UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 146 AND 137 TO FACILITY

OPERATING LICENSES NPF-2 AND NPF-8

JOSEPH M. FARLEY NUCLEAR PLANT, UNIT 1 AND UNIT 2

SOUTHERN NUCLEAR OPERATING COMPANY

DOCKET NUMBERS: 50-348 AND 50-364

Enclosure 3

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I. INTRODUCTION

Joseph M. Farley Nuclear Plant (FNP), Unit 1 and Unit 2, have been operating with Technical Specifications (TS) issued with the original operating licenses on June 25, 1977, for Unit 1 and March 31, 1981, for Unit 2, as amended. Southern Nuclear Operating Company's (SNC's) letter of March 12, 1998, as supplemented by letters of April 24, 1998, August 20, 1998, November 20, 1998, February 3, 1999, February 20, 1999, April 30, 1999 (two letters), May 28, 1999, June 30, 1999, July 27, 1999, August 19, 1999, August 30, 1999, September 15, 1999, and September 23, 1999, proposed amending Operating Licenses Nos. NPF-2 and NPF- 8 to completely revise the FNP TS. SNC based the proposed amendment upon the following:

— NUREG-1431, "Standard Technical Specifications - Westinghouse Plants," Revision 1, of April 1995.
— "NRC Final Policy Statement on Technical Specification Improvements for Nuclear Power Reactors" (Final Policy Statement), published on July 22, 1993 (58 FR 39132).

The overall objective of FNP's conversion, consistent with the Final Policy Statement, is to rewrite, reformat, and streamline TS consistent with 10 CFR 50.36.

Hereinafter, the proposed TS are referred to as the Improved TS (ITS), the existing FNP TS are referred to as the Current TS (CTS), and the TS in NUREG-1431 are referred to as the Standard TS (STS). The corresponding TS Bases are ITS Bases, CTS Bases, and STS Bases, respectively.

SNC retained portions of the CTS in the ITS in addition to basing the ITS on the STS and the Final Policy Statement. The NRC discussed plant-specific issues, including design features, requirements, and operating practices with SNC during a series of conference calls and meetings that ended in September 1999. In addition, SNC proposed generic changes that were not in the STS. The NRC staff requested SNC to submit such generic issues as proposed changes to the STS through the Nuclear Energy Institute's Technical Specifications Task Force (TSTF). These generic issues were considered for the FNP ITS before evaluating them generically. SNC proposed transferring some CTS requirements to SNC-controlled documents as this was consistent with the Final Policy Statement. In addition, SNC used human factors principles to clarify CTS requirements being retained in the ITS and to define more clearly the appropriate scope of the ITS. Further, SNC proposed changes to the CTS Bases to make each ITS requirement clearer and easier to understand.

The NRC published its proposed actions on SNC's application for amendment of March 12, 1998, in the *Federal Register* on May 25, 1999 (64 FR 28218) and August 25, 1999 (64 FR 46443). This Safety Evaluation (SE) assesses SNC's application and supplemental information that resulted from NRC requests for information and discussions with SNC during the NRC staff's review. All ITS changes are within the scope of the actions described in the *Federal Register* notices.

The NRC staff relied on the Final Policy Statement and the STS as guidance for reviewing proposed deviations from the STS. This SE provides the basis for the NRC staff's conclusions that 1) SNC developed the ITS based on the STS as modified by plant-specific changes, and 2) using the FNP ITS is acceptable for continued plant operation. It is acceptable that the ITS differs from STS, since the ITS reflects FNP's current licensing basis. The NRC staff approves SNC's changes to their CTS with modifications documented in their revised submittals.

For the reasons stated in this SE, the NRC staff finds that the TS issued with this license amendment comply with Section 182a of the Atomic Energy Act, 10 CFR 50.36, and the guidance in the Final Policy Statement and that the TS are in accord with the common defense and security and provide adequate protection of the health and safety of the public.

II. BACKGROUND

Section 182a of the Atomic Energy Act requires that applicants for nuclear power plant operating licenses will state:

> [S]uch technical specifications, including information of the amount, kind, and source of special nuclear material required, the place of the use, the specific characteristics of the facility, and such other information as the Commission may, by rule or regulation, deem necessary in order to enable it to find that the utilization . . . of special nuclear material will be in accord with the common defense and security and will provide adequate protection to the health and safety of the public. Such technical specifications shall be a part of any license issued.

In 10 CFR 50.36, the Commission established its regulatory requirements for TS content. In doing so, the Commission emphasized those matters related to preventing accidents and mitigating accident consequences. The Commission noted that applicants were expected to incorporate into their TS "those items that are directly related to maintaining the integrity of the physical barriers designed to contain radioactivity" (see Statement of Consideration, "Technical Specifications for Facility Licenses; Safety Analysis Reports," of December 17, 1968 (33 FR 18610)).

10 CFR 50.36 requires that TS include items in the following five specific categories:

(1) safety limits, limiting safety system settings and limiting control settings
(2) limiting conditions for operation (LCOs)
(3) surveillance requirements (SRs)
(4) design features
(5) administrative controls

However, the rule does not specify particular TS requirements.

For several years, NRC and industry representatives have tried to develop guidelines for improving nuclear power plant TS content and quality. On February 6, 1987, the Commission issued their "Interim Policy Statement on Technical Specification Improvements for Nuclear

Power Reactors" (52 FR 3788). During the period from 1989 to 1992, the utility Owners Groups and the NRC staff developed improved STS for each primary reactor type that would comply with the Commission's policy. In addition, the NRC staff, licensees, and Owners Groups developed a Writers Guide containing generic administrative and editorial guidelines for preparing TS. The Guide emphasized human factors principles, and SNC used it to develop their ITS.

In September 1992, the Commission issued the Westinghouse STS as NUREG-1431, which were developed using the guidance and criteria contained in the Commission's Interim Policy Statement. The Westinghouse STS are a model for developing ITS for Westinghouse plants. The results from applying the Interim Policy Statement criteria to generic system functions, were published in a "Split Report" issued to the Nuclear Steam System Supplier (NSSS) Owners Groups in May 1988. The Interim Policy Statement criteria along with the Writer's Guide ensured that the ITS would consistently reflect system configurations and operating characteristics for all NSSS designs. In addition, the generic Bases give a lot of information about the basis for the STS requirements.

On July 22, 1993, the Commission issued its Final Policy Statement indicating that satisfying the guidance in the policy statement also satisfies Section 182a of the Act and 10 CFR 50.36 (58 FR 39132). The Final Policy Statement described the improved STS safety benefits and encouraged licensees to use the improved STS as the basis for plant-specific TS amendments and for complete conversions to the improved STS. Further, the Final Policy Statement gave guidance for evaluating the required scope of the ITS and defined the guidance criteria for determining which of the LCOs and associated surveillances should remain in the ITS. The Commission noted that, in allowing certain items to be relocated to licensee-controlled documents while requiring that other items be retained in the TS, it was adopting the qualitative standard enunciated by the Atomic Safety and Licensing Appeal Board in Portland General Electric Company's hearing (Trojan Nuclear Plant), ALAB-531, 9 NRC 263, 273 (1979). There, the Appeal Board observed the following:

> [T]here is neither a statutory nor a regulatory requirement that every operational detail set forth in an applicant's safety analysis report (or equivalent) be subject to a technical specification, to be included in the license as an absolute condition of operation which is legally binding upon the licensee unless and until changed with specific Commission approval. Rather, as best we can discern it, the contemplation of both the Act and the regulations is that technical specifications are to be reserved for those matters as to which the imposition of rigid conditions or limitations upon reactor operation is deemed necessary to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety.

Using this approach, licensees should keep in the ITS existing LCO requirements that fall within or satisfy any of the Final Policy Statement criteria. Those LCO requirements that do not fall within or satisfy these criteria may be relocated to licensee-controlled documents. The Commission codified the four criteria in 10 CFR 50.36 (60 FR 36593, July 19, 1995). The Final Policy Statement criteria are as follows:

Criterion 1 — Installed instrumentation that is used to detect and indicate in the control room a significant abnormal degradation of the reactor coolant pressure boundary.

Criterion 2 — A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to fission product barrier integrity.

Criterion 3 — A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to fission product barrier integrity.

Criterion 4 — A structure, system, or component which operating experience or probabilistic safety assessment has shown to be significant to public health and safety.

Part III of this SE explains the NRC staff's conclusion that converting FNP's CTS to those based on STS as modified by plant-specific changes is consistent with FNP's current licensing basis and the requirements and guidance of the Final Policy Statement and 10 CFR 50.36.

III. EVALUATION

The NRC staff's ITS review evaluates changes to CTS that fall into five categories defined by SNC and includes an evaluation of whether existing regulatory requirements are adequate for controlling future changes to requirements removed from the CTS and placed in SNC-controlled documents.

In addition to the initial submittal of March 12, 1998, as supplemented, the NRC staff review identified the need for clarifications and additions to the submittal in order to establish an appropriate regulatory basis for translation of CTS requirements into ITS. Each change proposed in the amendment request is identified as either a discussion of change (DOC) to CTS or a justification for deviation from STS. The NRC staff comments were documented as requests for additional information (RAIs) and forwarded to SNC. SNC provided written responses to the NRC staff requests in supplemental letters indicated above. The docketed letters clarified and revised SNC's basis for translating CTS requirements into ITS. The NRC staff finds that SNC's submittals provide sufficient detail to allow the staff to reach a conclusion regarding the adequacy of SNC's proposed changes.

SNC's license amendment application categorized CTS changes as follows:

— Administrative Changes, (A), i.e., non-technical changes in existing CTS requirements.

— Technical Changes - More Restrictive, (M), i.e., new or additional CTS requirements.

— Technical Changes - Less Restrictive (specific), (L), i.e., deleting or relaxing CTS requirements.

— Technical Changes - Less Restrictive (specific), (LA), i.e., deleting CTS requirement details, but not whole specifications (the LCO, associated Action, and SR) by moving information and requirements from the CTS (an NRC-controlled document) to SNC-controlled documents, including the ITS Bases and the FSAR.

— Technical Changes - Less Restrictive (generic), (LB), i.e., relaxing CTS requirements by allowing SNC to use a simulated or actual signal to verify the automatic actuation of components specified in the CTS SRs.

— Technical Changes - Less Restrictive (generic), (LC), i.e., relaxing CTS reporting and eliminating the LCO 3.0.3 1-hour period for SNC to take action to place the plant in a Mode which LCO 3.0.3 does not apply.

— Relocated Specifications, (R), i.e., relaxations in which whole specifications are removed from the CTS and placed in SNC-controlled documents.

These general categories of changes to SNC's CTS requirements and STS differences are described in more detail below.

A. Administrative Changes (A)

Administrative (non-technical) changes are intended to incorporate human factors principles into the form and structure of the ITS so that plant operations personnel can use them more easily. These changes are editorial in nature or involve the reorganization or reformatting of CTS requirements without affecting technical content or operational restrictions. Every section of the ITS reflects this type of change. In order to ensure consistency, the NRC staff and SNC have used STS as guidance to reformat and make other administrative changes. Among the changes proposed by SNC and found acceptable by the NRC staff are:

(1) Providing the appropriate numbers, etc., for STS bracketed information (information that must be supplied on a plant-specific basis and that may change from plant to plant).

(2) Identifying plant-specific wording for system names, etc.

(3) Changing the wording of specification titles in the STS to conform to existing plant practices.

(4) Splitting up requirements currently grouped under a single current specification to more appropriate locations in two or more specifications of ITS.

(5) Combining related requirements currently presented in separate specifications of the CTS into a single specification of ITS.

Table A lists the administrative changes proposed in ITS. Table A is organized by the corresponding ITS section DOC, and provides a summary description of the administrative change that was made, and CTS and ITS LCO references. The NRC staff reviewed all of the administrative and editorial changes proposed by SNC and finds them acceptable because they are compatible with the Writers Guide and STS, do not result in any substantive change in operating requirements, and are consistent with the Commission's regulations.

B. Technical Changes — More Restrictive (M)

SNC, in electing to implement the specifications of STS proposed a number of requirements more restrictive than those in the CTS. ITS requirements in this category include requirements that are either new, more conservative than corresponding requirements in the CTS, or have additional restrictions that are not in the CTS but are in the STS. Examples of more restrictive requirements are placing an LCO on plant equipment which is not required by the CTS to be operable, more restrictive requirements to restore inoperable equipment, and more restrictive SRs. Table M lists all the more restrictive changes proposed in ITS. Table M is organized by the corresponding ITS section DOC and provides a summary description of the more restrictive change that was adopted along with CTS and ITS LCO references. These changes are additional restrictions on plant operation that enhance safety and are acceptable.

C. Technical Changes — Less Restrictive (L, LB, and LC)

L, LB, and LC technical changes are grouped here to simplify discussion of the broad range of proposed less restrictive changes in technical requirements. L is used to designate a CTS change that requires a unique discussion. LB and LC are used to identify a recurring change evaluated by a single discussion in the submittal. Less restrictive requirements include deletions and relaxations to portions of CTS requirements that are not being retained in ITS or relocated to a SNC-controlled document. When requirements have been shown to give little or no safety benefit, their relaxation or removal from the TS may be appropriate. In most cases, relaxations previously granted to individual plants on a plant-specific basis were the result of (1) generic NRC actions, (2) new staff positions that have evolved from technological advancements and operating experience, or (3) resolution of the Owners Groups comments on STS. The NRC staff reviewed generic relaxations contained in the STS and found them acceptable because they are consistent with current licensing practices and the Commission's regulations. The FNP design was also reviewed to determine if the specific design basis and licensing basis are consistent with the technical basis for the model requirements in the STS and thus provide a basis for ITS.

A significant number of changes to the CTS involved deletions and relaxations to portions of CTS requirements evaluated as Categories I through VIII that follow:

Category I — Relaxation of Modes of Applicability
Category II — Relaxation of Surveillance Frequency
Category III — Relaxation of Completion Time
Category IV — Relaxation of Required Actions
Category V — Relaxation of Surveillance Requirement Acceptance Criteria
Category VI — Relaxation of LCO
Category VII — Deletion of SR
Category VIII — Deletion of Requirement for 30-day Special Report to NRC

The following discussions address why various TS within each of the eight categories of information or specific requirements are not required to be included in ITS .

Category I — Relaxation of Modes of Applicability

Reactor operating conditions are used in the CTS to define when the LCO features are required to be operable. LCO Applicabilities such as hot shutdown, cold shutdown, reactor critical or power operating condition can be specified reactor conditions in the CTS. Applicabilities can also be more general. Depending on the circumstances, CTS may require that the LCO be maintained within limits in "all modes" or "any operating mode." Generalized LCO Applicability conditions are not contained in the STS, therefore ITS eliminate CTS requirements such as "all modes" or "any operating mode," replacing them with ITS defined modes or applicable conditions that are consistent with the application of the plant safety analysis assumptions for operability of the required features.

In another application of this type of change, CTS Applicability requirements that are indeterminate or which are inconsistent with application of accident analyses assumptions may be eliminated because during these conditions the safety function of the specified safety system is not required. These changes are consistent with STS, and changes specified as Category I are acceptable.

Category II — Relaxation of Surveillance Frequency

CTS and ITS surveillance frequencies specify time interval requirements for performing SR testing. Increasing the time interval between surveillance tests in the ITS results in decreased equipment unavailability due to testing which also increases equipment availability. In general, the STS contain test frequencies that are consistent with industry practice or industry standards for achieving acceptable levels of equipment reliability. Adopting testing practices specified in the STS is acceptable based on similar design, like-component testing for the system application and the availability of other TS requirements which provide regular checks to ensure limits are met.

Reduced testing can result in a safety enhancement because the unavailability due to testing is reduced, while reliability of the affected structure, system or component should remain constant. Reduced testing is acceptable where operating experience, industry practice or the industry standards such as manufacturers' recommendations have shown that these components usually pass the Surveillance when performed at the specified interval. Thus, the frequency is acceptable from a reliability standpoint. Surveillance frequency changes to incorporate alternate train testing have been shown to be acceptable where other qualitative or quantitative test requirements are required which are established predictors of system performance, e.g., a 31 day air flow test is an indicator that positive pressure in a controlled space will be maintained because this test would use the same fans as the less frequent ITS 36 month pressurization test and industry experience shows that components usually pass the pressurization test. Additionally, surveillance frequency extension can be based on staff-approved topical reports. The NRC staff has accepted topical report changes where topical report analyses bound the plant-specific design and component reliability assumptions. These changes are consistent with STS and changes specified as Category II are acceptable.

Category III — Relaxation of Completion Time

Upon discovery of a failure to meet an LCO, STS specify times for completing required Actions of the associated TS conditions. Required Actions of the associated conditions are used to establish remedial measures that must be taken within specified completion times (allowed outage times). These times define limits during which operation in a degraded condition is permitted.

Adopting completion times from the STS is acceptable because completion times take into account the operability status of the redundant systems of TS required features, the capacity and capability of remaining features, a reasonable time for repairs or replacement of required features, and the low probability of a design basis accident (DBA) occurring during the repair period. These changes are consistent with STS, and allowed outage time extensions specified as Category III are acceptable.

Category IV — Relaxation of Required Actions

CTS require that in the event specified LCOs are not met, penalty factors to reactor operation, such as resetting setpoints and power reductions, shall be initiated as the method to reestablish the appropriate limits. The ITS are constructed to specify Actions for conditions of required features made inoperable. Adopting ITS Action requirements for exiting LCO Applicabilities is acceptable because the plant remains within analyzed parameters by performance of required Actions, or the Actions are constructed to minimize risks associated with continued operation while providing time to repair inoperable features. Such Actions add margin to safety or verify equipment status such as interlock status for the mode of operation, thereby providing assurance that the plant is configured appropriately or operations that could result in a challenge to safety systems are exited in a time period that is commensurate with the safety importance of the system. Additionally, other changes to TS Actions include placing the reactor in a Mode where the specification no longer applies. These Actions are commensurate with industry standards for reductions in thermal power in an orderly fashion without compromising safe operation of the plant. These changes are consistent with STS, and changes specified as Category IV are acceptable.

Category V — Relaxation of Surveillance Requirement Acceptance Criteria

CTS require safety systems to be tested and verified operable prior to entering LCO Applicable conditions. ITS provide the additional requirement to verify operability by actual or test conditions. Adopting the STS allowance for "actual" conditions is acceptable because TS required features cannot distinguish between an "actual" signal or a "test" signal. Category V also includes changes to CTS requirements that are replaced in the ITS with separate and distinct testing requirements which when combined include operability verification of all TS required components for the features specified in the CTS. Adopting this format preference in the STS is acceptable because TS SRs that remain include testing of all previous features required to be verified operable. CTS provide an allowance to bypass an inoperable channel for surveillance testing of other channels. ITS provide the allowance to bypass the inoperable channel when making required setpoint adjustments on the other channels as well as performing surveillance tests on other channels. CTS test extensions allow inoperable channels to be bypassed for surveillance testing when sufficient equipment is required to be operable by TS requirements to provide an acceptable level of safety system protection. SR relaxations include the recognition in ITS that administrative controls exist which provide assurance that any changes to component status, such as valve position, are recorded and tracked. Thus, ITS extend the option to verify penetration integrity by administrative control to valves outside containment, whereas CTS permits this option only for valves inside containment. These changes are consistent with STS, and changes specified as Category V are acceptable.

Category VI — Relaxation of LCO

CTS provides lists of acceptable devices that may be used to satisfy LCO requirements. The ITS reflect the STS approach to provide LCO requirements that specify the protective limit that is required to meet safety analysis assumptions for required features. The protective limits replace the lists of specific devices previously found to be acceptable to the NRC staff for meeting the LCO. The ITS changes provide the same degree of protection required by the safety analysis and provide flexibility for meeting limits without adversely affecting operations since equivalent features are required to be operable. These changes are consistent with STS, and changes specified as Category VI are acceptable.

Category VII — Deletion of SR

Both CTS and ITS include LCO Applicability requirements which specify that failure to meet an SR or failure to perform an SR within the specified time interval constitutes a failure to meet operability requirements for an LCO. As an adjunct to the TS conversion process, CTS SRs are reviewed to establish an appropriate level of testing for LCO requirements retained in the ITS. One outcome of this review is a determination that it is appropriate to make changes to CTS SRs. CTS SRs can be deleted as a result of adopting ITS format (e.g., eliminating detector testing for components that are not susceptible to drift and then simplifying surveillance test by revised testing criteria). CTS SRs can be replaced with a like-test that verifies operability of components but at a less frequent test interval because the conditions required for testing make it safe to reduce testing since other information is available to ensure components are operable. CTS may also contain specific requirements to perform testing which verifies a criterion of a component design. Explicit component verification is subject to TS requirements to establish component operability, thus TS testing is simplified in the ITS by eliminating such narrowly focused test criteria. Surveillance frequency requirements for components may be revised to correspond to industry standards resulting in SR interval extensions. Relaxations to SR can be made by deleting the requirement to perform a SR test for a class of components. For components whose status can be adequately controlled by STS administrative means, options add flexibility to testing where determinations to include components in a test scheme can be evaluated based on the status of the component during specified plant conditions. Some CTS surveillances are changed to allow testing or repairs on redundant components which as a result temporarily eliminates protection afforded by the redundant component. Category VII changes include deletion or modification of CTS surveillance testing requirements not needed to establish equipment operability. These changes are consistent with the STS, and changes specified as Category VIII are acceptable.

Category VIII — Deletion of Requirement for 30-day Special Report to NRC

CTS include requirements to submit Special Reports when specified limits are not met. Typically, the time period for the report to be issued is within 30 days. However, the STS eliminates the TS administrative control requirements for Special Reports and instead relies on the reporting requirements of 10 CFR 50.73. ITS changes to reporting requirements are acceptable because 10 CFR 50.73 provides adequate reporting requirements, and the special reports do not affect continued plant operation. Therefore, this change has no impact on the safe operation of the plant. Additionally, deletion of TS reporting requirements reduces the administrative burden on the plant and allows efforts to be concentrated on restoring TS required limits. These changes are consistent with the STS, and changes specified as Category VIII are acceptable.

Table L lists all CTS requirements that have been deleted and which pertain to Category I through VIII and to the specific listing of changes discussed above. Table L includes all L, LB, and LC changes and is organized by ITS section which specifies: the section designation followed by the DOC identifier, e.g., 1.1 L.1 (ITS Section 1.1, DOC L.1); a summary description of the change; CTS and ITS LCO references; a reference to the specific change category as discussed above (if applicable); and a characterization of the DOC.

For the reasons presented above, these less restrictive requirements are acceptable because they will not affect the safe operation of the plant. The TS requirements that remain are consistent with current licensing practices, operating experience, plant accident and transient analyses, and provide reasonable assurance that public health and safety will be protected.

D. Technical Changes — Less Restrictive (LA)

When requirements have been shown to give little or no safety benefit, their removal from the TS may be appropriate. These are grouped as LA changes. In most cases, relaxations previously granted to individual plants on a plant-specific basis were the result of (1) generic NRC actions, (2) new staff positions that have evolved from technological advancements and operating experience, or (3) resolution of the Owners Groups comments on STS. The NRC staff reviewed generic relaxations contained in the STS and found them acceptable because they are consistent with current licensing practices and the Commission's regulations. The FNP design was also reviewed to determine if the specific design basis and licensing basis are consistent with the technical basis for the model requirements in the STS and thus provide a basis for ITS. A significant number of changes to the CTS involved the removal of specific requirements and detailed information from individual specifications evaluated to be Types 1 through 4 that follow:

Type 1 — Details of system design and system description including design limits

Type 2 — Descriptions of systems operation

Type 3 — Procedural details for requirements and related reporting problems

Type 4 — Administrative requirements redundant to regulations

The following discussions address why each of the four types of information or specific requirements are not required to be included in ITS .

Type 1 — Details of System Design and System Description Including Design Limits

The design of the facility is required to be described in the UFSAR by 10 CFR 50.34. In addition, the quality assurance (QA) requirements of Appendix B to 10 CFR Part 50 require that plant design be documented in controlled procedures and drawings and maintained in accordance with an NRC-approved QA plan (FSAR Chapter 17). In 10 CFR 50.59 controls are specified for changing the facility as described in the FSAR, and in 10 CFR 50.54(a) criteria are specified for changing the QA plan. In ITS, the Bases also contain descriptions of system design. ITS 5.5.14 specifies controls for changing the Bases. Removing details of system design from the CTS is acceptable because this information will be adequately controlled in the FSAR, controlled design documents and drawings, or the TS Bases, as appropriate. Cycle-specific design limits are moved from the CTS to the Core Operating Limits Report (COLR) in accordance with Generic Letter (GL) 88-16. ITS Administrative Controls are revised to include the programmatic requirements for the COLR.

Type 2 — Descriptions of Systems Operation

The plans for the normal and emergency operation of the facility are required to be described in the FSAR by 10 CFR 50.34. ITS 5.4.1.a requires written procedures to be established, implemented, and maintained for plant operating procedures including procedures recommended in Regulatory Guide (RG) 1.33, Revision 2, Appendix A, February 1978. Controls specified in 10 CFR 50.59 apply to changes in procedures as described in the FSAR. In ITS, the Bases also contain descriptions of system operation. It is acceptable to remove details of system operation from the TS because this type of information will be adequately controlled in the FSAR, plant operating procedures, and the TS Bases, as appropriate.

Type 3 — Procedural Details for Meeting TS Requirements & Related Reporting Problems

Details for performing TS Actions and SRs are more appropriately specified in the plant procedures required by ITS 5.4.1, the FSAR, and ITS Bases. For example, control of the plant conditions appropriate to perform a surveillance test is an issue for procedures and scheduling and has previously been determined to be unnecessary as a TS restriction. As indicated in GL 91-04, allowing this procedural control is consistent with the vast majority of other SRs that do not dictate plant conditions for surveillances. Prescriptive procedural information in an Action requirement is unlikely to contain all procedural considerations necessary for the plant operators to complete the actions required, and referral to plant procedures is therefore required in any event. Other changes to procedural details include those associated with limits retained in the ITS. For example, the ITS requirement may refer to programmatic requirements such as COLR, included in ITS Section 5.5, which specifies the scope of the limits contained in the COLR and mandates NRC approval of the analytical methodology.

The removal of these kinds of procedural details from the CTS is acceptable because they will be adequately controlled in the FSAR, plant procedures, Bases and COLR, as appropriate. This approach provides an effective level of regulatory control and provides for a more appropriate change control process. Similarly, removal of reporting requirements from LCOs is appropriate because ITS 5.6, 10 CFR 50.36 and 10 CFR 50.73 adequately cover the reports deemed to be necessary.

Type 4 — Administrative Requirements Redundant to Regulations

Certain CTS administrative requirements are redundant to regulations and thus are relocated to the USAR or other appropriate SNC-controlled documents. The Final Policy Statement allows licensees to relocate to licensee-controlled documents CTS requirements that do not meet any of the criteria for mandatory inclusion in the TS. Changes to the facility or to procedures as described in the USAR are made in accordance with 10 CFR 50.59. Changes made in accordance with the provisions of other licensee-controlled documents are subject to the specific requirements of those documents. For example, 10 CFR 50.54(a) governs changes to the QA plan, and ITS 5.5.1 governs changes to the

Offsite Dose Calculation Manual (ODCM). Therefore, relocation of the administrative details identified above is acceptable.

Table LA consists of LA changes. Table LA lists CTS specifications and detailed information removed from individual specifications that are deleted or relocated to SNC-controlled documents in ITS. Table LA is organized by ITS section and includes the following:

- DOC identifiers, e.g., Section 2.0, 11-LA (ITS Section 2.0, DOC 11, LA "No Significant Hazards Evaluation")
- CTS reference
- the name of the document that retains the CTS requirements
- the summary description of the change
- the method for controlling future changes to relocated requirements
- a reference to the specific change type, as discussed above, for not including the information or specific requirements in ITS

The NRC staff has concluded that these types of detailed information and specific requirements are not necessary to ensure the effectiveness of ITS to adequately protect the health and safety of the public. Accordingly, these requirements may be deleted or moved to one of the following SNC-controlled documents for which changes are adequately governed by a regulatory or TS requirement:

(1) TS Bases controlled by ITS 5.5.14, "Technical Specifications Bases Control Program."
(2) FSAR (includes the Technical Requirements Manual (TRM) by reference) controlled by 10 CFR 50.59.
(3) ODCM controlled by ITS 5.5.1, "Offsite Dose Calculation Manual."
(4) QA Program as approved by the NRC and contained in FSAR Chapter 17 and controlled by 10 CFR Part 50, Appendix B.
(5) Inservice Testing Program controlled by ITS 5.5.8, "Inservice Testing Program."
(6) Core Operating Limits Report controlled by ITS 5.6.5, "Core Operating Limits Report (COLR)."
(7) Pre-stressed Concrete Containment Tendon Surveillance Program controlled by ITS 5.6.9, "Tendon Surveillance Report."
(8) Ventilation Filter Testing Program described in ITS 5.5.11, "Ventilation Filter Testing Program (VFTP)."

For each of these changes, Table LA also lists SNC-controlled documents and the TS or regulatory requirements governing changes to those documents.

To the extent that requirements and information have been relocated to SNC-controlled documents, such information and requirements are not required to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety. Further, where such information and requirements are contained in LCOs and associated requirements in the CTS, the NRC staff has concluded that they do not fall within any of the four criteria in the Final Policy Statement (discussed in Part II of this SE). Accordingly, existing detailed information and specific requirements, such as generally described above, may be deleted from the CTS.

E. Relocated Specifications (R)

The Final Policy Statement states that LCOs and associated requirements that do not satisfy or fall within any of the four specified criteria may be relocated from CTS (an NRC-controlled document) to appropriate licensee-controlled documents. These requirements include the LCOs, Action Statements (Actions), and associated SRs. In its application, SNC proposed relocating such specifications to the FSAR (includes the TRM by reference). The staff has reviewed SNC's submittals, and finds that relocation of these requirements to the FSAR (and TRM) is acceptable, in that changes to these documents will be adequately controlled by 10 CFR 50.59. These provisions will continue to be implemented by appropriate plant procedures (i.e., operating procedures, maintenance procedures, surveillance and testing procedures, and work control procedures).

SNC, in electing to implement the specifications of STS, also proposed, in accordance with the criteria in the Final Policy Statement, to entirely remove certain TS from the CTS and place them in SNC-controlled documents noted in Table R. Table R lists all specifications and specific CTS details that are relocated, based on the Final Policy Statement, to SNC-controlled documents in ITS. Table R provides: a DOC identification number referenced to CTS; a CTS reference; a summary description of the requirement; the name of the document that retains the CTS requirements; and the method for controlling future changes to relocated requirements. The NRC staff evaluation of each relocated specification and specific CTS detail presented in Table R is provided below.

<u>Boration CTS</u>

Requirements to maintain a source of borated water, one or more flow paths to inject this borated water into the reactor coolant system (RCS), and appropriate charging pumps to provide the necessary charging head to overcome reactor pressure for boron injection are relocated to the TRM. The relocation of the following six CTS specifications addressing the boration subsystem of the chemical and volume control system (CVCS) are addressed as a group because each represents an element of the boration subsystem and as such there are common functional requirements as well similar relationships to DBAs:

- CTS 3/4.1.2.1 Flow Path - Shutdown
- CTS 3/4.1.2.2 Flow Paths - Operating
- CTS 3/4.1.2.3 Charging Pump - Shutdown
- CTS 3/4.1.2.4 Charging Pumps - Operating
- CTS 3/4.1.2.5 Borated Water Sources - Shutdown
- CTS 3/4.1.2.6 Borated Water Sources - Operating

The operability of those boration subsystems or components required to mitigate a DBA or transient are retained in Chapter 3.5 TS for emergency core cooling systems (ECCS) since they meet Criterion 3 of the NRC policy statement.

The boration subsystem of the CVCS provides the CVCS capability to control the chemical neutron absorber (boron) concentration in the RCS and to help maintain the shutdown margin (SDM). The operation limits retained in SDM and rod insertion TS provide adequate assurance that the required parameters (SDM and rod position) are maintained within the design and analyses limits. The boration subsystem is not specifically assumed to be operable or credited in the applicable safety analysis to mitigate the consequences of a DBA or transient, including the limiting case of a boron dilution event. In the case of a malfunction of the CVCS causing a boron dilution event, operator response is to close the appropriate valves in the reactor water makeup system. The calculations supporting the analyses of the boron dilution event show adequate time exists for operator action to mitigate the event before SDM is lost, criticality is reached, or for some form of boration to be initiated to restore the SDM (FSAR 15.2.4).

<u>CTS 3/4.1.3.3 — Position Indication System – Shutdown</u>

The test exception for Position Indication Systems – Shutdown allows the CTS 3/4.1.3.3 requirement that a single digital rod position indicator be operable for each rod not fully inserted to be suspended in Modes 3, 4, and 5 for the purpose of rod drop time measurements.

The control rod position indicating system provides indication of rod position to the operator. This indication is used by the operator to verify that the rods are correctly positioned. In operating Modes 1 and 2, this indication is used during reactor startup and operation to monitor rod position to verify insertion and alignment limits are met and to verify that the rods are fully inserted into the core immediately following a reactor trip. Rod position indication requirements during startup and operation are addressed in the ITS by the LCO, "Rod Position Indication" which satisfies Criterion 2 of the NRC Policy Statement (verification of initial conditions of a DBA).

The CTS 3/4.1.3.3 requirement for rod position indication during shutdown, Modes 3, 4, and 5, with the reactor trip breakers closed, specifies that a single digital rod position indicator is required to be operable for each rod not fully inserted. The associated CTS test exception (3/4.10.5) allows this requirement to be suspended in Modes 3, 4, and 5 for the purpose of rod drop time measurements. In the shutdown Modes, the position indicating system provides information only and is not relied on by the operators to verify insertion or alignment limits (which are only required in Modes 1 and 2). Therefore, in the shutdown Modes the rod position indication system is not used to verify the initial conditions of a DBA. Additionally, during shutdown Modes, the rod position indication system is not used to verify a reactor trip, or assist in the mitigation of any other DBA or transient.

CTS 3/4.3.3.7 — High Energy Line Break Isolation Sensors

Requirements for instrumentation used to either detect and mitigate the discharge of steam or water into plant areas or to provide control room operators with alarms to alert them of a line break event are relocated to the TRM. The instrumentation consists of pressure switches which monitor the air pressure in piping penetration and equipment rooms containing high energy lines outside of containment. In addition, CTS 3/4.3.3.7 contains requirements for level switches used to detect flooding in the main steam (MS) valve room. The instrumentation addressed by CTS 3/4.3.3.7 functions to actuate the following isolation valves on a high room air pressure signal:

- instrument air supply isolation valves
- nitrogen supply isolation valves
- steam generator (SG) blowdown sample isolation valves
- pressurizer steam space sample isolation valves
- pressurizer liquid sample isolation valves
- RCS loops 2 and 3 sample isolation valves
- CVCS letdown isolation valves
- SG blowdown isolation valves

The level switches are used to detect flooding in the MS valve room and function to trip the main feedwater pumps.

The instrumentation addressed by CTS 3/4.3.3.7 initiates the actuation of equipment required to prevent damage to the surrounding safety-related systems and structures outside containment. The functions performed by the instrumentation in the CTS 3/4.3.3.7 are not functions that are required by a safety analysis to mitigate the consequences of a design basis (line break) accident described in the FSAR. Valve isolation actuations required to mitigate the consequences of design basis pipe rupture accidents described in the FSAR are performed by ESFAS signals such as Phase A and B containment isolation, steam line isolation, and main feedwater isolation. These ESFAS isolation functions continue to be required operable by the ITS ESFAS LCO. In addition, the feedwater pump trip actuated by the flood detection instrumentation in CTS 3/4.3.3.7 is unrelated to meeting the acceptance criteria for feedwater line breaks described in FSAR 15.4.2.2.4 (limiting the primary and secondary pressures and ensuring the reactor core remains adequately covered). The reactor trip signals and safety injection (SI) actuation signals which are described in the FSAR (15.4.2.2.1) as providing protection against a main feedwater pipe rupture continue to be required operable by the ITS ESFAS and RTS LCOs.

CTS 3/4.3.3.2 — Movable Incore Detectors

Requirements of the Movable Incore Detector Specification, CTS 3/4.3.3.2, used to ensure operability of the instrumentation for monitoring flux distribution within the core are relocated to the TRM. The movable incore detector instrumentation provides information used for periodic surveillances of the reactor power distribution and for calibration of the excore detectors. The power distribution surveillances verify that peaking factors are within the assumptions of the design analysis. TS directly address the required reactor power distribution limits and peaking factors in ITS section 3.2, Power Distribution Limits. In addition, the Reactor Trip System (RTS), LCO 3.3.1 contains SRs that require calibration of the excore detectors. As such, the RTS specification requires the movable incore detectors to support test verification that the excore detectors are properly calibrated by the information provided by the incore detectors. However, the movable incore detectors do not directly address the required parameters or the equipment calibrated.

CTS 3/4.3.4 — Turbine Overspeed Protection

Requirements for CTS 3/4.3.4 conditions, required Actions, and SRs for the turbine overspeed protection system instrumentation are relocated to the TRM. This specification requires the turbine overspeed protection instrumentation and turbine speed control valves to be operable to protect the turbine from excessive speed which prevents the generation of potentially damaging missiles. Although the design basis accidents and transients include a variety of system failures and conditions which might result from turbine missiles striking various plant systems and equipment, the system failures and plant conditions could be caused by other events as well as turbine failures.

The operation of the turbine overspeed protection system is not assumed in or credited by any design basis accident analysis. A turbine missile probability analysis was performed to determine the potential of turbine missiles to be generated, strike, and cause the failure of safety related equipment. The probability analysis was based on the surveillance frequencies of the turbine overspeed protection testing program described in FSAR section 10.2.2 because CTS 3/4.3.4 does not contain SRs for the turbine overspeed protection system. The analysis showed a low likelihood of turbine missiles being generated from turbine overspeed. The relocation of this TS does not impact the test program described in FSAR section 10.2.2 and as such, the relocation of CTS 3/4.3.4 does not impact the analysis of the probability of turbine missiles to be generated, strike, and cause the failure of safety related equipment. In view of the low likelihood of turbine missiles, the turbine overspeed scenario does not constitute a part of the primary success path to prevent or mitigate such design basis accidents and transients.

CTS 3/4.4.2 — Safety Valves - Shutdown (Modes 4 and 5)

Requirements for Safety Valves - Shutdown (Modes 4 and 5) are relocated to the TRM. The pressurizer safety valves protect the RCS from being pressurized above the RCS pressure Safety Limit. In ITS, the pressurizer safety valves are required operable to provide overpressure protection from operating conditions (Modes 1-3) down to the RCS temperature at which the low temperature overpressure protection system (RHR relief valves) are required operable (Mode 4 $\leq$ 325°F). Therefore, ITS LCO 3.4.10, Pressurizer Safety Valves, and ITS LCO 3.4.12, Low Temperature Overpressure Protection System, requirements provide continuous RCS overpressure protection. As such, the CTS 3/4.4.2, Safety Valve - Shutdown, requirement for a single pressurizer safety valve to be operable during all of Modes 4 and 5 is not required for RCS overpressure protection. In addition, the operability of a single safety valve in Modes 4 and 5 is not an assumption of any safety analysis for the mitigation of a design basis accident or transient in Modes 4 and 5.

CTS 3/4.4.8 — RCS Chemistry

The RCS chemistry limits of CTS 3/4.4.8 are relocated to the TRM. The reactor coolant chemistry program provides limits on particular chemical properties of the primary coolant, and surveillance practices to monitor those properties, to ensure that degradation of the reactor coolant pressure boundary is not exacerbated by poor chemistry conditions. However, degradation of the reactor coolant pressure boundary is a long-term process, and there are other, direct means to monitor and correct the degradation of the reactor coolant pressure boundary which are controlled by regulations and TS; for example, in-service inspection and primary coolant leakage limits are provided to prevent long-term degradation of the reactor coolant pressure boundary materials and provide long term maintenance of acceptable structural conditions of the system. These limitations are not of immediate importance to the operator and are not required to ensure operability of the RCS pressure boundary.

CTS 3/4.4.10.2 — Pressurizer

Pressurizer temperature limits are relocated to the TRM. Limits are placed on pressurizer operation to prevent non-ductile failure of piping. These limits are consistent with the accepted structural analysis. Since the pressurizer normally operates in temperature ranges above those for which there is a reason for concern of nonductile failure, temperature limits are placed on the pressurizer to assure compatibility of operation with the fatigue analysis performed in accordance with the ASME Code requirements. However, a failure of pressurizer integrity would result in an analyzed event (loss of coolant accident) for which numerous systems and components are required and retained in the ITS. While these limits represent operating restrictions and Criterion 2 includes operating restrictions, Criterion 2 applies only to those operating restrictions required to preclude unanalyzed accidents and transients. Therefore, the pressurizer temperature limits are not relied on to prevent or mitigate a DBA or transient, nor are these limits an operating restriction that is required to preclude an unanalyzed accident or transient.

CTS 3/4.4.12 — Reactor Vessel Head Vents

Requirements for RCS vents are relocated to the TRM. The RCS vents exhaust non-condensable gases and/or steam from the RCS which may inhibit natural circulation core cooling following any event involving a loss of offsite power and for which long term cooling is required, such as a loss-of-coolant accident (LOCA). The functional capabilities and testing requirements for reactor vessel head vents are consistent with the requirements of Item II.B.1 of NUREG-0737, "Clarification of TMI Action Plan Requirements"; however, the operation of RCS vents is not assumed in any safety analysis since operation of the vents is not part of the primary success path for any design basis event. The operation of these vents is an operator action after the event has occurred and is only required when there is indication that natural circulation is not occurring.

CTS 3/4.7.2 — SG Pressure/Temperature Limitation

Requirements for the SG pressure/temperature limits in CTS 3/4.7.2 are relocated to the TRM. These pressure and temperature limits ensure that the pressure induced stresses are within the maximum allowable fracture toughness stress limits. The values of the pressure and temperature limits are based on maintaining SG RT_{NDT} at a level sufficient to prevent brittle fracture. However, if failure of SG integrity occurs, the plant condition that results is bounded by the analysis of a SG tube rupture, or other loss of coolant accident events, for which adequate mitigation systems and components are provided. The systems and components provided to mitigate analyzed events resulting from a failure of SG integrity are retained in the ITS. The SG Pressure/Temperature Limitation is not an initial condition of an DBA or transient, nor is this limitation an operating restriction that is required to preclude an unanalyzed accident or transient.

CTS 3/4.7.9 — Snubbers

Requirements for snubber operability are relocated to the TRM. Existing TS 3/4.7.9, "Snubbers," states that all snubbers shall be operable. Snubbers are passive devices that are designed to prevent unrestrained pipe motion under dynamic loads and allow normal thermal expansion of piping and nozzles to eliminate excessive thermal stresses during heatup or cooldown. The TS Action statement for snubbers only requires that an inoperable snubber be replaced or repaired. The SRs for snubbers is that they be periodically examined under the inservice inspection program. The requirements of CTS 3/4.7.9 that all snubbers be operable are requirements that do not impact reactor operation, do not identify a parameter that is an initial condition assumption for a DBA or transient, do not identify a significant abnormal degradation of the reactor coolant pressure boundary, and do not form part of the primary success path which functions or actuates to mitigate a design basis accident or transient.

CTS 3/4.7.10 — Sealed Source Contamination

Sealed-source requirements specified in the CTS are relocated to the TRM. Existing TS 3/4.7.10, "Sealed Source Contamination," requires that sealed sources containing radioactive material shall be free of specified removable contamination. This ensures that leakage from byproduct, source, and special nuclear material sources will not exceed allowable values specified in 10 CFR Part 20. The associated Action statement requires that if the removable contamination exceeds limitations, the sealed source shall be either decontaminated or disposed. The limitations expressed in this TS do not impact reactor operation or the safety of reactor operations.

CTS 3/4.7.13 — Unit 2 Area Temperature Monitoring

Requirements in CTS 3/4.7.13 for area temperature monitoring are relocated to the TRM. These limits ensure that safety-related equipment will not be subjected to temperatures in excess of their environmental qualification temperatures. Exposure to excessive temperatures could degrade equipment over the long-term and may impact equipment operability. However, equipment ambient temperatures do not give a direct status of the operability of specified equipment, rather it is only one of many factors used in the evaluation of operability of safety related equipment. Ultimately the operability of safety-related equipment is determined and controlled within the TS by the definition of operability and the individual TS which require the safety-related equipment operable. Area temperatures will continue to be monitored and evaluated for their effect on equipment operability, in accordance with the requirements retained in the TS for the affected equipment. Therefore, the existing safety-related equipment TS and the TS definition of operability provide adequate assurance that safety-related equipment is operable.

CTS 3/4.8.3.1 — Unit 2 Containment Penetration Conductor Overcurrent Protection

Requirements for CTS 3/4.8.3.1, "Containment Penetration Conductor Overcurrent Protective Devices," are relocated to the TRM. This LCO contains requirements for installed overcurrent devices and breaker position or fuse status to minimize the potential for an electrical fault in a component inside containment or within the cabling penetration of the containment. Containment electrical penetration conductors are protected by de-energizing circuits with a breaker trip or removed fuse for circuits not required during reactor operation or by installed overcurrent circuit breakers which are periodically surveilled to ensure operability. De-energizing an AC circuit minimizes the potential for an electrical fault in a component inside containment propagating to equipment outside containment and potentially damaging the penetration. However, 10 CFR Part 50, Appendix J leak rate testing establishes required monitoring of all containment penetrations for degradation. These devices provide protection for the circuit conductors against damage or failure due to overcurrent heating effects, but they are not relied upon in any design basis accident or transient.

CTS 3/4.8.3.2 — Unit 2 Motor-Operated Valves Thermal Overload Protection

Requirements of CTS 3/4.8.3.2, "Motor Operated Valve Thermal Overload Protection Devices," are relocated to the TRM. This LCO contains requirements that ensure the thermal overload protection will not prevent a safety-related motor-operated valve from performing its intended safety function. These devices protect the equipment from potential damage to maintain the capability of the equipment, but they are not relied upon in the primary success path to mitigate a design basis accident or transient. The valves protected by thermal overload devices are required to be operable to support the operability of their associated system. Thus, the operability of the thermal overload protection devices is sufficiently controlled by the LCOs for those systems containing the valves designed with such devices. Moving these requirements outside TS will not, by itself, reduce the existing operability requirements for safety-related motor-operated valves or relax the associated operational restrictions imposed by the applicable system LCOs.

CTS 3/4.9.3 — Decay Time

The CTS for decay time is relocated to the TRM. The decay time TS requirement places a time limit on reactor subcriticality prior to the movement of irradiated fuel assemblies out of the reactor vessel. This ensures that sufficient time has elapsed for the radioactive decay of short-lived fission products consistent with the assumptions used in the fuel handling accident safety analysis. However, the schedule restraints associated with a normal refueling shutdown always ensure the movement of irradiated fuel does not occur prior to the CTS decay time TS limit of 100 hours. Refueling outage schedule restraints include RCS cooldown, depressurization, boration, removal of the reactor vessel head and upper internals, flooding the reactor cavity to the required level, as well as various required testing and maintenance activities. The activities and requirements associated with a normal refueling shutdown are inherent in the design and operating restrictions (i.e., cooldown and depressurization TS requirements, water level TS requirements, boron concentration TS requirements, and TS requirements to maintain and test equipment to ensure operability) associated with pressurized water reactors. Therefore, the requirement is unnecessary and has been relocated from the specifications to the TRM.

CTS 3/4.9.5 — Communications

Requirements contained in CTS 3/4.9.5, "Communications," are relocated to the TRM. This specification establishes requirements to maintain communication between the control room and the refueling station during refueling operations to ensure that refueling personnel can be promptly informed of significant changes in the plant status or core reactivity conditions observed on the control room instrumentation. This requirement represents good operational practice and is designed to ensure safe refueling operations; however, the refueling system design accident or transient response does not take credit for communications. Therefore, the requirements have been relocated.

CTS 3/4.9.6 — Manipulator Crane

Requirements of CTS 3/4.9.6, "Manipulator Crane," are relocated to the TRM. The requirements of this specification ensure that the manipulator crane and auxiliary hoist will have sufficient load handling capacity, an appropriate overload cut off limit for the manipulator crane, and load indicators for the auxiliary hoist during refueling operations. Additionally, this specification ensures that the core internals and reactor vessel are protected from excessive lifting force during refueling operations in the event they are inadvertently engaged during lifting operations. Although this specification contains requirements designed to prevent damage to fuel assemblies, core internals, and reactor vessel, these requirements are not relied upon to prevent or mitigate the consequences of a DBA. The limitations of this specification only apply to design requirements. Design control requirements are adequately governed by regulations and the required QA plan.

CTS 3/4.9.7.1 — Crane Travel - Spent Fuel Storage Pool Building Bridge Crane

Requirements of CTS 3/4.9.7.1, "Crane Travel - Spent Fuel Storage Pool Building Bridge Crane," are relocated to the TRM. Physical design and administrative controls exist to assure that SNC will not exceed the crane travel limits. The applicable safety analysis assumes a 3,000 pound load dropped at a height of 42 inches. The results of this analysis show that the accident would not result in damage to the fuel assemblies or an unsafe geometric spacing of the fuel assemblies. This analysis conservatively bounds the drop of a standard fuel assembly with a control rod and handling fixture at the maximum lift height of 39.5 inches. The only other heavy load handled by the bridge crane is the spent fuel pool transfer slot gate. The transfer slot gate is moved from its normal position directly to its stored position without moving over stored fuel. However, the storage racks are designed to withstand a transfer slot gate drop. There are no other heavy loads that are handled by this crane. The spent fuel storage pool building bridge crane travel limits are physical limits verified in accordance with the requirements provided in the applicable plant procedure and not process variables which are monitored and controlled by the operator.

CTS 3/4.9.7.2 — Spent Fuel Cask Crane

Requirements for CTS 3/4.9.7.2, "Spent Fuel Cask Crane," are relocated to the TRM. The spent fuel cask crane is used for handling shipping casks containing spent fuel assemblies. The crane transfers the shipping cask between the offsite transportation and the cask wash and storage areas. Fuel assemblies are placed in the cask by the bridge crane. The cask crane is prevented from moving above or into the vicinity of the spent fuel pool by rail stops and mechanical bumpers which are permanently attached. The cask crane does not move loads over the spent fuel pool. Although this specification contains requirements designed to ensure correct operation and maintenance of the spent fuel cask crane, these requirements are not relied upon to prevent or mitigate the consequences of a DBA. The limitations of this specification only apply to design requirements. Design control requirements are adequately governed by regulations and the required QA plan.

CTS 3/4.9.12 — Storage Pool (Fuel Storage) Ventilation

Requirements of CTS 3/4.9.12, "Storage Pool Ventilation (fuel storage)," are relocated to the TRM. This specification contains requirements for operability of the penetration room filtration system whenever irradiated fuel is stored in the spent fuel pool. The penetration room filtration system limits releases of radioisotopes to the environment which may leak from the ECCS pump rooms and penetration rooms during the recirculation phase of a design basis LOCA accident. The system also processes the air from the fuel handling area following a fuel handling accident. The system is manually aligned by operators to operate in one of two modes (fuel handling or LOCA). Normally the system is aligned to automatically process the exhaust air from the spent fuel pool area upon receipt of an actuation signal initiated by either high radiation or low flow in the spent fuel pool exhaust system. In the event of a LOCA, the system is manually realigned to operate in the LOCA mode prior to the end of the injection phase of a LOCA.

Operation of the penetration room filtration system is assumed in the safety analysis for a fuel handling accident inside the fuel handling building. Therefore, this system must be operable and aligned for this purpose when the potential for a fuel handling accident exists. In the refueling section of the CTS, this system is addressed in two separate LCOs, 3/4.9.12 for fuel storage and 3/4.9.13 for fuel movement and crane operation. Since the potential for a fuel handling accident exists during irradiated fuel movement, CTS 3/4.9.13 (fuel movement) is retained consistent with the STS. However, CTS 3/4.9.12 (fuel storage) requires that the penetration room filtration system be operable and aligned to the fuel handling building whenever irradiated fuel is stored in the spent fuel pit. As such, the potential for a design basis fuel handling accident in the fuel building can only exist during movement of irradiated fuel, and this is adequately addressed by the retained CTS 3/4.9.13. Therefore, the CTS 3/4.9.12 (fuel storage) applies when there is no fuel movement and is not relied on to prevent or mitigate the consequences of a design basis accident.

The relocated CTS discussed above are not required to be in the TS under 10 CFR 50.36 and do not meet any of the four criteria in the Final Policy Statement. They are not needed to obviate the possibility that an abnormal situation or event will give rise to an immediate threat to the public health and safety. In addition, the NRC staff finds that sufficient regulatory controls exist under the regulations cited above to maintain the effect of the provisions in these specifications. The NRC staff has concluded that appropriate controls have been established for all of the current specifications, information, and requirements that are being moved to SNC-controlled documents. This is the subject of a license condition established herewith. Until incorporated in the FSAR and procedures, changes to these specifications, information, and requirements will be controlled in accordance with the applicable current procedures that control these documents. Following implementation, the NRC will audit the removed provisions to ensure that an appropriate level of control has been achieved. The NRC staff has concluded that, in accordance with the Final Policy Statement, sufficient regulatory controls exist under the regulations, particularly 10 CFR 50.59. Accordingly, these specifications, information, and requirements, as described in detail in this SE, may be relocated from CTS and placed in the FSAR or other SNC-controlled documents as specified in SNC's letter of March 12, 1998.

F. Control of Specifications, Requirements, and Information Removed from the CTS

The facility and procedures described in the FSAR and TRM, incorporated into the FSAR by reference, can only be revised in accordance with the provisions of 10 CFR 50.59, which ensures records are maintained and establishes appropriate control over requirements removed from CTS and over future changes to the requirements. Other licensee-controlled documents contain provisions for making changes consistent with other applicable regulatory requirements: for example, the ODCM can be changed in accordance with ITS 5.5.1; the emergency plan implementing procedures (EPIPs) can be changed in accordance with 10 CFR 50.54(q); and the administrative instructions that implement the QA Plan can be changed in accordance with 10 CFR 50.54(a) and 10 CFR Part 50, Appendix B. Temporary procedure changes are also controlled by 10 CFR 50.54(a). The documentation of these changes will be maintained by SNC in accordance with the record retention requirements specified in SNC's QA plan for FNP and such applicable regulations as 10 CFR 50.59.

The license condition for the relocation of requirements from the CTS will address the implementation of the ITS conversion and when the relocation of the CTS requirements into licensee-controlled documents will be completed. The submittal of the updated licensee-controlled documents (e.g., FSAR) to the Commission will be as required by, and in accordance with, the regulations (e.g., 10 CFR 50.71(e) for the updated FSAR), and not be as part of the implementation of the ITS.

G. Other TS Changes (Beyond-Scope Issues)

This section evaluates the beyond-scope issues included in SNC's ITS Conversion application which deviated from both the CTS and the STS. The changes discussed below are listed in the order of the ITS specification or section, as appropriate.

<u>ITS 3.3.2 — Main Steam Isolation Instrumentation</u>

SNC is not adopting STS footnote (i) in its ITS conversion and is replacing it with ESFAS Table 3.3.2-1 footnote (d) to take credit for the FNP MS system design. FNP's MS isolation instrumentation is required to be operable during Modes 1 and 2. STS footnote (i) provides an exception to the LCO Applicability for the MS line isolation function when all the MS line isolation valves are closed. The safety function of the MS isolation instrumentation is accomplished once the MS isolation valves are closed. STS footnote (i) was written for the standard MS system design which contains only one MS isolation valve per MS line. CTS footnote (**) to Table 3.3-3 also requires all MS isolation valves to be closed. However, the FNP MS system has two isolation valves in each MS line. SNC proposed to change STS footnote (i) to reflect the FNP design since closing one isolation valve in each MS line accomplishes the intended safety function. Footnote (d) to FNP's ITS Section 3.3.2 will allow the exception to the LCO Applicability for the MS isolation function when one isolation valve in each MS line is closed. The staff finds the proposed change acceptable.

<u>ITS 3.3.4 — Remote Shutdown System - Source Range Neutron Flux Monitor</u>

CTS Table 3.3-9 does not include the source range monitor (SRM) for the remote shutdown system. FNP uses a separate SRM to give remote indication. SNC proposed that they would submit a report to the NRC if they lost this SRM and failed to make it operable within 30 days. The report would explain SNC's preplanned alternate method of ensuring the reactor remains in the shutdown condition in the event of a control room evacuation, the cause of the inoperability, and SNC plans and schedule for restoring the SRM to operable status. The STS requires the plant to be in shutdown condition after 30 days. Since adding this SRM to the TS is more restrictive, and since this SRM provides visual indication only and is not used in any automatic actuation signal or to monitor the operation of any component necessary to maintain the unit in Mode 3 (hot standby), we find SNC's justification acceptable.

<u>ITS 3.3.5 — Loss of Power, Diesel Generator Start Instrumentation</u>

SNC modified STS Section 3.3.5 in their ITS conversion to include a new degraded grid alarm for the "Loss of Power, DG Start Instrumentation" section of the FNP ITS. SNC revised ITS Section 3.3.5 and the corresponding basis sections to incorporate this change since the required Action and completion time for this alarm is different from other functions in this section. This alarm does not exist in the CTS. SNC revised the ITS because of a commitment made in response to a finding documented in NRC Inspection Report Numbers 50-348/92-17 and 50-364/92-17. The NRC staff accepted SNC's commitment in an SE on

November 21, 1995. Based on this, we find the change acceptable since it is more restrictive and meets the previous SNC commitment.

ITS 3.4.1 — RCS Pressure, Temperature, and Flow DNB Limits

ITS SR 3.4.1.4 contains a note stating that the 18-month RCS minimum flow surveillance does not occur until 7 days after ≥ 90% RTP. This note is consistent with Westinghouse STS SR 3.4.1.4 except that the elapsed time in the STS is 24 hours instead of 7 days. The intent of the note is to require performing the 18-month surveillance at the beginning of each fuel cycle with the reactor power as close to stable 100% power as possible, especially when performing a precision calorimetric heat balance measurement. FNP's CTS do not specify a time limit for performing the 18-month surveillance. With the added note, SNC will complete the surveillance within 7 days once the unit reaches 90% RTP, in accordance with example 1.4-3 in the STS Section 1, "Use and Application." SNC indicated that the proposed 7-day limit is based on operating experience. SNC stated that 7 days provide enough time to set up for measurement, allow for typical instrumentation problems, and achieve stable conditions without adversely affecting safety. The staff finds the 7-day limit acceptable for the FNP ITS.

ITS SR 3.4.5.2, 3.4.6.2, and 3.4.7.2 — RCS Loops - Modes 3, 4, and 5

SNC-proposed ITS SR 3.4.5.2 requires verifying SG secondary side water levels are ≥28% (narrow range). ITS SRs 3.4.6.2 and 3.4.7.2 require verifying SG secondary side water levels are ≥74% (wide range). The CTS secondary-side water level is 10% while the STS has a bracketed 17%. In response to a staff question, SNC stated that the basis for the minimum SG level during Mode 3 is to ensure that the SG tubes remain covered, thereby ensuring that the associated RCS loop is capable of providing the heat sink for decay heat removal. As a part of the conversion to the ITS, FNP requested Westinghouse to determine the SG level necessary to meet the basis stated for SRs 3.4.5.2, 3.4.6.2 and 3.4.7.2. Westinghouse determined that 28% narrow range SG level was the bounding minimum level in Mode 3, and 74% (wide range) was the bounding minimum SG level in Modes 4 and 5. The staff finds that this Westinghouse-calculated bounding level is reasonably conservative and concludes that the SNC-proposed minimum levels of 28% narrow range SG level in Mode 3 and 74% (wide range) SG level in Modes 4 and 5 are acceptable.

ITS 3.4.15 — RCS Leakage Detection Instrumentation

In CTS 3/4.4.7.1, the RCS leakage detection systems that are required to be operable include a containment atmosphere particulate radioactivity monitoring system and either a containment air cooler condensate level monitoring system or a containment atmosphere gaseous radioactivity monitoring system. With only one of these required leakage detection systems operable in Modes 1 through 4, FNP operation may continue for up to 7 days provided SNC obtains and analyzes containment atmosphere grab samples at least once every 24 hours when the required gaseous or particulate radioactive monitoring system is inoperable. Otherwise, FNP must be in at least hot standby within the next 6 hours and in cold shutdown within the following 30 hours.

For proposed ITS 3.4.15, SNC revised the applicable STS 3.4.15 LCO for leakage detection instrumentation to be consistent with FNP's CTS 3/4.4.7.1. The STS LCO requires one containment sump monitor, one containment atmosphere radioactivity monitor (gaseous or particulate), and one containment air cooler condensate flow rate monitor to be operable in Modes 1 through 4. SNC would have 30 days to restore an inoperable containment sump monitor to an operable condition. SNC would have 30 days to restore an inoperable containment atmosphere radioactivity monitor or verify that the containment air cooler condensate flow rate monitor was operable. If the containment atmosphere radioactivity monitor and the containment air cooler condensate flow rate monitor were inoperable, then SNC would also have 30 days to restore either monitor.

Since the CTS does not include the requirement for a containment sump level or flow monitor, SNC deleted the containment sump Actions from proposed ITS 3.4.15. In the original FNP SE Report (NUREG-75/034, Section 5.6), the staff found the FNP leakage detection equipment and methods acceptable to satisfy the requirements of General Design Criterion 30 of 10 CFR Part 50, Appendix A without a containment sump monitor. FNP's containment sump design prevents it from being qualified as a leak detection system per RG 1.45.

Proposed ITS 3.4.15 would extend the time allowed to restore an inoperable RCS leakage detection instrument to operable status to be consistent with the applicable STS. The CTS allows 7 days to restore an inoperable gaseous or particulate radioactive monitoring system. The proposed ITS 3.4.15 change would allow 30 days to restore an inoperable containment atmosphere particulate radioactivity monitor or 30 days to restore either an inoperable containment atmosphere gaseous radioactivity monitor or an inoperable containment air cooler condensate flow rate monitor. The associated Actions for an inoperable required leakage detection instrument(s) under proposed ITS 3.4.15 include analyzing containment atmosphere grab samples once every 24 hours or performing an RCS water inventory balance once every 24 hours. FNP would be required to be in Mode 3 in 6 hours, and Mode 5 (cold shutdown) in 36 hours if SNC did not meet the required Actions and associated completion times, as stated in the applicable STS.

The staff has determined that for one inoperable leakage detection monitor, ITS remedial Actions to analyze containment atmosphere grab samples or perform an RCS water inventory balance once every 24 hours provide the necessary information to ensure that RCS leakage will not go undetected. Additionally, SNC stated that the non-TS dew point temperature monitoring system should be available to provide further assurance that SNC will detect RCS leakage in a timely manner. Therefore, the staff concludes that extending the allowed outage time for one inoperable leakage detection monitor from 7 days to 30 days in proposed ITS 3.4.15 is acceptable.

<u>ITS 3.5.3 — ECCS Shutdown LCO</u>

SNC added a new Action to the ECCS-Shutdown LCO. The new Action provides an allowed outage time of 72 hours for the required ECCS centrifugal charging subsystem provided the remaining operable ECCS components are capable of providing 100% of the ECCS flow, equivalent to a single operable ECCS subsystem. At FNP, the low-temperature overpressurization protection requirement to ensure that only one centrifugal pump is operable does not apply until the temperature of one or more of the RCS cold legs is ≤ 180 degrees F. Therefore, in Mode 4, two or more centrifugal charging pumps may be available and an Action similar to that in STS 3.5.2 (ECCS-Operating) may be applied in FNP ITS 3.5.3 (ECCS-Shutdown).

The proposed 72-hour allowed outage time for this condition is consistent with the time currently allowed for one ECCS train to be inoperable in Modes 1 – 3. The probability of an event requiring ECCS during this time is insignificant and offset by the benefit gained by avoiding unnecessary plant transients.

This new Action provides 72 hours of outage time for an ECCS centrifugal charging subsystem when in Mode 4 (hot shutdown). However, this new Action is permissible only if the remaining operable ECCS components are capable of providing 100% of the ECCS flow, equivalent to a single operable ECCS subsystem. Another Action requires that if 100% ECCS flow equivalent to a single operable ECCS train is not available, then the FNP's required Action is to be in Mode 5 within 24 hours. In combination with the above stated requirements, the staff finds the proposed new Action for a 72-hour outage time for the ECCS centrifugal charging subsystem while in Mode 4 to be acceptable.

ITS 3.5.5 — RCP Seal Injection Flow

SNC proposed to change the way they confirm reactor coolant pump (RCP) seal injection flow. In converting to ITS, SNC would use a graph to measure seal injection flow instead of verifying a single operating point. SNC would determine appropriate flow based on the difference between RCS pressure and charging discharge header pressure. The points on the graph are based on FNP-specific safety analysis assumptions which give the relationship between seal injection flow, RCS pressure, and charging discharge header pressure over a range of values for each of these parameters. Establishing a reference differential pressure allows SNC to more precisely and repeatedly verify seal injection flow and proper throttle valve position. The NRC approved this method of determining the seal injection flow limit for Vogtle.

In response to an NRC RAI, SNC explained how they made the graph. They based the graph on a minimum differential pressure between the charging header and the pressurizer and verified total seal injection flow to be within the limits determined in accordance with the seal injection resistance assumed in the ECCS safety analyses. The 24 gpm and 31 gpm points are based on the required flow and differential pressure determined in accordance with the conditions discussed above. The 27 gpm point is based on the linear graph between the previous points, which is conservative as compared to the actual 27 gpm point that would be determined in accordance with the conditions discussed above. This information shows that using the graph in place of the single operating point is satisfactory. Therefore the staff finds this proposed TS change acceptable.

ITS 3.7.2 — Main Steam Isolation Valves

SNC's letter of March 12, 1998, proposed to revise CTS 3/4.7.1.5, "Main Steam Isolation Valves (MSIVs)," to take credit for redundant MSIVs in each steam line at FNP, Units 1 and 2. CTS 3/4.7.1.5 and STS 3.7.2 for MSIVs apply to typical pressurized-water reactor designs which include a single MSIV per steam line. In CTS 3/4.7.1.5, with one MSIV inoperable in Mode 1, SNC has to restore it to operable status within 4 hours or be in Mode 2 within 6 hours. With one MSIV inoperable in Modes 2 and 3, SNC has to restore the valve to operable status or close it within 4 hours after entering Mode 2; otherwise, be in Mode 3 in the next 6 hours and Mode 4 within the following 6 hours.

The FNP has redundant (two) MSIVs in each steam line. One MSIV in each steam line is designed to actuate on a train A ESF isolation signal and the other MSIV in each steam line is designed to actuate on a train B ESF isolation signal. The two MSIVs are installed adjacent to each other on each steam line with only a small pipe volume between the valves. Actuation of either MSIV in a steam line fulfills the isolation requirements of the applicable safety analyses. There are no design basis accident analyses that require both MSIVs to close in order to mitigate an event at FNP. Since there is a difference between the FNP MSIV design and the design the STS address, FNP chose to take credit for the two MSIVs in each steam line for proposed ITS 3.7.2.

In proposed ITS 3.7.2, SNC included two conditions (A and B) for inoperable MSIVs in Mode 1. Condition A applies when one or more steam lines have one inoperable MSIV per line in Mode 1. The required Action is to restore the inoperable MSIV to operable status within 72 hours. The 72-hour completion time is based on completion times in the CTS and the STS for one inoperable train in redundant engineered safety feature (ESF) systems. Also, there is a low probability of an accident occurring during this time that would require the MSIVs to close. Condition B applies when one or more steam lines have two MSIVs per line inoperable in Mode 1. The required Action is to restore one MSIV to operable status in the affected steam line within 4 hours. The 4-hour completion time is consistent with the CTS and the intent of the STS requirements for a loss of isolation function in plants designed with only one MSIV per line. If the required Action and associated completion time of Condition A or B are not met, then Condition C would require the unit to be in Mode 2 within 6 hours. Condition C is consistent with CTS and STS Actions and requires the same power reductions and completion times.

In proposed ITS 3.7.2, SNC includes two conditions (D and E) for inoperable MSIVs in Modes 2 and 3. Condition D applies when one or more steam lines have a single inoperable MSIV per line in Modes 2 and 3. The required Action is to restore the inoperable MSIV to operable status or close at least one MSIV in the affected steam line within 7 days, and once every 7 days thereafter verify that it is closed. SNC proposed this 7-day completion time since this would occur in Modes 2 and 3 when MSIV testing and maintenance, including valve stroking, may be performed during hot conditions and power is restricted to 5% reactor thermal power. Condition E applies when one or more steam lines have two MSIVs per line inoperable in Mode 2 or 3. The required Action is to restore one MSIV to operable status or verify that one MSIV is closed in the affected steam line within 4 hours and once every 7 days thereafter. The 4-hour completion time is consistent with the CTS and the intent of the STS requirements for a loss of isolation function in plants designed with only one MSIV per line. If the required Action and associated completion time of Condition D or E are not met, then Condition F requires the unit to be in Mode 3 in the next 6 hours and Mode 4 in the following 6 hours. Condition F is consistent with the CTS and the STS Actions and requires the same power reductions and completion times.

The staff concludes that SNC's proposal to take credit for redundant MSIVs for ITS 3.7.2 is acceptable based on the following:

- The Action times allowed by the CTS and the STS for a single inoperable MSIV do not consider that a redundant MSIV remains operable in the affected steam line and is fully capable of performing the intended safety function as in the FNP design

- There are no design basis accident analyses that would require both MSIVs to close in order to mitigate the event.

ITS 3.7.8 — Service Water System

SNC's March 12, 1998, letter proposed adding an Action to CTS 3/4.7.4, "Service Water System (SWS)," to account for the redundant automatic turbine building isolation valves in each service water train at the FNP, Units 1 and 2.

CTS 3/4.7.4 and the associated STS do not account for FNP having two redundant automatic turbine building isolation valves in series in each SWS train. The valves close automatically on a SI signal to isolate the non-safety turbine building SWS loads and ensure adequate SWS flow to essential components. When two of these isolation valves (one in each SWS train) become inoperable, the Actions in both the CTS and the STS do not address a condition that would apply. Therefore, FNP would enter LCO 3.0.3. SNC believes that entering LCO 3.0.3 in this condition would be overly conservative since there are two automatic turbine building isolation valves in each SWS train, and one automatic valve in each SWS train would still remain fully operable. Therefore, two 100% capacity SWS trains would remain available to provide the required system safety function.

In proposed ITS 3.7.8, SNC added an Action for one inoperable automatic turbine building isolation valve in each SWS train, which requires that both inoperable valves be restored to operable status in 72 hours. SNC based the 72-hour completion time on the fact that the isolation function is not lost in either SWS train since one automatic turbine building isolation valve in each train remains operable. Although the reliability of the isolation function performed by the automatic turbine building isolation valves is reduced, there are still two 100% capacity SWS trains available to perform the required safety function of the system. Also, there is a low likelihood of an event occurring during this time that would require the isolation function provided by these valves.

The staff concludes that adding the Action to ITS 3.7.8 at FNP is acceptable based on the redundant design of the automatic turbine building isolation function in each SWS train and that it prevents an unwarranted entry into LCO 3.0.3 which results in an unnecessary plant shutdown.

ITS 3.8.1 — Emergency Diesel Generator Accelerated Testing

CTS SR 4.8.1.1.2 and CTS Table 4.8-1 pertains to emergency diesel generator (EDG) accelerated testing. Table 3.8.1-1 in NUREG - 1431 (STS) also contains EDG accelerated testing requirements.

For the FNP ITS, SNC proposes to delete the EDG accelerated testing requirements consistent with GL 94-01, "Removal of Accelerated Testing and Special Reporting Requirements for Emergency Diesel Generators" guidance. GL 94-01 allows utilities to remove TS EDG accelerated testing requirements if the utilities implement 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants" (the maintenance rule) and applicable regulatory guidance for providing a program to assure EDG performance. Since FNP has implemented the maintenance rule, the proposed ITS do not include EDG accelerated testing requirements. However, RG 1.160, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," addresses maintaining selected target reliability values for EDGs. Thus, SNC commits to implementing Maintenance Rule requirements and maintaining EDG target reliability values of 95 percent. Additionally, EDG surveillance testing every 31 days is consistent with GL 94-01 testing guidance. Based on the above, this change is acceptable.

ITS SR 3.8.2.1 — Eliminating Unnecessary Mode 5 and 6 Surveillances

CTS SR 4.8.1.2 requires SNC to perform certain surveillances in Mode 5 and Mode 6 (refueling) to demonstrate capabilities that are not required for these Modes. Table 1 shows these SRs and the corresponding ITS SRs. CTS SR 4.8.1.1.1.b addresses transferring the unit power supply from the normal power circuit to the alternate circuit. SR 4.8.1.1.2.c.8 addresses a simulated SI signal overriding the EDG test mode. SR 4.8.1.1.2.d addresses simultaneously fast starting each EDG. SR 4.8.1.1.2.c.3 addresses automatic fast starting of an EDG from an SI test signal (without loss of offsite power). SR 4.8.1.1.2.c.9 addresses EDG automatic load sequencer timers. SR 4.8.1.1.2.c.4 addresses simulating a loss of offsite power in conjunction with an SI test signal and automatic EDG start and load sequencing.

Table 1 — CTS and Corresponding ITS SRs

Surveillance Requirement	
CTS	**ITS**
SR 4.8.1.1.1.b	SR 3.8.1.7
SR 4.8.1.1.2.c.8	SR 3.8.1.15
SR 4.8.1.1.2.d	SR 3.8.1.19
SR 4.8.1.1.2.c.3	SR 3.8.1.10
SR 4.8.1.1.2.c.9	SR 3.8.1.16
SR 4.8.1.1.2.c.4	SR 3.8.1.17

The FNP ITS revise CTS SR 4.8.1.2 surveillances to eliminate the requirement to perform the above ITS Section 3.8.1 surveillances for Modes 5 and 6 plant conditions. Since the SRs for AC sources - Shutdown define and verify the operability requirements of the AC sources required in Modes 5 and 6, the AC sources - Shutdown SR is revised in the ITS to more clearly identify the applicable operability requirements. The definition of operability refers to the system or equipment being capable of performing its required safety function. The above surveillances proposed in the ITS as exceptions for Modes 5 and 6 do not demonstrate any capability related to the required safety function of an AC source for these Modes. The revised AC sources - Shutdown surveillances in the ITS do not require SNC to meet or perform the excepted surveillances for Modes 5 and 6 plant conditions. SNC took exception to surveillances that require the following:

(1) demonstrating the capability to transfer offsite circuits (only one offsite circuit is required in Modes 5 and 6)
(2) demonstrating AC source response to an engineered safety features actuation (SI) signal (SI is not a required safety function in Modes 5 and 6)
(3) verifying EDG starting independence (only one EDG is required in Modes 5 and 6)
(4) verifying the automatic load sequence timing capabilities of emergency load sequencers

Except for SR 3.8.1.10, eliminating the requirement to perform the above FNP ITS surveillances for Modes 5 and 6 plant conditions is consistent with NUREG -1431 guidance. SR 3.8.1.10 verifies that an SI signal fast starts each EDG, each EDG operates for $\geq$ 5 minutes, and emergency loads energize from the offsite power system. However, operators defeat the SI signal for Modes 5 and 6. In this regard, requiring SNC to perform this surveillance for Modes 5 and 6 plant conditions demonstrates a capability that is not required for these Modes.

In addition, the FNP ITS Bases note that during plant shutdown Modes, and consistent with ITS Section 3.8.10 (Distribution Systems - Shutdown), portions of a second train of the electrical power distribution subsystems may be required to be operable. Further, the FNP ITS Bases note the following:

> In the case where the requirements of LCO 3.8.10 call for portions of a second train to be Operable:
>
> (1) Required portions of the second train of alternating current power distribution subsystems may be energized from the associated inverter connected to the respective direct current (DC) bus or the alternate Class 1E power source consisting of the inverter static transfer switch and the associated constant voltage transformer, or
>
> (2) Required DC buses associated with the second train of distribution subsystems are energized from either an operable DC source consisting of one battery, one battery charger, and the corresponding control equipment and interconnecting cabling associated with that train or a battery charger using the corresponding control equipment and the interconnecting cabling within the train.

The staff expressed concern regarding the reliability of a less than fully complimented second Class 1E power train, since the second power train may not consist of a fully complimented Class 1E power train. In response to this concern, SNC agreed to include the following in the FNP ITS Bases Sections 3.8.8 (Inverters - Shutdown) and 3.8.10 (Distribution Systems - Shutdown):

> Class 1E power and distribution systems are normally used because these systems are available and reliable. However, due to events such as maintenance or modification, portions of the Class 1E system may be temporarily unavailable. In such an instance the plant staff assesses the alternate systems to ensure that defense in depth is maintained and that risk is minimized.

The FNP CTS do not require SNC to assess necessary second power trains during plant shutdown Modes to minimize risk. As such, these actions are considered voluntary. In addition, licensee voluntary actions beyond the CTS, which include safety planning and assessment in shutdown, were an important part of the Commission's decision to cancel the shutdown rule.

Based on the above, we conclude that eliminating the requirement to perform the identified surveillances for Modes 5 and 6 plant conditions is consistent with NUREG - 1431 guidance and is acceptable. Further, we conclude that SNC's voluntary actions for the necessary second power train during plant shutdown Modes are consistent with the Commission's decision to cancel the shutdown rule and are acceptable.

ITS SR 3.8.2.1 — AC Sources for Plant Shutdown Conditions

ITS SR 3.8.2.1 adds a note to revise CTS SR 4.8.1.2 for AC Sources During Shutdown. The note identifies ITS SR 3.8.1.8, SR 3.8.1.9, SR 3.8.1.11, SR 3.8.1.12, SR 3.8.1.13, SR 3.8.1.14, and SR 3.8.1.18 as applicable but not required to be performed. SR 3.8.1.8 addresses each EDG rejecting a load greater than or equal to its associated single largest post-accident load. SR 3.8.1.11 addresses bypassing EDG protective trips when receiving a loss-of-voltage signal on the emergency bus and/or an SI signal. SR 3.8.1.12 addresses the EDG 24-hour endurance test. SR 3.8.1.13 addresses each EDG starting and achieving specified voltage and frequency values in ≤ 12 seconds within 10 minutes of shutting it down after running it for ≥ 2 hours loaded at greater than or equal to a specified load. SR 3.8.1.14 addresses synchronizing a loaded EDG with the offsite power source and transferring the EDG loads to the offsite power source. SR 3.8.1.18 addresses each EDG rejecting a load of ≥ 1200 kW and ≤ 2400 kW.

Adding the note is intended to stop having to parallel the operable EDG with the offsite power network or otherwise render the EDG inoperable to perform a surveillance. Some of the CTS surveillances involve tests that require paralleling the EDG to the offsite power network. Connecting the only required EDG and the only required offsite circuit presents the risk of a single fault resulting in a station blackout. To address this concern and to avoid other conflicts with testing and operability, the STS includes a note with SR 3.8.2.1 to exclude the requirement to perform certain surveillance tests. The exception provided by the note does not exclude the requirement for the EDG to be capable of performing the particular function. Rather, SNC does not have to demonstrate the capability while the EDG source of power is being relied on to meet the LCO. Thus, adding the note to the FNP ITS SR 3.8.2.1 to exclude the requirement to perform the above surveillances is consistent with STS guidance and is acceptable.

ITS SR 3.8.2.1 — Adding Required Mode 5 and 6 Surveillances

FNP ITS SR 3.8.2.1 specifically notes that SR 3.8.1.1, SR 3.8.1.2, SR 3.8.1.4, SR 3.8.1.5, and SR 3.8.1.6 apply and SNC is to perform them for Mode 5 and 6 plant conditions. SR 3.8.1.1 verifies correct breaker alignment and indicated power availability for offsite power circuits. SR 3.8.1.2 verifies that each EDG starts from standby conditions and achieves specified steady-state voltage and frequency values. SR 3.8.1.4 verifies that each EDG day tank contains a minimum specific number of gallons of fuel oil. SR 3.8.1.5 verifies that the fuel oil transfer system operates to transfer fuel oil from the storage tank to the day tank. SR 3.8.1.6 verifies that each EDG starts from a standby condition and achieves specified voltage and frequency values in ≤ 12 seconds.

CTS SR 4.8.1.2 references SRs 4.8.1.1.1 and 4.8.1.1.2 to gives requirements for the AC Sources during shutdown. The CTS SR 4.8.1.2 only provides a specific exception to the referenced surveillances required for the shutdown AC sources but does not identify the specific surveillances required to be performed. The STS provides additional exceptions, as identified and addressed above, but also does not identify the specific surveillances that are required to be performed for the shutdown AC sources. Proposed ITS SR 3.8.2.1 adds a specific list of surveillances that apply and which must be performed. This list of required surveillances is consistent with the FNP ITS lists of surveillances remaining after deleting exclusions which are not required to be performed. The added list of five required surveillances for ITS SR 3.8.2.1 is also consistent with the five surveillances the STS require to be performed. Thus, adding this list of five required surveillances does not introduce a technical change to the SRs, but rather is an administrative change which is provided to clearly identify the surveillances actually required to be performed on the shutdown AC sources. Accordingly, this change is only an administrative change that lists the five specific surveillances required to be performed and thus is acceptable.

ITS 3.8.4 — Asterisk (*) Footnote and CTS Battery Connection Resistance

ITS 3.8.4 Actions revise the STS 3.8.4 Actions to be consistent with the FNP design and CTS requirements. ITS 3.8.4 provides new Action conditions based on the CTS and the FNP specific design which includes batteries dedicated to the SWS DC control power. Proposed FNP specific Action conditions are necessary to retain the FNP specific allowance provided by an asterisk (*) footnote associated with two of the CTS surveillances and to address the fact that the inoperability of the service water intake structure battery affects only the associated train of the SWS.

An asterisk (*) footnote to the surveillances of both the auxiliary building and service water intake structure battery CTS provides an allowance to delay declaring the battery inoperable due to connection resistance not within limit. This footnote establishes a 24-hour completion time to restore connection resistance to within the required tolerance. The CTS allowance to restore battery connection resistance to within the required tolerance is supported by IEEE-450 which notes that connection resistance is merely an indication of conditions that can be easily corrected prior to the next inspection. In addition, IEEE-450 does not note that battery connection resistance is a basis on which to declare the battery inoperable. In this regard, ITS 3.8.4 includes a separate Action condition for connection resistance not within limits. The completion time associated with this proposed ITS condition is 24 hours which is the same as that specified in the CTS footnote.

ITS 3.8.4 Action conditions revise the STS 3.8.4 Action conditions to incorporate a specific default Action for the service water intake structure battery system. This change is necessary since this battery system supplies only one required safety system, which is the SWS. The SWS has a completion time of 72 hours for an inoperable train. Each train of service water intake structure batteries supplies the associated service water DC control power. Considering that either unit or both units at the same time are permitted to have one train of service water inoperable for up to 72 hours (as permitted by the CTS or STS) for reasons other than the DC control power, the completion time of 2 hours with a plant shutdown required if the completion time is not met is very restrictive for an inoperable service water intake structure battery train. In this regard, ITS 3.8.4 provides separate Action conditions for an inoperable service water intake structure battery train which, if not met, default to a condition that requires the associated train of service water to be declared inoperable. This Action condition format is consistent with that contained in the STS where similar support / supported system relationships exist.

ITS 3.8.4 also revises STS 3.8.4 battery connection resistance SRs to be consistent with the FNP CTS. The terminology used in the SR and the resistance values specified are revised to be consistent with the language and connection resistance limits used in the FNP CTS. The above changes are consistent with the FNP CTS or specific design, are provided in a format and presentation consistent with that contained in the STS, and are acceptable.

ITS 3.8.9 — Service Water DC Distribution and Battery Systems

CTS 3/4.8.2.5 Action statement for the LCO for the service water DC distribution system requires that with one of the 125-Vdc distribution trains inoperable, restore the inoperable distribution system to operable status within 2 hours or be in at least hot standby within the next 6 hours and cold shutdown within the following 30 hours. Proposed ITS 3.8.9 revises the CTS LCO Action statement such that with one of the 125-volt distribution trains inoperable, operators would declare the associated service water train inoperable immediately.

At the FNP, a separate DC distribution and battery system that is independent of the main DC distribution and battery system supplies SWS DC control power. The primary purpose of the service water intake structure DC distribution and battery system is to supply DC control power to the associated service water train. The service water intake structure DC distribution and battery system does not supply any other TS-related or required loads. The CTS requirements that apply to an inoperable service water train allow 72 hours to restore that train to operable status before requiring a plant shutdown. As the service water intake structure DC distribution and battery systems are required in TS solely to support the associated SWS train, the CTS allowance of only 2 hours to restore the service water intake structure DC distribution and battery systems to operable status before requiring a plant shutdown is very conservative. If an entire service water train may be inoperable for any reason for up to 72 hours, it is very restrictive to require a plant shutdown to begin in 2 hours if the DC control power to the same service water train is inoperable. The 2-hour restoration time associated with distribution and battery systems is based on the fact that DC systems typically support many TS required engineered safety feature systems and the loss of the supporting distribution or battery system impacts many required systems. This is not the case for the FNP service water intake structure DC distribution and battery system. The proposed ITS Action statements revise the CTS Actions to be similar to other STS Actions for support systems when that support system becomes inoperable (that is, declare the supported system inoperable). Actions to be in Mode 3 in 6 hours and Mode 5 in the following 30 hours are replaced with an Action to declare the associated service water train inoperable immediately. In this regard, the completion time for the support system becomes more consistent with the completion time for the supported system. On the basis of the above technical reasons being consistent with the guidance provided in the STS, the proposed Action statement for ITS 3.8.9 is acceptable.

ITS 5.1.2 — Administrative Controls - Responsibility

SNC proposes to adopt less restrictive wording for a portion of TS 5.1, Responsibility. The wording contained in their submittal would substitute the generic title of Senior Reactor Operator (SRO) for the ITS specific title of Shift Supervisor (SS). The specification requires that an individual must have an SRO license to assume the specific command and control function. An on-shift SRO can be designated to assume the command and control function when the SS leaves the control room because the qualifications, as defined in ANSI 3.1, 1993, "Selection, Qualification and Training of

Personnel for Nuclear Power Plants," for an on-shift SRO and for the SRO designated as the Shift Supervisor are the same. The change in wording is less restrictive but does not reduce the underlying requirement of the specification and, therefore, is acceptable.

ITS 5.3.1 — Administrative Controls - Unit Staff Qualifications

SNC proposes to adopt alternative wording to refer to the individual responsible for management of the radiological protection program for plant operations. SNC proposes to use the generic reference of "senior individual in charge of Health Physics" in lieu of the ITS specific reference to the Radiation Protection Manager. The generic title would apply to 5.3, Staff Qualifications. The use of a generic reference in lieu of a specific title does not change SNC's current commitment to an appropriate qualification standard as specified in TS 5.3. Although the wording proposed by SNC does not match the ITS specific reference, the individual with responsibility for the radiation protection program can be identified and is required to be qualified to an appropriate level. Therefore, the proposed wording is acceptable.

ITS 5.5.7 — RCP Flywheel Inspection Program

Westinghouse Topical Report WCAP-14535A, "Topical Report on Reactor Coolant Pump Flywheel Inspection Elimination," November 1996, provided information on eliminating RCP flywheel examination. The NRC reviewed this report and issued a safety evaluation (SE) forwarded by a letter from Brian W. Sheron to Mr. Sushil C. Jain, dated September 12, 1996, "Acceptance for Referencing of Topical Report WCAP-14535 on Reactor Coolant Pump Flywheel Inspection Elimination." This SE concluded that a revised inspection schedule was justified for (1) flywheels made of SA 533 B material that do not belong to Groups 10 and 15, and (2) flywheels made of SA 533 B material that belong to these two groups if justified by some additional analyses. To justify a change in the flywheel inspection interval for flywheels not made of SA 533 B material, an assessment must be made using a methodology similar to that in WCAP-14535.

On the basis of the recommendations of WCAP-14535, SNC submitted a proposed change to CTS SR 4.4.11.2 and STS 5.5.7. The ITS would require the following with regard to the RCP flywheel inspection program:

> This program shall provide for the inspection of each reactor coolant pump flywheel at least once per 10 years by conducting either:
>
> a. An in-place ultrasonic examination over the volume from the inner bore of the flywheel to the circle of one-half the outer radius; or
>
> b. A surface examination (magnetic particle and/or liquid penetrant) of exposed surfaces of the disassembled flywheel.
>
> The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Reactor Coolant Pump Flywheel Inspection Program.

Guidance for submitting plant-specific requests for alternate RCP flywheel inspection requirements is contained in Section 4.0, "Conclusions," of the September 12, 1996, NRC SE. The guidance that pertains to FNP is as follows:

(1) Licensees who plan to submit a plant-specific application of this topical report for flywheels made of SA 533 B material need to confirm that their flywheels are made of SA 533 B material.

(2) (Not being cited because this applies to flywheels not made of SA 533 B material.)

(3) Licensees meeting either (1) or (2) above should either conduct a qualified in-place ultrasonic testing examination which covers the volume from the inner bore of the flywheel to the circle of one-half the outer radius or conduct a surface examination (MT [magnetic particle] and/or PT [liquid penetrant]) of exposed surfaces defined by the volume of the disassembled flywheels once every 10 years.

SNC has confirmed that the FNP RCP flywheels are fabricated from SA 533 B material. Therefore, position (2) of Section 4.0 of the NRC's September 12, 1996, SE does not apply to the FNP. SNC has proposed an alternate inspection in ITS 5.5.7 that substantially conforms to the guidance of the above item (3).

On the basis of SNC referencing WCAP-14535, the substantial conformance to the positions in the NRC's SE of September 12, 1996, and previous RCP pump flywheel inspections that did not reveal any indications, SNC's proposed ITS are acceptable.

ITS 5.6.7 — Emergency Diesel Generator Failure Report

The annual diesel generator reliability data report in CTS 6.9.1.12 is replaced in the ITS with STS 5.6.7, EDG Failure Report. The content of the replacement report is modified to include additional information to be supplied with each report consistent with the current FNP practice. The CTS annual EDG report requires that all tests and the number of failures to start on demand for each EDG be submitted each year. In addition, the CTS requirement references RG 1.108 for report content. The STS EDG reporting requirement is based on the number of failures in the last 25 demands, and a report is only required to be submitted when an individual EDG experiences four or more valid failures in the last 25 demands. The EDG reporting requirement is revised in the ITS to correct the reference for the additional information to be included in the report. The additional information to be provided in the EDG failure report is currently derived from the FNP EDG reliability monitoring program, which provides more information than the CTS reference to RG 1.108. This FNP program is referenced in place of the STS references to RGs 1.9 and 1.108 for the additional information and exists to fulfill a commitment provided in response to the station blackout rule. The elements of the EDG monitoring program are consistent with the guidance provided in RG 1.155, RG 1.9, and Appendix D of NUMARC 87-00, Rev. 1. The FNP monitoring program ensures the data on all EDG demands is logged and evaluated and that EDG reliability performance is monitored in accordance with RG 1.155, RG 1.9, and Appendix D of NUMARC 87-00, Rev. 1. In addition, this monitoring program specifies the actions to be taken if one or more of the EDG reliability performance indicators detailed in the program reaches or exceeds the FNP reliability trigger values. In this regard, the STS EDG failure report is revised in the ITS to be consistent with the current FNP practice regarding the additional information to be included in the report. The other aspects of the STS report requirement provide more relaxed requirements compared to the CTS requirement for a report to be submitted each year regardless of the number of failures and all tests and all failures to be reported each year. However, the revised reporting requirement does require additional information such as a description of the failures, underlying causes, and corrective action taken. This additional information is necessary to assess the EDG reliability and the overall effectiveness of the FNP EDG maintenance and testing program. Therefore, the STS reporting requirement as modified in the ITS by reference to the FNP EDG reliability monitoring program is acceptable as it continues to provide a means to monitor the FNP EDG reliability and allows for corrective measures to be taken if required.

ITS 5.7.1.c — Administrative Controls - High Radiation Area

SNC proposed to adopt alternative wording in TS 5.7.1.c, High Radiation Area. The ITS references the Radiation Protection Manager as specifying the frequency of periodic radiation surveillances. The existing FNP specification assigns that responsibility to the individual with the title of Health Physics Supervisor. In the conversion to ITS, SNC proposes to substitute the more generic reference of health physics supervisor rather than referencing a specific title. The requirements related to a high radiation area remain unchanged. The level of the individual required to establish the frequency of radiation surveillances also remains unchanged. SNC's proposed wording varies from the ITS specific reference but is consistent with the existing specification and does not change the requirements related to a high radiation area and, therefore, is acceptable.

IV. STATE CONSULTATION

In accordance with the Commission's regulations, on September 24, 1999, the NRC notified the Alabama State official, Mr. Kirk Whatley of the Office of Radiation Control, Alabama Department of Public Health, of the proposed issuance of the amendment. Mr. Whatley had no comments.

V. ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.21, 51.32, and 51.35, an Environmental Assessment and Finding of No Significant Impact was published in the *Federal Register* on October 12, 1999 (64 FR 55314). Accordingly, based upon the environmental assessment, the Commission has determined that issuance of this amendment will not have a significant effect on the quality of the human environment.

VI. CONCLUSION

The FNP ITS provide clearer, more readily understandable requirements to ensure safe operation of the plant. The NRC staff concludes that they satisfy the guidance in the Commission's policy statement with regard to the content of TS and conform to the model provided in NUREG-1431 with appropriate modifications for plant-specific considerations. The NRC staff further concludes that the FNP ITS satisfy Section 182a of the Atomic Energy Act, 10 CFR 50.36, and other applicable standards. On this basis, the NRC staff concludes that the proposed FNP ITS are acceptable.

The NRC staff has also reviewed the plant-specific changes to CTS as described in this evaluation. On the basis of the evaluations described herein for each of the changes, the NRC staff concludes that these changes are acceptable.

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner; (2) such activities will be conducted in compliance with the Commission's regulations; and, (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

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