.3.2.3 Quorum</b></p> <p>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 minority of the quorum shall have line responsibility for operation of the plant.</p>		<p><b>3.0 Meetings</b></p> <p>The NSRB shall meet at least once per 6 months.</p> <p>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.</p>	
<p><b>4.3.2.4 Meeting Records</b></p> <p>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)</p>		<p>Appendix B:</p> <p>6.0 Records</p> <p>Records of the SRB activities shall be prepared, approved, and distributed as indicated below:</p> <ul style="list-style-type: none"> <li>▪ Minutes of each NSRB meeting shall be prepared, approved, and forwarded to the CNO within 14 days following each meeting;</li> <li>▪ 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</li> <li>▪ 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.</li> </ul>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p><b>4.3.3 Organizational Units Functioning as Independent Review Bodies.</b></p> <p>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 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.</p>		<p>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.</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p><b>4.3.3.1 Documentation of Reviews.</b></p> <p>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.)</p>		<p>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.</p>	
<p><b>4.3.4 Subjects Requiring Independent Review. The following subjects shall be reviewed by the independent review body:</b></p> <p>(1) Written safety evaluations of changes in the facility as described in the Safety 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</p>		<p>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.</p>	

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<p>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.</p> <p><b>NOTE:</b> Regulatory Guide 1.33 states "It should be noted that proposed changes to technical specifications or license amendments should be reviewed by the independent</p>			

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>review body prior to their submittal to the Commission for approval.”</p> <p>(4) Violations, deviations and reportable events, which require reporting to the NRC in writing within 24 hours, such as:</p> <p>(a) Violations of applicable codes, regulations, orders, technical specifications, license requirements or internal procedures or instructions having safety significance</p> <p>(b) Significant operating abnormalities or deviations from normal or expected performance of plant safety-related structures systems, or components</p> <p>(c) Reportable events, which require reporting to the NRC in writing within 24hours,</p> <p>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.</p> <p>(5) Any other matter involving safe operation of the nuclear power plant which an</p>			

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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.</p>			
<p><b>4.4 Review Activities of the Onsite Operating Organization.</b></p> <p>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</p>		<p>1.2.2 STANDARD PLANT ORGANIZATION</p> <p>'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.'</p> <p><b>4.0 Reviews</b></p> <p>The PRB shall be responsible for:</p>	<p>The Plant Review Board is not responsible for planning future activities of the plant as a</p>

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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.</p> <p><b>NOTE:</b> 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 <b>bold</b>.</p>		<ul style="list-style-type: none"> <li>(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.</li> <li>(b) Review of all proposed changes to nuclear facility Technical Specifications.</li> <li>(c) Review of all proposed tests and experiments that affect nuclear safety.</li> <li>(d) Review of all proposed changes or modifications to systems or equipment that affect nuclear safety.</li> <li>(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.</li> <li>(f) Performance of special reviews and investigations and reports as requested by the Chairperson of the PRB or NPGM.</li> <li>(g) Investigations of all violations of Technical Specifications, including the preparation and forwarding of reports covering evaluation and recommendations to prevent</li> </ul>	<p>whole, but may review future plans for impact on plant operations and safety, such as review of refueling outage schedules.</p>

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
		<p>recurrence, to the NPGM, Project Vice President, the CNO, and to the Chairperson of the NSRB.</p> <p>(h) Review of all nuclear facility reportable events.</p> <p>(i) Review of facility operations to detect potential safety hazards</p>	
<p><b>4.5 Audit Program.</b></p> <p>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.</p> <p><u>NOTE:</u> Regulatory Guide 1.33 amplifies the above requirement "the following program elements should be audited at the indicated frequencies:</p> <p>a. The results of actions taken to correct deficiencies that affect nuclear safety and</p>		<p><b>SECTION 18 AUDITS</b></p> <p>'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.'</p>	<p>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</p>

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>occur in facility equipment, structures, systems, or method of operation — at least once per 6 months.</p> <p>b. The conformance of facility operation to provisions contained within the technical specifications and applicable license conditions — at least once per 12 months.</p> <p>c. The performance, training, and Qualifications of the facility staff — at least once per 12 months.”</p> <p>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 &amp; 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</p>			<p>what and when to assess performance.</p> <p><u>By letter dated June 17, 2005, the NRC approved specific changes to the Farley, Hatch, and Vogtle quality assurance programs. These changes included NRC approval of standard criteria for extending audit intervals. These criteria included the following:</u></p> <p><u>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.</u></p> <p><u>B. A maximum extension not to exceed 25 percent 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.</u></p> <p><u>C. 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</u></p>

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
record keeping.			<p><u>month of the extended audit.</u></p> <p><u>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 should not exceed 3.25 times the specified inspection or audit interval.</u></p> <p><u>In its evaluation of the proposed change, the NRC determined that the audit interval extension provision was acceptable on the basis that it:</u></p> <ul style="list-style-type: none"> <li><u>• Conformed to the requirements of Appendix B to 10 CFR Part 50; and</u></li> <li><u>• Was consistent with the staff guidance for reviewing audit programs, as delineated in Section 17.2 of NUREG-0800.</u></li> </ul> <p><u>Based on the above, the proposed use of the 25 percent grace period as described in Part II, Section 18.1 of the proposed QATR has been previously approved for Farley, Hatch, and Vogtle and does not represent a change to the Farley, Hatch, or Vogtle QA program.</u></p>
Written reports of such audits	NQA-1-1994, Supplement		

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>shall be reviewed by the independent review body and by appropriate members of management including those having responsibility in the area audited.</p>	<p>18S-1, Section 6, Response, states "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."</p>		
<p>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.</p>	<p>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."</p>	<p>SNC commits in its QATR to compliance with NQA-1-1994, Basic Requirement 18.</p>	
<p>Appropriate and timely follow-up action, including re-audit of deficient areas, shall be taken.</p>	<p>Supplement 18S-1, Section 7 states: Follow-up action shall be taken to verify that corrective action is accomplished as scheduled.</p>		

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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 specifications and of this Standard.</p>		<p>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."</p>	
<p>Further guidance on requirements for auditing of quality assurance programs for nuclear power plants exists in draft form.</p>			<p>Descriptive in nature. No action required.</p>
<p><b>5. Program, Policies, and Procedures</b></p> <p><b>5.1 Program Description.</b></p> <p>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</p>			<p>Descriptive in nature. No action required.</p>

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>source documents be compiled in one master document.</p>			
<p>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.</p>		<p>The SNC QATR as a whole is intended to fill this requirement.</p>	
<p>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.</p>		<p>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.'</p> <p>Part II, Section 1: 'This section describes the SNC organizational structure, functional responsibilities, and interfaces for establishing, executing, and verifying QAP implementation.'</p>	
<p>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</p>	<p>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</p>		

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
controls, processes, tests, equipment, tools, and skills to attain the required quality and the need for verification of quality by inspections, evaluation or test.	controls, processes, test equipment, tools, and skills to attain the required quality and for verification of quality.”		
<p><b>5.2 Rules of Practice.</b></p> <p>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 conducting operations, and preparing and retaining plant documents. These rules and instructions should provide a clear understanding of operating philosophy and management policies.</p>		<p>Part II, Section 5.1 Procedure Adherence:</p> <p>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.</p>	
<p><b>5.2.1 Responsibilities and Authorities of Operating Personnel.</b></p> <p>The responsibilities and authorities of the plant operating personnel shall be</p>		<p>Part II, Section 1.2.2.1.1.2:                      Senior manager responsible for operations</p> <p>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</p>	

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<p>delineated. These shall include, as a minimum:</p> <p>(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.</p> <p>(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.</p> <p>(3) The senior reactor operator's responsibility to be present at the plant and to provide attention for returning the reactor to power following a swing, a trip or an unscheduled or unexplained power reduction.</p> <p>(4) The responsibility to believe and respond conservatively to instrument indications unless they are proved to be incorrect</p> <p>(5) The responsibility to adhere to the Plant's Technical Specifications.</p>		<p>overseeing outage work activities, surveillances, and tests.</p> <p>In addition, operating personnel responsibilities include:</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> <li>• The responsibility to believe and respond conservatively to instrument indications unless they are proved to be incorrect.</li> <li>• The responsibility to adhere to the plant's Technical Specifications.</li> <li>• The responsibility to review routine operating data to assure safe operation.</li> <li>• 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.</li> </ul>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
(6) The responsibility to review routine operating data to assure safe operation.			
<p><b>5.2.2 Procedure Adherence</b></p> <p>Procedures shall be followed, and the requirements for use of procedures shall be prescribed in writing,</p>		<p>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.'</p>	
<p>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 such changes.</p>		<p>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.</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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.</p>		<p>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.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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:</p> <p>(1) The written procedure to be present and followed step by step while the task is being performed</p> <p>(2) The operator to have committed the procedural steps to memory</p> <p>(3) Verification of completion of significant steps, by initials or signatures of checkoff lists</p>		<p>Part II, Section 5.1, Procedure Adherence:</p> <p>'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.</p> <p>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.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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 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.]</p>		<p>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.</p> <p>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."</p>	<p>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.</p>
<p><b>5.2.3 Operating Orders.</b></p> <p>A mechanism shall be provided for dissemination to the plant staff of instructions of general and continuing applicability to the conduct of</p>		<p>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</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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 <b>shall</b> be made for periodic review and updating of standing orders.</p>		<p>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.”</p> <p>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.”</p>	
<p><b>5.2.4 Special Orders.</b></p> <p>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 <b>shall</b> be made for periodic review, updating and</p>		<p>Appendix E: <b>“Special Orders</b></p> <p>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.</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
cancellation of special orders.			
<p><b>5.2.5 Temporary Procedures.</b></p> <p>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 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 be used and shall be subject to the review process prescribed in 4.3 and 5.2.15 as applicable.</p>		<p>Appendix E: <b>"Temporary Procedures"</b></p> <p>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.</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>Temporary procedures shall be approved by the management representative assigned approval authority,</p>		<p>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.</p>	
<p><b>5.2.6 Equipment Control.</b>  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,</p>	<p>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.”</p>		

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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.</p>		<p>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.</p>	
<p>[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.</p>	<p>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."</p>		<p>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.</p>

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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.</p>	<p>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.</p>		
<p>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.</p>	<p>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.'</p>	<p>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.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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, 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.]</p>	<p>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 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.</p>		<p>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.</p>
<p>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</p>	<p>NQA-1 BR 8 "Controls shall be established to assure that only correct and accepted items are used or installed</p> <p>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</p>	<p>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.</p> <p>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.</p> <p>Part II, Section 7.1:</p>	<p>The sum of the requirements from NQA-1 and the QATR accomplish the N 18.7 intent.</p>

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>conformance, affected systems shall be considered to be inoperable and reliance shall not be placed on such systems to fulfill their intended safety functions.</p>	<p>tests are not inadvertently installed, used, or operated.</p>	<p>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.</p>	
<p>When equipment is ready to be returned to service, operating personnel shall place the equipment in 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.</p>		<p>Appendix E: "<b>Maintenance Procedures</b></p> <p>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."</p>	
<p><b>5.2.7 Maintenance and Modifications</b></p> <p>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</p>		<p>Appendix E: "<b>Maintenance Procedures</b></p> <p>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</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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).</p>		<p>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."</p>	
<p>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,</p> <p>[Skills normally possessed by qualified maintenance personnel may not require detailed step-by-step delineations in a written procedure.]</p>	<p>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..."</p>	<p>Appendix E: "<b>Maintenance Procedures</b></p> <p>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."</p>	<p>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.</p>

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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 should be the plant storage area.</p>	<p>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..."</p>	<p>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.</p> <p>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.</p> <p>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.</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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:</p> <p>American National Standard Installation, Inspection and Testing of Instrumentation and Electric Equipment During the Construction of Nuclear Power Generation Station.</p> <p>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;</p> <p>American National Standard Qualifications of Inspection, Examination and Testing Personnel for the Construction Phase of Nuclear Power Plans N45.2.6-1 973; American National Standard Supplementary Quality Assurance Requirements for Installation, Inspection and</p>	<p>NQA-1 was developed based on ANSI/ASME N45.2-1977; ANSI N46.2; and seven daughter standards of ANSI/ASME N45.2:</p> <p>N45.2.6 N45.2.9 N45.2.10 N45.2.11 N45.2.12 N45.2.13 N45.2.23</p> <p>In addition, other daughters were made into subparts, these included:</p> <p>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 N45.2.18 = Subpart 2.18 N45.2.20 = Subpart 2.20</p>		<p>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.</p>

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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.</p>			
<p>[Considerable care is required in assessing which operational phase activities are comparable in nature and extent to activities normally associated with design and construction.]</p>			<p>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.</p>
<p><b>5.2.7.1 Maintenance Programs.</b> 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 of the plant.</p>	<p>SECTION 14 INSPECTION, TEST, AND OPERATING STATUS</p> <p>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</p>	<p>Appendix E: <b>"Maintenance Procedures</b></p> <p>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."</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
	<p>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.</p>		
<p>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.</p>	<p>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.”</p>		

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>[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).</p>	<p>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</p>	<p>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.'</p>	<p>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.</p>
<p>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</p>	<p>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</p>		

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
maintenance to be performed.	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 <b>shall</b> have	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		

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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 inservice performance of the new component to be evaluated and thereby minimize the possibility of a hidden deficiency producing a systematic failure.</p>	<p>other items.'</p>		
<p>[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.]</p>			<p>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.</p>
<p><b>5.2.7.2 Modifications.</b> Design activities associated with modifications of safety relate structures, systems and components shall be accomplished in accordance with N45.2.11-1974.</p>	<p>N45.2.11 was incorporated into NQA-1.</p>		
<p><b>5.2.8 Surveillance Testing and Inspections Schedule.</b></p> <p>A surveillance testing and inspection program shall be</p>		<p>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</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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.</p>		<p>coordinated operation of the plant as a whole is satisfactory.'</p> <p>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.'</p> <p>Appendix D: <b>Surveillance testing:</b> 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.</p>	
<p>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.</p>		<p>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.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
		<p>Part II, Section 10:</p> <p>'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.'</p>	
<p>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.</p>		<p>Part II, Section 11:</p> <p>'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.'</p>	
<p><b>5.2.9 Plant Security and Visitor Control.</b></p> <p>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.</p>			<p>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</p>

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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 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]</p>			<p>they generally provide for compliance with the N18.7 intent.</p>

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p><b>5.2.10 Housekeeping and Cleanliness Control.</b></p> <p>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 contamination control and storage of solid radioactive waste.</p>		<p>Part II, Section 13.1:</p> <p>'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.'</p>	
<p>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</p>		<p>Part II, Section 13.2</p> <p>'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.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
cleaning of electrical bus and control centers, cleaning of control consoles, radioactive decontamination.			
Particular attention should be given to housekeeping in work and storage areas where important items are handled and stored to preclude damage or contamination,		<p>Part II, Section 13.1:</p> <p>'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.'</p>	
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	<p>Part II, Section 13.2:</p> <p>'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...'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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.</p>	<p>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."</p>		
<p>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.</p>	<p>ANSI N45.2.1 = NQA-1 Subpart 2.1</p>	<p>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...'</p>	
<p>[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</p>			<p>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.</p>

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
fields require special consideration.]			
<p><b>5.2.11 Corrective Actions.</b> 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.</p>	<p>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."</p>	<p>Part II, Section 16.1: In establishing provisions for corrective action, SNC commits to compliance with NQA-1-1994, Basic Requirement 16.</p>	
<p><b>5.2.12 Plants Records Management.</b> Provisions shall be made for preparation and retention of plant records as appropriate.</p>		<p>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.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>The responsibility for maintaining records and storing them at a specified location or locations shall be assigned.</p>		<p>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.'</p>	
<p>Retention periods of sufficient duration to assure the ability to reconstruct significant events and satisfy any statutory requirements which apply shall be specified.</p>		<p>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.'</p>	
<p>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</p>	<p>NQA-1 was developed based on ANSI N45.2.9. See BR 17 and 17S-1.</p>	<p>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:</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
during the operational phase.		<p>NQA-1-1994, Supplement 17S-1</p> <p>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.'</p>	
<p><b>5.2.13 Procurement and Materials Control.</b> 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.</p>	<p>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."</p> <p>NQA-1 Supplement 4S-1 Section 2.7 states "The procurement documents shall require the identification of appropriate spare and replacement parts or assemblies..."</p>	<p>Part II, Section 4:</p> <p>'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.'</p>	
<p>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</p>	<p>NQA-1 was developed based on ANSI N45.2.13. See BR 4 and 4S-1, and BR 7 and 7S-1.</p>	<p>Part II, Section 4.2:</p> <p>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:</p> <p>NQA-1-1994, Supplement 4S-1</p> <p>Section 2.3 of Supplement 4S-1 includes a requirement that procurement documents require suppliers to have a documented quality assurance program that implements</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>assurance requirements depending on the complexity or safety of the item.</p>		<p>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.</p> <p>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.</p> <p><del>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.</del></p>	
<p>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,</p>		<p>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.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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.</p>		<p>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.'</p>	
<p>(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)</p>		<p>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.'</p>	
<p>(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;</p>		<p>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</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
		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."		

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>(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.</p>	<p>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..."</p>		<p>Control, use and shipment of special nuclear material is subject to NRC regulations and applicable license conditions which are not repeated in the QATR.</p>
<p><b>5.2.13.1 Procurement Document Control.</b> Measures shall be provided to assure that applicable regulatory documents, design bases and other requirements which are necessary to assure 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</p>	<p>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 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.</p>		

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
Requirements for Nuclear Power Plants, N45.2-1971.			
[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	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...'		

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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.</p>	<p>2.2 Technical Requirements</p> <p>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...</p>		
<p>(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,</p>	<p>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...</p> <p>2.4 Right of Access</p> <p>At each tier of procurement, the procurement documents shall provide for access to the Supplier's plant facilities and records for inspection or audit..."</p>		

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>(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,</p>	<p>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..."</p> <p>2.5 Documentation Requirements</p> <p>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."</p>		
<p>(5) Lower Tier Procurement. Provisions for extending applicable requirements to lower tier subcontractors and suppliers, including purchaser's access to facilities and records.</p>	<p>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..."</p>		

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
	<p>2.3 Quality Assurance Program Requirements</p> <p>The procurement documents shall require the Supplier to incorporate appropriate quality assurance program requirements in subtier procurement documents.”</p> <p>2.4 Right of Access</p> <p>“At each tier of procurement, the procurement documents shall provide for access to the Supplier’s plant facilities and records...”</p>		
<p><b>5.2.13.2 Control of Purchased Material, Equipment and Services.</b> Measures shall be provided to assure that purchased items and services, whether purchased directly or through contractors, conform to the procurement documents.</p>	<p>NQA-1-1994 BR 7 states “The procurement of items or services shall be controlled to assure conformance with specified requirements. “</p>	<p>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...'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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,</p>	<p>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.'</p>	<p><u>Part II, Section 18.1</u> <u>'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.'</u></p>	<p><u>By letter dated June 17, 2005, the NRC approved specific changes to the Farley, Hatch, and Vogtle quality assurance programs. These changes included NRC approval of standard criteria for extending audit intervals. These criteria included the following:</u></p> <p><u>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.</u></p> <p><u>B. A maximum extension not to exceed 25 percent 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.</u></p> <p><u>C. 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.</u></p>

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
			<p><u>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 should not exceed 3.25 times the specified inspection or audit interval.</u></p> <p><u>In its evaluation of the proposed change, the NRC determined that the audit interval extension provision was acceptable on the basis that it:</u></p> <ul style="list-style-type: none"> <li><u>• Conformed to the requirements of Appendix B to 10 CFR Part 50; and</u></li> <li><u>• Was consistent with the staff guidance for reviewing audit programs, as delineated in Section 17.2 of NUREG-0800.</u></li> </ul> <p><u>Based on the above, the proposed use of the 25 percent grace period as described in Part II, Section 18.1 of the proposed QATR has been previously approved for Farley, Hatch, and Vogtle and does not represent a change to the Farley, Hatch, or Vogtle QA program.</u></p>

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>Measures for evaluation and selection of procurement sources include the use of historical quality performance data, source surveys or audits, or source qualification programs.</p>	<p>Supplement 7S-1 Section 3 states 'Measures for evaluation and selection of procurement sources... shall include one or more of (a) through (c) below:</p> <p>(a) evaluation of the Supplier's history of providing an identical or similar product which performs satisfactorily in use...</p> <p>(b) Supplier's current quality records supported by documented qualitative and quantitative information which can be objectively evaluated;</p> <p>(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.</p>		
<p>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</p>	<p>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..."</p>		

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
verified by review of test reports, inspection upon receipt, or other means.			
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."	<p>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:</p> <p>NQA-1-1994, Supplement 7S-1</p> <ul style="list-style-type: none"> <li>- 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.</li> <li>- 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: <ul style="list-style-type: none"> <li>(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.</li> </ul> </li> </ul>	Exception to NQA-1 taken.

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
		<p>(2) The purchase documents require reporting as-found calibration data when calibrated items are found to be out-of-tolerance.</p> <p>(3) A documented review of the supplier's accreditation shall be performed and shall include a verification of each of the following:</p> <p>The calibration laboratory holds <u>an domestic</u> accreditation by the National Voluntary Laboratory Accreditation Program (NVLAP) or by the American Association for Laboratory Accreditation (A2LA) as recognized by NVLAP through <u>athe International Laboratory Accreditation Cooperation (ILAC)</u> Mutual Recognition Arrangement (MRA).</p> <p>The accreditation is based on ANS/ISO/IEC 17025.</p> <p>The published scope of accreditation for the calibration laboratory covers the necessary measurement parameters, ranges, and uncertainties.</p> <p>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.</p> <p>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.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>This documentary evidence shall be retrievable and shall be sufficient to identify the specific requirements such as codes, standards and specifications met by the purchased item.</p>		<p>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:</p> <p>NQA-1-1994, Supplement 7S-1</p> <ul style="list-style-type: none"> <li>– 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.</li> <li>– 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: <ul style="list-style-type: none"> <li>(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.</li> <li>(2) The purchase documents require reporting as-found calibration data when calibrated items are found to be out-of-tolerance.</li> <li>(3) A documented review of the supplier's accreditation shall be performed and shall include a verification of</li> </ul> </li> </ul>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
		<p>each of the following:</p> <ul style="list-style-type: none"> <li>• The calibration laboratory holds <del>a</del> <u>domestic</u> accreditation by the National Voluntary Laboratory Accreditation Program (NVLAP) or by the American Association for Laboratory Accreditation (A2LA) as recognized by NVLAP through <del>a</del> <u>the International Laboratory Accreditation Cooperation (ILAC)</u> Mutual Recognition Arrangement (MRA).</li> <li>• The accreditation is based on ANS/ISO/IEC 17025.</li> <li>• The published scope of accreditation for the calibration laboratory covers the necessary measurement parameters, ranges, and uncertainties.</li> </ul> <p>– 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.</p> <p>– 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.</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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.</p>	<p>Supplement 7S-1 Section 8.2 states "When a Certificate of Conformance is used, the minimum criteria of (a) through (f) shall be met.</p> <p>(f) means shall be provided to verify the validity of Supplier certificates and the effectiveness of the certification system..."</p>		
<p>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.</p>	<p>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."</p>		

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p><b>5.2.13.3 Identification and Control of Materials, Parts and Components.</b> Measures shall be provided for the identification and control of materials, parts and components including partially fabricated subassemblies.</p>	<p>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."</p>	<p>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.'</p>	
<p>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 or modification, to an applicable drawing, specification, or other pertinent technical document.</p>	<p>BR8 "Identification and Control of Items" states "Controls shall be established to assure that only correct and accepted items are used or installed."</p> <p>Supplement 8S-1 "Identification and Control of 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."</p>		

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
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.

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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.</p>	<p>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."</p>		
<p>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,</p>	<p>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."</p>		
<p><b>5.2.13.4 Handling, Storage and Shipping.</b> Measures shall be provided to control handling, storage and shipping, including cleaning, packaging and preservation of material and equipment in</p>	<p>BR13 "Handling, Storage, and Shipping" states "Handling, storage, cleaning, packaging, shipping, and preservation of items shall be controlled to prevent damage or loss</p>		

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
accordance with established instructions, procedures or drawings, to prevent damage, deterioration and 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	Supplement 8S-1 Section 3.3 states “Special handling tools and equipment shall		

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
ensure safe and adequate handling,	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	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.’	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
operational phase that are comparable in nature and extent to related activities occurring during construction.			
<b>5.2.14 Nonconforming Items.</b> 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		

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
	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..’		

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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."</p>	<p>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.</p> <p>Technical justification for the acceptability of a nonconforming item, dispositioned repair or use as is shall be documented.'</p>		
<p>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.</p>	<p>Supplement 15S-1 Section 4.4 states The as-built records, if such records are required, shall reflect the accepted deviation.'</p>		
<p>As a guideline, control of nonconforming items by tagging, marking or other means of identification is acceptable where physical segregation is not practical. although physical segregation and marking are preferred.</p>	<p>Supplement 15S-1 Section 2 states 'Identification of nonconforming items shall be by marking, tagging, or other methods... Supplement 15S-1 Section 3 states 'Nonconforming items shall be segregated, when practical..</p>		

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p><b>5.2.15 Review, Approval and Control of Procedures</b> 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.</p>	<p>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.'</p>		
<p>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.</p>		<p>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.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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.</p>		<p>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 (ee) below:</p> <ul style="list-style-type: none"> <li>(a) identification of documents to be controlled and their specified distribution;</li> <li>(b) identification of assignment of responsibility for preparing, reviewing, approving, and issuing documents;</li> <li>(c) review of documents for adequacy, completeness, and correctness prior to approval and issuance.'</li> </ul> <p><u>(d) coordinating and controlling interface documents and procedures; and</u> <u>(e) a method for providing feedback from users to continually improve procedures and work instructions.</u></p>	
<p>[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</p>		<p>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</p>	<p>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.</p>

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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 use provide the best possible instructions for performance of the work involved, systematic review and feedback of information based on use is required.</p>		<p>such a review and approval and the persons who can authorize such a decision shall be clearly delineated in implementing procedures.'</p> <p>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.'</p> <p><u>Part II, Section 6:</u> <u>SNC has established the necessary measures and governing procedures to control the preparation of, issuance of, and changes to documents that specify quality requirements or prescribe how activities affecting quality are controlled to assure that correct documents are being employed. Such documents, including changes thereto, shall be reviewed for adequacy and approved for release by authorized personnel. The control system shall be documented and shall provide for (a) through (e) below:</u></p> <ul style="list-style-type: none"> <li><u>(a) identification of documents to be controlled and their specified distribution;</u></li> <li><u>(b) identification of assignment of responsibility for preparing, reviewing, approving, and issuing documents;</u></li> <li><u>(c) review of documents for adequacy, completeness, and correctness prior to approval and issuance;</u></li> <li><u>(d) coordinating and controlling interface documents and procedures; and</u></li> <li><u>(e) a method for providing feedback from users to continually improve procedures and work instructions.</u></li> </ul>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>Each procedure shall be reviewed and approved prior to initial use.</p>		<p>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.'</p>	
<p>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,</p>		<p>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.'</p>	
<p>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 review.</p>		<p>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.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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,</p>		<p>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.'</p>	
<p>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,</p>		<p>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</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
		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	Supplement 6S-1 Section 2 states 'The control system shall be documented and shall provide for (a) through	Part II, Section 6.2: NQA-1-1994 Commitment  In establishing provisions for document control, SNC commits	<u>In response to NRC RAI, Question 7, SNC has incorporated the ANSI N18.7-1976 requirement for</u>

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>for preparing, reviewing, approving, and issuing documents and revisions thereto</p> <p>(2) Identifying the proper documents to be used in performing the activity (3) Coordination and control of interface documents</p> <p>(4) Ascertaining that proper documents are being used (5) Establishing current and updated distribution lists</p>	<p>(c) below:</p> <p>(a) identification of documents to be controlled and their specified distribution;</p> <p>(b) identification of assignment of responsibility for preparing, reviewing, approving, and issuing documents</p> <p>(c) review of documents for adequacy, completeness, and correctness prior to approval and issuance.”</p>	<p>to compliance with NQA-1-1994, Basic Requirement 6 and Supplement 6S-1. <u>Additionally, Section 6 of the proposed QATR incorporates the following requirements from ANSI N18.7-1976, not included in NQA-1-1994:–</u></p> <ol style="list-style-type: none"> <li><u>1. Coordinating and controlling interface documents and procedures, and</u></li> <li><u>2. a method for providing feedback from users to continually improve procedures and work instructions.</u></li> </ol>	<p><u>coordinating and controlling interface documents and procedures into the proposed SNC QATR to supplement the document control requirements of ASME NQA-1-1994.</u></p>
<p><b>5.2.16 Measuring and Test Equipment.</b></p> <p>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,</p>	<p>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.”</p>		

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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.</p>	<p>BR1 2 "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."</p> <p>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..."</p>		
<p>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.</p>	<p>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."</p>	<p>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.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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.</p>	<p>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.</p>		
<p>Special calibration shall be performed when the accuracy of either installed or calibrating equipment is questionable.</p>	<p>Supplement 12S-1 Section 3.2 states "A calibration shall be performed when the accuracy of the equipment is suspect.</p>		
<p>Records shall be made and equipment suitably marked to indicate calibration status.</p>	<p>Supplement 12S-1 Section 5 states "Records shall be maintained and equipment shall be suitably marked to indicate calibration status."</p>		
<p>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].</p>	<p>ANSI N45.2.4 = NQA-1 Subpart 2.4</p>	<p>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.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p><b>5.2.17 Inspections.</b> 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.</p>		<p>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.'</p>	
<p>Inspections, examinations, measurements, or tests of material, products, or activities shall be performed for each work operation where necessary to assure quality,</p>	<p>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."</p>		
<p>Such inspections shall be performed by qualified individuals other than those who performed or directly supervised the activity being inspected,</p>	<p>BR10 'Inspection' states "Inspection for acceptance shall be performed by persons other than those who performed or directly supervised the work being inspected."</p>	<p>Part II, Section 10: 'Inspections are carried out by properly qualified persons independent of those who performed or directly supervised the work.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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.</p>	<p>BR10 "Inspection" states "Inspection for acceptance shall be performed by persons other than those who performed or directly supervised the work being inspected."</p>	<p>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.'</p>	
<p>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.</p>	<p>BR10 'Inspection" states "Inspection for acceptance shall be performed by persons other than those who performed or directly supervised the work being inspected."</p>	<p>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.'</p>	
<p>For modifications and non-routine maintenance, inspections shall be conducted in a manner similar (frequency, type, and personnel performing such inspections) to that associated with construction phase activities (see also Section 5.2.7).</p>		<p>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.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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,</p>	<p>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."</p>	<p>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.'</p>	
<p>If mandatory inspection hold points are required, the specific hold points shall be indicated in appropriate documents.</p>	<p>Supplement 10S-1 Section 4 states "If mandatory inspection hold points are required... the specific hold points shall be indicated in appropriate documents."</p>	<p>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.'</p>	
<p>Information concerning, inspection shall be obtained from the related design drawings, specifications and/or, other controlled documents.</p>	<p>Supplement 10S-1 Section 2 states "Inspection requirements and acceptance criteria shall include specified requirements contained in the applicable design documents or other</p>	<p>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</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
	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			N18.7 wording in brackets are included in this table for

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>by the above requirements is not possible or feasible, the extent of inspection or performance testing to verify adequacy of structures, systems or components for service should be, in general, greater than otherwise required.]</p>			<p>completeness; they do not establish requirements that either NQA-1 or the SNC QATR would need to address.</p>
<p>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.</p>	<p>Supplement 10S-1 Section 7.3 states "The acceptance of the item shall be documented and approved by authorized personnel."</p> <p>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."</p>	<p>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.'</p>	
<p>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.</p>	<p>Supplement 10S-1 Section 9 states "Records shall, as a minimum, identify (a) through (f) below:  (c) inspector"</p>	<p>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.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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).</p>	<p>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, 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..."</p>	<p><u>Part II, Section 16</u>  '<u>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 trends are documented and reported to responsible management.'</u></p> <p>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.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p><b>5.2.18 Control of Special Processes.</b></p> <p>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.</p>		<p>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.'</p>	
<p>Qualification of personnel, procedures, and equipment shall comply with the requirements of applicable codes and standards.</p>	<p>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."</p>		
<p>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, chemical cleaning, and nondestructive examination.</p>		<p>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</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
		<p>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.</p>	
<p>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,</p>	<p>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."</p>		
<p><b>5.2.19 Test Control.</b></p> <p>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</p>		<p>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.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
documents.			
<p>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.</p>	<p>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."</p>	<p>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.'</p>	
<p>(2) Tests during the initial operational phase to demonstrate the performance of systems that could not be tested prior to operation and to confirm those physical parameters, hydraulic or</p>		<p>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</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>mechanical characteristics that need to be known, but which could not be predicted with the required accuracy, and to confirm that plant behavior conforms to design criteria.</p>		<p>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.'</p>	
<p>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</p>			<p>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.</p>

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>withstanding the design transients and accidents. The suitability of plant operating procedures <b>shall</b> be checked to the maximum extent possible during the preoperational and initial start-up test programs.</p>			
<p>(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).</p>		<p>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.'</p>	

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<p>(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).</p>		<p>Part II, Section 11:</p> <p>'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.'</p> <p>Part II, Section 7.1:</p> <p>'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</p>	

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		procurement process, including, as necessary, verification of activities of suppliers below the first tier.'	
<p><b>5.2.19.1 Preoperational Tests.</b></p> <p>[Preoperational tests are generally performed sequentially in accordance with written procedures.]</p>			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.
<p>Procedures shall ensure that prerequisites steps for equipment testing, such as 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).</p>	<p>Supplement 11S-1 "Supplementary Requirements for Test 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..."</p>		
<p>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</p>	<p>NQA-1, Subparts 2.4, 2.5 and 2.8 provide for such inspections and testing.</p>	<p>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</p>	

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<p>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.</p>		<p>appropriate inspection requirements.'</p>	
<p>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, 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.</p>	<p>NQA-1, Subparts 2.4, 2.5 and 2.8 provide for such inspections and testing.</p>	<p>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.'</p>	
<p>Individual system tests establish the functional adequacy by operation under prescribed conditions. The tests shall be designed to</p>	<p>NQA-1, Subparts 2.4, 2.5 and 2.8 provide for such testing.</p>	<p>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</p>	

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<p>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.</p>		<p>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.'</p>	
<p>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 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.</p>	<p>NQA-1, Subparts 2.4, 2.5 and 2.8 provide for such testing.</p>	<p>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.'</p>	
<p>For additional requirements in matters relating to preoperational test programs. American National Standard</p>	<p>ANSI N45.2.8 = NQA-1 Subpart 2.8</p>	<p>Part II, Section 10.1:  'In establishing inspection requirements, SNC commits to compliance with NQA-1-1994, Basic Requirement 10,</p>	

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N45.2.8- 1975 is generally applicable. [8]		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.'	
<p><b>5.2.19.2 Tests Prior to and During Initial Plant Operation.</b></p> <p>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.</p>		<p>Part II, Section 11:</p> <p>'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.'</p>	
Following fuel loading an initial start-up test program shall be conducted to evaluate plant		<p>Part II, Section 11:</p> <p>'SNC has established the necessary measures and governing procedures to demonstrate that items subject to the provisions</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>performance as the start-up progresses.</p>		<p>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.'</p>	
<p><b>Responsibilities.</b> 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 other than the owner organization, design organizations involved should participate in definition of the programs, and the construction organization</p>		<p>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</p>	

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<p>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.</p>		<p>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.'</p>	
<p><b>Scheduling.</b> 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).</p>		<p>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</p>	

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		<p>criteria are not met, retesting is performed as needed to confirm acceptability following correction of the system or equipment deficiencies that caused the failure.'</p>	
<p><b>5.2.19.3 Tests Associated with Plant Maintenance, Modifications or Procedure Changes.</b></p> <p>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.</p>		<p>Part II, Section 11:</p> <p>'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.'</p>	
<p><b>5.3 Preparation of Instructions and Procedures.</b></p> <p>The administrative controls</p>	<p>BR5 "Instructions, Procedures, and Drawings" states "Activities affecting quality shall be prescribed by and performed in</p>	<p>Part I, Section 1:</p> <p>'The QATR describes the methods and establishes quality assurance program and administrative control requirements that meet 10 CFR 50, Appendix B.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>and quality assurance program shall be carried out 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.</p>	<p>accordance with documented instructions, procedures, or drawings of a 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."</p>	<p>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.'</p> <p>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.'</p>	
<p><b>5.3.1 Procedure Scope.</b></p> <p>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.</p>		<p>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.'</p>	

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<p><b>5.3.2 Procedure Content.</b></p> <p>The format of procedures may vary from plant to plant, depending on the policies of the owner organization. However, procedures shall include, as appropriate, the following elements:</p> <p>(1) Title. Each procedure <b>shall</b> contain a title descriptive of the work or system or unit to which it applies, a revision number or date, and an approval status.</p> <p>(2) Statement of Applicability. The purpose for which the procedure is intended <b>shall</b> 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, <b>shall</b> 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</p>		<p>Appendix E :</p> <p>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.</p>	

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<p>procedure <b>shall</b> identify those independent actions or procedures which shall be completed and plant conditions which shall exist prior to its use. Prerequisites applicable only to certain sections of a procedure shall be so identified.</p> <p>(5) Precautions. Precautions <b>shall</b> 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 <b>shall</b> be included in the main body of the procedure and shall be identified as such.</p> <p>(6) Limitations and Actions. Limitations on the parameters being controlled and appropriate corrective measures to return the parameter to the normal control band <b>shall</b> be specified. It may be convenient to specify limitations and setpoints in a separate section. Where appropriate, quantitative control guides should be</p>			

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<p>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."</p> <p>(7) Main Body. The main body of a procedure <b>shall</b> contain step-by-step instructions in the degree of detail necessary for performing a required function or task.</p> <p>(8) Acceptance Criteria. Procedures <b>shall</b> 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.</p> <p>(9) Checkoff Lists. Complex procedures <b>shall</b> have checkoff lists. These lists may be included as part of the procedure or may be appended to the procedure.</p>			
<p><b>5.3.3 System Procedures.</b></p> <p>Instructions for energizing, filling, venting, draining,</p>		<p><b>Appendix E: System Procedures</b></p> <p>'These documents contain instructions for energizing, filling,</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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 lead to operator uncertainty. System procedures shall contain checkoff lists where appropriate.</p>		<p>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.'</p>	
<p><b>5.3.4 General Plant Procedures.</b></p> <p>[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.]</p>			<p>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.</p>
<p><b>5.3.4.1 Start-up Procedures.</b></p> <p>Start-up procedures shall be provided that include starting the reactor from cold or hot conditions and establishing</p>		<p>Appendix E: <b>Start-up Procedures</b></p> <p>'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</p>	

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<p>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.</p> <p>(1) Prerequisites. Start-up procedures shall include provisions for documented determination that. Prerequisites have been met, including confirmation that 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.</p> <p>(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</p>		<p>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.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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.</p>			
<p><b>5.3.4.2 Shutdown Procedures.</b></p> <p>Shutdown procedures shall be provided to guide operations during and following controlled shutdown 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</p>		<p>Appendix E: <b>Shutdown Procedures</b></p> <p>'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.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
confirming completion of major steps in proper sequence.			
<p><b>5.3.4.3 Power Operation and Load Changing Procedures.</b></p> <p>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 parameters.</p>		<p>Appendix E: <b>Power Operation and Load Changing Procedures</b></p> <p>'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.'</p>	
<p><b>5.3.4.4 Process Monitoring Procedures.</b></p> <p>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.</p>		<p>Appendix E :</p> <p><b>Process Monitoring Procedures</b></p> <p>'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.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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.</p>			
<p><b>5.3.4.5 Fuel-Handling Procedures.</b></p> <p>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, 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</p>		<p><b>Fuel Handling Procedures</b></p> <p>'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.'</p>	<p>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.</p>

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>and should identify those aspects of the program for which procedures are to be prepared for each refueling outage.]</p> <p>(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.</p> <p>(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, 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</p>			

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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.</p>			
<p><b>5.3.5 Maintenance Procedures.</b></p> <p>Maintenance procedures shall contain applicable items listed under 5.3.2 and, in addition, measures to cover the features of maintenance described below.</p> <p>(1) Preparation for Maintenance. Maintenance procedures shall reflect considerations listed under 5.2.6. Adherence to applicable radiation Protection measures shall be prescribed. These measures shall specify protective clothing and radiation monitoring needed to assure safety.</p> <p>(2) Performance of Maintenance. The procedures shall contain enough detail to permit the maintenance work to be performed correctly and</p>		<p>Appendix E: <b>Maintenance Procedures</b></p> <p>'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</p> <p>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.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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.</p> <p>(3) Post Maintenance Check Out and Return to Service. Instructions shall be included or referenced, for returning the equipment to its normal operating status.</p> <p>(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 approval as operating procedures.</p>			
<p><b>5.3.6 Radiation Control Procedures.</b></p>		<p>Appendix E: <b>Radiation Control Procedures</b></p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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.</p>		<p>'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.'</p>	
<p><b>5.3.7 Calibration and Test Procedures.</b></p> <p>Procedures shall be provided for periodic calibration and</p>		<p>Appendix E: <b>Calibration and Test Procedures</b></p> <p>'These documents contain instructions for periodic calibration and testing of instrumentation and control systems, and for</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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.</p>		<p>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.'</p>	
<p><b>5.3.8 Chemical-Radiochemical Control Procedures.</b></p> <p>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, fowl heat transfer surfaces or become sources of radiation hazards due to activation, Procedures shall also be provided for the control, treatment and</p>		<p>Appendix E: <b>Chemical and Radiochemical Control Procedures</b></p> <p>'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, fowl 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.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>management of radioactive wastes and control of radioactive calibration sources.</p>			
<p><b>5.3.9 Emergency Procedures.</b></p> <p>Procedures shall be provided to guide operations during potential emergencies. They shall be 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 <b>shall</b> 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,</p>		<p>Appendix E: <b>Emergency Operating Procedures</b></p> <p>'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.'</p>	<p>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.</p>

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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 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</p>			

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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.]</p>			
<p><b>5.3.9.1 Emergency Procedure Format and Content.</b></p> <p>Emergency procedures shall include as appropriate, the following elements:            (1) Title. The title <b>shall</b> be descriptive of the emergency for which the procedure is provided. (2) Symptoms. Symptoms <b>shall</b> 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</p>		<p><b>Appendix E: Emergency Operating Procedures</b></p> <p>'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.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>automatic actions that will probably occur as a result of the emergency <b>shall</b> be identified.</p> <p>(4) Immediate Operator Actions. These steps <b>shall</b> specify immediate actions for operation of controls or confirmation of automatic actions that are required to stop the degradation of conditions and mitigate their consequences. Examples include the following:</p> <p>(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</p>			

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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 <b>shall</b> be included to return the reactor to a normal condition or to provide for a safe extended shutdown period under abnormal or emergency conditions</p>			
<p><b>5.3.9.2 Events of Potential Emergency.</b></p> <p>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</p>		<p>Appendix E: <b>Emergency Operating Procedures</b></p> <p>'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</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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 occurrences (12) Fires</p>		<p>the reactor to a normal condition or provide for a safe extended shutdown period under abnormal or emergency conditions.'</p>	
<p><b>5.3.9.3 Procedures for Implementing Emergency Plan.</b></p> <p>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.</p>		<p>Appendix E:  <b>Emergency Plan Implementing Procedures</b></p> <p>'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.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>(3) Specific actions to be taken by coordinating support groups.</p> <p>(4) Procedures for medical treatment and handling of contaminated individuals.</p> <p>(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.</p> <p>(6) Identification of emergency communications network. Including communications required for personnel identification and effective coordination of all support groups.</p> <p>(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.)</p> <p>(8) Procedures required to restore the plant to normal conditions following an</p>			

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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]</p>			
<p><b>5.3.10 Test and Inspection Procedures.</b></p> <p>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 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</p>		<p>Appendix E: <b>Test and Inspection Procedures</b></p> <p>'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.'</p>	

<u>ANSI N18.7-1976</u>	<u>ASME NQA-1-1994</u>	<u>SNC QATR</u>	<u>COMMENTS</u>
<p>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.</p>			
<p><b>6. References</b></p>			<p>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.</p>

Enclosure 6  
Southern Nuclear Operating Company  
Quality Assurance Topical Report

Response to NRC RAI dated February 1, 2007

**ENCLOSURE 1**      **SOUTHERN NUCLEAR OPERATING COMPANY QUALITY ASSURANCE TOPICAL REPORT**

**PART I      INTRODUCTION**

**NRC QUESTION**

1. Part I, Section 1.4 of the QATR commits to compliance with NQA-1-1994, Part I, Introduction, Section 4. SNC utilizes the terms and definitions provided in NQA-1-1994 with the exception of the term "verification." Appendix D to the QATR provides additional definitions of terms used in the QATR that are not contained in the NQA-1-1994 definitions.
  - The QATR proposes to use the terms "independent verification" and "concurrent verification" instead of the term "verification" provided in NQA-1-1994. Provide the bases for the proposed definitions of "independent verification" and "concurrent verification," and why they are acceptable.
  - The terms "independent verification" and "concurrent verification" that are proposed to be used instead of the term "verification" included in NQA-1-1994 are not included in Appendix D to the QATR. The staff recommends adding the definitions of "independent verification" and "concurrent verification" to the Appendix D to the QATR.

**SNC RESPONSE**

The use of the terms "independent verification" and "concurrent verification" were intended by SNC to provide clarification for the term "verification" as opposed to replacing the term "verification" defined by ASME NQA-1-1994. SNC has determined that this clarification is not necessary and as a result, has deleted the terms "independent verification" and "concurrent verification" from Part I, Section I, Paragraph 1.4 of the proposed QATR. This deletion will result in SNC's commitment to the term "verification" as defined in NQA-1-1994. In addition, the following conforming changes have been incorporated into the QATR submittal to reflect the above described change:

- Enclosure 2, Section 4.2.1, has been modified to delete the proposed definitions of "independent verification" and "concurrent verification" intended to provide clarification of the term "verification" defined by NQA-1-1994.
- Enclosure 4, Part I, Section 1.4, has been modified to delete references to "independent verification" and "concurrent verification" and reflect SNC conformance with the definitions contained in NQA-1-1994, Part I, Section 1.4.

## **PART II QAPD DETAILS**

### **SECTION 1 ORGANIZATION**

#### **NRC QUESTION**

2. The Three Mile Island (TMI)-related requirements contained in 10 CFR 50.34(f)(3)(iii)(F) requires ensuring that the size of the QA organization is commensurate with its duties and responsibilities. Clarify how the QATR provides for ensuring that the QA organization is sized commensurate with its duties and responsibilities.

#### **SNC RESPONSE**

As stated in 10 CFR 50.34(f), the requirement of 10 CFR 50.34(f)(3)(iii)(F) associated with sizing of the QA staff commensurate with its duties and responsibilities is applicable to licensees whose applications for a construction permit or manufacturing license were pending as of February 16, 1982. A specific list of plants to which the requirements of 10 CFR 50.34(f) apply is provided in the regulation and does not include Farley, Hatch, or Vogtle. Accordingly, the requirement of 10 CFR 50.34(f)(3)(iii)(F) does not apply to SNC operating plants.

### **SECTION 2 QUALITY ASSURANCE PROGRAM**

#### **NRC QUESTION**

3. The QATR proposes an alternative to Supplement 2S-1 that would allow a qualified engineer to plan an inspection, evaluate the capabilities of an inspector, or evaluate the training program for inspectors. Provide a bases for why the use of an engineer to perform these functions is acceptable.

#### **SNC RESPONSE**

NQA-1-1994, Appendix 2A-1, Nonmandatory Guidance on the Qualifications of Inspection and Test Personnel, may be used in conjunction with Basic Requirement 2 and Supplement 2S-1 of NQA-1-1994, Part I, for the qualification of inspection and test personnel. Appendix 2A-1 identifies three levels of qualification that may be used depending on the complexity of the functions involved with the qualifications for Level I inspectors being the least restrictive and Level III inspectors being the most restrictive.

Appendix 2A-1, Paragraph 2.2 states that a Level II inspector should have, among other things, all of the capabilities of a Level I inspector. Similarly, Appendix 2A-1, Paragraph 2.3 states that a Level III inspector should have the capabilities of a Level II inspector. In addition, Paragraph 2.3 states that the Level III inspector should also be capable of evaluating the adequacy of specific programs used to train and certify inspection and test personnel whose qualifications are covered by this Appendix.

Appendix 2A-1, Section 3, provides education and experience qualification recommendations for Levels I, II, and III. Section 3.3 provides four options for qualification of personnel as a Level III. Paragraph 3.3.4 provides the following option for qualification of a Level III inspector.

*Graduation from a 4 year college plus 5 years of related experience in equivalent inspection or testing activities with at least 2 years of this experience associated with nuclear facilities – or, if not, at least sufficient training to be acquainted with the relevant quality assurance aspects of a nuclear facility.*

Accordingly, SNC's use of a qualified engineer as described in Part II, Section 2.4, of the proposed QATR to plan inspections, evaluate capabilities of other inspectors, and evaluate the training program for inspectors assures conformance with the recommendations of Appendix 2A-1, Paragraph 3.3.4, for Level III inspectors.

#### **NRC QUESTION**

4. Section 2.4 of the QATR establishes a commitment to NQA-1-1994, Basic Requirement 2 and its supplements with clarifications and exceptions to these requirements. As an exception the QATR proposes that nondestructive examination (NDE) personnel will follow the applicable standard cited in the version(s) of ASME Section XI. Provide a bases for why the Supplement 2S-2 alternative regarding the qualification of NDE personnel does not include Section III of the ASME Boiler and Pressure Vessel Code.

#### **SNC RESPONSE**

SNC has revised the exception to the requirements of NQA-1-1994, Supplement 2S-2, described in Section 2.4 of the proposed QATR to include Section III of the ASME Boiler and Pressure Vessel Code as follows:

*In lieu of Supplement 2S-2, for qualification of nondestructive examination personnel, SNC will follow the applicable standard cited in the version(s) of Section III and Section XI of the ASME Boiler and Pressure Vessel Code approved by the NRC for use at SNC sites.*

Conforming changes to the supplemental information provided with the proposed SNC QATR have been incorporated as follows:

- Enclosure 2, Section 4.2.3 has been modified to include the qualification requirements of ASME Section III. Additionally, the citation provided in this section of prior NRC approval for the proposed exception to NQA-1-1994 has been modified to reflect the deviation from the information contained in the NMC QATR.
- Enclosure 4, Section II, Basic Requirement 2, Supplement 2S-2, has been modified to include the qualification requirements of ASME Section III. For consistency with Enclosure 2, Section 4.2.3, the reference in the "Basis for Acceptance" for this exception has been modified to reflect consistency with the NMC QATR, as modified by the NRC-requested addition of the reference to ASME Section III in response to this RAI question, and approved by NRC SER dated March 24, 2005.

## **SECTION 3 DESIGN CONTROL**

### **NRC QUESTION**

5. The TMI-related requirements contained in 10 CFR 50.34(f)(iii)(C) requires that QA personnel are included in the documented review and concurrence of quality-related procedures associated with design, construction, and installation. Clarify how the QATR implements measures to control the documented review and concurrence of quality-related procedures.

### **SNC RESPONSE**

As stated in 10 CFR 50.34(f), the requirement of 10 CFR 50.34(f)(3)(iii)(C) associated with QA personnel inclusion in the documented review and concurrence of quality-related procedures is applicable to licensees whose applications for a construction permit or manufacturing license were pending as of February 16, 1982. A specific list of plants to which the requirements of 10 CFR 50.34(f) apply is provided in the regulation and does not include Farley, Hatch, or Vogtle. Accordingly, the requirement of 10 CFR 50.34(f)(3)(iii)(C) does not apply to SNC operating plants.

## **SECTION 4 PROCUREMENT DOCUMENT CONTROL**

### **NRC QUESTION**

6. Section 4.2 of the QATR establishes a commitment to NQA-1-1994, Basic Requirement 4 and Supplement 4S-1, and includes clarification and exceptions to these requirements. As an exception, the QATR proposes that "the quality assurance review of procurement documents is satisfied through review of the applicable procurement specifications, including the technical and quality procurement requirements, prior to bid or award of contract." This exception does not specify if procurement documents as well as changes to procurement documents will be part of the proposed quality assurance review. Clarify how the proposed quality assurance review of procurement documents includes reviews of procurement document changes.

### **SNC RESPONSE**

SNC has revisited its proposed clarification to Section 3 of Supplement 4S-1 contained in Section 4.2 of the proposed QATR and determined the clarification is unnecessary. Accordingly, this clarification has been deleted from the proposed QATR provided in Enclosure 1, and references thereto have been deleted from Enclosures 2, 4, and 5.

Section 3 of Supplement 4S-1 provides the requirements for procurement document reviews. The proposed SNC QATR provided in Enclosure 1 does not include an exception to, or clarification of, the requirements of Supplement 4S-1, Section 3. Accordingly, SNC commitments to NQA-1-1994, Basic Requirement 4 and Supplement 4S-1, with the clarifications and exceptions provided in Section 4.2 of the proposed QATR, provide appropriate controls for the review of procurement documents.

Section 4 of NQA-1-1994, Supplement 4S-1, requires that "procurement document changes shall be subject to the same degree of control as utilized in the preparation of the original documents." The proposed SNC QATR does not include an exception to, or clarification of, the requirements of Supplement 4S-1, Section 4. Accordingly, SNC commitments to NQA-1-1994, Basic Requirement 4 and Supplement 4S-1, with the clarifications and exceptions provided in Section 4.2 of the proposed QATR, provide appropriate controls for the review of procurement document changes.

## **SECTION 6 DOCUMENT CONTROL**

### **NRC QUESTION**

7. ANSI Standard N18.7-1976, "Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants," (ANSI N18.7) specifies that there should be coordination and control of interface documents. The QATR no longer commits to the requirements of ANSI N18.7. Clarify how the QATR addresses the coordination and control of interface documents.

### **SNC RESPONSE**

SNC has revised Section 6 of the proposed QATR to include the following component from Section 5.2.15 of ANSI N18.7-1976 in the document control system:

- *coordinating and controlling interface documents and procedures.*

Conforming changes to the supplemental information provided with the proposed SNC QATR have been incorporated as follows:

- Enclosure 4, Section Basic Requirement 6, Supplement 6S-1, was modified to reflect the additional requirement of ANSI N18.7-1976 for coordinating and controlling interface documents not addressed by ASME NQA-1-1994.
- Enclosure 5, Section 5.2.15 was modified to reflect the additional requirement for coordinating and controlling interface documents and procedures in the column titled, SNC QATR.

## **SECTION 7 CONTROL OF PURCHASED MATERIAL, EQUIPMENT, AND SERVICES**

### **NRC QUESTION**

8. Section 7.2 of the QATR proposes to use an alternate method for procurement of commercial-grade calibration services for safety-related applications in lieu of performing a supplier audit, commercial-grade survey, or in-process surveillance for calibration laboratory accredited by NVLAP or A2LA as recognized by NVLAP through a Mutual Recognition Arrangement (MRA).

- An MRA is a generic term referring to a conformity assessment process. For assessment of calibration laboratories, the NRC has found the ILAC MRA to be an acceptable alternative. The alternative previously approved by the NRC does not include MRAs administered under other programs. Clarify which MRA the QATR proposes to use.

- The NRC has approved this alternative only to be used with domestic accredited calibration service suppliers. Clarify how the QATR will implement the procurement of commercial-grade calibration services consistent with the previously approved alternative.

### **SNC RESPONSE**

SNC will limit the use of MRAs associated with the procurement of commercial-grade calibration services for safety-related applications to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA). Use of this alternative will be limited to domestic accredited calibration service suppliers. Section 7.2 of the proposed QATR has been modified to include the following:

*The calibration laboratory holds a domestic accreditation by the National Voluntary Laboratory Accreditation Program (NVLAP) or by the American Association for Laboratory Accreditation (A2LA) as recognized by NVLAP through the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA).*

Conforming changes to the supplemental information provided with the proposed SNC QATR have been incorporated as follows:

- Enclosure 2, Section 4.2.6, has been modified to reflect domestic accreditation by the NVLAP and the ILAC MRA described above.
- Enclosure 4, Part II, Basic Requirement 7, has been modified to reflect domestic accreditation by the NVLAP and the ILAC MRA described above.
- Enclosure 5, Section 5.2.13.2, has been modified to reflect domestic accreditation by the NVLAP and the ILAC MRA described above.

## **SECTION 16 CORRECTIVE ACTION**

### **NRC QUESTION**

9. Section 3.2 of ANSI N18.7 specifies that the corrective action program shall include provisions for all personnel to identify conditions that are adverse to quality. The QATR no longer commits to the requirements of ANSI N18.7. Clarify how the QATR provides for all personnel to identify conditions that are adverse to quality.

### **SNC RESPONSE**

Part II, Section 16, of the proposed SNC QATR states, "SNC has established the necessary measures and governing procedures to promptly identify, control, document, classify, and correct conditions adverse to quality." To clarify the scope of this statement, Section 16 of the proposed QATR has been revised to state:

*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.*

Conforming changes to the supplemental information provided with the proposed SNC QATR have been incorporated as follows:

- Enclosure 5, Section 5.2.17, which addresses the inspection requirements of ANSI N18.7-1976, has been modified to provide a cross reference to the corrective action requirements contained in NQA-1-1994 and the proposed SNC QATR.

## **SECTION 18      AUDITS**

### **NRC QUESTION**

10. NRC's previously approved provision states that "a general grace period of 90 days may be applied to provisions that are required to be performed on a periodic basis unless otherwise noted. Annual evaluations and audits that must be performed on a triennial basis are examples where the 90 day general grace period could be applied. The grace period does not allow the "clock" for a particular activity to be reset forward. The "clock" for an activity is reset backwards by performing the activity early." Section 18.1 of the QATR provides provisions for the performance of audits. The QATR incorporates a grace period of 25% be applied to provisions that are required to be performed on a periodic basis. Describe the bases and acceptability of the provision for the 25% grace period stated in the QATR.

### **SNC RESPONSE**

By letter dated June 17, 2005, the NRC approved specific changes to the Farley, Hatch, and Vogtle quality assurance programs. These changes included NRC approval of standard criteria for extending audit intervals. These criteria included the following:

- 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 percent 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 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.
- 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 should not exceed 3.25 times the specified inspection or audit interval.

In its evaluation of the proposed change, the NRC determined that the audit interval extension provision was acceptable on the basis that it:

- Conformed to the requirements of Appendix B to 10 CFR Part 50; and
- Was consistent with the staff guidance for reviewing audit programs, as delineated in Section 17.2 of NUREG-0800.

Based on the above, the proposed use of the 25 percent grace period as described in Part II, Section 18.1 of the proposed QATR has been previously approved for

Farley, Hatch, and Vogtle and does not represent a change to the Farley, Hatch, or Vogtle QA program.

SNC has incorporated the above information regarding grace period for provisions that are required to be performed on a periodic basis into the ANSI N18.7-1976 conformance matrix provided in Enclosure 5. In addition, SNC has modified the Enclosure 5 to include the headings for the table columns inadvertently omitted from the original submittal.

## **NRC QUESTION**

11. Section 18.1 of the QATR provides measures and frequencies for audits and evaluations of suppliers. The QATR provides a 36-month interval for audits of supplier activities, and 12-month interval for evaluation of supplier activities. In addition, the QATR allows for a maximum extension not to exceed 25% of the audit or evaluation [interval]. The combined time interval for any three consecutive audit or evaluation intervals should not exceed 3.25 times the specified audit or evaluation interval.

- Clarify what is included in an evaluation of a supplier and if the evaluation will be documented.
- Provide bases for the allowed extension period provided in the QATR for audits and evaluations of suppliers.

## **SNC RESPONSE**

Evaluation of suppliers is described in Section 7.1 of the proposed SNC QATR which states:

*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 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 are 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.*

Accordingly, the requested information regarding evaluation of suppliers is provided in the proposed QATR, as originally submitted.

See the response to NRC Question 10 above for the basis for the extension period for audits and evaluation of suppliers described in the QATR. SNC has incorporated the information regarding extension period for audits and evaluations of suppliers into the ANSI N18.7-1976 conformance matrix, Section 5.2.13.2, provided in Enclosure 5.

#### **NRC QUESTION**

12. Section 3.1 of ANSI N18.7 specifies that when any work carried out under the requirements of the QA program is delegated to others, the work is to be audited by the QA audit program. Clarify how the QATR will provide measures to address the audit of QA program delegated to others.

#### **SNC RESPONSE**

The information contained in Part II, Section 2, of the proposed QATR has been modified to include the following:

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

#### **NRC QUESTION**

13. NRC Regulatory Guide 1.33, "Quality Assurance Program Requirements," Revision 2, provides a frequency of 12 months for audits of facilities conformance with Technical Specifications and for audits of performance, training, and qualifications of the facility personnel. Provide the bases for the proposed extended audit frequencies provided in Section 18.1.

#### **SNC RESPONSE**

As stated in Part III of the proposed QATR, SNC considers the quality assurance requirements of the proposed QATR and the QA requirements of NQA-1-1994 to be equivalent to ANSI N18.7-1976/ANS-3.2 and Regulatory Guide 1.33, Revision 2. Consequently, SNC does not commit to ANSI N18.7-1976, or to Regulatory Guide 1.33, except that Appendix A of Regulatory Guide 1.33 will be used as guidance for establishing the procedures required for plant operational phase activities.

Notwithstanding, NRC letter dated June 17, 2005, approved specific changes to the Farley, Hatch, and Vogtle quality assurance programs. These changes included NRC approval of a maximum 24-month audit interval, except where noted.

When the review and audit requirements for SNC's plants were relocated from the technical specifications to the QA program under the Improved Technical Specification Program, the relocations were performed in accordance with NRC Administrative Letter (AL) 95-06. Administrative Letter 95-06 states that audit frequencies may be revised by implementation of a performance-based schedule (schedule adjusted according to objective evaluation of plant functional area performance), provided that the maximum audit interval does not exceed the 24-month interval specified in ANSI N18.7. Exceptions to the allowable use of performance-based audit frequencies are those audit intervals defined by regulations, such as regulations governing the emergency and security plans.

The NRC found the SNC proposed change to the maximum audit intervals to be acceptable based on:

- A similar change in maximum audit intervals, based on performance-based audit scheduling, has been previously approved by the NRC staff; and
- The proposed implementation of a maximum 24-month interval for the specified audits is consistent with the guidance of AL 95-06 and is, therefore, acceptable.

Based on the above, the proposed use of a maximum 24-month interval for specific audits specified in the proposed QATR has been previously approved for SNC and as a result, does not represent a change to the Farley, Hatch, or Vogtle quality assurance requirements.

Enclosure 5, Section 4.5, of the SNC QATR submittal has been revised to provide the above described bases for the SNC exception to the audit frequencies contained in Regulatory Guide 1.33, Revision 2.

**ENCLOSURE 2**      **DESCRIPTION OF PROPOSED CHANGE/BASIS FOR  
CONCLUDING THE REVISED PROGRAM CONTINUES TO  
SATISFY 10 CFR 50, APPENDIX B**

**NRC QUESTION**

14. As stated in 10 CFR 50.54(a)(3)(ii), the use of a quality assurance alternative, clarification or exception approved by an NRC safety evaluation, provided that the bases of the NRC approval are applicable to the licensee's facility, is not considered to be a reduction in commitment. The staff needs to understand how the bases of the NRC approval is applicable to the licensee's individual facilities. A statement that the bases are met is not adequate. For each alternative, clarifications and exceptions mentioned in Enclosure 2, Sections 4.2 and 4.3 provide a bases for each affected operating nuclear facility.

The licensee may refer to Dominion's QA Consolidation submittal, Attachment 2, "Description of Changes," and the associated supplemental document dated August 24, 2004, and May 05, 2005, respectively, and Constellation's Common QATR, Attachment 4, and the associated supplemental documents dated December 5, 2005, and September 1, 2006, respectively, for examples of how to address providing a bases for the proposed alternative, clarification or exception. It would help the staff if the bases could provide information for each of the alternatives, clarifications or exceptions on the current commitment for each facility and explain why it is acceptable.

### **SNC RESPONSE**

The provisions of 10 CFR 50.54(a)(3) cited by the NRC allow licensees to make changes to a previously accepted QA program without prior NRC approval provided the change does not reduce commitments in the program description as accepted by the NRC. 10 CFR 50.54(a)(3) defines specific changes that are not considered to be reductions in commitments. Specifically, 10 CFR 50.54(a)(3)(ii) allows licensees to use quality assurance program alternatives or exceptions approved by an NRC safety evaluation, provided the bases of the NRC approval are applicable to the licensee's facility.

During development of the SNC QATR, consideration was given to changing the existing Farley, Hatch, and Vogtle QA programs to the QATR without prior NRC review and approval in accordance with the provisions of 10 CFR 50.54(a)(3). However, at the direction of the NRC Staff, SNC submitted the proposed QATR in accordance with the provisions of 10 CFR 50.54(a)(4). SNC citation of prior NRC approval of alternatives and exceptions contained in the QATR is provided, not to state that the alternative or exception is applicable to SNC plants but instead, to facilitate NRC review of the proposed QATR.

The quality assurance topical report for nuclear power reactors describes quality assurance program requirements at a very high level with the detail necessary for implementation provided in detailed procedures. Licensees of commercial nuclear power reactors are required to have quality assurance programs that meet the requirements of 10 CFR 50, Appendix B, and are subject to routine NRC inspection of the QA program implementation. Accordingly, methods found to be acceptable by the NRC for meeting the requirements of 10 CFR 50, Appendix B, for a specific site should also be acceptable for other sites required to comply with the same requirement.

As stated above, SNC submitted the proposed QATR in accordance with the provisions of 10 CFR 50.54(a)(4) for NRC approval. Accordingly, the requirements of 10 CFR 50.54(a)(3) do not apply.

### **NRC QUESTION**

15. Paragraphs 4.2.7(b) and 4.2.8 of Enclosure 2 provide an alternate method for items requiring labeling and tagging. Provide an explanation of why the same alternative is taken for two different applications, and why it is acceptable.

### **SNC RESPONSE**

As stated in Section 4.2.7(b) and 4.2.8, SNC will utilize appropriate measures necessary to provide means for identification of equipment so that appropriate controls may be implemented. Regardless of the alternative selected in lieu of labeling or tagging, appropriate measures for assuring appropriate controls, including calibration of equipment, will be provided.

### **ENCLOSURE 3      EXISTING QA PROGRAMS VS. QATR COMPARISON MATRIX**

### **NRC QUESTION**

16. In the Enclosure 3 of the QATR, SNC proposes moving Vogtle QA program section 17.2.17.1, "Record Retention," to FSAR Chapter 13, "Conduct of Operations." Section 17 of the proposed QATR has a commitment to Regulatory Guide 1.28 under Record Retention, which includes guidance on the retention period for the different types of documents. The staff finds that these details would be appropriate to include in implementing procedures instead of Chapter 13. Explain the bas[e]s for moving this information to Chapter 13 of the FSAR and why taking this information out of the FSAR could result in a change to the license design bases.

### **SNC RESPONSE**

The proposed relocation of the record retention requirements for Vogtle described in FSAR Section 17.2.17.1 to Vogtle FSAR Section 13.7.1 is required to be consistent with Farley and Hatch. Section 13.6.2 of the Farley FSAR and Section 13.6.5 of the Hatch Unit 2 FSAR provide record retention requirements similar to those currently contained in Vogtle FSAR 17.2.17.1.

Part II, Section 17 of the proposed QATR provides controls to establish 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. These procedures establish the scope of the records receipt, preservation, retention, storage, safekeeping, retrieval, and final disposition.

As stated in Part II, Section 17, 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 of NQA-1-1994, Parts I and II, and are based on the list of records and their retention times provided in Regulatory Position C.2, Table 1, of Regulatory Guide 1.28, Revision 3. Part II, Section 17 of the proposed QATR continues by stating, "Additional operations phase records and their retention periods are identified in the respective FSAR for each plant."

Based on the above, the list of additional operations phase records that are proposed to be relocated from Vogtle FSAR Section 17.2.17.1 to Vogtle FSAR Section 13.7.1 are incorporated into the proposed SNC QATR by reference and as such, changes to the list of records or their retention period are subject to the controls of 10 CFR 50.54(a). Accordingly, relocation of the list of records does not represent a reduction in commitments contained in the existing Vogtle QA program.

SNC has modified Enclosure 3, Section 3, of the proposed QATR submittal associated with Section 17.2.17.1 of the Vogtle FSAR to reflect that the relocation of the list of records and their corresponding retention period does not constitute a reduction in the commitments contained in the quality assurance program. That is, changes to the list of records and their retention period will be subject to the provisions of 10 CFR 50.54(a).

## **ENCLOSURE 5      ANSI N18.7-1976 CONFORMANCE MATRIX**

### **NRC QUESTION**

17. Regulatory Guide 1.33 specifies a minimum audit frequency of 6-month[s] for audits of corrective actions affecting safety-related equipment, 12-month[s] for audits of facilities conformance with Technical Specifications, and 12-month[s] for audits of performance, training, and qualifications of the facility personnel. In order for the staff to determine the acceptability of the proposed audit program, describe the bases for scheduling audits with the proposed performance-based program, as outlined in Section 4.3 of Enclosure 5 and how it compares [sic] with the audit program outlined in Section 18.1 of Enclosure 1.

### **SNC RESPONSE**

See response to NRC Question 13 above.

### **NRC QUESTION**

18. Section 5.2.15 of ANSI N18.7, "Review, Approval and Control of Procedures," specifies the following:

- In order to ensure that the procedures in current use provide the best possible instructions for performance of the work involved, systematic review and feedback of information based on use is required. The proposed QATR submittal, as stated in the comparison to ANSI N18.7 in Enclosure 5, does not appear to address procedure feedback.
- Plant procedures shall be reviewed by an individual knowledgeable in the area affected by the procedure no less than every two years to determine if changes are necessary or desirable. The proposed QATR submittal, as outlined in the comparison to ANSI N18.7 in Enclosure 5, does not appear to address the two-year procedure review.

Provide additional information describing how these requirements of ANSI N18.7 are met by the proposed QATR.

## **SNC RESPONSE**

- In order to address the need to provide systematic review and feedback regarding procedure use, SNC has incorporated the following in Section 6 of the proposed QATR:

*(e) a method for providing feedback from users to continually improve procedures and work instructions.*

(Note – Item (d) was added to the list provided in Section 6 of the proposed QATR in response to RAI Question 7 above.)

- By letters dated October 29, 1991, August 11, 1993, and July 21, 1992, the NRC reviewed and found acceptable the SNC proposed deletion of the biennial review of procedures for Farley, Hatch, and Vogtle, respectively. SNC's commitment to perform biennial reviews of procedures was replaced by a commitment to perform biennial quality assurance audits of the administrative controls for procedures utilizing a representative sampling process. The NRC found SNC's proposed alternative to be acceptable for Farley and Hatch based on the above.

During the NRC review of the change for Vogtle, the NRC included an additional requirement that non-routine procedures (i.e., emergency operating procedures and abnormal operating procedures) continue to be reviewed at least once every 2 years by a knowledgeable individual to determine whether changes are necessary or desirable. As a result, SNC committed to continue to review emergency operating procedures and abnormal operating procedures for Vogtle at least once every two years by a knowledgeable individual to determine whether changes are necessary or desirable and modified Vogtle FSAR Section 13.5.1.1 to reflect his requirement. Based on its review, the NRC determined that the proposed change to the respective quality assurance program provided an acceptable alternative and that the programs continued to meet the requirements of 10 CFR 50, Appendix B.

Part II, Section 18.1, of the proposed QATR includes a requirement to perform audits of facility activities that include the performance of activities required by the quality assurance program to meet the criteria of 10 CFR 50, Appendix B, at least once per 24 months. Use of procedures is required by Part II, Section 5, of the proposed QATR titled, "Instructions, Procedures, and Drawings." Accordingly, the proposed SNC QATR includes a requirement for the biennial review of the administrative controls for procedures utilizing a representative sampling process. In addition, Section 13.5.1.1 of the Vogtle FSAR will retain the requirement to perform a review of emergency operating procedures and abnormal operating procedures at least once every two years.

Based on the above, the NRC basis for deletion of the review of procedures for SNC plants once every 24 months remains valid and therefore, the alternative also remains valid.