October 2, 2003

Mr. Michael Kansler
President
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

SUBJECT: DRAFT SAFETY EVALUATION (SE) REGARDING PROPOSED CONVERSION TO IMPROVED STANDARD TECHNICAL SPECIFICATIONS - INDIAN POINT NUCLEAR GENERATING UNIT NO. 2 (TAC NO. MB4739)

Dear Mr. Kansler:

Please find the draft Safety Evaluation (SE), Enclosure 1, of your proposed conversion of the current technical specifications (CTSs) for the Indian Point Nuclear Generating Unit No. 2 (IP2) to the improved technical specifications (ITSs). In an effort to expedite the issuance of the proposed amendment, the Nuclear Regulatory Commission (NRC) staff completed the draft SE for review even though we have not yet received final information from your staff to supplement your responses to our requests for additional information (RAIs). We will continue to expedite the final completion of the SE assuming that all future submittals conform to verbal resolution of the RAIs.

Please review the enclosed draft SE to verify its accuracy. Please also prepare the certified ITS for IP2 to be submitted to NRC for issuance in the conversion amendment. In accordance with our agreed-upon schedule, please provide both your written comments on the draft SE and a certified ITS and Bases within 30 days of receipt of this letter. After we review your comments, we will incorporate changes, as appropriate, in the final SE before issuing the ITS and the final SE. Our conclusions in the enclosed draft SE are not valid until the final SE is issued.

Within 30 days of receipt of this letter we request that you submit a license condition for Section 2.c(3) to the IP2 license to make enforceable the transfer of those requirements in the CTS being relocated into licensee-controlled documents that are the subject of regulations, as described in your letters and the enclosed draft SE. Enclosure 2 contains an acceptable license condition. A similar license condition should also be submitted for (1) each commitment to complete a future action that you have included in your letters for the ITS for IP2, and (2) the first performance of new and revised surveillance requirements (SRs) for the ITS to be related to the implementation of the ITS. An acceptable license condition for the new and revised SRs is provided in Section 5.0 of the enclosed draft SE and Enclosure 2.

The draft SE, including five tables attached to the SE that list the changes to the CTS, documents the staff's review of your application dated March 27, 2002 (NL-02-016), as supplemented by letters dated May 30, 2002 (NL-02-042), July 10, 2002 (NL-02-092),

October 10, 2002 (NL-02-130), October 28, 2002, (NL-02-133), November 26, 2002 (NL-02-148), December 18, 2002 (NL-02-160), January 6, 2003, January 27, 2003 (NL-03-002), February 26, 2003 (NL-03-035), April 8, 2003 (NL-03-052), May 19, 2003 (NL-03-081), June 23, 2003 (NL-03-103), June 26, 2003 (NL-03-107), July 15, 2003 (NL-03-76), July 18, 2003 (NL-03-117), August 6, 2003 (NL-03-127), and September 11, 2003 (NL-03-137) in response to the staff's RAIs dated August 6, 2002, September 26, 2002, October 3, 2002, October 17, 2002, October 17, 2003, October 22, 2002, December 31, 2002, January 22, 2003, and May 26, 2003. The additional CTS changes not normally included in a TS conversion amendment (beyond-scope issues) are addressed in Section 3.G.

The NRC staff's review was based on the Standard Technical Specifications (STS), NUREG-1431, Revision 2, "Standard Technical Specifications for Westinghouse Plants," dated June 2001, and on guidance provided in the Commission's "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors," published in the Federal Register on July 22, 1993 (58 FR 39132). The enclosed draft SE was forwarded electronically to Mr. Bill Blair of your staff on September 22, 2003.

Please do not hesitate to contact me at 301-415-1441 if you have any questions.

Sincerely,

/RA/

Guy S. Vissing, Senior Project Manager, Section I
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-247

Enclosures: 1. Draft Safety Evaluation
2. Acceptable License Condition

cc w/encls: See next page

October 10, 2002 (NL-02-130), October 28, 2002, (NL-02-133), November 26, 2002 (NL-02-148), December 18, 2002 (NL-02-160), January 6, 2003, January 27, 2003 (NL-03-002), February 26, 2003 (NL-03-035), April 8, 2003 (NL-03-052), May 19, 2003 (NL-03-081), June 23, 2003 (NL-03-103), June 26, 2003 (NL-03-107), July 15, 2003 (NL-03-76), July 18, 2003 (NL-03-117), August 6, 2003 (NL-03-127), and September 11, 2003 (NL-03-137) in response to the staff's RAIs dated August 6, 2002, September 26, 2002, October 3, 2002, October 17, 2002, October 17, 2003, October 22, 2002, December 31, 2002, January 22, 2003, and May 26, 2003. The additional CTS changes not normally included in a TS conversion amendment (beyond-scope issues) are addressed in Section 3.G.

The NRC staff's review was based on the Standard Technical Specifications (STS), NUREG-1431, Revision 2, "Standard Technical Specifications for Westinghouse Plants," dated June 2001, and on guidance provided in the Commission's "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors," published in the Federal Register on July 22, 1993 (58 FR 39132). The enclosed draft SE was forwarded electronically to Mr. Bill Blair of your staff on September 22, 2003.

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Sincerely,
/RA/
Guy S. Vissing, Senior Project Manager, Section I
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-247

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. [ ] TO FACILITY OPERATING LICENSE DPR-26

INDIAN POINT NUCLEAR GENERATING UNIT NO. 2

ENTERGY NUCLEAR NORTHEAST

DOCKET NO. 50-247

1.0 INTRODUCTION

Indian Point Nuclear Generating Unit No. 2 (IP2) has been operating with Technical Specifications (TSs) issued with the full power operating license (DPR-26) on September 24, 1973, as amended. By application dated March 27, 2002 (NL-02-016), as supplemented by letters dated May 30, 2002 (NL-02-042), July 10, 2002 (NL-02-092), October 10, 2002 (NL-02-130), October 28, 2002 (NL-02-133), November 26, 2002 (NL-02-148), December 18, 2002 (NL-02-160), January 6, 2003, January 27, 2003 (NL-03-002), February 26, 2003 (NL-03-035), April 8, 2003 (NL-03-052), May 19, 2003 (NL-03-081), June 23, 2003 (NL-03-103), June 26, 2003 ((NL-03-107) July 15, 2003 (NL-03-176), August 6, 2003 (NL-03-127), and September 11, 2003 (NL-03-137). Entergy Nuclear Northeast, the licensee, proposed to convert the current Technical Specifications (CTS) to improved Technical Specifications (ITS). The conversion is based upon:

- NUREG-1431, "Standard Technical Specifications for Westinghouse Plants," Revision 2 (NUREG-1431), dated April 2001
- "Final Policy Statement on Technical Specification Improvements for Nuclear Power Reactors," (Final Policy Statement), published on July 22, 1993 (58 FR 39132), and
- 10 CFR 50.36, “Technical Specifications,” as amended July 19, 1995 (60 FR 36953).

Hereafter, the proposed or improved TS for IP2 are referred to as the ITS, the existing TS are referred to as the CTS, and the improved standard TS, such as in NUREG-1431 are referred to as the STS. The corresponding TS Bases are ITS Bases, CTS Bases, and STS Bases, respectively. For convenience, a list of acronyms used in this safety evaluation (SE) is provided in Attachment 1.

In addition to basing the ITS on the STS, the Final Policy Statement, and the requirements in 10 CFR 50.36, the licensee retained portions of the CTS as a basis for the ITS. Plant-specific issues, including design features, requirements, and operating practices, were discussed with the licensee during a series of telephone conference calls and a 3-day working meeting that concluded on May 30, 2003. These plant-specific changes serve to clarify the ITS with respect to the guidance in the Final Policy Statement and STS. Also, based on these discussions, the licensee proposed matters of a generic nature that were not in the STS. The Nuclear Regulatory Commission (NRC) staff requested that the licensee submit such generic issues as proposed changes to STS through the NRC/Nuclear Energy Institute's Technical Specifications Task Force (TSTF). These generic issues were considered for specific applications in the IP2 ITS. Consistent with the Final Policy Statement, the licensee proposed transferring some CTS

requirements to licensee-controlled documents (such as the final safety analysis report (FSAR) for IP2, for which changes to the documents by the licensee are controlled by a regulation such as 10 CFR 50.59 and may be changed without prior NRC approval). NRC-controlled documents, such as the TS, may not be changed by the licensee without prior NRC approval. In addition, human factors principles were emphasized to add clarity to the CTS requirements being retained in the ITS, and to define more clearly the appropriate scope of the ITS. Further, significant changes were proposed to the CTS Bases to make each ITS requirement clearer and easier to understand.

The overall objective of the proposed amendment, consistent with the Final Policy Statement, is to rewrite, reformat, and streamline the TSs for IP2 to be in accordance with 10 CFR 50.36.

Since the licensee prepared the March 27, 2002, application, a number of amendments to the IP2 operating license were approved. Table 1 provides the subjects of the amendments and the dates of issuance.

TABLE 1

Amendment No.	Description of Change	Date
225	One-time Extension of TS Surveillance Intervals	03/27/02
226	Secondary Leakage Limits & Steam Generator Tube Inservice Surveillance Requirements	04/02/02
227	Credit For Soluble Boron and Burnup in Spent Fuel Pit	05/29/02
228	Power Range Neutron Flux High Setpoint with Inoperable Main Steam Safety Valve	06/04/02
229	Fuel Storage Building Air Filtration System	06/05/02
230	Eddy Current Probe Size for S/G Tube Inspections	07/29/02
231	Reactor Vessel Material Surveillance Program	07/30/02
232	One-Time only Change to Frequency of ILRT	08/05/02
233	Gas Turbine Generator Fuel Oil Storage	09/18/02
234	Individual Control Rod Position Indication	11/07/02
235	Administrative Controls To Reflect Site Integration	12/17/02
236	Relocate TS Requirements For Gas Turbine Generators to the UFSAR	01/17/03
237	Power Uprate	05/22/03

The licensee has incorporated these amendments, as appropriate, into the ITS.

The NRC staff's evaluation of the application dated March 27, 2002, is presented in this SE. The NRC staff issued requests for additional information (RAIs) dated August 6, 2002, September 26, 2002, October 3, 2002, October 17, 2002, October 17, 2003, October 22, 2002, December 31, 2002, January 22, 2003, and May 26, 2003, and the license conditions implementing the conversion will make enforceable the following aspects of the conversion: (1) the relocation of requirements from the CTS and (2) the implementation schedule for new and revised surveillance requirements (SRs) in the ITS.

The Commission's proposed action on the IP2 application for an amendment dated March 27, 2002, as supplemented by letters dated July 10, 2002, October 10, 2002, October 28, 2002, November 26, 2002, December 2002, January 27, 2003, April 8, 2003, June 23, 2003, and August 6, 2003, was published in the *Federal Register* on September 26, 2003. The *Federal Register* notice also addressed beyond-scope issues identified in the licensee's submittals.

During its review, the NRC staff relied on the Final Policy Statement and the STS as guidance for acceptance of CTS changes. This SE provides a summary basis for the NRC staff's conclusion that the licensee can develop ITS based on STS, as modified by plant-specific changes, and that the use of the ITS is acceptable for continued operation. The SE also explains the NRC staff's conclusion that the ITS, which are based on the STS as modified by plant-specific changes, are consistent with the IP2 current licensing basis and the requirements of 10 CFR 50.36.

The NRC staff also acknowledges that, as indicated in the Final Policy Statement, the conversion to STS is a voluntary process. Therefore, it is acceptable that the ITS differ from the STS, to reflect the current licensing basis for IP2. The NRC staff approves the licensee's changes to the CTS with modifications documented in the licensee's supplemental submittals.

For the reasons stated *infra* in this SE, the NRC staff finds that the ITS 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 they are in accord with the common defense and security and provide adequate protection of the health and safety of the public.

2.0 REGULATORY EVALUATION

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 related to the content of TS. In doing so, the Commission placed emphasis on those matters related to the

prevention of accidents and the mitigation of 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," as stated in the Statement of Consideration, "Technical Specifications for Facility Licenses; Safety Analysis Reports," (33 FR 18610, December 17, 1968). Pursuant to 10 CFR 50.36, TSs are required to include items in the following five specific categories related to station operation: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation (LCOs); (3) SRs; (4) design features; and (5) administrative controls. However, the rule does not specify the particular requirements to be included in a plant's TS.

For several years, NRC and industry representatives have sought to develop guidelines for improving the content and quality of nuclear power plant TSs. On February 6, 1987, the Commission issued an interim policy statement on TS improvements, "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, such as NUREG-1431, that would establish models of the Commission's policy for each primary reactor type. In addition, the NRC staff, licensees, and owners groups developed generic administrative and editorial guidelines in the form of a "Writer's Guide" for preparing TSs, which gives greater consideration to human factors principles and was used throughout the development of licensee-specific ITS.

In September 1992, the Commission issued NUREG-1431, Revision 0, which was developed using the guidance and criteria contained in the Commission's Interim Policy Statement. The STS in NUREG-1431 were established as a model for developing the ITS for Westinghouse plants in general. The STS reflect the results of a detailed review of the application of the interim policy statement criteria to generic system functions, which were published in a "Split Report" issued to the nuclear steam system supplier owners groups in May 1988. STS also reflect the results of extensive discussions concerning various drafts of STS, so that the application of the TS criteria and the Writer's Guide would consistently reflect detailed system configurations and operating characteristics for all reactor designs. As such, the generic Bases presented in NUREG-1431 provides an abundance of information regarding the extent to which the STS present requirements that are necessary to protect public health and safety. The STS in NUREG-1431 applies to IP2.

On July 22, 1993, the Commission issued its Final Policy Statement, expressing the view 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 safety benefits of the STS, and encouraged licensees to use the STS as the basis for plant-specific TS amendments, and for complete conversions to ITS based on the STS. Further, the Final Policy Statement gave guidance for evaluating the required scope of the TS and defined the guidance criteria to be used in determining which of the LCOs and associated SRs should remain in the TSs. The Commission noted that, in allowing certain items to be relocated to licensee-controlled documents while requiring that other items be retained in the TSs, it was adopting the qualitative standard enunciated by the Atomic Safety and Licensing Appeal Board in *Portland General Electric Co.* (Trojan Nuclear Plant), ALAB-531, 9 NRC 263, 273 (1979). There, the Appeal Board observed:

> [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.

By this approach, existing LCO requirements that fall within or satisfy any of the criteria in the Final Policy Statement should be retained in the TSs; 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 36953, July 19, 1995). The four 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 the integrity of a fission product barrier.

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 the integrity of a fission product barrier.

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 3.0 of this SE explains the NRC staff's conclusion that the conversion of the IP2 CTS to ITS based on STS, as modified by plant-specific changes, is consistent with the IP2 current licensing basis and the requirements and guidance of the Final Policy Statement and 10 CFR 50.36.

3.0 TECHNICAL EVALUATION

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

The NRC staff's review also identified the need for clarifications and additions to the March 27, 2002, application 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 the CTS or a justification for difference from the STS. The NRC staff's comments were documented as RAIs and forwarded in a letter dated August 6, 2002, September 26, 2002, October 3, 2002, October 17, 2002, October 17, 2003, October 22, 2002, December 31, 2002, January 22, 2003, and May 26, 2003. The licensee provided responses to the RAIs in letters dated July 10, 2002, October 10, 2002, October 28, 2002, November 26, 2002, December 2002, January 27, 2003, April 8, 2003, June 23, 2003, and August 6, 2003. The letters clarified the licensee's bases for translating the CTS requirements into ITS. The NRC staff finds that the licensee's submittals, including the responses to the RAIs, licensee clarifications and responses through working conference phone calls, and a 3-day working meeting from May 28 through May 30, 2003, that was held with the staff at the NRC Headquarters in Rockville, Maryland, provide sufficient detail to allow the staff to reach a conclusion regarding the adequacy of the licensee's proposed changes to the CTS.

The license amendment application was organized such that changes were included in each of the following CTS change categories, as appropriate:

1. Administrative Changes, (Designator: A.n) are changes to the CTS that do not result in new requirements or change operational restrictions or flexibility (i.e., nontechnical changes in the presentation of CTS requirements);

2. More Restrictive Changes, (Designator: M.n) are changes to the CTS that establish a new requirement, require new or more frequent testing, or reduce operational flexibility (i.e., additional TS requirements);

3. Less Restrictive Changes, (Designator: L.n) are changes to the CTS that eliminate existing requirements, require less or less frequent testing, or increase operational flexibility (i.e., changes, deletions, and relaxations of CTS requirements);

4. Less Restrictive Administrative Changes, (Designator: LA.n) are changes to the CTS that relocate details out of the CTS and into the Bases, FSAR, or other appropriate licensee-controlled documents (i.e., design details, system descriptive details, and procedural details);

5. Relocated Items from TSs, (Designator: R.n) are relaxations in which whole CTS specifications (the LCO, and associated actions and SRs) are removed from the CTS (an NRC-controlled document) and placed in licensee-controlled documents.

The changes to the CTS that are in the ITS conversion for IP2 for each of the above categories are listed in the following five tables attached to this SE:

- Table A of Administrative Changes to the CTS
- Table M of More Restrictive Changes to the CTS
- Table L of Less Restrictive Changes to the CTS

- Table LA of Removed Details and Less Restrictive Administrative Changes to the CTS
- Table R of Relocated Items from the CTS

These tables provide a summary description of the proposed changes to the CTS, the specific CTS that are being changed, and the specific ITS that incorporate the changes. The tables are only meant to summarize the changes being made to the CTS. The details, as to what the actual changes are and how they are being made to the CTS or ITS, are provided in the licensee's application and supplemental letters.

The general categories of changes to the licensee's CTS requirements listed in Tables A, M, L, LA and R, are described in A through E below. The control of specifications, requirements and information relocated from the CTS is described in F below, and other TS changes (i.e., beyond scope changes) are described in G below.

A. Administrative Changes to the CTS

Administrative (nontechnical) 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 the licensee have used the STS as guidance to reformat and make other administrative changes. Among the changes proposed by the licensee are found acceptable by the NRC staff are:

1. Identifying plant-specific wording for system names, etc.;

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

3. Combining related requirements currently presented in separate specifications of the CTS into a single specification of ITS;

4. Presentation changes that involve rewording or reformatting for clarity (including moving an existing requirement to another location within the TS) but which do not involve a change in requirements;

5. Wording changes and additions that are consistent with CTS interpretation and practice, and that more clearly or explicitly state existing requirements;

6. Deletion of TS whose applicability has expired; and

7. Deletion of redundant TS requirements that exist elsewhere in the TS.

Table A lists the administrative changes being made in the IP2 ITS conversion. Table A is organized in ITS order by each A-type DOC to the CTS, and provides a summary description of the administrative change that was made, and CTS and ITS references. The NRC staff reviewed all of the administrative and editorial changes proposed by the licensee and finds them acceptable because they are compatible with the Writer's Guide and the STS, do not

result in any change in operating requirements, and are consistent with the Commission's regulations.

B. More Restrictive Changes to the CTS

The licensee, in electing to implement the specifications of the STS, proposed a number of requirements more restrictive than those in the CTS. The ITS requirements in this category include requirements that are either new, more conservative than corresponding requirements in the CTS, or that 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 the more restrictive changes being made in the IP2 ITS conversion. Table M is organized in ITS order by each M-type DOC to the CTS and provides a summary description of the more restrictive change that was adopted, and the CTS and ITS references. These changes are additional restrictions on plant operation that enhance safety and are acceptable.

C. Less Restrictive Changes to the CTS

Less restrictive requirements include deletions and relaxations to portions of the CTS requirements that are being retained in the ITS. When requirements have been shown to give little or no safety benefit, their relaxation or removal from the TSs 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 NRC staff positions that have evolved from technological advancements and operating experience, or (3) resolution of the owners groups comments on the 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 IP2 design was also reviewed to determine if the specific design basis and licensing basis for IP2 are consistent with the technical basis for the model requirements in the STS, and thus provide a basis for the ITS.

All of the less restrictive changes to the CTS have been evaluated and found to involve deletions and relaxations to portions of the CTS requirements that can grouped in the following six categories:

(1) Relaxation of Modes of Applicability (Category I)

(2) Relaxation of Surveillance Requirement (Category II)

(3) Relaxation of Completion Time (Category III)

(4) Relaxation of Required Actions (Category IV)

(5) Relaxation of LCO (Category V)

(6) Relaxation of CTS Reporting Requirements (Category VI)

The following discussions address why portions of various specifications within each of these six categories of information or specific requirements are not required to be included in ITS.

(1) Relaxation of Modes of Applicability (Category I)

Reactor operating conditions are used in CTS to define when the LCO features are required to be operable. CTS applicabilities can be specific defined terms of reactor conditions: hot shutdown, cold shutdown, reactor critical or power operating condition. 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 applicability conditions are not contained in STS, therefore ITS eliminates 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 requirements may be eliminated during conditions for which the safety function of the specified safety system is met because the feature is performing its intended safety function. Deleting applicability requirements that are indeterminate or which are inconsistent with application of accident analyses assumptions are acceptable because when LCOs cannot be met, the TS are satisfied by existing the applicability thus taking the plant out of the conditions that require the safety system to be operable. These changes are consistent with STS and changes specified as Category I are acceptable.

(2) Relaxation of Surveillance Requirement (Category II)

Prior to placing the plant in a specified operational mode or other condition stated in the Applicability of an LCO, and in accordance with the specified SR Frequency thereafter, the CTS require verifying the Operability of each LCO-required component by meeting the SRs associated with the LCO. This usually entails performance of testing to demonstrate the Operability of the LCO-required components, or the verification that specified parameters are within LCO limits. A successful demonstration of Operability requires meeting the specified acceptance criteria as well as any specified conditions for the conduct of the test. Relaxations of CTS SRs include relaxing both the acceptance criteria and the conditions of performance. These CTS SR relaxations are consistent with STS.

Relaxations of CTS SR acceptance criteria provide operational flexibility, consistent with the guidance of the STS, but do not reduce the level of assurance of Operability provided by the successful performance of the surveillance. Such revised acceptance criteria are acceptable because they remain consistent with the application of the plant safety analysis assumptions for Operability of the LCO-required features.

Relaxations of CTS SR performance conditions include not requiring testing of de-energized equipment (e.g., instrumentation Channel Checks) and equipment that is already performing its intended safety function (e.g., position verification of valves locked in their safety actuation position). These changes are acceptable because the existing surveillances are not necessary to ensure the capability of the affected components to perform their intended functions. Another relaxation of SR performance

conditions is the allowance to verify the position of valves in high radiation areas by administrative means. This change is acceptable because the administrative controls that implement the requirements of 10 CFR Part 20 [paragraph 20.1601] regarding access to high radiation areas make the likelihood of mispositioning such valves negligible.

Finally, the ITS permits the use of an actual as well as a simulated actuation signal to satisfy SRs for automatically actuated systems. This is acceptable because TS required features cannot distinguish between an "actual" signal and a "test" signal.

These relaxations of CTS SRs optimize test requirements for the affected safety systems and increase operational flexibility. Therefore, because of the reasons stated, less restrictive changes falling within Category II are acceptable.

(3) Relaxation of Completion Time (Category III)

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.

(4) Relaxation of Required Actions (Category IV)

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 existing 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, usually resulting in an extension to the time period for taking the plant into shutdown conditions. 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.

(5) Relaxation of LCO (Category V)

CTS contain LCOs that are overly restrictive because they specify limits on operational and system parameters and on system Operability beyond those necessary to meet safety analysis assumptions. CTS also contain administrative controls that do not contribute to the safe operation of the plant. The ITS, consistent with the guidance in the STS, omit such operational limits and administrative controls. This category of change includes (1) deletion of equipment or systems addressed by the CTS LCOs which are not required or assumed to function by the applicable safety analyses; (2) addition of explicit exceptions to the CTS LCO requirements, consistent with the guidance of the STS and normal plant operations, to provide necessary operational flexibility but without a significant safety impact; and (3) deletion of miscellaneous administrative controls such as reporting requirements - that are sometimes contained in action requirements - but have no affect on safety. Deletion of such administrative controls allows operators to more clearly focus on issues important to safety. The ITS LCOs and administrative controls resulting from these changes will continue to maintain an adequate degree of protection consistent with the safety analysis while providing an improved focus on issues important to safety and necessary operational flexibility without adversely affecting the safe operation of the plant. Therefore, less restrictive changes falling within Category V are acceptable.

(6) Relaxation of CTS Reporting Requirements (Category VI)

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 STS and changes specified as Category VI are acceptable.

D. Removed Details and Less Restrictive Administrative Changes to the CTS

When requirements have been shown to give little or no safety benefit, their 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 STS and found them acceptable because they are consistent with current licensing practices and the Commission's regulations. The 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 STS, and thus provide a basis for ITS. Changes to the CTS that involve the

removal of specifications, specific requirements and detailed information from individual specifications were all evaluated and grouped within the following Types 1 through 4:

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

Type 2 Descriptions of System or Plant Operation

Type 3 Procedural Details for Meeting TS Requirements and Related Reporting Requirements

Type 4 Relocated Redundant Requirements

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

Details of System Design and System Description Including Design Limits (Type 1)

The design of the facility is required to be described in the FSAR 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 Program (FSAR Chapter 17). In 10 CFR 50.59, controls are specified for changing the facility as described in the FSAR which includes the new Technical Requirements Manual (TRM) by reference, and in 10 CFR 50.54(a) criteria are specified for changing the QA Program. In the ITS, the Bases also contain descriptions of system design. The IP2 administrative controls specification ITS 5.5.12 specifies controls for changing the Bases. Removing details of system design from the CTS is acceptable because this information will be adequately controlled by NRC requirements, 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 controlling the COLR.

Descriptions of System or Plant Operation (Type 2)

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 0, Appendix A, November 1972. Controls specified in 10 CFR 50.59 apply to changes in procedures as described in the FSAR. In the ITS, the Bases also contain descriptions of system operation. 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. 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.

Procedural Details for Meeting TS Requirements & Related Reporting Requirements (Type 3)

Details for performing action and SRs are more appropriately specified in the plant procedures required by ITS 5.4.1, the FSAR, and the 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 QA Program is approved by the NRC and changes to the QA Program are controlled by 10 CFR 50.54(a). The Offsite Dose Calculation Manual (ODCM) is required by ITS Section 5.5.1. The TRM is incorporated by reference into the FSAR, and changes to the TRM are controlled by 10 CFR 50.59. The Inservice Test (IST) program is required by ITS 5.5.6 and is controlled by ITS 5.4.1.e.

The removal of these kinds of procedural details from the CTS is acceptable because they will be adequately controlled by NRC requirements, the FSAR, plant procedures, ITS 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.

Relocated Redundant Requirements (Type 4)

Certain CTS administrative requirements are redundant to regulations and thus are relocated to the FSAR or other appropriate licensee-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 FSAR 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 5.5.12 governs changes to the ITS Bases. Therefore, relocation of the administrative details identified above, is acceptable.

CTS requirements that are not required to be in TS and that are or can be adequately controlled by other regulatory or TS requirements, can be relocated to licensee-controlled documents. Table LA lists the requirements and detailed information in the CTS that are being moved to licensee-controlled documents and not retained in the ITS. Table LA is organized in ITS order by each LA. It includes the following: (1) the ITS section or specification designation, as appropriate, followed by the DOC identifier (e.g., 3.1.1 followed by LA.1 means ITS Specification 3.1.1, DOC LA.1); (2) CTS reference; (3) a summary description of the relocated details; (4) the name of the document to contain the relocated details or requirements (new

location); (5) the regulation (or ITS section) for controlling future changes to relocated requirements (control process); and (6) a characterization of the type of change.

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

- TS Bases controlled in accordance with ITS 5.5.12, "Technical Specifications (TS) Bases Control Program."
- FSAR (which includes the TRM) controlled by 10 CFR 50.59.
- Programmatic documents required by ITS Section 5.5 controlled by ITS Section 5.4.
- Inservice Inspection (ISI) and Inservice Testing Programs controlled by 10 CFR 50.55a.
- Offsite Dose Calculation Manual controlled by ITS 5.5.1.
- Core Operating Limits Report controlled by ITS 5.6.5.
- QA plan, as approved by the NRC and referenced in the FSAR, controlled by 10 CFR Part 50, Appendix B, and 10 CFR 50.54(a).
- Site Emergency Plan controlled by 10 CFR 50.54(q).

To the extent that information has been relocated to licensee-controlled documents, such information is not required to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to public health and safety. Further, where such information is 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 contained in 10 CFR 50.36 and discussed in the Final Policy Statement (see Section 2.0 of this SE). Accordingly, existing detailed information, such as generally described above, may be removed from the CTS and not included in the ITS.

E. Relocated Items from the CTS

The Final Policy Statement states that LCOs and associated requirements that do not satisfy or fall within any of the four specified criteria (now contained in 10 CFR 50.36) may be relocated from existing TS (an NRC-controlled document) to appropriate licensee-controlled documents. This section of the SE discusses the relocation of entire specifications in the CTS to licensee-controlled documents. These specifications include the LCOs, Action Statements (i.e., Actions), and associated SRs. In its application and its supplements, the licensee proposed relocating such specifications from the CTS to the FSAR, which includes the TRM, the Process Control Program (PCP), and the ODCM, as appropriate. The NRC staff has reviewed the licensee's submittals, and finds that relocation of these requirements to the FSAR, TRM, PCP, and ODCM is acceptable in that changes to the FSAR, TRM, PCP, and ODCM will be adequately controlled by 10 CFR 50.59, 10 CFR 50.54(a), 10 CFR 50.55a, and ITS 5.5.1 as applicable. These provisions will continue to be implemented by appropriate station procedures (i.e., operating procedures, maintenance procedures, surveillance and testing procedures, and work control procedures).

Table R lists all specifications that are being relocated from the CTS to licensee-controlled documents. Table R is organized by each R-type DOC to the CTS. Table R includes: (1) reference to the DOC, (2) summary description of relocated CTS, (3) reference to the relocated CTS sections, and (4) names of the documents that will contain the relocated requirements (i.e., the new location).

The NRC staff's evaluation of each licensee-proposed relocated specification listed in Table R is provided below.

(1) Relocates CTS 3.1.E, Reactor Coolant System (RCS) Maximum Reactor Coolant Oxygen, Chloride and Fluoride Concentration, to a licensee-controlled document by 10 CFR 50.59 (i.e., TRM 3.4.A) (DOC R.1)

The licensee stated that RCS Maximum Reactor Coolant Oxygen, Chloride and Fluoride Concentration, (including testing equipments in CTS Table 4.1-2, Item 1) was included in the CTS because poor coolant water chemistry contributes to the long-term degradation of system materials of construction and thus is not of immediate importance to the plant operator. Reactor coolant water chemistry is monitored for a variety of reasons. One reason is to reduce the possibility of failures in the RCS pressure boundary caused by corrosion. However, the chemistry monitoring activity is of a long-term preventative purpose rather than a mitigative feature. Based on this system functional description, the licensee proposed to relocate CTS 3.1.E, RCS Maximum Reactor Coolant Oxygen, Chloride and Fluoride Concentration, to the FSAR (i.e., the TRM which is part of the UFSAR) and will be implemented by administrative programs and plant procedures.

The NRC staff finds the proposed relocation to the UFSAR or TRM and plant procedures will maintain the existing requirements for the Chemical and Volume Control System, and concurs with the licensee that there is no change to the existing requirements and no change to the level of safety of facility operation, and that maintaining this requirement in the UFSAR or TRM is acceptable because of the requirements of 10 CFR 50.59.

Based on the above review, the staff concurs with the licensee's justifications and concludes that CTS 3.1.E requirements do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS, and, therefore, can be relocated to the plant FSAR/TRM.

(2) Relocates CTS 3.2, Chemical and Volume Control System, to a licensee-controlled document by 10 CFR 50.59 (i.e., TRM 3.1.B), (DOC R.2)

The licensee stated that CTS 3.2, "Chemical and Volume Control System" (including associated testing requirements in CTS Table 4.1-1, items 12, 14, 17, and 20, CTS Table 4.1-2, item 4), was included in the CTS because the boration subsystem of the Chemical and Volume Control System (CVCS) provides the means to meet one of the functional requirements of the CVCS (i.e., to control the chemical neutron absorber (boron) concentration in the RCS and to help maintain the shutdown margin).

The CVCS ensures negative reactivity control is available for normal operation (normal makeup and chemical shim reactivity control) and provides an alternate method for borating the RCS. However, this system is not assumed to mitigate any DBA or transient. Other systems (e.g., Safety Injection pumps) and other borated water sources Refueling Water Storage Tank

(RWST) are assumed in the safety analysis. In the case of a malfunction of the CVCS, which causes a boron dilution event, the automatic response, or that performed by the operator, is to close the appropriate valves in the reactor makeup system. This action is required before the shutdown margin is lost and operations of the boration subsystem is not assumed to mitigate this event. The staff finds the proposed change acceptable because the UFSAR or TRM and plant procedures will maintain the existing requirements for the CVCS. The staff concurs that maintaining this requirement in the UFSAR or TRM is acceptable because any changes will be controlled by the requirements of 10 CFR 50.59.

Based on the above review, the staff concurs with the licensee's justifications and concludes that CTS 3.11.A is not relied on to prevent or to mitigate a DBA or transient, does not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS and, therefore, can be relocated to the plant USFAR.

(3) Relocates CTS 3.11.A, Movable Incore Instrumentation, to a licensee-controlled document by 10 CFR 50.59 (i.e., IP2 UFSAR), (DOC R3)

The licensee stated that CTS 3.11.A, Movable Incore Instrumentation (i.e., incore flux monitors), was included in the CTS because the system is used for periodic surveillance of the power distribution and calibration of the excore detectors. The proposed ITS 3.2.3, AXIAL FLUX DIFFERENCE (AFD) (CAOC Methodology), will maintain existing requirements for periodic surveillance of the core power distribution using the movable incore instrumentation and ITS 3.3.1, Reactor Protection System (RPS) Instrumentation (i.e., SR 3.3.1.3 and associated Note) will maintain existing requirements for periodic calibration of the excore detectors using the movable incore instrumentation. And thus, Operability of the movable incore instrumentation, except as needed to satisfy SRs in ITS 3.2.3 and ITS 3.3.1, is not assumed in any DBA analysis and does not mitigate an accident. The staff finds the proposed relocation to the UFSAR and plant procedures will maintain the existing requirements for the Movable Incore Instrumentation (i.e., incore flux monitors); there is no change to the existing requirements and no change to the level of safety of facility operation. Maintaining this requirement in the UFSAR is acceptable because any changes will be controlled by the requirements of 10 CFR 50.59.

Based on the above review, the staff concurs with the licensee's justifications and concludes that CTS 3.11.A is not relied on to prevent or to mitigate a DBA or transient, does not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS and therefore can be relocated to the plant USFAR.

(4) Relocates CTS 3.12, Shock Suppressors (Snubbers) and the associated SR in CTS 4.12, to a licensee-controlled document by 10 CFR 50.59 (i.e., the TRM 3.7.A), (DOC R4)

The licensee stated that CTS 3.12, Shock Suppressors (Snubbers) and the associated SRs in CTS 4.12, were included in the CTS because snubbers are required to prevent unrestrained pipe motion under dynamic loads as might occur during an earthquake or severe transient, while allowing normal thermal motion. The consequences of an inoperable snubber can be an increase in the probability of structural damage to piping in the event of dynamic or thermal loads. However, a snubber is required only to the extent that it ensures the Operability of the component being supported and an inoperable snubber may not result in the inoperability of the supported component. Therefore, when a snubber is found inoperable, both the CTS and the

TRM will require that an engineering evaluation is performed, in addition to the determination of the snubber mode of failure, in order to determine if any safety-related component or system has been adversely affected by the inoperability of the snubber. The engineering evaluation must determine whether or not the snubber mode of failure has imparted a significant effect or degradation on the supported component or system.

The staff finds the proposed relocation will continue to maintain the existing requirements for the Shock Suppressors (Snubbers) and the associated surveillances, and there is no change to the existing requirements and no change to the level of safety of facility operation. Maintaining this requirement in the UFSAR or TRM is acceptable because any changes will be controlled by the requirements of 10 CFR 50.59.

Based on the above review, the staff concurs with the licensee's justifications and concludes that CTS 3.12 and CTS 4.12 are not relied on to prevent or to mitigate a DBA or transient, do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS and therefore can be relocated to the licensee-controlled TRM.

(5) Relocates CTS 3.14 and CTS 4.17, Hurricane Alert, to a licensee-controlled document by 10 CFR 50.59 (i.e., TRM 5.4), (DOC R5)

The licensee stated that CTS 3.14 and CTS 4.17, Hurricane Alert, require notification of the NRC and hourly monitoring of conditions if the National Weather Service issues a Hurricane Warning for a hurricane with winds in excess of 87 knots within 320 nautical miles of the facility. Additionally, CTS 3.14 requires that the plant is in the cold shutdown condition prior to arrival on site of a hurricane with winds in excess of 87 knots. The staff finds the proposed relocation to the UFSAR or TRM and plant procedures will maintain the existing requirements for NRC notification and monitoring of a potential hurricane and/or plant shutdown prior to arrival on site of a hurricane with winds in excess of 87 knots. Therefore, there is no change to the existing requirements and no change to the level of safety of facility operation. Maintaining this requirement in the UFSAR or TRM is acceptable because the requirements of 10 CFR 50.59, are designed to assure that changes to the UFSAR do not result in any of the following: changes to the Technical Specification requirements; significant increases in the probability or consequences of accidents previously evaluated; the possibility of a new or different kind of accident; or a significant reduction in a margin of safety. Additionally, IP2 programs that implement UFSAR changes in accordance with 10 CFR 50.59 require periodic submittal of UFSAR and Bases changes to the NRC for review.

Based on the above review, the staff concurs with the licensee justifications and concludes that CTS 3.14 and CTS 4.17 are not relied on to prevent or to mitigate a DBA or transient, do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS and therefore can be relocated to other the plant-controlled TRM.

(6) Relocates CTS 3.15, Meteorological Monitoring System, and Associated Surveillance Requirements in CTS 4.19, to a licensee document controlled by 10 CFR 50.59 (i.e., TRM 3.3.A), (DOC R6)

The licensee stated that CTS 3.15, "Meteorological Monitoring System," and associated SRs in CTS 4.19 were included in the CTS to ensure the operability of the meteorological monitoring instrumentation and the collection of meteorological data at the plant site. This data is used for

estimating potential radiation doses to the public resulting from routine or accidental releases of radioactive materials to the atmosphere. A meteorological data collection program, as described in this specification, is necessary to meet the requirements of 10 CFR 50.36a(a)(2), Appendix E to 10 CFR Part 50 and 10 CFR Part 51 within the guidelines specified in RG 1.23, Rev. 0.

The licensee proposed to relocate the Meteorological Monitoring System and associated SRs to the FSAR (i.e., the TRM which is part of the UFSAR) and will be implemented by administrative programs and plant procedures. The staff finds the change acceptable because the UFSAR or TRM and plant procedures will maintain the existing requirements for the Meteorological Monitoring System and associated SRs, and there is no change to the existing requirements and no change to the level of safety of facility operation. Maintaining this requirement in the UFSAR or TRM is acceptable because any changes will be controlled by the requirements of 10 CFR 50.59.

Based on the above review, the staff concurs with the licensee's justifications and concludes that CTS 3.15 and CTS 4.19 are not relied on to prevent or to mitigate a DBA or transient, do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS and, therefore, can be relocated to other the licensee-controlled TRM.

(7) Relocates CTS 3.16, Reactor Coolant System Vents, and the Associated Surveillance Requirements in CTS 4.20, to a licensee-controlled document by 10 CFR 50.59 (i.e., TRM 3.4.B), (DOC R7)

The licensee sated that CTS 3.16, "Reactor Coolant System Vents", and the associated SRs in CTS 4.20 are included in the CTS because the Reactor Coolant System Vents are provided to exhaust noncondensible gases from the primary coolant system. The operability of two reactor coolant system vents from the reactor vessel head and the pressurizer steam space ensures that capability exists to perform this function. The valve redundancy of the reactor coolant system vents serves to minimize the probability of inadvertent or irreversible actuation while ensuring that a failure of a vent valve power supply or control system does not prevent isolation of the vent path. UFSAR 4.2.10 clarifies that the power-operated relief valve system, which is maintained in TSs, as proposed ITS 3.4.11, can also act as a redundant backup to the vessel head vent system. The need for a reactor head vent is consistent with the requirements of Item II.B.1 of NUREG-0737, "Clarification of TMI Action Plan Requirements;" however, the operation of reactor vessel head vents is not assumed in the safety analysis because the operation of the vents is not part of the primary success path in the UFSAR. The operation of these vents is an operator action after the event has occurred and is required only when there is indication that natural circulation is not occurring.

The NRC staff finds the proposed relocation to the UFSAR or TRM and plant procedures will maintain the existing requirements for the Reactor Coolant System Vents and the associated SRs; and that there is no change to the existing requirements and no change to the level of safety of facility operation. Maintaining this requirement in the UFSAR or TRM is acceptable because any changes will be controlled by the requirements of 10 CFR 50.59.

Based on the above review, the staff concurs with the licensee's justifications and concludes that CTS 3.16 and CTS 4.20 are not relied on to prevent or to mitigate a DBA or transient, do

not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS and, therefore, can be relocated to other the plant-controlled TRM.

(8) Relocates CTS 3.1.B.5, Pressurizer Heatup and Cooldown Limits, to a licensee-controlled document by 10 CFR 50.59 (i.e., TRM 3.4.C), (DOC R8)

The licensee stated that CTS 3.1.B.5, Pressurizer Heatup and Cooldown Limits, was included in the CTS because limits are placed on pressurizer operation to prevent a non-ductile failure. These operating limits are provided to assure compatibility of operation with the fatigue analysis performed in accordance with the ASME Boiler and Pressure Vessel Code, Section III, 1965 Edition and associated Code Addenda through the Summer 1966 Addendum. However, the pressurizer normally operates at temperature ranges above those for which there is reason for concern about brittle fracture. The staff finds the proposed relocation to the UFSAR or TRM and plant procedures will maintain the existing requirements for the pressurizer temperature limits, and that there is no change to the existing requirements and no change to the level of safety of facility operation. Maintaining this requirement in the UFSAR or TRM is acceptable because any changes will be controlled by the requirements of 10 CFR 50.59.

Based on the above review, the staff concurs with the licensee's justifications and concludes that CTS 3.1.B.5 is not relied on to prevent or to mitigate a DBA or transient, does not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS and therefore can be relocated to other the plant-controlled TRM.

(9) Relocates CTS 3.1.B.4, SG Secondary Side Minimum Temperature for Pressurization, to a licensee controlled document by 10 CFR 50.59 (i.e., IP2 UFSAR), (DOC R9)

The licensee stated that CTS 3.1.B.4, "SG Secondary Side Minimum Temperature" for Pressurization, was included in the CTS because a limitation on steam generator pressures and temperature (i.e., P/T) ensures that pressure-induced stresses on the steam generators do not exceed the maximum allowable fracture toughness limits. These pressure and temperature limits are based on maintaining steam generator RT (NDT) sufficient to prevent brittle fracture. As such, the CTS places limits on variables consistent with structural analysis results. However, these limits are not initial condition assumptions of a UFSAR accident analysis. These limits represent operating restrictions and Criterion 2 includes operating restrictions. However, the Final Policy Statement Criterion 2 discussion specified only those operating restrictions required to preclude unanalyzed accidents and transients be included in TSs. Furthermore, as discussed in Section 4.0 (Appendix A, page A-55) and summarized in Table 1 of WCAP-11618, the steam generator P/T limits were found to be non-significant risk contributors to core damage frequency and offsite releases. This is, in large part, due to Steam Generator Tube Rupture (SGTR) events being negligible contributors in past pressurized-water reactor probablistic risk assessments. For IP2, SGTR sequences are important in the IP2 Individual Plant Examination (IPE). However, the plant-specific IPE does not evaluate conditions at or below 70 °F. In addition, it is also recognized that the likelihood of pressurizing the SG secondary side when RCS temperature is below 70 °F is small.

The staff finds the proposed change to the UFSAR will maintain the existing requirements for steam generator P/T limits, and that there is no change to the existing requirements and no change to the level of safety of facility operation. Maintaining this requirement in the UFSAR is acceptable because any changes will be controlled by the requirements of 10 CFR 50.59.

Based on the above review, the staff concurs with the licensee's justifications and concludes that CTS 3.1.B.4 is not relied on to prevent or to mitigate a DBA or transient, does not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS and, therefore, can be relocated to other plant-controlled TRM.

(10) Relocates CTS 4.3, Reactor Coolant System Integrity Testing, to a licensee-controlled document by 10 CFR 50.59 (i.e., IP2 UFSAR),(DOC R10)

The licensee stated that CTS 4.3.a and CTS 4.3.b, "Reactor Coolant System Integrity Testing", were included in the CTS because inspection and repair programs for ASME Code Class 1, 2, and 3 components ensure that the structural integrity of these components will be maintained throughout the components life. However, the system specific Technical Specifications require important systems to be operable (for example, emergency core cooling system (ECCS)) and in a ready state for mitigative action. This TS is more directed toward prevention of component degradation and continued long-term maintenance of acceptable structural conditions. Hence, it is not necessary to retain this Specification to ensure immediate operability of safety systems. Further, this TS prescribes inspection (and repair) requirements which are performed during plant shutdown and, as discussed in Section 4.0 (Appendix A, page A-43) and summarized in Table 1 of WCAP-11618, the assurance of operability of the entire system as verified in the system operability Specification dominates the risk contribution of the system. The lack of a long-term assurance of structural integrity as stipulated by this Specification was found to be a non-significant risk contributor to core damage frequency and offsite releases. IP2 has reviewed this evaluation, considers it applicable to IP2, and concurs with the assessment.

The NRC staff finds that the proposed relocation to the UFSAR will maintain the existing requirements for Reactor Coolant System Integrity Testing, and that there is no change to the existing requirements and no change to the level of safety of facility operation. Maintaining this requirement in the UFSAR is acceptable becauseany changes will be controlled by the requirements of 10 CFR 50.59.

Based on the above review, the staff concurs with the licensee's justifications and concludes that CTS 4.3 is not relied on to prevent or to mitigate a DBA or transient, does not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS and, therefore, can be relocated to IP2 UFSAR and other the plant-controlled TRM.

(11) Relocates the following CTS requirements associated with the monitoring and mitigation of containment flooding to a licensee-controlled document by 10 CFR 50.59 (i.e., TRM 3.4.D)

(DOC R11)):
CTS 3.1.F.1.a.(1), two containment sump pumps;
CTS 3.1.F.1.a.(2), two containment sump level monitors;
CTS 3.1.F.1.a.(4), recirculation sump level monitors;
CTS 3.1.F.1.a.(5), reactor cavity level monitors;
CTS 3.1.F.1.b. reactor cavity level monitors;
CTS 3.1.F.1.b.(4), recirculation sump level monitor allowable out of service time;
CTS 3.1.F.1.b.(5), reactor cavity level monitor allowable out of service time;
CTS 3.1.F.1.c. required actions for inoperable sump pumps and level monitors;
CTS 3.1.F.2.d, Leakage into the Containment Free Volume;

CTS 4.16.A.3, periodic reactor cavity and recirculation sump monitoring;
CTS 4.16.C, containment sump pump surveillances.

The licensee stated that the above CTS requirements for the monitoring and mitigation of containment flooding were included in the CTS for the following reasons: (1) preclude accumulation of water inside containment so that if a loss-of-coolant accident (LOCA) were to occur, safety-related equipment would not become submerged, (2) prevent the reactor cavity from becoming filled with water, (3) prevent the reactor vessel from being wetted while it is at an elevated temperature, and (4) prevent the immersion of the in-core instrument conduits. The amount of water estimated to be inside containment after actuation of the ECCS following a LOCA is approximately 423,000 gallons. This amount of water would, by itself, reach approximately EL. 50' 1". An additional 28,000 gallons (a total of approximately 451,000 gallons) would have to accumulate inside containment before any safety-related electrical component would be submerged (approximately EL. 50' 5"). Therefore, the above related equipment is needed to support operator actions taken to preclude excessive flooding that when added to LOCA water levels could cause flooding of the reactor cavity and subsequent wetting of the reactor vessel at an elevated temperature. In addition, the proposed ITS 3.4.15, RCS Leakage Detection Instrumentation, will maintain in TS the equipment needed for prompt identification of leakage associated with a potential breach of the reactor coolant system boundary. The staff finds the proposed relocation to the UFSAR or TRM and plant procedures will maintain the existing requirements for CTS requirements for the monitoring and mitigation of containment flooding; and that there is no change to the existing requirements and no change to the level of safety of facility operation. Maintaining this requirement in the UFSAR or TRM is acceptable because any changes will be controlled by the requirements of 10 CFR 50.59.

Based on the above review, the staff concurs with the licensee's justifications and concludes that CTS 3.1.F.1.a.(1), CTS 3.1.F.1.a.(2), CTS 3.1.F.1.a.(4), CTS 3.1.F.1.a.(5), CTS 3.1.F.1.b, CTS 3.1.F.1.b.(4), CTS 3.1.F.1.b.(5), CTS 3.1.F.1.c, CTS 3.1.F.2.d, CTS 4.16.A.3, and CTS 4.16.C, are not relied on to prevent or to mitigate a DBA or transient, do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS and therefore can be relocated to other IP2 plant-controlled TRM.

(12) Relocates CTS 3.7.C, Electrical Circuits in Containment, to a licensee-controlled document by 10 CFR 50.59 (i.e., TRM 3.8.A), (DOC R13)

The licensee stated that CTS 3.7.C, "Electrical Circuits in Containment," was included in the CTS because of the potential effects on ECCS, containment isolation, and other safety-related functions if these circuits become submerged following a LOCA; and thus, a fuse and a locked-open circuit breaker were provided on the electrical feeder to emergency lighting panel 218 inside containment. With the circuit breaker in the open position, containment electrical penetration H-70 is de-energized during the accident condition. This requirement will not be included in the ITS because the circuit is required to be de-energized; therefore, neither the circuit nor the equipment powered by the circuit have a safety function and circuit described in CTS 3.7.C was outside the scope of the IP2 IPE. The staff finds the proposed relocation to the UFSAR or TRM and plant procedures will maintain the existing requirements for the circuit described in CTS 3.7.C, and that there is no change to the existing requirements and no change to the level of safety of facility operation. Maintaining this requirement in the UFSAR or

TRM is acceptable because any canges will be controlled by the requirements of 10 CFR 50.59.

Based on the above review, the staff concurs with the licensee's justifications and concludes that CTS 3.7.C is not relied on to prevent or to mitigate a DBA or transient, does not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS and therefore can be relocated to IP2 UFSAR and other the plant-controlled TRM.

(13) Relocates CTS 3.8 requirements (i.e., Manipulator Cranes and Heavy Loads in Proximity to Spent Fuel) to a licensee-controlled document by 10 CFR 50.59 (i.e., TRM 3.9.B and 3.9.C), (DOC R14)

The licensee stated that CTS 3.8 requirements (i.e., Manipulator Cranes and Heavy Loads in Proximity to Spent Fuel), were included in the CTS to ensure Operability of hoists or cranes utilized in handling irradiated fuel heavy loads in proximity to spent fuel function as designed and to ensure that the equipment has sufficient load capacity, as described in the IP2 UFSAR 1.13, and UFSAR 9.5.6. for Control of heavy loads in the Fuel Storage Building. As discussed in Section 4.0 (Appendix A, page A-68) and summarized in Table 1 of WCAP-11618, the hoists or cranes utilized in handling irradiated fuel were found to be a non-significant risk contributor to core damage frequency and offsite releases. The staff finds the proposed relocation to the UFSAR or TRM and plant procedures will maintain the existing requirements associated with Manipulator Cranes and Heavy Loads in Proximity to Spent Fuel; and that there is no change to the existing requirements and no change to the level of safety of facility operation. Maintaining this requirement in the UFSAR or TRM is acceptable because any change will be controlled by the requirements of 10 CFR 50.59.

Based on the above review, the staff concurs with the licensee's justifications and concludes that CTS 3.3.I and associated testing in CTS Table 4.1-3, No. 9 are not relied on to prevent or to mitigate a DBA or transient, do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS and, therefore, can be relocated to IP2 plant-controlled TRM.

(14) Relocates CTS 3.3.1, Cable Tunnel Ventilation Fans, and associated testing in CTS Table 4.1-3, No. 9, to a licensee-controlled document by 10 CFR 50.59 (i.e., TRM 3.7.D), (DOC R-15)

The licensee stated that CTS 3.3.1, "Cable Tunnel Ventilation Fans", and associated testing in CTS Table 4.1-3, No. 9 were included in the CTS because the cable tunnel temperature-controlled ventilation fans start automatically when the temperature in the tunnel reaches 100 °F. However, as stated in the CTS Bases (Page 3.3-16, under the worst conditions, i.e., loss of outside power and all the Engineered Safety Features in Operation, one ventilation fan is capable of maintaining the tunnel temperature below 104 °F. However, under the same worst conditions, if no ventilation fans were operating, the natural air circulation through the tunnel would be sufficient to limit the gross tunnel temperature to below the tolerable value of 140 °F. The Cable Tunnel Ventilation Fans and associated SRs are not addressed in the plant-specific IPE and these requirements are not considered a significant contributor to risk. The staff finds the proposed relocation to the UFSAR or TRM and plant procedures will maintain the existing requirements for Cable Tunnel Ventilation Fans; and that there is no change to the existing requirements and no change to the level of safety of facility operation. Maintaining this requirement in the UFSAR or TRM is acceptable because any changes will be controlled by the requirements of 10 CFR 50.59.

Based on the above review, the staff concurs with the licensee's justifications and concludes that CTS 3.31 and associated testing in CTS Table 4.1-3, No. 9 are not relied on to prevent or to mitigate a DBA or transient, do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS and therefore can be relocated to IP2 plant-controlled TRM.

(15) Relocates CTS 3.4.A.3, City Water System, to a licensee-controlled document by 10 CFR 50.59 (i.e., TRM 3.7.E), (DOC R-16)

The licensee stated that requirements for the City Water System were included in the CTS because this system provides a backup to the condensate storage tank as a supply to the auxiliary feedwater system. In plants of similar design, the backup to the condensate storage tanks is provided by the service water system. Specifically, CTS 3.4.A.3 requires that a backup to the condensate storage tank be available from the city water system. The CTS Bases explain that city water will be used when the condensate storage supply is exhausted. Additionally, CTS 3.4.C allows plant operation to continue when the condensate storage tank is not available if city water system is aligned to support the auxiliary feedwater pumps. The licensee stated that proposed ITS LCO 3.7.6, Condensate Storage Tank (CST), will allow the CST to be inoperable for up to 7 days if City Water is Operable with requirements for city water maintained in the TRM which is consistent with the approach used in NUREG-1431, LCO 3.7.6, Revision 2.

City Water is discussed in the plant-specific Individual Plant Exhaustion (IPE) but is not considered a significant contributor to risk. The scenario involves a loss of both trains of Component Cooling Water. The normal source of cooling for the residual heat remover (RHR), Safety Injection System (SIS), and Charging Pumps is the Component Cooling Water System. However, in the event of loss of component cooling (a system with 100% redundancy), a hard-piped City Water cooling connection to the charging pumps is available and the associated Abnormal Operating Instruction (AOI) specifically directs the operators to align City Water backup cooling to the Charging Pumps. The same procedure also directs the operator to provide backup cooling to the SIS and RHR Pumps from either City Water or from a hard-piped Primary Makeup Water connection. Thus, the potential for reactor coolant pump seal LOCA due to loss of all seal cooling and the inability to mitigate a LOCA associated with a loss of component cooling water (or Non-Essential Service Water which cools the component cooling water) is significantly reduced. However, city water is strictly a backup system and has no mitigation function without complete failure of the primary system serving that function, and the TRM will maintain the existing requirements that City Water is available at all times that the CST is required to be Operable.

The NRC staff finds the proposed relocation to the UFSAR or TRM and plant procedures will maintain the existing requirements; and that there is no change to the existing requirements and no change to the level of safety of facility operation. Maintaining this requirement in the UFSAR or TRM is acceptable because any changes will be controlled by the requirements of 10 CFR 50.59.

Based on the above review, the staff concurs with the licensee's justifications and concludes that City Water System is not relied on to prevent or to mitigate a DBA or transient, does not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS and therefore can be relocated to IP2 plant-controlled TRM.

(16) Relocates CTS 3.3.G, Post Accident Containment Venting System, and the associated testing requirements in CTS 4.5.G, to a licensee-controlled document by 10 CFR 50.59 (i.e., TRM 3.7.F), (DOC R-17)

The licensee stated that CTS 3.3.G and CTS 4.5.G, Post Accident Containment Venting System, were included in the CTS because it is one of two independent and diverse systems provided for removal of combustible hydrogen from the containment building atmosphere following an accident: (1) redundant hydrogen recombiners, and (2) the post-accident containment venting system. Either of the two hydrogen recombiners or the post-accident containment venting system are capable of providing this function in the event of a DBA. Furthermore, as specified in the CTS Bases, the post-accident venting system is used only in the absence of both 100% capacity hydrogen recombiners and only when absolutely necessary in order to minimize offsite radiation doses. The proposed ITS 3.6.8, will maintain the requirement for Operability of both 100% capacity trains of hydrogen recombiners which satisfies requirements of 10 CFR 50.44,"Standards for Combustible Gas Control Systems in Light-Water-Cooled Reactors," and 10 CFR Part 50, Appendix A, GDC 41, "Containment Atmosphere Cleanup." ITS 3.6.8 will allow both hydrogen recombiners to be inoperable for up to 7 days if the post accident containment venting system is functional (i.e., capable of limiting the peak post accident hydrogen concentration in containment to less than 4.0 volume percent). Additionally, as discussed in Section 4.0 (Appendix A, page A-52) and summarized in Table 1 of WCAP-11618, the Post Accident Containment Venting System was found to be a non-significant risk contributor to core damage frequency and offsite releases and the Post Accident Containment Venting System and associated SRs are not addressed in the plant-specific IPE and these requirements are not considered a significant contributor to risk.

The NRC staff finds the proposed relocation to the UFSAR or TRM and plant procedures will maintain the existing requirements for The Post Accident Containment Venting System; and that there is no change to the existing requirements and no change to the level of safety of facility operation. Maintaining this requirement in the UFSAR or TRM is acceptable because any changes will be controlled by the requirements of 10 CFR 50.59.

Based on the above review, the staff concurs with the licensee's justifications and concludes that CTS 3.3.G and CTS 4.5.G are not relied on to prevent or to mitigate a DBA or transient, do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS and, therefore, can be relocated to IP2 plant-controlled TRM.

(17) Relocates CTS 2.3.3, Control Rod Protection System, to a licensee-controlled document by 10 CFR 50.59 (i.e., TRM 3.1.C), (DOC R-18)

The licensee stated that CTS 2.3.3, the requirement that the "Control Rod Protection System" shall open the reactor trip breakers during RCS cooldown prior to Tcold decreasing below 381 °F, was included in the CTS to avoid mechanical interference due to thermal contraction between the fuel and the control rods, an automatic backup to manual tripping of the control rods is provided. Prior to Tcold decreasing below 381 °F during RCS cooldown, the Control Rod Protection System will open the reactor trip breakers which unlatches the control rod drive shafts from the Control Rod Drive Mechanism. As stated in CTS Table 3.5-2, Note ****, the function is "Required only when control rods are positioned in core locations containing LOPAR fuel." IP2 does not currently use nor is it planning to use LOPAR fuel in the reactor. CTS 2.3.3, Control Rod Protection System, is not addressed in WCAP-11618, "Methodically Engineered,

Restructured and Improved, Technical Specifications - Merits Program - Phase II Task 5: Criteria Application," and is not addressed in the plant-specific IPE and is not considered a significant contributor to risk.

The NRC staff finds the proposed relocation to the UFSAR or TRM and plant procedures will maintain the existing requirements; and that there is no change to the existing requirements and no change to the level of safety of facility operation. Maintaining this requirement in the UFSAR or TRM is acceptable because any changes will be controlled by the requirements of 10 CFR 50.59.

Based on the above review, the staff concurs with the licensee's justifications and concludes that CTS 2.3.3 is not relied on to prevent or to mitigate a DBA or transient, does not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS and, therefore, can be relocated to IP2 plant-controlled TRM.

(18) Relocates CTS Table 4.1-3, No.6, Refueling Interlocks, to a licensee-controlled document by 10 CFR 50.59 (i.e., IP2 UFSAR), (DOC-R19)

The licensee stated that CTS Table 4.1-3, No. 6, "Refueling Interlocks," was included in the CTS to ensure safe fuel handling. These interlocks include excess weight interlock on the lifting hoist to prevent movement of more than one fuel assembly at a time and to account for the fact that the spent fuel transfer mechanism can accommodate only one fuel assembly at a time. Refueling Interlocks are not addressed in WCAP-11618. The Refueling Interlocks and associated SRs are not addressed in the plant specific IPE and these requirements are not considered a significant contributor to risk. The staff finds the proposed relocation to the UFSAR will maintain the existing requirements for the Refueling Interlocks; and that there is no change to the existing requirements and no change to the level of safety of facility operation. Maintaining this requirement in the UFSAR is acceptable because any changes will be controlled by the requirements of 10 CFR 50.59.

Based on the above review, the staff concurs with the licensee's justifications and concludes that CTS 2.3.3 is not relied on to prevent or to mitigate a DBA or transient, does not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS and, therefore, can be relocated to IP2 USFSR and other plant-controlled TRM.

(19) Relocates CTS Table 4.1-3, No.8, Turbine Stop Valve /Overspeed Protection Testing, to a licensee-controlled document by 10 CFR 50.59 (i.e., IP2 UFSAR), (DOC R-20)

The licensee stated that CTS Table 4.1-3, No. 8, Turbine Stop Valve/Overspeed Protection Testing, was included in the CTS because turbine stop valve testing is a critical part of turbine overspeed protection. UFSAR Chapter 14, Appendix A, "Likelihood and Consequence Turbine Overspeed at the Indian Point Nuclear Generating Unit No. 2," Section 2.3, duplicates the requirements in CTS Table 4.1-3, No. 8, by requiring that "turbine control and stop valves are tested individually during periods of power operation in accordance with the methodology presented in WCAP-11525 "Probabilistic Evaluation of Reduction in Turbine Valve Test Frequency," and in accordance with established NRC acceptance criteria for the probability of a missile ejection incident at IP2. In no case shall the test interval for these valves exceed 1 year. The turbine valve testing frequency probabilistic analysis shall be reviewed and re-evaluated any time major changes in the turbine system have been made or a significant upward trend in

valve failure rates is identified. As discussed in Section 4.0 (Appendix A, page A-30) and summarized in Table 1 of WCAP-11618, the loss of turbine-generator overspeed protection feature was found to be a non-significant risk contributor to core damage frequency and offsite releases. FSAR Chapter 14, Appendix A, "Likelihood and Consequence Turbine Overspeed at the Indian Point Nuclear Generating Unit No. 2," provides an extensive analysis of the potential for and consequences of a Turbine Overspeed event.

The NRC staff finds the proposed relocation to the UFSAR will maintain the existing requirements for turbine-generator overspeed protection feature; and that there is no change to the existing requirements and no change to the level of safety of facility operation. Maintaining this requirement in the UFSAR is acceptable because any changes will be controlled by

Based on the above review, the staff concurs with the licensee's justifications and concludes that CTS Table 4.1-3, No. 8 is not relied on to prevent or to mitigate a DBA or transient, does not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS and, therefore, can be relocated to IP2 USFSR and other plant-controlled TRM.

(20) Relocates CTS 3.8.B.7 and CTS 3.8.B.9 (i.e., requirements for radiation monitoring in the spent fuel storage area when moving spent fuel and radiation monitoring in containment when moving fuel or heavy loads in containment) and CTS Table 4.1-1, No. 19, (i.e., periodic monitoring and calibration of area radiation monitors) to a licensee-controlled document by 10 CFR 50.59 (i.e., TRM 3.3.D, 3.3.E and 3.3.I), (DOC R-21)

The licensee stated that CTS 3.8.B.7 and CTS 3.8.B.9 (i.e., requirements for radiation monitoring in the spent fuel storage area when moving spent fuel and radiation monitoring in containment when moving fuel or heavy loads in containment) and CTS Table 4.1-1, No. 19, (i.e., periodic monitoring and calibration of area radiation monitors), were included in the CTS for protection of personnel. As discussed in Section 4.0 (Appendix A, page A-69) and summarized in Table 1 of WCAP-11618, radioactive gaseous effluent instrumentation and area radiation monitors are non-significant risk contributors to core damage frequency and offsite releases. IP2 has reviewed this evaluation and considers it applicable to IP2. Effects of radioactive gaseous effluent instrumentation are outside the scope of the IP2 IPE, and therefore, the plant-specific IPE provides no information to supplement the conclusions from the generic analysis.

The staff finds the proposed relocation to the UFSAR or TRM and plant procedures will maintain the existing requirements for Area radiation monitors; and that there is no change to the existing requirements and no change to the level of safety of facility operation. Maintaining this requirement in the UFSAR or TRM is acceptable because any changes will be controlled by the requirements of 10 CFR 50.59.

Based on the above review, the staff concurs with the licensee's justifications and concludes that CTS 3.8.B.7 and CTS 3.8.B.9 and CTS Table 4.1-1, No. 19 are not relied on to prevent or to mitigate a DBA or transient, do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS and, therefore, can be relocated to IP2 plant-controlled TRM.

(21) Relocates CTS 4.15, Radioactive Materials Surveillance and CTS 6.9.2.c, Reporting Sealed Source Leakage in excess of limits, to a licensee-controlled document by 10 CFR 50.59 (i.e., IP2 UFSAR), (DOC R-22)

The licensee stated that CTS 4.15, “Radioactive Materials Surveillance” (i.e., tests for leakage and/or contamination from byproduct, source, and special nuclear material sources) and CTS 6.9.2.c, Reporting Sealed Source Leakage in excess of limits, were included in the CTS because limitations on sealed source contamination ensure that the total body and individual organ irradiation doses do not exceed allowable limits in the event of ingestion or inhalation. This is done by imposing a maximum limit for removable contamination on each sealed source. This requirement and the associated SRs are not conditions or limits necessary for safe reactor operation. As discussed in Section 4.0 (Appendix A, page A-59) and summarized in Table 1 of WCAP-11618, sealed source contamination not within limits was found to be a non-significant risk contributor to core damage frequency and offsite releases.

The NRC staff finds the proposed relocation to the UFSAR will maintain the existing requirements for radioactive materials surveillance (i.e., tests for leakage and/or contamination from byproduct, source, and special nuclear material sources) and reporting sealed source leakage in excess of limits. The staff finds the proposed relocation does not change to the existing requirements and thus there is no change to the level of safety of facility operation. Maintaining this requirement in the UFSAR is acceptable becauseonly changes will be controlled by the requirements of 10 CFR 50.59.

Based on the above review, the NRC staff concurs with the licensee’s justifications and concludes that CTS 4.15, and CTS 6.9.2.c are not relied on to prevent or to mitigate a DBA or transient, do not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS and, therefore, can be relocated to IP2 USFAR.

(22) Relocates CTS 3.8.A.7, Reactor Temp less than or equal to 140 °F when RPV head bolts are less than fully tensioned, to a licensee-controlled document by 10 CFR 50.59 (i.e., IP2 UFSAR) (DOC R-23)

The licensee stated that CTS 3.8.A.7 (i.e., reactor temperature must be less than or equal to 140 °F when Reactor Pressure Vessel head bolts are less than fully tensioned) is not retained in the IP2 ITS because it is not an initial condition for an accident analysis that assumes the failure of or presents a challenge to the integrity of a fission product barrier; and it is assumed that there is a minimum of 23 feet of water above the spent fuel racks. With this water depth, the decontamination factor (DF) of 500 specified by DG-1081 for elemental iodine would apply. The decontamination factor was reduced to 400 for conservatism because the fuel rod pressure may exceed the NRC Draft Guide (DG)-1081 assumption of 1200 psig (but would be less than 1500 psig). The decontamination factor for organic iodine and noble gases was 1.0. As in RG 1.25, March 23, 1972, the fuel-handling accident (FHA) analysis decontamination factor is based solely on the 23-foot water level in the refueling canal and the refueling cavity regardless of water temperature. Finally, a reactor temperature < 140 °F is not a limiting assumption for the detection or mitigation of a boron dilution event. A requirement that reactor temperature be less than or equal to 140 °F when Reactor Pressure Vessel head bolts are less than fully tensioned is not addressed in WCAP-11618, Methodically Engineered, Restructured and Improved, Technical Specifications - Merits Program - Phase II Task 5: Criteria Application. This restriction is not addressed in the plant-specific IPE and is not considered a significant contributor to risk.

The NRC staff finds the proposed relocation to the UFSAR will maintain the existing Reactor temperature limit of 140 °F when RPV head bolts are less than fully tensioned; and that there is no change to the existing requirements nor change to the level of safety of facility operation. Maintaining this requirement in the UFSAR is acceptable because any change will be controlled by the requirements of 10 CFR 50.59.

Based on the above review, the NRC staff concurs with the licensee's justifications and concludes that CTS 3.8.A.7 is not relied on to prevent or to mitigate a DBA or transient, does not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS and, therefore, can be relocated to IP2 USFAR.

(23) Relocates CTS 3.8.B.4, Refueling, Fuel Handling and Storage (Decay Time) to the Technical Requirements Manual (TRM 3.9A). (DOC R-24)

The licensee stated that the relocation of CTS 3.8.B.4 (i.e., requirement to delay movement of irradiated fuel for 100 hours after reactor shutdown) to the plant TRM is made in conjunction with expanding Applicability of proposed ITS LCO 3.7.10, Control Room Ventilation System, and ITS LCO 3.9.3, Containment Penetrations, which establish requirements for systems that mitigate the consequences of an FHA that occurs with fuel that was irradiated in the previous 100 hours; and thus the change is consistent with the incorporation of TSTF-51, Revision 2. Current requirement CTS 3.8.B.4, which prohibits movement of fuel in the reactor for 100 hours after reactor shutdown (i.e., the decay time requirement) ensures that any fission products released from a fuel assembly involved in a FHA have decayed for at least 100 hours prior to the FHA consistent with the assumption in the analysis of an FHA as documented in the SE supporting CTS Amendment 211, dated July 27, 2000. This analysis demonstrated that 10 CFR 50.67, "Accident Source Term," limits for offsite and control room dose following an FHA will be met after 100 hours of decay time without any reliance on the systems that mitigate the consequences of an FHA.

The NRC staff finds the proposed relocation of CTS 3.8.B.4 to a licensee-controlled document is acceptable because IP2 TSs will continue to require Operability of systems that mitigate the dose consequences of an FHA during movement of any fuel assembly that has been part of critical reactor in the previous 100 hours. Specifically, ITS LCO 3.7.10, Control Room Ventilation System, and ITS LCO 3.9.3, Containment Penetrations, and associated LCOs governing supporting instrumentation and power supplies for these systems, will be required to be Operable during movement of recently irradiated fuel with the term recently irradiated defined in the proposed ITS Bases as any fuel assembly that has been part of critical reactor in the previous 100 hours. The approach of establishing TS Applicability as during movement of recently irradiated fuel with the term recently irradiated defined in the Bases is consistent with the staff approval in TSTF-51, Rev. 2. Furthermore, the licensee stated in the submittal that the preparation for movement of fuel in the reactor, including containment entry, pressure vessel head removal, filling the reactor cavity, etc, requires an amount of time to complete which will physically prevent any movement of fuel until a substantial portion of the 100-hour decay time has elapsed.

Based on the above review, the staff concurs with the licensee that relocating the requirement that prohibits movement of fuel in the reactor for 100 hours after reactor shutdown to a licensee-controlled document by 10 CFR 50.59 and relocating the definition of recently irradiated (i.e., the criteria when systems needed to mitigate the does consequences of an FHA

must be Operable) to the ITS Bases is acceptable. This change will maintain the existing requirements to delay movement of irradiated fuel for 100 hours after reactor shutdown; and thus there is no change to the existing requirements and no change to the level of safety of facility operation. Additionally, maintaining this requirement in the TRM is acceptable because any changes will be controlled by the requirements of 10 CFR 50.59.

The staff concludes that CTS 3.8.A.7 is not relied on to prevent or to mitigate a DBA or transient, does not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS, and therefore, can be relocated to IP2 TRM.

(24) Relocates CTS 3.8.B.3 (i.e., direct communication between the control room and the refueling cavity manipulator crane) to a licensee-controlled document by 10 CFR 50.59 (i.e., IP2 UFSAR), (DOC R-25)

The licensee stated that CTS 3.8.B.3 (i.e., direct communication between the control room and the refueling cavity manipulator crane shall be available whenever changes in core geometry are taking place) was included in the CTS because communication between the control room personnel and personnel performing Core Alterations is needed to ensure that personnel can be promptly informed of significant changes in the plant status or core reactivity condition during refueling. The communications allow for coordination of activities that require interaction between the control room and containment personnel. However, the refueling system design accident or transient response does not take credit for communications. As discussed in Section 4.0 (Appendix A, page A-67) and summarized in Table 1 of WCAP-11618, the loss of communications was found to be a non-significant risk contributor to core damage frequency and offsite releases. IP2 has reviewed this evaluation and considers it applicable to IP2. Communication during refueling operations is outside the scope of the IP2 IPE, and therefore, the plant-specific IPE provides no information to supplement the conclusions from the generic analysis.

The NRC staff finds the proposed relocation to the UFSAR will maintain the existing requirements for direct communication between the control room and the refueling cavity manipulator crane whenever changes in core geometry are taking place; and that has no change to the existing requirements and no change to the level of safety of facility operation. Maintaining this requirement in the UFSAR is acceptable becauseany changes will be controlled by the requirements of 10 CFR 50.59.

Based on the above review, the NRC staff concurs with the licensee's justifications and concludes that is not relied on to prevent or to mitigate a DBA or transient, does not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS and, therefore, can be relocated to IP2 USFAR.

(25) Relocates CTS 3.8.B.10 (i.e., requirement that a person holding a senior operator license or a senior operator license limited to fuel handling) to be relocated to administrative programs and plant procedures), (DOC R-26)

The licensee stated that CTS 3.8.B.10 (i.e., requirement that a person holding a senior operator license or a senior operator license limited to fuel handling shall be present to directly supervise the activity during alteration of the core (including fuel loading or transfer) duplicates a

10 CFR 50.54 (3)(m)(2) (iv) requirement that “Each licensee shall have present, during alteration of the core of a nuclear power unit (including fuel loading or transfer), a person holding a senior operator license or a senior operator license limited to fuel handling to directly supervise the activity and, during this time, the licensee shall not assign other duties to this person.”
The NRC staff finds the proposed relocation to the plant administrative programs and plant procedures acceptable because the licensee’s compliance to Title 10 of the *Code of Federal Regulations* and plant procedures will maintain the existing requirement; thus, there is no change to the existing requirements and no change to the level of safety of facility operation.

Based on the above review, the NRC staff concurs with the licensee’s justifications and concludes that CTS 3.8.B.10 is not relied on to prevent or to mitigate a DBA or transient, does not meet the criteria in 10 CFR 50.36(c)(2)(ii) for retention in the ITS and, therefore, can be relocated to IP2 administrative programs and plant procedures.

In summary, the proposed relocated specifications from the CTS discussed above are not required to be in the TS because they do not fall within the criteria for mandatory inclusion in the TS as stated in 10 CFR 50.36(c)(2)(ii). These specifications 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 has concluded that appropriate controls have been established for all of the current specifications and information that are being moved to the FSAR, TRM, ODCM, PCP or IST Program. These relocations are the subject of a new license condition discussed in Section 5.0 of this SE. Until incorporated in licensee-controlled documents, changes to these specifications and information will be controlled in accordance with the current applicable procedures and regulations that control these documents. Following implementation, the NRC may 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 and 10 CFR 50.55a. Accordingly, the specifications and information, as described in detail in this SE, may be relocated from the CTS and placed in the licensee-controlled documents identified in the licensee's application dated March 27, 2002 (NL-02-016), as supplemented by letters dated May 30, 2002 (NL-02-042), July 10, 2002 (NL-02-092), October 10, 2002 (NL-02-130), October 28, 2002, (NL-02-133), November 26, 2002 (NL-02-148), December 18, 2002 (NL-02-160), January 6, 2003, January 27, 2003 (NL-03-002), February 26, 2003 (NL-03-035), April 8, 2003 (NL-03-052), May 19, 2003 (NL-03-081), June 23, 2003 (NL-03-103), June 26, 2003 (NL-03-107), July 15, 2003 (NL-03-76), July 18, 2003 (NL-03-117), August 6, 2003 (NL-03-127), and September 11, 2003 (NL-03-137) in response to the staff’s RAIs dated August 6, 2002, September 26, 2002, October 3, 2002, October 17, 2002, October 17, 2003, October 22, 2002, December 31, 2002, January 22, 2003, and May 26, 2003.

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

In the ITS conversion, the licensee will be relocating specifications, requirements, and detailed information from the CTS to licensee-controlled documents outside the CTS. This is discussed in Sections 3.D and 3.E above. The facility and procedures described in the FSAR, and TRM, which is a part of the FSAR, 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 the CTS and over future changes to the requirements. Other licensee-controlled documents contain provisions for making changes consistent with applicable regulatory requirements. For example, the ODCM can be changed in accordance with ITS 5.5.1, 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. The documentation of these changes will be maintained by the licensee in accordance with the record retention requirements specified in the licensee's QA Plan for IP3 and such applicable regulations as 10 CFR 50.59.

The license condition for the relocation of requirements from the CTS, which is discussed in Section 5.0 of this SE, will address the implementation of the ITS conversion, and the schedule for the relocation of the CTS requirements into licensee-controlled documents. The relocations to the FSAR, which includes the TRM, shall be included in the next required update of this document in accordance with 10 CFR 50.71(e).

G. Evaluation of Other TS Changes (Beyond-Scope Issues) Included in the Application for Conversion to ITS

This section addresses the beyond-scope issues in which the licensee proposed changes to both the CTS and STS. The following beyond-scope issues were addressed in the notice of consideration of amendment published in the *Federal Register* on September 26, 2003 (68 FR 55660).

The changes discussed below are listed in the order of the applicable ITS specification or section, as appropriate (from ITS 3.6.9 to ITS 3.8.7).

(1) The licensee added ITS LCO 3.6.9 - Isolation Valve Seal Water System (IVSW) to the proposed IP2 ITS. (DOCs L1, M1, M2, M3, M4). NUREG-1431 does not include an STS for this system, because very few plants have this kind of system. The CTS provides a base set of requirements against which the staff is based on to evaluate the licensee's proposed change for parameters such as allowable out-of-service time and SRs.

The IVSW improves the effectiveness of certain containment isolation valves by providing a water seal to valve leakage paths. Sealing water is contained in an IVSW supply tank filled with water and pressurized with nitrogen. The IVSW is actuated in conjunction with automatic initiation of containment isolation. The seal water is injected at a pressure of at least 1.1 P_a, where P_a is the calculated peak containment internal pressure related to the design-basis LOCA as specified in the TSs. This water seal prevents leakage of containment atmosphere out of the containment.

The operation of the IVSW is governed by Option B, "Performance-Based Requirements," of 10 CFR Part 50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors." Option B does not contain detailed requirements regarding the IVSW. However, Option B requires that a RG or another implementation document used by a licensee to develop a performance-based leakage testing program must be included, by general reference, in the plant TS. The licensee has referenced RG 1.163, "Performance-Based Containment Leak Test Program," dated September 1995, in several places in the CTS, and proposes to consolidate the references into ITS 5.5.14. RG 1.163 states that the Nuclear

Energy Institute (NEI) guidance document NEI 94-01, Rev. 0, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J," provides methods acceptable to the NRC staff for complying with Option B, with four exceptions which are described therein. NEI 94-01, Section 6.0, “General Requirements,” states, in part, that leakage from containment isolation valves that are sealed with a qualified seal system may be excluded when determining the combined leakage rate of all locally leakage-rate-tested components provided that:

- Such valves have been demonstrated to have fluid leakage rates that do not exceed those specified in the TS or associated bases, and
- The installed isolation valve seal-water system fluid inventory is sufficient to assure the sealing function for at least 30 days at a pressure of 1.1 P_a.

Allowable out-of-service time: CTS 3.3.C2 provides an allowable out-of-service time, or allowed outage time (AOT), of 7 days if one IVSW header is inoperable; however, no AOT is provided for IVSW inoperability for any other reason, such as low water level or low nitrogen pressure. Therefore, CTS 3.0 would require immediate shutdown under these conditions. ITS LCO 3.6.9 maintains the 7-day AOT if one IVSW system header is inoperable or if one IVSW automatic actuation valve is inoperable; however, ITS LCO 3.6.9, Condition B, and associated Required Action establish a 24-hour AOT if IVSW is inoperable for any other reasons. CTS 3.3.C2 allows a 7-day AOT for the two reasons mentioned above, and it is the staff’s judgment that an immediate shutdown is not necessary for inoperability for other reasons. Inoperability of the IVSW does not render inoperable the containment isolation valves it serves. Although their leakage rates have not been measured with air, they will have shown acceptable water leakage rates in the IVSW surveillance tests, and periodic integrated leakage rate testing includes these valves, without the IVSW operating. Furthermore, probabilistic risk assessment calculations have shown that containment leakage rate could increase approximately 100 times beyond the TS limit without significantly increasing risk to the public (see NUREG-1493, "Performance-Based Containment Leak-Test Program," dated September 1995). Therefore, it is the NRC staff’s judgment that the proposed 24-hour AOT is reasonable and acceptable.

Timing of cold shutdown: CTS 3.3.C.3.a specifies that, if the IVSW is not restored to operable status within the time period specified, then the reactor shall be brought to the hot shutdown condition (Mode 3) using normal operating procedures. Thereafter, CTS 3.3.C.3.b and c allow an additional 48 hours to restore IVSW before the reactor must be placed in cold shutdown (Mode 5). Further, CTS 3.3.C.3.b requires that the reactor coolant system temperature and pressure shall not be increased more than 25 °F and 100 psi over existing values during the 48-hour period in Mode 3.

ITS LCO 3.6.9, Required Action C.2, eliminates the 48-hour period by requiring the plant to go from Mode 3 to Mode 5 in 36 hours. In conjunction with this, the ITS eliminates the requirement of CTS 3.3.C.3.b that the reactor coolant system temperature and pressure shall not be increased more than 25 °F and 100 psi over existing values during the 48-hour period in Mode 3.

The NRC staff finds that the plant should proceed promptly to Mode 5 when LCO requirements are not met, so the proposed changes are appropriate. The elimination of the restrictions on increasing temperature and pressure in Mode 3 is appropriate because the 48-hour period in Mode 3 is eliminated, and the plant will proceed normally to Mode 5 within 36 hours. Finally,

this part of the ITS is more restrictive than the CTS and is consistent with the shutdown timing of typical similar STS. Therefore, the NRC staff finds these changes to be acceptable.

Verification of IVSW tank pressure and level: CTS 3.3.C.1.b requires that the IVSW tank be maintained at a minimum pressure of 52 psig and contain a minimum of 144 gal of water; however, there are no requirements for periodic verification that these requirements are met. ITS SR 3.6.9.1 and SR 3.6.9.3 add requirements to verify that these parameters are within limits every 24 hours. The staff finds that the proposed 24-hour surveillance period is acceptable because installed instrumentation monitors tank level and pressure and will alarm in the control room when below required limits. This more restrictive change tends to increase safety and, therefore, is acceptable.

Verification of valve and nitrogen bank parameters: CTS 3.3.C does not include a specific requirement for periodic verification that the IVSW nitrogen supply is available to support IVSW operation. ITS SR 3.6.9.2 adds a requirement to verify every 24 hours the IVSW nitrogen supply is aligned with either one cylinder with pressure greater than or equal to 1016 psig, or 10 cylinders with pressure greater than or equal to 250 psig. CTS 3.3.C does not include a specific requirement for periodic verification of the opening time of automatic valves in the IVSW. ITS SR 3.6.9.4 adds a requirement to verify every 24 months that the valve opening times are within required time limits.

CTS 3.3.C does not include a specific requirement to periodically verify that each automatic valve in the IVSW actuates to the correct position on an actual or simulated actuation signal. ITS SR 3.6.9.5 adds a requirement to verify proper operation of each automatic valve in the IVSW every 24 months. The staff finds that these more restrictive changes are acceptable because they require periodic verification that IVSW will function as required during an accident, with no negative impact on other aspects of plant safety.

Timing of hot shutdown: CTS 3.3.C.3.a specifies that, if the IVSW is not restored to operable status within a specified completion time, then the reactor shall be brought to hot shutdown (Mode 3) using normal operating procedures and that the shutdown shall start no later than the end of the specified period (i.e., the time allowed to restore IVSW to operable status). Under the same conditions, ITS LCO 3.6.9, Required Action C.1, requires the plant to be in Mode 3 in 6 hours. The ITS completion time of 6 hours to reach Mode 3 is more restrictive that the requirement to use normal operating procedures because the CTS completion time could vary based on initial plant conditions.

Based on the above review, the NRC staff finds that the proposed ITS 3.6.9 is acceptable because it establishes a definite completion time, compared to the variable time allowed by the CTS; and, further, that 6 hours to reach Mode 3 and 36 hours to reach Mode 5 are reasonable, based on operating experience, and consistent with the shutdown timing of typical similar STS.

(2) The licensee added ITS LCO 3.6.10 - Weld channel And Penetration Pressurization System (WC&PPS) to the proposed IP2 ITS. (DOCs LA1, L1, M1, M2, M3, M4, M5, M6). The WC&PPS is designed to continuously pressurize the space between selected containment isolation valves, containment piping penetration barriers, and most of the weld seam channels installed on the inside of the containment liner. Pressurization by the WC&PPS provides a means of monitoring the containment leakage of the affected barriers. WC&PPS pressure is

maintained above P_a, so the system may also reduce out leakage from the containment during an accident, although it is not credited for doing so. There are no regulatory requirements or guidance for this system. NUREG-1431 does not include an STS for this system, because very few plants have this kind of system.

Separate condition entry: CTS 3.3.D.2.a establishes the limit that only one of the four WC&PPS zones may be inoperable (i.e., depressurized) at any one time, and yet no compensatory action is allowed to restore safety function and allow continued operation. CTS 3.3.D.3 requires that the reactor be promptly placed in cold shutdown if all aspects of WC&PPS operability are not restored within the AOT. Proposed ITS 3.6.10, Actions Note 1, specifies that separate condition entry is allowed for each component supplied by WC&PPS. Additionally, ITS 3.6.10, Condition A, specifies compensatory action for one or more components supplied by WC&PPS not within the pressure limit. These components may be in one or more headers and staff finds that multiple components or portions of the WC&PPS, if isolated from the rest of the system and in different zones, may be inoperable simultaneously. Thus, the NRC staff finds the proposed ITS 3.6.10, Actions Note 1, specifies that separate condition entry to be accpetable.

Relocation of allowance for non-repairable portions: CTS 3.3.D.2.c states:

> With the portion of the weld channel pressurization system inoperable, and it is determined that it is not repairable by any practicable means, then that portion may be disconnected from the system.

The licensee proposes to relocate this allowance to the Bases. ITS 3.6.10 establishes requirements to isolate inoperable portions of the WC&PPS; however, the above allowance is relocated to the ITS LCO 3.6.10 Bases. The staff finds that CTS 3.3.D.2.c is not a requirement per se, but rather an allowance. If it is removed from the TS, the remaining TS are actually more restrictive, not less restrictive as characterized by the licensee (note that the Bases are not part of the TS). Also, the guidance in the revised Bases is consistent with the CTS, and any changes that the licensee may wish to make to the Bases are controlled by 10 CFR 50.59, Changes, Tests, and Experiments, or ITS 5.5.13, Technical Specifications Bases Control Program. Therefore, the staff finds that the proposed change is acceptable.

Verification of pressurization: CTS 3.3.D.1.a requires that all required portions of the four WC&PPS zones are pressurized above 47 psig. However, there is no requirement for periodic verification that this requirement is met. ITS SR 3.6.10.1 would require verification every 31 days that this requirement is met.

The staff finds that a clear increase in safety would result from the addition of this surveillance. It is the staff's judgment that the 31-day interval is sufficient, because low pressure alarms in the control room will alert the operators if the pressure falls below the required value. Therefore, the staff finds that the proposed change is acceptable.

Verification of air consumption rate: CTS 3.3.D.1.b requires that the uncorrected air consumption for the WC&PPS is less than or equal to 0.2% of the containment volume per day. However, there is no requirement for periodic verification that this requirement is met. ITS SR 3.6.10.2 would require verification every 31 days that this requirement is met.

The staff finds that a clear increase in safety would result from the addition of this surveillance. It is the staff's judgment that the 31-day interval is sufficient, because the air consumption rate indication is continuously available in the control room, and alarmed, which will alert the operators if the rate exceeds the allowed value. Therefore, the staff finds that the proposed change is acceptable.

Requirements for depressurized portions of WC&PPS and related Compensatory measures: The proposed change requires that depressurized portions of the WC&PPS are isolated within 4 hours and requires periodic verification that isolation is maintained. CTS 3.3.D.2.a specifies that an inoperable (i.e., depressurized) WC&PPS zone must be restored to operable status within 7 days. If the WC&PPS safety function is not restored within these 7 days, the reactor must be promptly placed in cold shutdown. Under the same conditions (i.e., WC&PPS depressurized), ITS LCO 3.6.10, Required Action A.1, requires that depressurized portions of the WC&PPS are isolated within 4 hours and Required Action A.2. requires periodic verification that isolation is maintained. The licensee characterizes this change as "more restrictive" because it restores safety function within 4 hours versus the 7 days allowed in the CTS, although this represents a significant shift in the concept of safety function for this system.

Compensatory measures if pressurization is lost or air consumption is high: The proposed change adds Actions intended to ensure appropriate compensatory measures are taken if WC&PPS pressurization is lost or air consumption is high. CTS 3.3.D.2.b specifies that WC&PPS leakage rate in excess of specified limits must be restored to within limits within 7 days. If the WC&PPS leakage rate is not restored within these 7 days, the reactor must be promptly placed in cold shutdown. ITS LCO 3.6.10, Required Action B.3, maintains the requirement that a WC&PPS leakage rate in excess of specified limits must be restored to within limits within 7 days; however, the licensee asserts that restoring the leakage rate to within specified limits may not restore required safety function. Therefore, the licensee proposes to add a note to Required Action B.3 and to add Required Actions B.1 and B.2. Required Action B.1 requires entry into applicable conditions and Required Actions of LCO 3.6.3, "Containment Isolation Valves," within one hour after discovery that the WC&PPS air consumption leakage path is depressurized and not isolated from the supported containment isolation valves. Required Action B.2 requires entry into applicable conditions and Required Actions of LCO 3.6.2, "Containment Air Locks," within one hour after discovery that the WC&PPS air consumption leakage path is depressurized and not isolated from the supported air lock. Required Action B.3 is to isolate portions of WC&PPS to restore air consumption to within limits of SR 3.6.10.2, within 7 days; the associated note requires entry into condition A for components not within the pressure limit of SR 3.6.10.1. Required Actions B.1, B.2, and B.3 must all be satisfied simultaneously; that is, they are joined together with logical "AND" connectors.

The staff evaluated the proposed change and finds that the CTS treats the WC&PPS as a system that is necessary for continued reactor operation. In basic terms, if the system is inoperable, perhaps because pressurization is lost or air consumption is high, it must be restored within a limited time or the reactor must be shut down, although CTS 3.3.D.2.c does allow a portion of the weld channel pressurization system to be permanently disconnected if it is not repairable. However, in the proposed ITS, the licensee proposes to treat the system as one for which 100% operability is no longer essential. If portions of it break down, they may be isolated and left that way indefinitely, after assuring that the broken portions do not, in themselves, constitute containment leakage paths. Although the system itself would remain

operable, an unlimited number of the containment boundary components it was designed to serve might no longer be connected to it. The original concept of the WC&PPS was to provide an additional, continuing check on certain containment boundary components during the periods between containment leakage rate tests, to provide added assurance that the containment leakage rate remained within its limit. Very few plants were built with such systems, and it was generally included because the plant was in a high-population-density area (e.g., Indian Point, Zion). However, the system is not credited in accident or dose analyses, nor does it have a post-accident safety function. Its function as a leakage checker is above and beyond the containment leakage rate testing program required for every plant by 10 CFR Part 50, Appendix J.

Based on the length of years since IP2 was originally licensed, the staff has conducted studies which indicate that pre-existing containment leakage (i.e., before an accident occurs) is not very risk-significant. NUREG-1493, "Performance-Based Containment Leak-Test Program," dated September 1995, found that a pre-existing containment leakage rate could be increased to 100 times that allowed by TS without causing a significant increase in the risk to the public. This is because the calculated risk is dominated by accident sequences which include early containment failure. In other words, if the containment fails (breaks open) a few hours after the beginning of an accident, a pre-existing leak is not important unless it is at least 100 times larger than assumed in the design-basis accident analysis. This and other studies provided the basis for the risk-informed, performance-based revision of Appendix J in 1995. This revision allowed containment components that performed well to be tested less often than the nominal testing frequency. In light of this information, the staff finds that it is acceptable for the licensee to de-emphasize the importance of the WC&PPS. This approach assumes that the Appendix J containment leakage rate testing program, and the containment inservice inspection (ISI) program required by 10 CFR 50.55a, are by themselves sufficient to assure that containment leakage rate remains within its limit. Insofar as this assumption holds at nearly all of the other plants in the country, which do not have WC&PPS-like systems, the staff finds it to also be valid for Indian Point Unit 2.

Under ITS 3.6.10, if a portion of the system becomes depressurized, or if air consumption is excessive, two things happen: 1) the licensee isolates the affected portion or component from the WC&PPS to assure that the WC&PPS itself is not an open containment leakage path; and 2) the licensee evaluates the affected containment isolation barrier, as necessary, to assure that the containment is not leaking in excess of its limit. The isolation of the affected portion or component from the WC&PPS is accomplished in the same way that a containment piping penetration is isolated if a containment isolation valve becomes inoperable: by a closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured, with subsequent periodic verification of continued isolation.

Based on the above evaluation, the staff finds Conditions A and B of ITS 3.6.10, along with their associated Required Actions and completion times, to be acceptable.

Timing of cold shutdown: CTS 3.3.D.3.a specifies that, if the WC&PPS is not restored to operable status within the time period specified, then the reactor shall be brought to the hot shutdown condition (Mode 3) using normal operating procedures. Thereafter, CTS 3.3.D.3.b and c allow an additional 48 hours to restore WC&PPS before the reactor must be placed in cold shutdown (Mode 5). Further, CTS 3.3.D.3.b requires that the reactor coolant system temperature and pressure shall not be increased more than 25 °F and 100 psi over existing

values during the 48-hour period in Mode 3. ITS LCO 3.6.10, Required Action C.2, eliminates the 48-hour period by requiring the plant to go from Mode 3 to Mode 5 in 36 hours. In conjunction with this, the ITS eliminates the requirement of CTS 3.3.D.3.b that the reactor coolant system temperature and pressure shall not be increased more than 25 °F and 100 psi over existing values during the 48 hour period in Mode 3. The staff finds that the plant should proceed promptly to Mode 5 when LCO requirements are not met, so the proposed changes are appropriate. The elimination of the restrictions on increasing temperature and pressure in Mode 3 is appropriate because the 48-hour period in Mode 3 is eliminated, and the plant will proceed normally to Mode 5 within 36 hours. Finally, this part of the ITS is more restrictive than the CTS and is consistent with the shutdown timing of typical similar STS. Therefore, the staff finds these changes to be acceptable.

Timing of hot shutdown: CTS 3.3.D.3.a specifies that, if the WC&PPS is not restored to operable status within a specified completion time, then the reactor shall be brought to hot shutdown (Mode 3) using normal operating procedures and that the shutdown shall start no later than the end of the specified period (i.e., the time allowed to restore WC&PPS to operable status). Under the same conditions, ITS LCO 3.6.10, Required Action C.1, requires the plant to be in Mode 3 in 6 hours. The ITS completion time of 6 hours to reach Mode 3 is more restrictive that the requirement to use normal operating procedures because the CTS completion time could vary based on initial plant conditions. The staff finds that this change is acceptable because it establishes a definite completion time, compared to the variable time allowed by the CTS; and, further, that 6 hours to reach Mode 3 and 36 hours to reach Mode 5 are reasonable, based on operating experience, and consistent with the shutdown timing of typical similar STS.

Based on the above evaluations, the staff finds that the proposed LCO 3.6.10 for WC&PPS to IP2 ITS is acceptable.

(3) The licensee added ITS 3.7.2 - Main Steam Isolation Valves (MSIVs) and Main Steam Check Valves (MSCVs) to the proposed IP2 ITS. (M1)

CTS 3.4B allows all 4 MSIVs to be inoperable for up to 72 hours prior to requiring initiation of plant shutdown. The proposed ITS LCO 3.7.2, required action C.1, allows only one MSIV to be inoperable for up to 72 hours prior to requiring initiation of a plant shutdown. If more than one MSIV to be inoperable in Mode 1 (and not closed); ITS LCO 3.03 is immediately applicable and a plant shutdown must be initiated within 1 hour. Proposed ITS 3.7.2 deviates from STS 3.7.2 which allows all 4 MSIVs to be inoperable for up to 72 hours prior to requiring initiation of plant shutdown.

Maintaining the 72-hour allowable out of service time (AOT) for one inoperable MSIV is more restrictive than the current licensing basis and is acceptable because (1) for a break upstream of an MSIV, the MSCV in the upstream line with the faulted SG will prevent the blow down of more than one SG even if multiple other MSIVs fail and (2) for a break downstream of an MSIV, blowdown of more than one SG will not occur if no other MSIVs fail. This change does not introduce any operation which is un-analyzed while requiring that the reactor be shutdown promptly when operating outside accident analysis assumptions regarding the available MSIV and MSCV function following a steam line break. The staff finds this change has no adverse impact on safety and therefore, acceptable.

Based on the above review, the staff finds the proposed ITS 3.7.2 acceptable because its allowed completion times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems. The proposed change has no adverse impact on safety.

(4) The licensee proposed ITS LCO 3.7.3 for Main Feedwater Isolation to add requirement for operability, AOT and SRs which are deviated from the Scope of STS conversion.

The IP2's main feedwater isolation capability, consists of four main feedwater regulating valves (MFRVs), four low flow main feedwater bypass control valves (Low Flow MFBVs), eight main feedwater isolation valves (MFIVs), two main boiler feedwater pump (MBFP) discharge valves and the trip function for each MBFP. These components are operable when actuation and isolation times are within limits and the valves will close on an isolation signal.

Proposed ITS 3.7.3 establishes an AOT of 72 hours when one or more MFRVs, Low Flow MFBVs, MFIVs or MBFP trips are inoperable resulting in a loss of single failure tolerance but where the feedwater isolation function is maintained. The proposed AOT of 72 hours is consistent with the recommended AOT in STS (NUREG 1431). ITS 3.7.3 also establishes an AOT of 8 hours for any combination of inoperable MFRVs or Low Flow MFBVs and one or more MFIVs or MBFP trips resulting in a loss of feedwater isolation safety function. The proposed AOT of 8 hours is consistent with the AOT in STS.

Additionally, SRs of ITS SR 3.7.3.1, SR 3.7.3.2 and SR 3.7.3.3 are added to verify that the MFRVs, Low Flow MFBVs and MFIVs close and MBFPs trip on the required actuation signal and that the closure time of each valve and the pump trip is within the limit assumed in the accident and containment analyses for a main steam line break accident and excessive heat removal due to feedwater system malfunction.

The addition of specific requirements for MFRVs, Low Flow MFBVs, MFIVs or MBFP trips (and associated AOTs) is a more restrictive change because CTS does not specifically identify these components and/or required level of redundancy. CTS requirements could be interpreted as requiring operability of the MFCVs only.

Based on the above review, the staff finds the proposed change does not introduce any operation which is unanalyzed while requiring more specific details regarding main feedwater isolation capability requirements in the technical specification and do not impact the requirements of GDC 44. Therefore, specific issues that were considered outside the scope of the TS conversion program related to ITS 3.7.3 are acceptable.

(5) The licensee proposed ITS LCO 3.7.8 which is less restrictive (i.e., longer) than the STS allowed out of service time of 72 hours, without adopting of NUREG-1431 STS LCO 3.7.8 Notes 1 and 2, for the service water pumps. (DOCs LA1, L1, M1, M2, M3, M4, M5, M6)

As part of the application dated March 27, 2002, the licensee requested to extend the allowed out of service time for the service water pumps to 72 hours. At IP2, a total of six SWS pumps supply two SWS headers. Three SWS pumps feed one header for designated essential loads. The essential loads are those which must have an assured supply of cooling water in the event

of a loss of offsite power and/or a LOCA. Examples of essential loads are containment fan coolers and emergency diesel generators. Likewise, three SWS pumps feed another header for designated non-essential loads. The non-essential loads are those which are supplied from the designated non-essential SWS header by manually starting a service water pump when required following a LOCA. The most significant non-essential loads are the component cooling water heat exchangers. As a result of the design, any load on a given header can be fed from any of the three pumps associated with that header.

CTS 3.3.F.1.a currently requires three SWS pumps to be operable on the essential SWS header. Three are required because two essential SWS pumps are required to meet the loads in the accident analysis. CTS 3.3.F.2.a requires two SWS pumps to be operable on the non-essential SWS header. Two are required because one non-essential SWS pump is required to meet the loads in the accident analysis. Currently, CTS 3.3.F.1.b and 3.3.F.2.b allow 12 hours for restoration of an essential SWS pump and 24 hours of the non-essential pump, respectively.

The licensee proposed to extend the allowed outage time when one of three essential SWS pumps is inoperable and/or one of two required non-essential SWS pumps is inoperable to 72 hours. The licensee stated that the change is acceptable because of the following reasons: 1) no functional capability is lost, and 2) a low probability of an event occurring during the AOT. Additionally, two Notes are included in NUREG-1431, ITS LCO 3.7.8, Required Action A.1, that the licensee did not include in the proposal. The first Note indicates that the applicable Conditions and Required Actions of LCO 3.8.1, “AC Sources - Operating,” should be entered if an inoperable SWS train results in an inoperable diesel generator. The second Note indicates that the applicable Conditions and Required Actions of LCO 3.4.6, “RCS Loops - MODE 4," should be entered if an inoperable SWS train results in an inoperable decay heat removal train.

The first Note in NUREG-1431, LCO 3.7.8 is needed in the standard TS because the plant modeled in NUREG-1431 has full train separation. With full train separation, the cooling water for a diesel generator is provided by the service water pump that uses the same diesel generator for power. As such, if the service water pump is inoperable, the associated diesel generator needs to be declared inoperable. IP2 does not have full train separation. Since all three essential SWS pumps supply a single header, an inoperable essential SWS pump will not prevent any diesel generator from receiving cooling water. However, if one essential SWS pump, two non-essential SWS pumps, and a diesel generator associated with one of the remaining operable essential SWS pumps are inoperable, then the SWS function may not be satisfied in a loss of offsite power. In this case, the licensee would be required to enter LCO 3.0.3 in 4 hours by LCO 3.8.1, Required Actions B.2 and E.1. By Note 1 in NUREG-1431, LCO 3.7.8, a licensee in a similar condition would be required to enter LCO 3.0.3 in 2 hours as required by a combination of LCO 3.7.8, Required Action A.1 and LCO 3.8.1 Required Action E.1. The licensee stated that the difference of 2 hours is acceptable for the following reasons: 1) the increased amount of time to reach MODE 5 from 38 hours to 40 hours is very small; 2) the low probability that the plant will ever be in the highly degraded condition where this time extension would apply; and 3) the very low probability that the plant will experience an accident with a loss of offsite power during this additional two hour period. Based on the licensee’s assessment, the staff concludes that the two hour difference is negligible and Note 1 is not necessary for IP2.

The second Note in NUREG-1431, LCO 3.7.8 is also needed in the STS because the plant modeled in NUREG-1431 has full train separation. In the modeled plant, there is one

component cooling water heat exchanger associated with each SWS train. As such, an inoperable SWS train could prevent the component cooling water from supporting the residual heat removal system heat removal function. The licensee stated that Note 2 is not necessary for IP2 because all three SWS pumps aligned to the essential SWS header can be aligned to either component cooling water system heat exchanger and either component cooling water system heat exchanger can be aligned to support either residual heat removal system heat exchanger. Based on the licensee's assessment, the staff concludes that Note 2 is not necessary for IP2.

The staff concludes that the licensee has provided sufficient justification to demonstrate that the less restrictive (i.e., longer) allowed out of service time of 72 hours, without NUREG-1431 ITS LCO 3.7.8 Notes 1 and 2; therefore, proposed ITS, for the service water pumps is acceptable. The staff concludes, based on the considerations discussed above, that proposed ITS LCO 3.7.3 for Main Feedwater Isolation is acceptable.

(6) The licensee proposed ITS LCO 3.8.1 to replace the current CTS 3.7 and requires that onsite and offsite electrical power systems are operable in Modes 1, 2, 3 and 4. (DOCs LA1, LA3, L1, L2, L3, L4, L5, L6, M1, M2, M3 ,M4, M6, M7, M8, M9, M10, M11, M12, M13, M14, M15, M16). Current requirements of CTS 3.7 specify that requirements for onsite and offsite electrical power systems are applicable only when the reactor is placed in critical and, therefore, requires only that the reactor be made subcritical when requirements are not met. CTS 4.6 do not establish any requirements for the periodic verification of correct breaker alignment and indicated power availability for offsite circuits.

The licensee, in electing to implement the specifications of the ITS, proposed a number of changes to requirements which are more restrictive than those in the CTS. CTS 3.7.A specifies that requirements for onsite and offsite electrical power systems are applicable only when the reactor is critical and, therefore requires only that the reactor be made subcritical when requirements are not met.

The proposed LCO 3.8.1 requires that onsite and offsite electrical power systems are operable in Modes 1,2,3 and 4. LCO 3.8.1 Required Actions F.1 and F.2 require that the reactor be in Mode 3 in 6 hours and Mode 5 in 36 hours if allowable out of service time for inoperable equipment are exceeded or compensatory actions are not met. Additionally, LCO 3.8.1, Required Actions G.1 and H.1, require immediate entry into LCO 3.0.3 (i.e., be in Mode 3 in 7 hours and Mode 5 in 37 hours) whenever all redundancy in the AC electrical power supplies has been lost and any further losses in the AC electrical power system will cause a loss of safety function or a loss of safety function has already occurred.

The NRC staff evaluated the following changes to CTS 3.7 to ensure that all changes to the current requirements are acceptable and that ITS LCO 3.8.1 continue to provide plant safe operation and are consistent with NUREG-1431, and applicable regulatory requirements of GDC 17 and 10 CFR 50.36.

CTS 3.7.A.4 requires that the four 480 V safeguards buses 2A, 3A, 5A and 6A are energized. This requirement is maintained in TS 3.8.9, Distribution Systems - Operating. The proposed change adds a Note to new LCO 3.8.1, Required Actions D.1 and D.2, requiring that when Condition D is entered with no AC power source to any train, the Conditions and Required

Actions for LCO 3.8.9,"Distribution Systems - Operating," must be immediately entered. This allows Condition D to provide requirements for the loss of one offsite circuit and one DG, without regard to whether a train is de-energized. Proposed ITS LCO 3.8.9 provides the appropriate restrictions for a de-energized train. The staff finds the proposed change to be conservative and acceptable.

CTS 3.7 and CTS 4.6 do not establish any requirements for the periodic verification of correct breaker alignment and indicated power availability for offsite circuits. The proposed SR 3.8.1.1 is added to require verification every 7 days that each breaker in the offsite circuit is in its correct position. Additionally, LCO 3.8.1, Required Actions A.1 and B.1, are added to require performance of SR 3.8.1.1 within 1 hour and every 8 hours thereafter whenever the number of AC onsite sources or the number of offsite AC sources is one less than required. The staff finds the addition of requirements for periodic verification of correct breaker alignment and indicated power availability for offsite circuits and the frequency of the verification of correct breaker alignment and to increase the frequency of the verification of indicated power availability for offsite circuits whenever the number of AC onsite sources or the number of offsite AC sources is one less than required, to be conservative and acceptable. LCO 3.8.1, Required Action A.3, is added to require that required features with no offsite power automatically available are declared inoperable when its redundant required feature is inoperable within 24 hours from discovery of no offsite power automatically available to one train. The above Action provides assurance that an event coincident with a single failure of the associated DG will not result in a complete loss of redundant required features. The staff finds the proposed change to be conservative and acceptable.

CTS 3.7.B.4 requires that the 6.9 kV bus tie breaker control switches 1-5, 2-5, 3-6, and 4-6 are in the ”pull out” position and tagged to prevent an automatic transfer of the 6.9 kV buses 1,2,3, and 4, when the 13.8 kV offsite source is being used to feed 6.9 kV 5 and 6. The proposed LCO 3.8.1, Required Action A.2, replaces “6.9 kV bus tie breaker control switches 1-5, 2-5, 3-6, and 4-6 in the Central Control Room shall be placed in the “pull-out” position and tagged” with “verify automatic transfer of 6.9 kV buses 1,2,3, and 4 to 6.9 kV bus 5 and 6 is disabled.” Additionally, the licensee relocated the phrase “6.9 kV bus tie breaker control switches 1-5, 2-5, 3-6, and 4-6 in the Central Control Room shall be placed in the “pull-out” position” from TS to the Bases for LCO 3.8.1. In the Bases, however, the word “tagged” was dropped. The staff was not clear as to how the operator will know that the switches are in the “pull-out” position if the switches were not tagged and requested the licensee to provide justification for removing the current requirements of tagging the switches. Subsequently, the licensee revised the Bases for LCO 3.8.1, Required Action A2, to specify that breakers should be tagged in the pull-out position if the automatic transfer function is expected to be disabled for more than one shift. The staff finds the proposed change to be conservative and acceptable.

CTS 4.6.A.1 requires that each month each DG must be manually started and synchronized to its bus or buses and to assume the normal bus load and run for a period of time sufficient to reach stable operating temperatures. The proposed SR 3.8.1.2 and SR 3.8.1.3 maintain these requirements and establish more restrictive acceptance criteria for DG starting and DG loading and the length of the test. Specifically, SR 3.8.1.2 requires that each DG starts from standby conditions and achieves, in less than or equal to 10 seconds, voltage greater than or equal to 426 V and less than or equal to 500 V, and frequency greater than or equal to 58.8 Hz and less than or equal to 61.2 Hz. SR 3.8.1.3 requires that the DG start test is immediately followed by one hour of operation at 90% to 100% of the continuous rating of the DG versus the CTS

requirement to assume the normal bus load. The staff finds the proposed change to be conservative and acceptable.

CTS 4.6 does not include any requirement for periodically checking the DG fuel inventory in the day tanks. The proposed SR 3.8.1.4 adds a new requirement to verify, once per 24 hours, that DG fuel inventory in the day tanks is greater than or equal to 115 gallons. The requirement ensures that the day tank contains sufficient fuel for DG starting and loading following a start signal and that automatic fuel transfer function is working. The staff finds the proposed change to be conservative and acceptable. CTS 4.6 also does not include any requirement for periodically checking for and removing accumulated water from each day tank. The proposed SR 3.8.1.5 adds a new requirement to check for and remove accumulated water from each day tank once every 31 days. The proposed change would reduce the potential for fuel oil degradation due to microbiological fouling and eliminate the potential for water entrainment in the fuel oil during DG operation. CTS 4.6 does not include any requirement for verification of the proper operation of the automatic makeup of fuel oil from the storage tank to the DG day tank. The proposed SR 3.8.1.6 adds a new requirement to verify every 92 days that the fuel oil transfer system operates to automatically transfer fuel oil from the storage tank to each DG day tank. The proposed change ensures that the transfer system will support continuous operation of the DG. The staff finds the proposed change to be conservative and acceptable. CTS 4.6 does not include any requirements to verify the ability to transfer between the 138 kV offsite source and the 13.8 kV offsite source to demonstrate the Operability of the 13.8 kV offsite and/or the ability of this source to power the shutdown loads. The proposed SR 3.8.1.7 adds a new requirement to verify every 24 months that offsite power can be manually transferred from the 138 kV offsite (normal) source to the 13.8 kV offsite (alternate) source to demonstrate the Operability of the 13.8 kV offsite source to power the shutdown loads as is assumed in the UFSAR. However, NUREG-1431 requires that this SR not be performed during Modes 1 & 2. The staff requested the licensee to justify for not having any Mode restriction for this SR. Subsequently, the licensee revised SR 3.8.1.7 to include the following Note: “This SR shall not normally performed in Mode 1 & 2. However this SR may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced.” The staff finds the proposed change to be consistent with NUREG-1431 and, therefore, acceptable.

CTS 3.7 does not include any explicit requirement that automatic transfer function for the 6.9 kV buses must be OPERABLE whenever the 138 kV offsite circuit is supplying 6.9 kV bus 5 or 6 and the Unit Auxiliary Transformer is supplying 6.9 kV bus 1, 2, 3 or 4. The proposed Note to LCO 3.8.1, adds an explicit requirement for the Operability of this function. The staff finds the proposed change to be conservative and acceptable. CTS 4.6 does not include any requirements to verify that 6.9 kV buses 2 and 3, which are powered directly from the main generator via the unit auxiliary transformer when the plant is at power, will auto transfer back to 6.9 kV buses 5 and 6 (i.e., the offsite source) if the main generator trips. The proposed SR 3.8.1.8 adds a new requirement to verify every 24 months that 6.9 kV buses 2 and 3 will auto transfer to 6.9 kV buses 5 and 6 following a loss of voltage on 6.9 kV buses 2 and 3. However, NUREG-1431 requires that testing of transferring power from one source to another must not be performed during Modes 1 & 2. The staff requested the licensee to justify not having any Mode restriction for this SR. Subsequently, the licensee revised SR 3.8.1.8 to include the following Note: “This SR shall not normally performed in Mode 1 & 2 . However, this SR may be performed to reestablish OPERABILITY provided an assessment determines

the safety of the plant is maintained or enhanced." This Note is consistent with NUREG-1431. The staff finds the proposed change to be conservative and acceptable. CTS 4.6 does not include any requirements to verify a DG's automatic trips are bypassed during an emergency DG start. The proposed SR 3.8.1.9 is added to verify every 24 months that a loss of voltage signal on the emergency bus concurrent with an ESF actuation signal causes each DG's automatic trips to be bypassed except for those trips identified in the UFSAR as not being bypassed. The trips not bypassed are engine overspeed, low lube oil pressure, and the start failure relay (i.e., engine over crank). This test is needed to verify that non-critical trips will not prevent the DG from responding as required. The staff finds the proposed change to be conservative and acceptable. CTS 4.6.A.2 requires that at least once every 24 months each diesel generator shall be manually started, synchronized, and loaded up to its continuous (nameplate) and short term ratings. The proposed SR 3.8.1.10 maintains this requirement; however, requires that this endurance run continue for at least 8 hours. Additionally, SR 3.8.1.10 specifies that this endurance run is conducted with the DG loaded between 105% and 110% of the continuous rating (i.e., between 1837 kW and 1925 kW) for greater than or equal 2 hours and between 90% and 100% of the continuous rating (i.e., between 1575 kW and 1750 kW) for the remaining hours of the test. In addition, this test must be conducted with a power factor less than or equal to 0.85 lagging. Although, the proposed change is not consistent with the recommendations of Regulatory Guide 1.9, "Selection, Design, Qualification, And Testing of Emergency Diesel Generator Units used As Class 1E Onsite Electric Power Systems At Nuclear Power Plants," which requires that the DGs be tested for 24 hours, the staff finds the proposed change to test the DGs for 8 hours rather than 24 hours as an improvement over the current requirements. Therefore, the proposed change is acceptable. CTS 4.6.A.3 includes a requirement to verify that the DGs assume their required loads within 60 seconds after the initial start signal; however, CTS 3.7 and CTS 4.6 do not require periodic verification that load timers that auto-connected emergency loads operate within the time interval assumed in the safety analysis. The proposed SR 3.8.1.11 adds a new requirement to verify every 24 months that individual load timers function to auto-connected emergency loads are re-connected to the emergency bus within the time interval assumed in the safety analysis. The staff finds the proposed change to be conservative and acceptable.

CTS 4.6.A.3 requires verification every 24 months of the ability of the plant to respond to a design basis accident with concurrent loss of offsite power. This test requires verification of required bus load shedding, automatic start of each DG, restoration to operation of particular vital equipment via the DG, and verification that the DG powers the required loads within 60 seconds after the initial start signal. The proposed SR 3.8.1.12 maintains this requirement; however, establishes more restrictive acceptance criteria for DG starting. Specifically, SR 3.8.1.12 requires that each DG starts from standby conditions and achieves, in less than or equal to 10 seconds, voltage greater than or equal to 428 V and less than or equal to 500 V, and frequency greater than or equal to 58.8 Hz and less than or equal to 61.2 Hz. This acceptance criteria ensures that the test verifies that the DG achieves the voltage and frequency determined to be suitable for accepting ESF loads within the time assumed in the accident analysis. Additionally, SR 3.8.1.12 requires that the DG operate at the assumed load for a minimum of 5 minutes. Note 3 to SR 3.8.1.12 maintains the allowance in CTS allowing this SR to be conducted with only one safeguards train at a time or with two or three safeguards trains concurrently. The staff finds the proposed change to be conservative and acceptable. CTS 3.7.B.4 requires that the 6.9 kV bus tie breaker control switches 1-5, 2-5, 3-6, and 4-6 are in the "pull-out" position and tagged when the 13.8 kV offsite source is being used to feed

6.9 kV buses 5 and 6. The proposed LCO 3.8.1, Required Action A.2 and associated Note, maintain the requirement to disable automatic transfer of 6.9 kV buses 1, 2, 3, and 4 to the offsite source if the 13.8 kV offsite source is supplying 6.9 kV bus 5 or 6 except that LCO 3.8.1, Required Action A.2 Note, requires this restriction only if “the Unit Auxiliary Transformer is supplying 6.9 kV bus 1, 2, 3 or 4.” This is because it will allow operating one or two reactor coolant pumps supplied by the 13.8 kV offsite source when in Modes 3 or 4 consistent with the administrative controls governing loading of the 13.8 kV offsite source. With one or two RCPs supplied by the 13.8 kV offsite source, the 13.8 kV source retains sufficient capacity to support ESF loads required in Modes 3 and 4. Since it will not permit the plant to be placed in a configuration where a trip of the main generator could overload the 13.8 kV offsite source, the staff finds the proposed change to be acceptable.

CTS 3.7.B.3 allows either the 138 kV or the 13.8 kV offsite source to be inoperable for 24 hours provided the three diesel generators are operable. It also specifies that this allowable out of service time (AOT) may be extended beyond 24 hours if NRC approval is granted. The proposed LCO 3.8.1, Required Action A.4, establishes an AOT of 72 hours for one inoperable offsite source and eliminates the statement that the AOT may be extended with NRC approval. The staff finds the proposed change to be consistent with the recommendations of Regulatory Guide 1.93, “Availability of Electric Power Sources, Revision 0," and therefore acceptable. CTS 3.7.B.1.a, requires that features redundant to the features powered by an inoperable DG must be Operable as a prerequisite for using the 7 day AOT for an inoperable DG. If an inoperable DG supports a feature where the redundant feature is inoperable, then CTS 3.0.1 would require initiation of a reactor shutdown. This requirement ensures that loss of offsite power when a DG is inoperable will not result in a loss of safety function which could happen if both a feature powered from an inoperable DG and its redundant feature (which is inoperable) both fail to perform their required safety function. The proposed LCO 3.8.1, Required Action B.2, maintains the requirement from CTS 3.7.B.1.a, by ensuring that required features supported by an inoperable diesel generator are declared inoperable when its required redundant feature is inoperable; however, LCO 3.8.1, Required Action B.2, allows 4 hours to implement this requirement. If both a DG and a required feature powered from a different DG remain inoperable after the 4 hour Completion Time for Required Action B.2, then TS 3.0.3 would require initiation of a reactor shutdown. The staff finds the 4 hour completion time for Required Action to be a reasonable time to allow the operator to evaluate and repair any discovered inoperabilities before subjecting the plant to the risk caused by the transient associated with shutdown. Therefore, the proposed change is consistent with NUREG-1431, and is acceptable.

CTS 3.7.B.1 requires that the Operable DGs must be tested whenever a DG is declared inoperable for any reason other than preplanned maintenance or testing (based on the presumption there is no need to suspect common mode DG failure when the DG is inoperable for these reasons); however, no completion time is specified. The proposed LCO 3.8.1, Required Actions B.3.1 and B.3.2, maintain the same requirement, however, they allow omitting testing of the Operable DGs even if the DG is inoperable for reasons other than preplanned maintenance or testing if it can be determined that the cause of the DG's inoperability does not exist on the Operable DGs. Otherwise the testing must be completed within 24 hours. The staff finds the proposed change to be consistent with the recommendations of Generic Letter 84-15,”Proposed Actions to Improve and Maintain Diesel Generator Reliability,” to eliminate unnecessary testing and therefore acceptable.

CTS 3.7.B does not specify any Required Actions and Completion Times if more than one DG or more than one offsite source is inoperable or if a DG and offsite source are inoperable concurrently; therefore, CTS 3.0.1 requires that a reactor shutdown is initiated immediately with the reactor in hot shutdown within the next 7 hours and cold shutdown within the following 30 hours. Under the same conditions, the proposed LCO 3.8.1, Required Action C.2, allows 24 hours to restore at least one offsite source if both are inoperable; Required Actions D.1 and D.2, allow 12 hours to restore an offsite source or a DG if one offsite source and one DG are inoperable; and, Required Action E.1, allows 2 hours to restore at least 2 DGs to Operable if 2 or more DGs are inoperable. The licensee states that extending the AOTs for multiple inoperable AC sources is needed because the extended AOTs provide time to allow the operator to evaluate and repair any discovered inoperabilities before subjecting the plant to transients associated with shutdown. The staff finds the proposed changes to be consistent with the recommendations of Regulatory Guide 1.93 and acceptable. These changes are also consistent with the intent of NUREG-1431.

CTS 4.6.A.3 requires verification every 24 months of the ability of the plant to respond to a DBA with concurrent loss of offsite power (LOOP/LOCA test). This test is conducted by simulating a loss of "all normal AC station service power supplies" in conjunction with a simulated Safety Injection Signal (i.e., all three DGs and safeguards power trains are tested concurrently). The proposed SR 3.8.1.12 maintains this requirement; however, SR 3.8.1.12, Note 3, allows the SR to be conducted with only one safeguards power train at a time or with two or three safeguards power trains concurrently. SR 3.8.1.12, Note 2, requires that this test must not be conducted in Modes 1, 2, 3 or 4. Additionally, SR 3.8.1.13 will require a simultaneous start of all three DGs at least once every 10 years if SR 3.8.1.12 is conducted with only one DG at a time during the 10-year interval. The staff concludes that since allowing the LOOP/LOCA test to be conducted with all 3 safeguards power trains concurrently is the current requirement and practice, the proposed option to perform the LOOP/LOCA test with one safeguards power train at a time or with two or three safeguards power trains concurrently will not compromise safety in conducting this test. Therefore, the proposed change is acceptable.

Based on the above review, the staff finds that the proposed changes of ITS 3.8.1 are consistent with the intent of NUREG-1431, and regulatory requirements of GDC 17 and 10 CFR 50.36, do not have an adverse impact upon safety; and therefore, the proposed TS conversion program related to ITS LCO 3.8.1 are acceptable.

(7) ITS LCO 3.8.3 - Diesel Fuel Oil and Starting Air, (DOCs LA1, L1, L2, L3, L4, L5, M1, M2, M3, M4). The licencee proposed to add the following Surveillance Requirements :

(a) ITS SR 3.8.3.1 requirement for verification regarding the EDG fuel oil inventory in the fuel oil storage tanks is relaxed.
(b) Proposed ITS does not adopt STS SR 3.8.3.2 requirement for verification regarding the lube oil inventory.
(c) The licensee added new sections to specify a range of pressure limits and impose LCO and SR for the starting air receivers. CTS does not currently have these requirements.

There are three emergency diesel generators (EDGs) and their associated support systems for IP2. The fuel oil storage and transfer systems for each EDG consist of a 175-gallon day tank, a

7,700 gallon fuel oil storage tank, a transfer pump, and associated piping, valves, instrumentation, and controls. The fuel oil storage and transfer systems for the EDGs at IP2, were designed in such a way that fuel oil can be transferred from one storage tank to feed another EDG in the event of the failure of a fuel supply to an EDG. In addition, the on-site gas turbine fuel oil storage tanks located at the Buchanan Substation are available to store additional fuel oil for IP2 EDGs.

The three EDG fuel oil storage tanks are required to contain a minimum total of 19,000 useable gallons (6334 gallons in the tank associated with each EDG) to ensure that at least two of the three EDGs can operate to power the minimum engineered safety loads for a duration of 73 hours following a loss-of-coolant-accident (LOCA). An additional 29,000 gallons of fuel oil from the on-site gas turbine fuel oil storage tanks located at the Buchanan substation is required to be maintained and reserved for the IP2 EDGs. This additional 29,000 gallons of fuel oil is sufficient for the operation of the minimum required EDGs for an additional 112 hours.

Regulatory Guide (RG) 1.137, Revision 1, "Fuel Oil System for Standby Diesel Generators," endorses American National Standards Institute (ANSI) N195-1976, "Fuel Oil System for Standby Diesel Generators." N195-1976 requires the on-site fuel oil storage be sufficient to operate the minimum number of EDGs required following the DBA for seven days. The minimum fuel oil required to be maintained in the storage tanks is based on either a seven day time-dependent load calculation plus 10% margin, or a more conservative calculation method which assumes that the EDG operates at continuous rated capacity for seven days. CTS Table 4.1-3, Item 7, requires weekly verification of the EDG fuel inventory with a maximum duration of 10 days between verifications. Proposed ITS SR 3.8.3.1 retains the requirement for verification regarding the EDG fuel oil inventory in the fuel oil storage tanks, however, the frequency for the verification is relaxed. ITS SR 3.8.3.1 decreases the SR frequency from weekly to every 31 days. The licensee stated that this relaxation of SR frequency is needed because a weekly SR frequency creates an administrative burden with no commensurate benefit of more prompt discovery of an unanticipated low fuel oil volume in the storage tanks. This 31-day SR frequency is acceptable because unit operators are cognizant of any large uses of EDG fuel oil which may require a special verification of the fuel oil inventory, and administrative controls associated with the operation of the EDGs are capable of ensuring that minimum fuel oil inventories are maintained. In addition, the EDG fuel oil storage tanks are equipped with low level alarms which are set to alarm at the TS minimum fuel oil level. The licensee further stated that this relaxation of SR frequency has no significant adverse impact on safety because a 31-day SR frequency is adequate to ensure the effectiveness of the administrative controls that maintain the tank fuel oil volume within required limits.

Based on our review of the licensee's rationale stated in the submittal, the staff finds that the above proposed conversion of CTS to ITS will have no effects on the total fuel oil inventory required to be stored on site when the reactor is in Modes 1, 2, 3, and 4. The staff concurs with the licensee that the EDGs required to be OPERABLE in MODES 5 and 6 will have sufficient fuel oil in their associated storage tanks to support continuous operation to respond to events in MODES 5 and 6. In addition, the staff concurs with the licensee that a weekly verification of the EDG fuel oil inventory in the fuel oil storage tanks creates an administrative burden with no commensurate benefit of more prompt discovery of an unanticipated low fuel oil volume in the storage tanks. Also, the relaxed SR frequency of once per 31 days is consistent with the guidance described in the STS. Therefore, the staff finds the above proposed conversion of CTS to ITS acceptable.

(b) The proposed ITS does not to adopt STS SR 3.8.3.2 requirement for verification regarding the lube oil inventory. STS Sections 3.8.3 and SR 3.8.3 include LCO and SR, respectively, for the lube oil inventory required for EDGs.

The lube oil inventory maintained for EDGs is required to support the operation of EDGs which provide the standby AC power sources to the plant. It has direct impact on EDG operability, and meets the minimum requirement as described in 10 CFR 50.36(c)(2)(ii) for inclusion in the TS. As stated in the staff's Request for Additional information (RAI), dated October 3, 2002, the staff believed that the proposed ITS should retain the LCO and SR established in the STS for the lube oil inventory required to be maintained for EDGs.

In the RAI response dated November 26, 2002, the licensee stated that the current IP2 CTS do not have explicit requirements for a periodic verification of minimum lube oil inventory required to be maintained for EDGs. However, IP2 has an administrative program in-place for maintaining an onsite inventory of lube oil to support EDG post accident operation. Therefore, IP2 is not adding these STS LCO and SR to the ITS as new requirements for EDG lube oil system. Based on the staff's review of the licensee's rationale, and the fact that the licensee has an administrative program in-place for maintaining a sufficient inventory of lube oil onsite to support the EDG operation, the staff finds IP2 not adopting these STS LCO and SR in their proposed ITS regarding lube oil inventory as new requirements to the proposed ITS acceptable.

(c) In the proposed ITS LCO 3.8.3, the licensee added new sections to specify a range of pressure limits and impose LCO and SR for the starting air receivers. Section SR 3.8.3.5 of the proposed ITS requires to verify that each EDG starting air receiver pressure is $\geq$ 250 psig once per 31 days.

With regard to the air starting system, Standard Review Plan (SRP) Section 9.5.6, "Emergency Diesel Engine Starting System," provides the guidance to size the air receivers. SRP Section 9.5.6, in part, states that as a minimum the air starting system should be capable of cranking a cold diesel engine five times without recharging the air receiver(s). The air starting system capacity should be determined as follows: (1) each cranking cycle duration should be approximately 3 seconds; (2) consist of two to three engine revolutions; or (3) air start requirements per engine start provided by the engine manufacturer; whichever air start requirement is larger. Also, STS Section SR 3.8.3.4 requires verification once per 31 days that each EDG starting air receiver pressure is greater than or equal to the high pressure. STS Section LCO 3.8.3.E requires that when one or more EDG starting air receiver pressure is lower than the high pressure and greater than or equal to the low (minimum) pressure, restore the starting air receiver pressure to greater than or equal to the high pressure within 48 hours.

In the response dated, November 26, 2002, to the staff's RAI, the licensee stated that the current IP2 Technical Specifications do not have explicit requirements for the EDG starting air receivers, and do not specify any required minimum pressure. In the proposed ITS, the licensee added new sections to specify a range of pressure limits and impose LCO and SR for the starting air receivers. Section SR 3.8.3.5 of the proposed ITS requires to verify that each EDG starting air receiver pressure is $\geq$ 250 psig once per 31 days. ITS Section LCO 3.8.3.E requires that when one or more diesel generators with starting air receiver pressure is $<$ 250 psig and $\geq$ 90 psig, restore the starting air receiver pressure to $\geq$ 250 psig within 48 hours.

The licensee stated that this range of pressure limits is supported by Consolidated Edison Calculation No. MMM-00010-00, "Sufficient Storage in EDG Air Receiver Storage," which determined that an air receiver at the pressure of 250 psig is sufficient to support 5 normal EDG starts (i.e., the EDG starts and reaches rated speed within 10 seconds) and, based on vendor input that an air receiver at the pressure of 90 psig will reliably start the diesel. The staff reviewed the licensee's rationale and the IP2 EDG starting air system design and configuration, the staff finds that the above proposed ITS LCO and SR sections, regarding the pressures to be maintained in the starting air receivers for the EDGs, meet the intent of the guidance described in the SRP and in the STS; and therefore, acceptable.

Based on the above overall review and evaluation for the proposed new sections to specify a range of pressure limits and impose LCO and SR for the starting air receivers, the staff concludes that the proposed changes to ITS are consistent with the guidance described in: the STS regarding LCO and SR for EDG fuel oil inventory; N195-1976 regarding the design requirements for the EDG fuel oil inventory; SRP 9.5.4 regarding EDG fuel oil storage and transfer systems; and SRP Section 9.5.6 regarding EDG starting air system. Therefore, the above proposed conversion of IP2 CTS to ITS LCO 3.8.3 is acceptable.

(8) Licensee proposed ITS LCO 3.8.4, "DC Sources - Operating" and associated ITS SR 3.8.4 are less restrictive than CTS 3.7B.5 and CTS 3.7.B.6, (DOCs LA1, L1, L2, M1, M2, M3, M4, M5, M6). CTS 3.7B.5 and CTS 3.7.B.6 allow one of the four batteries to be inoperable for 24 hours if the associated charger is operable or allow one of the four chargers to be inoperable for 24 hours if the associated battery is operable.

The current WOG STS LCO 3.8.4 states that:

> The Train A and Train B DC electrical power subsystems shall be OPERABLE.

In lieu of STS LCO 3.8.4, the licensee proposed the following ITS LCO 3.8.4:

With Required Action A.1 that with one battery charger inoperable, enter Condition B for an inoperable DC electrical power subsystem immediately OR perform required Action A.2.1 to restore battery terminal voltage to its minimum established float voltage within 2 hours and verify battery float current to within its established limit every 12 hours.

The 125 V dc power supplies at Indian Point 2 (IP2) consist of four separate power subsystems, each having its own battery, battery charger and power panel. Each battery is fed from a separate charger and each charger is fed from a separate AC power panel. Under normal conditions, the battery charger supplies the DC loads while maintaining its associated battery at full charge. The battery provides power to the DC loads when the charger is not operable. Each battery can carry its expected shutdown loads for two hours and each charger is capable of recharging its own discharged battery within 15 hours while carrying its normal load.

As indicated above, the licensee proposes Required Actions to Condition A and B in ITS LCO 3.8.4 that address the situation similar to that specified in STS LCO 3.8.4 - when a DC electrical power subsystem is inoperable, by either one charger being inoperable or one DC subsystem being inoperable for reasons other than the inoperability of the associated charger, Required

Actions A.1, A.1.2, B 1.1, and B1.2 require verification that DC control power supplied by the inoperable battery and/or charger is either being supplied by the alternate source or that the automatic transfer switch that will cause the transfer to the alternate source is OPERABLE. Additionally, Required Action B.2 requires verification that inverters associated with all other DC electrical power subsystems are OPERABLE. This ensures that requirements in LCO 3.8.7, "Inverters - Operating," are met if the inoperable battery and/or changer have caused the associated static inverter to transfer to an alternate source. This Required Action also recognizes there is increased potential that the static inverter will transfer to the alternate source during an accident or transient. The 2-hour Completion Time reflects a reasonable time to assess unit status as a function of the inoperable DC electrical power subsystem and, if alternate source of power for DC control power and the static inverter are not available, to initiate an orderly and safe unit shutdown. This is acceptable as this change does not introduce any operation which is un-analyzed.

Required Action B.3 requires that an inoperable electrical power subsystem be restored within 24 hours. A Completion Time of 24 hours for restoration of an inoperable DC electrical power subsystem is justified by the availability of alternate sources of control power for equipment supported by the inoperable battery and/or charger. Additionally, Completion Time of 24 hours is consistent with the allowable out of service time for RTS and ESFAS Instrumentation actuation logic trains in LCO 3.3.1,"Reactor Trip System (RTS) Instrumentation," and LCO 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation." This is acceptable as the IP-2 design provides for the automatic transfer of both DC control power and the vital instrument bus to an alternate source.

The licensee proposes to revise the following SURVEILLANCE REQUIREMENTS:

a. SR 3.8.4.2 to verify each battery charger supplies $\geq$ 250 amps at greater than or equal to the minimum established float voltage for $\geq$ 2 hours at interval of 24 months.
OR
Verify each battery charger can recharge the battery to the fully charged state within 15 hours while supplying the largest combined demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state to the following:

b. SR 3.8.4.2 to verify each battery charger supplies its associated battery at the voltage and current adequate to demonstrate battery charger capability requirements are met at interval of 24 months.

Based on the above review, the staff finds the proposed ITS SR 3.8.4.2 as proposed by the licensee to be consistent with the standard technical specification NUREG-1431, Revision 2.

The licensee proposes two modifications to STS SR 3.8.4.3: (a) in note 1 reference to SR 3.8.6.6 is revised to be 3.8.6.5. This is an editorial correction and is acceptable; and (b) the Frequency of the service test of the battery is increased from 18 months to 24 months. This test is a special test of the battery capability, as found, to satisfy the design requirement of the DC electrical power system. The Frequency of 24 month is acceptable as it is consistent with the expected fuel cycle length and recommendations of RG 1.32 and RG 1.129 which state that the battery service test should be performed during refueling operations.

The licensee proposes to add the following SR 3.8.4.4 to the ITS which is also beyond the scope of STS LCO 3.8.4:

SR 3.8.4.4: Verify every 24 months that each DC control power transfer switch will function as follows: (a) transfers from the preferred source to the alternate source when the preferred source voltage is less than the specified limit; and (b) transfers from the alternate source to the preferred source when the preferred source voltage is greater than the specified limit.
SR 3.8.4.4 is modified by a NOTE that states this SR is "not required to be met unless needed to satisfy requirement of Required Action A.1.2" which is an OR requirement to verify by administrative means that associated DC control power autotransfer switch is OPERABLE. The purpose of this ITS SR 3.8.4.4 is to verify every 24 months that the alternate source of the DC power subsystem will be connected immediately on degradation or loss of the preferred source. Also, the requirements are consistent with the current licensing basis for confirming that the DC power subsystem will be transferred to the preferred source when the preferred source is restored. This is acceptable as it confirms that the DC power transfer switch will function properly and that the frequency of 24 months is consistent with the expected fuel cycle.

Based on the above review, the staff concludes that the proposed ITS LCO 3.8.4 and its associated ITS SRs do not affect IP2's compliance with the requirements of GDC 17 and, therefore, are acceptable.

(9) Licensee proposed ITS LCO 3.8.6 did not include a requirement to verify battery float current every 7 days and the associated conditions (DOCs LA1, LA2, LA3, L1, L2, M1, M2, M3, M4, M5). The original proposed ITS 3.8.6 was deviated from STS 3.8.6 that specified this 7-days interval requirement.

CTS 4.6.c.1 and 4.6.c.2 identify existing SRs for the station batteries, as follows: "Every month, the voltage of each cell, the specific gravity and temperature of a pilot cell in each battery and each battery voltage shall be measured and recorded," and "Every 3 months, each battery shall be subjected to a 24-hour equalizing charge, and the specific gravity of each cell, the temperature reading of every fifth cell, the height of electrolyte, and the amount of water added shall be measured and recorded." The licensee did not adopt STS SR 3.8.6 which requires that the float current of each battery be verified at an interval of 7 days. The remaining proposed ITS SRs have no surveillance activities at the 7-day interval; thus, the operability for each battery is not determined until other proposed SRs are conducted at 31-day interval. This was not acceptable.

In response to the staff's RAI, the licensee proposed the following: (1) that IP2 is maintaining the following CTS requirements: Monthly verification of battery pilot cell voltage and temperature and electrolyte level of all cells; (2) that IP2 to perform Quarterly verification of each connected cell voltage; and (3) that proposed ITS 5.5.15, "Battery Monitoring and Maintenance Program" will implement a formal program that provides for battery maintenance and restoration from a degraded condition based on the recommendations of IEEE Standard 450-1995 "Recommended Practice for Maintenance, Testing and Replacement of Vented Lead-Acid Batteries for

Stationary Applications." In addition the licensee acknowledge that "The most accurate indicator of a return to full charge is a stabilized charging or float current of the battery."

Based on the above review, the staff verified in the IP2 supplemental submittal that the licensee has revised their proposed ITS LCO 3.8.6 to include a requirement to verify battery float current every 7 days and the associated conditions. STS 3.8.6.1 provides a bracketed value of $\leq$ 2 amps as a typical float current of a fully charged battery. The brackets indicates that a plant specific value must be used. IP2 does not have instrumentation installed to measure the float current of the batteries, thus clamp type DC ammeters are used to monitor the float current with accuracy of 0.6 amps to 1 amp when used in the range of the float current associated with a fully charged battery; additionally; the staff finds the IP2 configuration of the cables (three separate cables for battery 21, two separate cables for battery 22, one cable for battery 23 and one cable for battery 24 that connect the batteries to the DC bus and the capacities ratings of the batteries, the limits of 5 amps for batteries 21 and 22 and 3 amps for batteries 23 and 24 are acceptable values to determine the state of charge of each battery. Therefore, the staff concludes that the proposed changes do not affect IP2's compliance with the requirements of GDC 17 and, therefore, the proposed ITS LCO 3.8.6 is acceptable.

(10) Licensee proposed ITS LCO 3.8.7, "Inverter - Operating" originally limits the time the inverter may be inoperable to 7days in its March 27, 2002, submittal. The staff was concerned that the 7-day LCO was too long and also was not consistent with NUREG-1431.

CTS 3.7 does not include any requirements for inverters that support the 118-volt instrument buses and does not include any restriction on the number or the amount of time that instrument buses may be powered from constant voltage transformers that act as backups to the inverters. Additionally, there are no CTS requirements for the periodic verification that inverter voltage and frequency are within required limits and that breaker alignment is correct. The proposed LCO 3.8.7 requires that the inverters supplying each of the four 118 V AC instrument buses must be Operable in Modes 1, 2, 3, and 4.

Originally, the licensee proposed LCO 3.8.7, Condition A and Required Action A.1, limited the time the inverter may be inoperable to 7 days in its March 27, 2002, submittal. Otherwise, Required Actions B.1 and B.2, require that the reactor be in Mode 3 within 6 hours and Mode 5 within 36 hours. The staff was concerned that the 7-day LCO was too long and also was not consistent with NUREG-1431. The staff requested the licensee to provide justification for having the 7-day LCO in lieu of 24 hours as recommended in NUREG-1431. Subsequently, the licensee revised LCO 3.8.7 to reduce the LCO from 7 days to 24 hours.

LCO 3.8.7 Actions are modified by a note requiring the entry into the Conditions and Required Actions of LCO 3.8.9, "Distribution Systems - Operating," if an inoperable inverter results in a 120 volt AC instrument bus being de-energized (i.e., neither the inverter nor backup 480 V/120 V constant voltage transformer is supplying the bus). SR 3.8.7.1 establishes a new requirement for periodic verification that the inverters are functioning properly (i.e., voltage and frequency with acceptable limits) with all required circuit breakers closed and AC buses energized from the inverter.

Based on the above review, the staff concludes that the proposed change to include a restriction on the number or the amount of time that instrument buses may be powered from constant

voltage transformers that act as backups to the inverters and the requirements for the periodic verification that inverter voltage and frequency are within required limits and that breaker alignment is correct, is an improvement over the current requirements. Therefore, the staff finds the proposed change to ITS LCO 3.8.7 and associated SR 3.8.7.1 to be conservative, consistent with the intent of NUREG-1431, Revision 2, in compliance with the requirements of GDC 17 and therefore acceptable.

(11) Licensee proposed ITS 5.5.11, Diesel Fuel Oil Testing Program, is deviated form that of STS 5.5.13 while the current CTS or UFSAR have any requirements for testing diesel fuel oil (DOC M1). Proposed ITS 5.5.11 adds new program, Diesel Fuel Oil Testing, to require that a diesel fuel oil testing program is maintained with specific TS requirements for acceptance criteria and testing frequency.

IP2 design and licensing basis requires that each DG has an onsite underground storage tank containing oil for 48 hours of minimum safeguards load and a DG fuel oil reserve with sufficient fuel to support an additional 5 days of operation. ITS 5.5.11 will establish separate fuel oil testing programs for onsite underground storage tanks and the DG fuel oil reserve tanks. The proposed ITS adds to the Administrative Control Section of the TS a new diesel fuel oil testing program. It also incorporates several editorial changes in order to make the ITS consistent with the STS. With a few exceptions, this program follows the requirements specified in the STS.

Although, in general, the diesel fuel oil testing program proposed by the licensee in ITS 5.5.11 conforms to the corresponding program in STS 5.5.13 of NUREG-1431, Revision 2 for Westinghouse plants, several deviations exist. These deviations are listed below:

(1) In the scope of the diesel fuel testing program, a statement is added specifying that the program applies to the onsite diesel fuel oil storage tanks and the reserve diesel fuel oil storage tanks. The reason for this additional statement is to clarify that program requirements apply to both the onsite storage tanks and the offsite reserve storage tanks.

(2) In the tests for determining acceptability of new fuel oil for use prior to its addition to the storage tanks, the ITS does not include measurement of the fuel oil flash point. The licensee justifies this deviation by referencing the specification in RG 1.137 which does not include flash point determination for the new oil to be added to the supply tanks.

(3) The ITS broadens the requirements for verification of the new diesel fuel oil properties following its addition to the storage tanks. The ITS proposed two options. Verification can be satisfied by either sampling the new fuel oil or sampling the post addition fuel oil from the tank. These two options are needed because fuel storage tanks in the Indian Point plant are shared between the diesel generator in the nuclear plant and the gas turbine peaking unit. In both cases, different diesel fuel oil management procedures are used.

(4) In the ITS, sampling of diesel fuel oil in the fuel oil reserve tanks deviates from the procedure specified in the STS, because fuel oil sampling is limited to taking samples only from the bottom of the tank. This limitation is due to the configuration of the reserve storage tank which does not permit sampling other than from the bottom.

The licensee introduced the above modifications to the STS 3.8.13 procedures to make the diesel fuel oil testing program applicable to the specific situations existing in the IP2 plant. Sharing the fuel oil tanks by diesel generator and gas turbine required special test procedures and a specific design of the fuel reserve storage tanks limited fuel oil sampling to taking bottom tank samples only. However, these changes were not significant enough to make proposed ITS 5.5.11 meaningfully different from the STS of NUREG-1431. The removal of the requirement for flash point measurement in the ITS was justified by the licensee by referencing the diesel fuel oil testing procedure in RG 1.137.

Based on the above review, the staff concludes that the licensee proposed diesel fuel testing program will provide the required guidance for controlling diesel fuel oil quality and will contribute to the efficient plant operation. Therefore, the proposed ITS 5.5.11 is acceptable.

4.0 COMMITMENTS RELIED UPON

In reviewing the proposed ITS conversion for IP2 the staff has relied upon the licensee commitment to relocate certain requirements from the CTS to licensee-controlled documents as described in Table R, “Relocated Items,” Table LA, “Removed Details and Less Restrictive Administrative Changes to the CTS,” attached to this SE. This table reflects the relocations described in the licensee’s submittals on the conversion. The staff requested and the licensee submitted a license condition to make this commitment enforceable (see Section 5.0). Such a commitment from the licensee is important to the ITS conversion because the acceptability of removing certain requirements from the TS is based on those requirements being relocated to licensee-controlled documents where further changes to the requirements will be controlled by regulations or other requirements (e.g., in accordance with 10 CFR 50.59).

5.0 LICENSE CONDITIONS

A license condition to define the schedule to begin performing the new and revised SRs after the implementation of the ITS is to be included in the license amendment issuing the ITS. This schedule is:

- For SRs that are new in this amendment, the first performance is due at the end of the first surveillance interval that begins on the date of implementation of this amendment.

- For SRs that existed prior to this amendment whose intervals of performance are being reduced, the first reduced surveillance interval begins upon completion of the first surveillance performed after implementation of this amendment.

- For SRs that existed prior to this amendment that have modified acceptance criteria, the first performance is due at the end of the first surveillance interval that began on the date the surveillance was last performed prior to the implementation of this amendment.

- For SRs that existed prior to this amendment whose intervals of performance are being extended, the first extended surveillance interval begins upon completion of the last surveillance performed prior to the implementation of this amendment.

The staff has reviewed the above schedule for the licensee to begin performing the new and revised SRs and concludes that it is an acceptable schedule.

Also, a license condition is to be included that will enforce the relocation of requirements from the CTS to licensee-controlled documents. The relocations are provided in Table R, "Relocated Items," and Section 3.E above, "Relocated Entire CTS Specifications." The license condition states that the relocations would be completed no later than the implementation date of this license amendment, and the relocations to the FSAR shall be reflected in updates completed in accordance with 10 CFR 50.71(e). This schedule is acceptable.

6.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New York State official was notified of the proposed issuance of the ITS conversion amendment for IP2. The State official had no comments.

7.0 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 ~~September xx, 2003 (XX FR xxxxx)~~, for the proposed conversion of the CTS to ITS for IP2. 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.

With respect to other changes included in the application for conversion to Improve Technical Specifications the items change requirements with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments required by these other changes involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission issued proposed findings that the amendments required by these other changes involve no significant hazards consideration, and there has been no public comment on these findings published in the *Federal Register* on September 26, 2003 (68 FR 55660). Accordingly, these changes meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the implementation of these changes.

8.0 CONCLUSION

The IP2 ITS provides clearer, more readily understandable requirements to ensure safe operation of the plant. The NRC staff concludes that the ITS for IP2 satisfy the guidance in the Final Policy Statement on TS improvements for nuclear power reactors with regard to the content of TS, and conform to the STS provided in NUREG-1431, Revision 2, with appropriate modifications for plant-specific considerations. The NRC staff further concludes that the 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 ITS for IP2 are acceptable.

The NRC staff has also reviewed the plant-specific changes to the CTS as described in this SE. On the basis of the evaluations described herein for each of the changes, the NRC staff also 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 amendment will not be inimical to the common defense and security, or to the health and safety of the public.

Attachments:
1. List of Acronyms
2. Table A of Administrative Changes to the CTS
3. Table M of More Restrictive Changes to the CTS
4. Table L of Less Restrictive Changes to the CTS
5. Table LA of Removed Details & Less Restrictive Administrative Changes to the CTS
6. Table R of Relocated Specifications from the CTS

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Date: October 2, 2003

List of Acronyms

AC	Air Conditioning or Alternating Current
AFD	Axial Flux Difference
AOT	Allowed Outage Time
APRM	Average Power Range Monitor
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATWS	Anticipated Transient Without Scram
ATWS-RPT	Anticipated Transient Without Scram - Recirculation Pump Trip
BPWS	Banked Position Withdrawal Sequence
PWR	Pressurized Water Reactor
WOG	Westinghouse Owners Group
CCW	Component Cooling Water
CW	City Water
CFR	Code of Federal Regulations
CFT	Channel Functional Test
COLR	Core Operating Limits Report
CRACS	Control Room Air Conditioning System
CRD	Control Rod Drive
CREF	Control Room Envelope Filtration
CRVS	Control Room Ventilation System
CRWA	Control Rod Withdrawal Accident
CST	Condensate Storage Tank
CTS	Current Technical Specification
DBA	Design-Basis Accident
DC	Direct Current
DG	Diesel Generator
DNB	Departure from Nucleate Boiling
DOC	Discussion of Change (from the CTS)
ECCS	Emergency Core Cooling System
EDG	Emergency Diesel Generator
EOC-RPT	End of Cycle - Recirculation Pump Trip
EPA	Electrical Protection Assembly
ESF	Engineered Safeguard Feature
FR	Federal Register
FRTP	Fraction of Rated Thermal Power
FSBEVS	Fuel Storage Building Emergency Ventilation System
GDC	General Design Criteria
GE	General Electric
HEPA	High Efficiency Particulate Air
Hz	Hertz
IRM	Intermediate Range Monitor
ISI	Inservice Inspection
IVSW	Isolation Valve Seal Water
ITS	Improved (converted) Technical Specifications
Kv	Kilovolt
kW	Kilowatt

LCO	Limiting Condition for Operation
LLS	Low-Low Set
LOCA	Loss of Coolant Accident
LOOP	Loss of Offsite Power
LOP	Loss of Power
LPCS	Low Pressure Core Spray
LPRM	Local Power Range Monitor
LSFT	Logic System Functional Test
LTOP	Low Temperature Overpressure Protection
MG	Motor Generator
MSIV	Main Steam Isolation Valve
MTC	Moderator Temperature Coefficient
MWD/T	Megawatt Days/short Ton
IP3	Indian Point Unit 3
NUMAC	Nuclear Measurement Analysis and Control
ODCM	Offsite Dose Calculation Manual
PAM	Post-Accident Monitoring
PIV	Pressure Isolation Valve
P/T	Pressure/Temperature
PORV	Power Operated Relief Valve
QA	Quality Assurance
QPTR	Quadrant Power Tilt Ratio
RAI	Request for Additional Information
RBM	Rod Block Monitor
RCS	Reactor Coolant System
RCIC	Reactor Core Isolation Cooling
RCS	Reactor Coolant System
RG	Regulatory Guide
RHR	Residual Heat Removal
RPS	Reactor Protection System
RPV	Reactor Pressure Vessel
RSCS	Rod Sequence Control System
RTP	Rated Thermal Power
RWCU	Reactor Water Cleanup
RWM	Rod Worth Minimizer
RWST	Reactor Water Storage Tank
SCIV	Secondary Containment Isolation Valve
SDC	Shutdown Cooling
SDM	Shutdown Margin
SDV	Scram Discharge Volume
SE	Safety Evaluation
SER	Safety Evaluation Report
SG	Steam Generator
SGT	Standby Gas Treatment
SLC	Standby Liquid Control
SR	Surveillance Requirement
SRM	Source Range Monitor
SRV	Safety/Relief Valve
SSER	Supplemental Safety Evaluation Report

STS	Improved Standard Technical Specification(s), NUREG-1431, Rev. 1
SW	Service Water
TRM	Technical Requirements Manual
TS	Technical Specifications
TSTF	Technical Specifications Task Force (re: generic changes to the STS)
UHS	Ultimate Heat Sink
UPS	Uninterruptible Power Supply
FSAR	Final Safety Analysis Report
V	Volt
VAC	Volts Alternating Current
VFTP	Ventilation Filter Test Program