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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION RELATED TO AMENDMENT NO. 210 TO FACILITY OPERATING LICENSE NO. DPR-44 AND AMENDMENT NO. 214 TO FACILITY OPERATING LICENSE NO. DPR-56 PECO ENERGY COMPANY PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3 DOCKET NOS. 50-277 AND 50-278

1. INTRODUCTION AND BACKGROUND

1.0 Introduction

Peach Bottom Atomic Power Station (PBAPS) Units 2 and 3 have been operating with technical specifications (TS) issued with the original operating licenses on August 8, 1973, and July 2, 1974, respectively, as amended from time to time over the years. By letter dated September 29, 1994, and supplemented by letters dated March 3, March 30, May 4 (two letters), May 8, May 9, May 16, May 24, May 25, May 26, June 7, July 13, July 21, August 4 (two letters), August 11, and August 28, 1995, the PECO Energy Company (PECO or licensee) proposed to amend Appendices A and B of Operating License Nos. DPR-44 and DPR-56 to revise, in their entirety, the PBAPS Units 2 and 3 TS. The proposed amendments were based on NUREG-1433, "Standard Technical Specifications - General Electric Plants, BWR/4," dated September 1992, as revised through April 1995, in accordance with the improved standard technical specifications (STS) generic change process, and on guidance in the "NRC Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors" (Final Policy Statement), published on July 22, 1993 (58 FR 39132). In addition, PECO proposed two changes to the current TS (CTS) which were also generic changes being considered for the STS. PECO was informed by letter dated July 20, 1995, from Joseph W. Shea (NRC) to George A. Hunger, Jr. (PECO), that the staff would approve these two changes in the PBAPS proposed improved TS (ITS) only if the corresponding STS changes were approved prior to issuance of this amendment. Subsequently, the staff approved one of these changes to the STS. The corresponding change to the PBAPS CTS is discussed in Section 2.3.3.1.C(5) of this safety evaluation. The second change to the STS has not been approved, and therefore, is not reflected in the PBAPS ITS.

The overall objective of the proposed amendments, consistent with the Final Policy Statement, was to completely rewrite, reformat, and streamline the current TS (CTS) for PBAPS Units 2 and 3. In addition to basing the proposed improved TS (ITS) on the STS and the Final Policy Statement, the licensee used portions of the CTS as a basis for the ITS. Plant-specific issues, including plant-unique design features, plant-unique requirements, and plant-unique operating practices were discussed with the licensee during a series of meetings concluding on May 22, 1995. Consistent with the Final Policy Statement, PECO proposed transferring some CTS requirements to licensee-controlled documents. In addition, human factors principles were emphasized to add clarity and understanding 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 Commission's proposed action on the PBAPS license amendment request was published in the *Federal Register* on December 14, 1994 (59 FR 64436) and May 19, 1995 (60 FR 26905). Additional changes in the licensee's ITS proposal, submitted by letters dated May 16, July 7, July 13, July 21, August 11, and August 28, 1995, that resulted from discussions with the licensee during the staff's review, are discussed in this safety evaluation. These changes serve to clarify the ITS with respect to the guidance in the Final Policy Statement and the STS. Therefore, the changes are within the scope of the action described in the initial *Federal Register* notice.

During its review, the NRC staff relied on the Final Policy Statement and on the STS. This safety evaluation documents the basis for the staff's conclusion that PBAPS can convert its CTS to those based on the STS, as modified by plant-specific changes, and that the use of the ITS is acceptable for continued operation of both units. The staff also acknowledges that, in accordance with the Final Policy Statement, the conversion to the STS is a voluntary process. Therefore, the ITS for each unit reflect some differences that correspond to the existing licensing basis. The staff has reviewed the changes to the CTS and has explained the significant changes in this safety evaluation. For ease of use, this safety evaluation is organized in parallel with the presentation order of the ITS, which is the same as the presentation order in the STS.

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

1.1 Background

Section 182a. of the Atomic Energy Act requires that applicants for nuclear power plant operating licenses shall 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 those matters related to 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." Statement of Consideration, "Technical Specifications for Facility Licenses; Safety Analysis Reports," 33 FR 18610

(December 17, 1968). Pursuant to 10 CFR 50.36, TS are required to include items in the following five specific categories: (1) safety limits, limiting safety system settings and limiting control settings; (2) limiting conditions for operation; (3) surveillance requirements; (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, the NRC and industry representatives have sought to develop guidelines for improving the content and quality of nuclear power plant TS. On February 6, 1987, the Commission issued its "Interim Policy Statement on Technical Specification Improvements for Nuclear Power Reactors" (52 FR 3788) (Interim Policy Statement). During the period between 1989 and 1992, the Nuclear Steam Supply System (NSSS) Owners Groups and the NRC staff developed improved STS that would establish models of the Commission's policy for each primary reactor type. In addition, the staff, licensees, and Owners Groups developed generic administrative and editorial guidelines in the form of a "Writers Guide" for preparing technical specifications, which gives greater consideration to human factors principles and which has been used throughout the development of licensee-specific ITS.

In September 1992, the Commission issued the improved STS (with associated STS Bases) as Revision 0 of NUREG-1433, which was developed utilizing the guidance and criteria in the Commission's Interim Policy Statement. It was established as a model for developing ITS for the BWR/4 plants in general and for the PBAPS Units 2 and 3 ITS specifically. The STS and associated Bases (NUREG-1433, as revised in accordance with the improved STS generic change process through April 1995), reflect the results of a detailed review of the application of the criteria in the Interim Policy Statement to generic system functions, which were published in a "split report" issued to the NSSS Owners Groups in May 1988. The STS also reflect the results of extensive discussions on various drafts of improved STS, so that the application of the TS criteria and the Writers Guide would consistently reflect detailed system configurations and operating characteristics for all NSSS designs. As such, the STS Bases offer an abundance of generic information regarding the extent to which the STS present requirements which are necessary to protect the public health and safety.

On July 22, 1993, the Commission issued its Final Policy Statement, expressing its view that TS which conform to the guidance in the Final Policy Statement also meet the requirements of Section 182a. of the Atomic Energy Act and 10 CFR 50.36. The Final Policy Statement described the safety benefits of converting to the STS and encouraged licensees to use the STS as the basis for plant-specific TS amendments, and for complete conversions to the STS. Further, the Final Policy Statement gave guidance for evaluating the required scope of the TS, and defined the criteria to be used in determining which of the LCOs should remain in the TS. The Commission noted that, in allowing certain items to be relocated to licensee-controlled documents while requiring that other items be retained in the TS, it was adopting the qualitative standard enunciated by the Atomic Safety and Licensing Appeal Board in *Portland General Electric 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.

In accordance with this approach, existing LCO requirements that fall within or satisfy any of the criteria in the Final Policy Statement should be retained in the TS; those LCO requirements that do not fall within or satisfy these criteria may be relocated to licensee-controlled documents. On July 19, 1995, the TS rule, 10 CFR 50.36, was revised to incorporate these same criteria (60 FR 36953). The 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 risk assessment has shown to be significant to public health and safety.

In its license amendment application, the licensee proposed changes to CTS requirements using the Final Policy Statement and the STS as guidance. Some of the specifications proposed by the licensee differ from the STS because of differences between the plant-specific licensing basis and the design basis provided in the STS Bases.

Part 2 of this safety evaluation explains how the staff has concluded that the conversion of the PBAPS Units 2 and 3 CTS to those based on the STS, as modified by plant specific changes, is consistent with the PBAPS current licensing basis and the requirements and guidance of the Final Policy Statement and 10 CFR 50.36.

2. EVALUATION

2.0 Safety Evaluation Format and TS Change Categories

This section explains the format of Part 2 of this safety evaluation and describes the categories of changes to the CTS requirements.

2.0.1 Format of Part 2 of This Safety Evaluation

Sections 2.1 through 2.5 of this safety evaluation describe changes to Appendix A of the PBAPS CTS and parallel the order of presentation of ITS Sections 1.0 through 5.0. Section 2.6 of this safety evaluation describes changes to Appendix B of the PBAPS CTS. Within each section, changes to the CTS related to the scope of requirements of that section are described. In Sections 2.2 through 2.6, the changes are described in four separate categories (explained below). In addition, in Section 2.2 through 2.5, significant differences between the STS and the ITS are described.

A small number of changes apply to only one of the two PBAPS operating units. In such cases, the safety evaluation will specifically identify the unit to which the change applies.

2.0.2 Categories of TS Changes Discussed in This Safety Evaluation

In this safety evaluation, the licensee's proposed changes to its CTS requirements are grouped into four general categories as follows: administrative, i.e., non-technical changes; relocated requirements, i.e., movement of requirements from the CTS (an NRC-controlled document) to specified licensee-controlled documents; more restrictive requirements, i.e., additions to the CTS; and less restrictive requirements, i.e., relaxations or deletions from the CTS requirements. These four general categories of changes to the licensee's CTS requirements may be better understood as follows.

2.0.2.1 Relocated Requirements

As summarized above, the Final Policy Statement states that CTS requirements that do not satisfy or fall within any of the four specified criteria may be relocated to appropriate licensee-controlled documents. In the licensee's application, such requirements are generally relocated to the Technical Requirements Manual (TRM) or the Updated Final Safety Analysis Report (UFSAR).

In addition to entire specifications that do not satisfy any of the four criteria in the Final Policy Statement, information in the CTS falling within the following categories is being relocated:

A. details of system design
B. procedural details for system operation
C. procedural details for action and surveillance requirement performance
D. requirements for indication-only instrumentation and alarms
E. post-maintenance testing requirements
F. preventive maintenance requirements

In the licensee's application, such requirements are generally relocated to the TRM, the UFSAR, the ITS Bases, or plant procedures. Such detailed information is not necessary to ensure the effectiveness of the ITS to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety.

The general types of detailed information and requirements described above that are being relocated from the CTS to licensee-controlled documents are summarized in Table 1. The licensee stated that the actual location of the some of these relocated requirements may change during implementation of the ITS, but only to other documents identified in Table 1 which have the same control mechanism as that currently identified for the particular requirement.

The facility and procedures described in the UFSAR and TS Bases can only be revised in accordance with the provisions of 10 CFR 50.59, which ensures an auditable and appropriate control over the relocated requirements and over any future changes to these provisions. Many of the CTS requirements are being relocated to various plant procedures or the TRM. These requirements are or will be incorporated by reference into the UFSAR such that changes to them will be subject to the requirements of 10 CFR 50.59. Other licensee-controlled documents contain provisions for making changes consistent with other applicable regulatory requirements; for example, the Offsite Dose Calculation Manual (ODCM) can be changed in accordance with 10 CFR Part 20; the emergency plan implementing procedures can be changed in accordance with 10 CFR 50.54(q); and the administrative instructions that implement the Quality Assurance Manual 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 PECO QA plan for PBAPS and such applicable regulations as 10 CFR 50.59.

Although the UFSAR already contains most of the design information described above, the licensee committed by letter dated August 28, 1995, to confirm that these provisions will be appropriately reflected in the UFSAR, the TRM, the ITS Bases, or plant procedures, and to maintain an auditable record of changes to these provisions. The licensee also committed to maintain an auditable record of and an implementation schedule for the procedure changes associated with the development of the ITS. In addition, the licensee will maintain the documentation of these changes in accordance with the record retention requirements in the QA plan.

As described in more detail in this evaluation, the staff concludes that appropriate controls have been identified for all of the requirements that are being relocated from the CTS to licensee-controlled documents. Until incorporated in the UFSAR, ITS Bases, TRM, and procedures, changes to the provisions being relocated from the CTS will be controlled in accordance with the applicable current procedures that control these documents. The NRC will audit the relocated requirements following implementation to ensure that an appropriate level of control has been achieved. The staff concludes that, in accordance with the Final Policy Statement, sufficient regulatory controls exist under the regulations, particularly in 10 CFR 50.59. Accordingly, these requirements, as described in detail in this safety evaluation, may be taken from the CTS and relocated to the UFSAR or to other licensee-controlled documents as specified herein.

2.0.2.2 Less Restrictive Requirements

Less restrictive requirements are justified on a case-by-case basis as discussed in Sections 2.1 through 2.5 of this safety evaluation. When requirements have been shown to provide 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 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 licensee's design was also reviewed to determine if the specific design basis and licensing basis are consistent with the technical basis for the model requirements in the STS, and thus provide a basis for the ITS.

2.0.2.3 More Restrictive Requirements

The ITS contain certain more restrictive requirements than the CTS, which are either more conservative than corresponding requirements in the CTS, or are 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.

2.0.2.4 Administrative Changes

Administrative (non-technical) changes were intended to incorporate human factors principles into the form and structure of the ITS so that the plant operations personnel could 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 PBAPS have used the STS as guidance to reformat and make other administrative changes. PBAPS has proposed such changes as:

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

B. identifying plant-specific wording for system names, etc.

C. providing minor changes to STS wording

The staff has reviewed all of the administrative and editorial changes proposed by the licensee and finds them acceptable, since they are compatible with the Writers Guide and the STS, and are consistent with the Commission's regulations. The more significant administrative changes are discussed individually in this safety evaluation.

The following sections explain the staff's reasons for concluding that the conversion of the licensee's CTS to ITS based on the STS, as modified by plant specific changes, is consistent with the current plant-specific licensing basis, applicable regulatory requirements and guidance of the Final Policy Statement and 10 CFR 50.36, and is acceptable.

2.1 Use and Application (ITS Chapter 1.0)

2.1.1 Definitions (ITS Section 1.1)

The following definitions have been retained in the PBAPS ITS. Some editorial changes have been made so that these defined terms are consistent with the STS and with PBAPS plant-specific terminology. The modifications have been accepted by the licensee, and the resulting definitions do not change the intent of the definitions as found in the STS. Therefore, these definitions are acceptable for PBAPS.

AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR)
CHANNEL CALIBRATION
CHANNEL CHECK
CHANNEL FUNCTIONAL TEST
CORE ALTERATION
CORE OPERATING LIMITS REPORT (COLR)
DOSE EQUIVALENT I-131
LOGIC SYSTEM FUNCTIONAL TEST
MINIMUM CRITICAL POWER RATIO (MCPR)
MODE
OPERABLE-OPERABILITY
RATED THERMAL POWER (RTP)

New definitions for ACTIONS, L_a, LEAKAGE, LINEAR HEAT GENERATION RATE, PHYSICS TESTS, REACTOR PROTECTION SYSTEM (RPS) RESPONSE TIME, SHUTDOWN MARGIN, STAGGERED TEST BASIS, THERMAL POWER, AND TURBINE BYPASS SYSTEM RESPONSE TIME were added to the PBAPS ITS. These new definitions are compatible with changes made throughout the PBAPS ITS to clarify the related requirements and to reduce the likelihood of misinterpretation of the ITS. The new PBAPS definitions were also defined in the STS.

2.1.1.1 Relocated Requirements

There are no relocated CTS requirements associated with ITS Section 1.1.

2.1.1.2 Less Restrictive Technical Changes

The licensee, in electing to implement the STS Section 1.1 specifications, proposed a number of less restrictive conditions than are allowed by the CTS. The more significant relaxations are as follows:

A. The CTS definition, Alteration of the Reactor Core (Core Alteration), is being revised so that the term will apply only to those activities that create the potential for a reactivity excursion and, therefore, warrant special precautions or controls in the TS.

   Currently, an Alteration of the Reactor Core (Core Alteration) is defined as "the act of moving any component in the region above the core support, below the upper grid and within the shroud with the vessel head removed and fuel in the vessel." However, the movement of control rods (using the control rod hydraulic system), the movement of in-core instrumentation, and the traversing in-core probe (TIP) are specifically exempted from the definition. The reason an activity should be exempted from the definition is that the activity does not create the potential for a reactivity excursion and special precautions or controls are not warranted. However, movement of control rods with the control rod hydraulic system, even though exempted from the current definition, does create the potential for a reactivity excursion and is an activity that warrants special precautions (Refueling Interlocks, current LCO 3.10.A.5.a). The ITS definition for Core Alterations is intended to identify those activities that affect reactivity within the reactor vessel with the vessel head removed and fuel in the vessel. As a result, the term Core Alterations will identify those activities that create the potential for a reactivity excursion and warrant special controls and precautions. Under the revised definition, in-vessel movement of instruments, cameras, lights, tools, etc. will not be classified as Core Alterations since special controls needed to prevent reactivity excursions are not warranted. Appropriately, normal control rod movement when the vessel head is removed is included in the ITS definition of Core Alterations because the potential for a reactivity excursion exists.

   It should be noted that control rod movement is not considered a Core Alteration provided there are no fuel assemblies in the associated core cell. The removal of the four fuel bundles surrounding a control rod very significantly reduces the reactivity worth of the associated control rod to the point where removal of that rod no longer has the potential to cause a reactivity excursion. Therefore, removal from the core of a control rod is not considered a Core Alteration provided there are no fuel assemblies in the associated core cell. This fact is recognized in the design of the control rod velocity limiter which precludes removal of a rod prior to the removal of the four adjacent bundles.

B. A "Modes" table is being incorporated that will encompass the following definitions in the current PBAPS Technical Specifications: Cold Condition, Cold Shutdown, Hot Shutdown, Hot Standby condition, Reactor Power Operation, Refuel Mode, Run Mode, Shutdown, Shutdown Mode, and Startup/Hot Standby Mode. The Modes table will define five specific Modes, by number, title, Mode switch position, and average reactor coolant temperature (where applicable for the Mode). By incorporating these definitions into the ITS Modes table, the Modes are more definitive which decreases the likelihood of being in more than one Mode at any time. Although this change encompasses administrative, more restrictive, and less restrictive changes, it is classified as an overall less restrictive change. Below is a highlight of the changes from each of the existing definitions which were incorporated into the table.

(1) <u>Cold Condition</u>

The existing definition is incorporated into the ITS definition of Mode 4. The Cold Condition definition requires RCS temperature to be ≤ 212°F. The ITS definition for Mode 4 also requires all reactor vessel head closure bolts to be fully tensioned which makes this change more restrictive. This is a new requirement added to ensure that the bolts are fully tensioned to ensure integrity of the reactor coolant pressure boundary is maintained in this condition.

(2) <u>Cold Shutdown</u>

The existing definition is incorporated into the ITS definition of Mode 4. The current Cold Shutdown definition requires the Mode switch to be in shutdown, RCS temperature ≤ 212°F, and the reactor vessel to be vented. The ITS definition of Mode 4 does not require the reactor vessel to be vented. Therefore, this is a less restrictive change. The Safe Shutdown Analyses (in Section 5.0 in the PBAPS Fire Protection Program) implies that the reactor vessel is vented in the Cold Condition for decay heat removal. The ITS (LCO 3.4.8, "Residual Heat Removal Shutdown Cooling System—Cold Shutdown") provide more prescriptive requirements to ensure adequate decay heat removal capabilities in Mode 4. Also with regard to pressurization concerns (related to deletion of reactor vessel venting requirements), ITS 3.4.9, "RCS Pressure and Temperature (P/T) Limits," provides requirements to preclude the reactor vessel from exceeding pressure limits. Therefore, the need to have the reactor vessel vented is not required. As stated in the discussion for Cold Condition the requirement to have all reactor vessel head closure bolts fully tensioned in Mode 4 is a more restrictive change.

(3) Hot Shutdown

The CTS definition is incorporated into the ITS definition of Mode 3. The ITS definition for Mode 3 also requires all reactor vessel head closure bolts to be fully tensioned which makes this a more restrictive change. This is a new requirement added to ensure that the bolts are fully tensioned to ensure integrity of the reactor coolant pressure boundary is maintained in this condition.

(4) Hot Standby Condition

This existing definition is incorporated into the ITS definition of Mode 2. The ITS definition for Mode 2 deletes the temperature requirement. The deletion of the temperature requirement is a less restrictive change. The new requirement does not specify a temperature because the temperature will be controlled via the P/T Limits curve (LCO 3.4.9, "RCS Pressure and Temperature (P/T) Limits"). The addition of "refuel" to the Mode switch position requirement is a more restrictive change because it will ensure that all the Mode 2 TS requirements are complied with if the Mode switch is in the refuel position in this condition. The requirement to maintain pressure below 1085 psig is not required and has been deleted because 1085 psig is the Reactor Protection System (RPS) High Pressure trip setpoint and the reactor would trip if pressure were greater than this value. As a result, the existing Hot Standby condition could not be maintained at a pressure greater than 1085 psig. This is considered an administrative change. The requirement which allows the main steam isolation valves (MSIVs) to be opened to provide steam to the reactor feed pumps was deleted. The omission of this requirement still allows the valves to be opened. Therefore, this is also an administrative change.

(5) Reactor Power Operation

The existing definition is incorporated into the ITS definitions of Mode 1 and Mode 2 (when reactor power is > 1% RTP). The reactor power level requirement of > 1% rated power in Mode 1 is not required due to the interlock associated with the Mode switch in run. The interlock associated with the Mode switch in run requires reactor power to be greater than 2.5% or a trip [Average Power Range Monitor (APRM) Downscale Trip] will occur. Therefore, this is an administrative change.

(6) Refuel Mode

This existing definition is incorporated into the ITS definitions of Mode 5 and into Mode 2 as a Mode switch position. This change is more restrictive since, if the reactor vessel head closure bolts are fully tensioned, the unit is now considered to be in Mode 2 when the Mode switch is in the refueling position. This would require the LCOs which are Applicable in Mode 2 to be met, which, in general, are more restrictive. The plant design remains unchanged such that, with the Mode switch in refuel, only one control rod is allowed to be "not full in" at any one time. The specifics of interlocks for the reactor Mode switch position in refuel are an integral part of the Mode switch design and continue to be specified in the ITS 3.9.1 and 3.9.2.

(7) Run Mode

This existing definition is incorporated into the ITS definition of Mode 1. The specifics of the interlocks for the Mode switch position in run are an integral part of the Mode switch design and do not need to be specified in the ITS. These specifics are located in the plant design documents. Changes to the interlocks and the Mode switch design (and therefore the design documents) are subject to the requirements of 10 CFR 50.59. The Operability requirements of the APRMs do not need to be specified in the definition since they are adequately addressed in LCO 3.3.1.1, "Reactor Protection System (RPS) Instrumentation."

(8) Shutdown

This existing definition is incorporated into the ITS definitions of Mode 3 and Mode 4. The incorporation of this definition is purely administrative since the current definition of Shutdown is "Mode switch is in the shutdown mode position and no Core Alterations are being performed." The requirement that no Core Alterations are to be performed is indirectly required by the ITS definitions of both Modes 3 and 4 which specify all reactor vessel head closure bolts being fully tensioned. Per the CTS and ITS Core Alterations definition, with the reactor vessel head on, Core Alterations are not possible.

(9) Shutdown Mode

The existing definition is incorporated into the Mode switch position description in the ITS definitions of Modes 3, 4, and 5. The specifics of the interlocks for the Mode switch position in shutdown are an integral part of the Mode switch and do not need to be specified in the ITS. These specifics are located in the plant design documents. Changes to the interlocks and the Mode switch design (and therefore the design documents) are subject to the requirements of 10 CFR 50.59.

(10) Startup/Hot Standby Mode

The existing definition is incorporated into the Mode switch position description in the ITS definition of Mode 2. The specifics of the interlocks for the Mode switch position in startup/hot standby are an integral part of the Mode switch and do not need to be specified in the TS. These specifics are located in the plant design documents. Changes to the interlocks and the Mode switch design (and therefore the design documents) are subject to the requirements of 10 CFR 50.59.

The above less restrictive requirements have been reviewed by the staff and have been found to be acceptable, because they do not present a significant safety question in the operation of the plant. The TS requirements that remain are consistent with current licensing practices, operating experience and plant accident and transient analyses, and provide reasonable assurance that the public health and safety will be protected.

2.1.1.3 <u>More Restrictive Technical Changes</u>

The licensee, in electing to implement the STS Section 1.0, also proposed a number of more restrictive conditions than are required by the CTS. The more significant restrictions are as follows:

A. The ITS definition of Dose Equivalent I-131 specifies that the thyroid dose conversion factors used for the Dose Equivalent I-131 calculation shall be those listed in Table III of TID-14844, AEC, 1962, "Calculation of Distance Factors for Power and Test Reactor Sites." Specifying the conversion factors to be used where none were specified in the CTS makes this a more restrictive change. This change is consist with the STS and is acceptable.

B. A requirement has been added to the definition of Channel Calibration which requires the calibration of instrument channels with resistance temperature detectors (RTDs) or thermocouple sensors consisting of an inplace cross calibration of the sensing elements. This ensures that the sensing elements are consistent with one another and will identify potentially bad sensing elements. This is a more restrictive change since a new requirement is being added. This change is consist with the STS and is acceptable.

The staff has reviewed these more restrictive conditions and concludes they result in enhancements to the CTS. Therefore, these more restrictive requirements are acceptable.

2.1.1.4 <u>Significant Administrative Changes</u>

Reformatting and renumbering of requirements are in accordance with the STS. As a result, the ITS should be easier to read and, therefore, easier to understand by plant operators as well as other users.

Editorial rewording (either adding or deleting) is generally consistent with the STS. Certain wording preferences or terminology changes appear in the ITS which result in no technical changes (either actual or interpretational) to the TS.

A. A number of definitions are being moved to different sections of the TS. The CTS definition of Immediate is being moved. It was renamed

Immediately in the PBAPS ITS. The term now appears and is defined in Section 1.3, "Completion Times." This is an administrative change because the term is being moved from one section of TS to another. This change is consistent with the STS and is acceptable.

B. The CTS definition of Offsite Dose Calculations Manual (ODCM) is also being moved. This definition is contained in Specification 5.5.1 in the ITS. This is an administrative change because the term is being moved from one section of TS to another. This change is consistent with the STS and is acceptable.

C. The ITS definition of Reactor Protection System Response Time was not included as a defined term in the CTS. However, the ITS definition is derived from CTS 4.1.A. This is an administrative change because the term is being moved from one section of TS to another. Although the ITS definition of Reactor Protection System Response Time differs from the STS definition, it is consistent with the PBAPS current licensing basis and is, therefore, acceptable.

D. The CTS definition of Site Boundary is reworded and moved to ITS Chapter 4.0, "Design Features." In Chapter 4.0, a map depicts the site boundary. This change is consistent with the STS. This is an administrative change because the term is being moved from one section of TS to another. In addition, the rewording of the definition results in no technical changes (either actual or interpretational) to the TS. This change is consistent with the STS and is acceptable.

E. The requirements specified by the CTS definition of Surveillance Frequency are moved to the ITS Section 3.0, Surveillance Requirement (SR) Applicability. The requirements were reworded and incorporated into that section. This is an administrative change because the requirements are being moved to another TS, the change has no impact on any other definition, and it does not change the intent of any TS. This change is consistent with the STS and is acceptable.

F. The table portion (Frequency notation versus specific time in hours, days, or months) and the last sentence of the first paragraph of the CTS definition of Surveillance Frequency are being deleted because the SR Frequencies in the ITS do not use this notation.

G. All other definitions listed below in the PBAPS CTS are no longer used as defined terms in the PBAPS ITS. These definitions are not applicable under the ITS and therefore need not be included in the ITS.

Channel	High (power) Trip Set Point
Downscale Trip Set Point	Intermediate (power) Trip Set Point
Engineered Safeguard	Limiting Conditions for Operations
Fraction of Limiting Power Density	Limiting Safety System Setting
	Logic
Functional Tests	Low (power) Trip Set Point
Gaseous Radwaste Treatment System	MAPFAC(F)
	MAPFAC(P)

Members of the Public	Safety Limit
Operating	Secondary Containment Integrity
Operating Cycle	Simulated Automatic Actuation
Primary Containment Integrity	Source Check
Protective Action	Transition Boiling
Protective Function	Trip System
Purge - Purging	Unrestricted Area
Reactor Vessel Pressure	Ventilation Exhaust Treatment System
Refueling Outage	Venting
Reportable Event	

As noted above, the staff and the licensee have agreed to minor wording changes throughout the PBAPS ITS definition section. These wording changes are clarifications that do not alter the meaning of the definitions or change the restrictive level of the TS. The definitions in Section 1.1 perform a supporting function for other sections of the PBAPS ITS. The staff has reviewed the proposed changes in the definition section for their effect on the Safety Limits (SLs) and SL violations that appear in Chapter 2.0 and the LCOs, Actions, and SRs in Chapter 3. The staff finds no adverse effects that would result from the proposed changes and concludes that when the definitions, as modified, are applied in other sections of the TS, the restrictive level of the requirements are not changed and, therefore, the safety margins are not affected. In addition, the staff concludes that the licensee's proposed changes clarify the definitions and would reduce the tendency for misinterpretation. Further, the staff finds that PBAPS ITS definitions have appropriately applied the guidance provided in the STS. Therefore, the changes are acceptable.

2.1.2 Logical Connectors

This is a new section in the PBAPS ITS. This section explains the meaning and use of "Logical Connectors" through the use of examples so that the entire PBAPS ITS are clearer from a human factors standpoint. We have reviewed this section and consider this proposed addition and reformatting to be an enhancement to the PBAPS ITS. Further, the addition is consistent with the STS and is acceptable.

2.1.3 Completion Times

This is a new section in the PBAPS ITS. This section does not change Completion Times, but provides guidance through the use of examples on the use of Completion Times. Completion Time is the amount of time allowed to complete an action or the amount of time allowed for a structure, system or component to be inoperable. This section is administrative in nature and is provided as an aid to all ITS users. We have reviewed this section and consider this proposed addition to be an enhancement to the PBAPS ITS. Further, with the exception of some minor editorial differences, the addition is consistent with the STS and is acceptable.

2.1.4 Frequency

This is a new section in the PBAPS ITS. This section defines the proper use and application of Surveillance Frequency practices through the use of examples. A clear understanding of the correct application of a specified Frequency is necessary to ensure compliance with a Surveillance Requirement. We have reviewed this section and consider this proposed addition to be an enhancement to the PBAPS ITS. Further, the addition is consistent with the STS and is acceptable.

2.2.0 Safety Limits (SLs) (ITS Chapter 2.0)

2.2.0.1 Relocated Requirements

In accordance with the STS, the licensee has proposed to relocate the following CTS requirements to other licensee-controlled documents.

A. CTS 1.1.A includes a time limit (monitored by the process computer) of 1.15 seconds in which neutron flux can exceed its trip setpoint without a control rod scram prior to a SL being violated. It further stipulates that if the trip setpoint is exceeded without a control rod scram and the process computer is inoperable that the SL should be considered violated. The specific details relating to determining when a MCPR SL has been violated are being relocated to plant procedures. The requirements of ITS SL 2.1.1.2 are adequate for ensuring compliance with the SL and for allowing the determination of when a MCPR SL has been violated so that the actions of SL 2.2, "Safety Limit Violations," may be taken. As a result, the specific details relating to when a MCPR SL has been violated are not necessary for ensuring a MCPR SL violation is identified and appropriate actions taken. This change is consistent with the STS and is acceptable.

B. The requirement to notify the Nuclear Review Board (NRB) within 24 hours of a SL Violation and to submit an LER to the NRB is being relocated to plant procedures. Given that the notification is not required until 24 hours following the SL Violation and that the LER is an after-the-fact report, this requirement is clearly not necessary to ensure operation of the unit in a safe manner. Additionally, in the event of a SL Violation, ITS SL 2.2.5 does not allow operation of the unit to be resumed until authorization is received from the NRC.

The above relocated requirements relating to Safety Limits are not required to be in the TS under 10 CFR 50.36, and are not required to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety. Further, the scope of ITS Chapter 2.0 provides sufficient controls on the safety functions that remain in the TS. In addition, the staff finds that sufficient regulatory controls exist under 10 CFR 50.59 for the relocated requirements. Accordingly, the staff has concluded that these requirements may be relocated from the TS to the plant procedures.

2.2.0.2 Less Restrictive Technical Changes

Requirements in ITS Chapter 2.0 which are less restrictive than related CTS requirements are described below.

A. The CTS SL requires that the reactor vessel water level be maintained not less than -160 inches level indicated which corresponds to 378 inches above Level 0 (the bottom of the reactor vessel). ITS SL 2.1.1.3 requires the reactor vessel water level to be greater than the top of the active irradiated fuel. Since the top of the irradiated fuel at PBAPS Units 2 and 3 is 366 inches above the reactor vessel zero, the ITS requirement is less restrictive. NEDC-32163P, "Peach Bottom Atomic Power Station Units 2 and 3 SAFER/GESTR-LOCA Loss-of-Coolant Accident Analysis," dated January 1993, demonstrates that the ECCS subsystems are capable of reflooding the core and maintain the fuel temperatures within acceptable limits in the event of a LOCA if the water level is initially above the top of active fuel. Therefore, this change from the CTS requirement (-160 inches level indicated) still ensures adequate margin for effective action in the event of a level drop. This change is consistent with the STS and is acceptable.

B. CTS 6.7.1.d requires a Safety Limit Violation Report to be submitted within 10 working days of a SL violation. ITS 2.2.4 requires a Licensee Event Report (LER) to be prepared pursuant to 10 CFR 50.73 within 30 days of a SL violation. This change is consistent with the requirements of 10 CFR 50.73 and the STS and is acceptable.

C. CTS 6.7.1.a requires the reactor to be shutdown "immediately" if a SL is violated. The ITS SL 2.2.2.2 allows up to two hours to insert control rods in the event of a SL violation. The time period in the ITS permits the shutdown to be performed in a more orderly and controlled manner than the current "immediately," while ensuring prompt remedial action is taken. This allows operator attention to be focused on restoring the SL rather than immediately placing the plant through a shutdown transient. This change is consistent with 10 CFR 50.36(c)(1)(i) and the STS and is acceptable.

The above less restrictive requirements have been reviewed by the staff and have been found to be acceptable, because they do not present a significant safety question in the operation of the plant. The TS requirements that remain are consistent with current licensing practices, operating experience and plant accident and transient analyses, and provide reasonable assurance that the public health and safety will be protected.

2.2.0.3 More Restrictive Technical Changes

The PBAPS ITS Chapter 2.0 contains a number of requirements that are more restrictive than the CTS. In most cases, these are additional restrictions that are not in the CTS, but are, however, consistent with the STS. Requirements in ITS Chapter 2.0 which are more restrictive than related CTS requirements are described below.

A. The CTS SLs require a minimum reactor vessel water level when the reactor is in the shutdown condition. The ITS SL 2.1.1.3 reactor vessel water level proposes to make this requirement applicable in all Modes. This change is more restrictive, is consistent with the STS and is acceptable.

B. The CTS 6.7.1.d requires a Safety Limit Violation Report in the event a SL is violated. ITS SL 2.2.4 replaces this with a requirement to prepare an LER pursuant to 10 CFR 50.73 when a SL is violated. The LER is more extensive (per the requirements of 10 CFR 50.73) than the Safety Limit Violation Report currently specified in the CTS. This change is consistent with the STS and is acceptable.

C. New requirements not included in the CTS have been added in the ITS when a SL is violated. ITS SL 2.2.2.1 will require compliance with all SLs within two hours after a SL violation. Exceeding a SL may cause fuel damage and create a potential for radioactive releases in excess of 10 CFR Part 100 limits. The new ITS requirements ensure that the operators take prompt remedial action and also ensure that the probability of an accident occurring during a SL violation is minimal. This change is consistent with the STS and is acceptable.

The staff has reviewed these more restrictive requirements and concludes they result in enhancements to the CTS. Therefore, these more restrictive requirements are acceptable.

2.2.0.4 Significant Administrative Changes

Reformatting and renumbering of requirements are in accordance with the STS. As a result, the ITS should be easier to read and, therefore, easier to understand by plant operators as well as other users.

Editorial rewording (either adding or deleting) is generally consistent with the STS. Certain wording preferences or terminology changes appear in the ITS which result in no technical changes (either actual or interpretational) to the TS.

A. Extraneous information discussing SL Limiting Safety System Settings of the Fuel Cladding and Reactor Coolant System Integrity has been deleted from the ITS. This information is adequately described in the Bases. This change is consistent with the STS and is acceptable.

B. The Limiting Safety Settings and technical content of requirements included in CTS SL 2.1 are moved to ITS Section 3.3, "Instrumentation" or Section 3.4, "Reactor Coolant System (RCS)" as appropriate. Any technical changes to these requirements are addressed in Sections 2.3.3 or 2.3.4 of this safety evaluation. This change is consistent with the STS and is acceptable.

C. The "equal to" was taken out of the CTS "less than or equal to" requirement for SL reactor pressure (symbol) in the ITS. This was done for consistency with the CTS Bases for the SL which states the GEXL correlation is not valid for the critical power calculations at pressure below 800 psia (785 psig). This change is consistent with the STS and is acceptable.

D. If a SL is violated, CTS 6.7.1.a requires the immediate compliance with the provisions of 10 CFR 50.36(c)(1)(i). The ITS SL 2.2.2.2 allows 2 hours to comply with the provisions (see Section 2.2.0.2.C of this safety evaluation. This change along with the other changes to Specification 2.2 encompasses the requirements of 10 CFR 50.36(c)(1)(i). This change is consistent with the STS and is acceptable.

The above changes result in the same limits as the current requirements, or they represent enhanced presentation of the CTS intent. Accordingly, the improved TS changes are purely administrative and they are acceptable.

2.2.0.5 Significant Differences Between the ITS and the STS

ITS Chapter 2.0 has no significant differences from the STS.

2.3 Limiting Conditions for Operation (LCOs) and Associated Applicability, Actions, and Surveillance Requirements (SRs) (ITS Sections 3.0 through 3.10)

2.3.0 LCO and SR Applicability (ITS Chapter 3.0)

The CTS equivalent of this ITS chapter is CTS Section 3.0 "Limiting Conditions for Operation." The ITS Chapter 3.0, "Applicability," is presented in two sections entitled "Limiting Condition for Operation (LCO) Applicability," and "Surveillance Requirement (SR) Applicability." The CTS do not contain a separate section on SR applicability; however, some of the SR applicability requirements are contained in the CTS definition of Surveillance Frequency. The following material describes significant changes being made to current LCO and SR applicability requirements. The changes to these general provisions are reflected throughout the LCOs and associated SRs of the ITS.

2.3.0.1 Relocated Requirements

There are no relocated CTS requirements associated with ITS Chapter 3.0.

2.3.0.2 Less Restrictive Technical Changes

By electing to implement the STS Chapter 3.0, the licensee has adopted a number of less restrictive conditions than are required by the CTS. Requirements in ITS Chapter 3.0 which are less restrictive than related CTS requirements are described below.

A. Existing Specification 3.0.C requires the unit to be placed in Mode 3 within 6 hours and Mode 4 within 36 hours if the LCO or action requirements cannot be satisfied within the specified time interval. ITS LCO 3.0.3 allows 1 hour to initiate the shutdown and then the unit should be in Mode 2 within 7 hours, Mode 3 within 13 hours, and Mode 4 within 37 hours. The time to get to Mode 4 has increased by only 1 hour (36 versus 37 hours). However, the time allowed to get to Mode 3 has increased by 7 hours with an intermediate step to get to Mode 2 in 6 hours. This allows for a more controlled shutdown which reduces thermal stress on components and also reduces the chances for a plant transient which could challenge safety systems.

B. ITS LCO 3.0.5 allows equipment that was previously declared inoperable and appropriate Actions taken to be returned to service under administrative controls solely to perform testing required to demonstrate its Operability or the Operability of other equipment. This is an exception to LCO 3.0.2. Many TS Actions require an inoperable component to be removed from service, such as: maintaining an isolation valve closed, disarming a control rod, or tripping an inoperable instrument channel. To allow the performance of SRs to demonstrate the Operability of the equipment being returned to service, or to demonstrate the Operability of other equipment which otherwise could not be performed without returning the equipment to service, an exception to these required actions is necessary. ITS LCO 3.0.5 is necessary to establish an allowance that, although informally utilized in restoration of inoperable equipment, is not formally recognized in the CTS. Without this allowance certain components could not be restored to Operable status and a plant shutdown would ensue. Clearly, it is not the intent or desire that the TS preclude the return to service of a suspected Operable component to confirm its Operability. This allowance is deemed to represent a more stable, safe operation than requiring a plant shutdown to complete the restoration and confirmatory testing.

C. ITS SR 3.0.3 allows the flexibility to defer declaring affected equipment inoperable or an affected variable outside the specified limits when a surveillance has not been completed within the specified frequency. A delay period of up to 24 hours applies from the point in time that it is discovered that the surveillance has not been performed and not at the time that the specified Frequency was not met (unless the two coincide). This delay time allows adequate time to complete surveillances that have been missed and permits completion of the surveillance before complying with required actions or other remedial measures that might preclude completion of the surveillance. The basis for this delay period includes consideration of unit conditions, adequate planning, availability of personnel, the time required to perform the surveillance, the safety significance of the delay in completing the required surveillances, and the recognition that the most probable result of any particular surveillance being performed is the verification of conformance with the requirements. Failure to comply with specified Frequencies for SRs is expected to be an infrequent occurrence. Use of the delay period established by SR 3.0.3 is a flexibility which is not intended to be used as an operational convenience to extend surveillance intervals. If a surveillance is not completed or is failed within the delay period, then the equipment is inoperable, or the variable is outside the specified limits. Appropriate actions are entered for the applicable LCO conditions.

These less restrictive requirements have been reviewed by the staff and have been found to be acceptable because they do not present a significant safety question in the operation of the plant. The TS requirements that remain are consistent with current licensing practices, operating experience, and plant accident and transient analyses, and provide reasonable assurance that the public health and safety will be protected. In addition, these changes are consistent with the STS.

2.3.0.3 More Restrictive Technical Changes

By electing to implement the STS Chapter 3.0, the licensee has adopted a number of more restrictive conditions than are required by the CTS. Requirements in ITS Chapter 3.0 which are more restrictive than related CTS requirements are described below.

A. ITS LCO 3.0.4 does not permit the entry into a Mode or other specified condition in the Applicability when an LCO is not met in Modes 1, 2, or 3, except when permitted by the Actions (i.e., the Actions allow continued operation for an unlimited period of time). Exceptions to this specification are stated in the individual specifications. This is a new TS requirement which had not previously existed. Currently, there are no requirements in TS which prevent changing Modes when an LCO is entered unless specified in individual specifications. Therefore, this change incorporates a more restrictive requirement.

B. ITS SR 3.0.1 requires SRs to be met during the Modes or other specified conditions in the Applicability for individual LCOs, unless otherwise stated in the SR. Failure to meet the SR shall be failure to meet the LCO. Currently there are no requirements in TS which specify that failure to meet the SR is failure to meet the LCO unless specified in individual specifications. Therefore, this change incorporates a more restrictive requirement.

C. ITS SR 3.0.4 prohibits entry into a Mode or other specified condition in the Applicability of an LCO unless the surveillances have been met within their specified Frequency. This specification ensures that system and component operability requirements and variable limits are met before entry into Modes or other specified conditions in the Applicability for which these systems and components ensure safe operation of the unit. This specification applies to changes in Modes or other specified conditions in the Applicability associated with unit startup only. The provisions of SR 3.0.4 will not prevent changes in Modes or other specified conditions in the Applicability that are required to comply with actions. This is a new requirement which does not exist in the CTS. Therefore, this change incorporates a more restrictive requirement.

The staff has reviewed these more restrictive requirements and believes they strengthen the TS. In addition these changes are consistent with the STS. Therefore, these more restrictive requirements are acceptable.

2.3.0.4 Significant Administrative Changes

Reformatting and renumbering of requirements are in accordance with the STS. As a result, the ITS should be easier to read and, therefore, easier to understand by plant operators as well as other users.

Editorial rewording (either adding or deleting) is generally consistent with the STS. Certain wording preferences or terminology changes appear in the ITS which result in no technical changes (either actual or interpretational) to the TS.

A. CTS 3.0.A states that the LCOs and Actions are applicable as specified in each specification. ITS LCO 3.0.1 rewords the current requirement and also lists the other LCO Applicabilities where exemptions to this one are made. By referencing the specific exemptions, confusion is alleviated by eliminating the interpretations that may be required. Editorial rewording is made consistent with the STS which results in no technical changes (either actual or interpretational) to the TS.

B. CTS 3.0.B states that the LCO is complied with if the Actions are completed (within the specified time interval) or if the LCO is restored prior to the time interval expiring. ITS LCO 3.0.2 rewords the current requirement and also adds the specific exemptions. By referencing the specific exemptions, confusion is alleviated by eliminating the interpretations that may be required. Editorial rewording is made consistent with the STS which results in no technical changes (either actual or interpretational) to the TS.

C. ITS LCO 3.0.6 contains new provisions not contained in the CTS. These new provisions provide guidance regarding the appropriate actions to be taken when a single inoperability (i.e., a support system) also results in the inoperability of one or more related systems [i.e., supported system(s)]. In the CTS, there is an ambiguous approach to the combined support/supported system inoperability and the CTS only provide guidance for losing normal or emergency power. The NRC has also provided guidance with regard to the intent and interpretation of the requirements for support and supported system Operability over the years.

   ITS LCO 3.0.6 encompasses all support systems, not just electrical power. Since previous guidance has been provided by the NRC and since the function of LCO 3.0.6 is to clarify existing ambiguities and maintain actions within the realm of previous interpretations, this new provision is deemed to be administrative in nature.

D. ITS LCO 3.0.7 is added to provide guidance regarding the meeting of Special Operations LCOs in ITS Section 3.10. These Special Operations

LCOs allow specified TS requirements to be changed (made applicable in part or whole, or suspended) to permit the performance of special tests or operations which otherwise could not be performed. If the Special Operations LCOs did not exist, many of the special tests and operations necessary to demonstrate selected plant performance characteristics, special maintenance activities, and special evolutions could not be performed. This specification eliminates the confusion which would otherwise exist as to which LCOs apply during the performance of a special test or operation. This is consistent with the intent of existing Special Test Exceptions; however, without this specific licensed allowance to change the requirements of another LCO, a conflict of requirements could be incorrectly interpreted to exist. Therefore, this change only provides clarity and is considered administrative in nature.

E. The SR Applicability in the CTS (located in the existing definition of Surveillance Frequency) allows the Surveillance Frequency to be extended by 25% each surveillance interval. Exceptions to this requirement are specified in the individual specifications. ITS SR 3.0.2 rewords and moves the current requirement to Chapter 3.0. Editorial rewording is made consistent with the STS which results in no technical changes (either actual or interpretational) to the TS. In addition, the diesel generator (DG) exception is not needed since the surveillances that require a plant outage already have Frequencies to accommodate the test requirements (i.e., the Frequencies are 24 months for these surveillances, which coincides with the refueling outage cycle).

F. CTS 3.0.D has been moved to ITS 3.8.1 Actions for when a DG or offsite power source is inoperable. Technical changes to this requirement are discussed in Section 2.3.8 of this SE.

The above changes result in the same limits as the current requirements, or they more clearly present the intent of the CTS. In addition, these changes are consistent with the STS. These changes are purely administrative changes and are acceptable.

2.3.0.5 Significant Differences Between the ITS and the STS

There are no significant differences in the presentation or technical content of ITS Chapter 3.0 from that of the STS.

2.3.1 Reactivity Control Systems (ITS Section 3.1)

2.3.1.1 Relocated Requirements

In accordance with the STS, the licensee proposed relocating portions of the following CTS to other licensee-controlled documents. The listing is broken down by the equivalent sections in the ITS, with accompanying discussion for the more significant items not covered in the general categories discussed below.

2.3.1.1.A ITS 3.1.1, Shutdown Margin (SDM)

CTS Section	Title
4.3.A.1	Details For Performing SDM Surveillance

(1) The details of the method for performing the surveillance in CTS 4.3.A.1 are being relocated to plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. The requirement to verify that SDM is within the limit remains in the ITS (SR 3.1.1.1). The specific details of how this surveillance test is performed do not ensure that SDM will be maintained. The requirements of SR 3.1.1.1 are adequate to ensure that SDM is maintained. In addition, this change is also consistent with the STS and is, therefore, acceptable.

2.3.1.1.B ITS 3.1.2, Reactivity Anomalies

CTS Section	Title
4.3.D	Reactivity Anomalies/Reactivity Monitoring

(1) The details in CTS 4.3.D of the reactivity anomalies surveillance, including discussion of the specific methodology and purpose, are being relocated to the Bases. These details are not necessary to ensure that the limits of the Reactivity Anomalies specification are not exceeded. The requirements of ITS 3.1.2, "Reactivity Anomalies," and SR 3.1.2.1 are adequate to ensure the limits of the Reactivity Anomalies specification are not exceeded. Any changes to this requirement will be controlled by the Bases Control Program (ITS 5.5.10). This change is consistent with the STS and is acceptable.

2.3.1.1.C ITS 3.1.3, Control Rod Operability

CTS Section	Title
3.3.A.2.b	Disarming Control Rods
3.3.B.2 and 4.3.B.2	Control Rod Drive (CRD) Housing Support System

(1) The details of the methods for disarming control rods are being relocated to the Bases. The Bases are subject to the requirements of the Bases Control Program (ITS 5.5.10). These details are not necessary to ensure inoperable control rods are disarmed. ITS Required Actions A.2 and C.2, which require disarming of inoperable control rods, are adequate for ensuring inoperable control rods are disarmed. This change is consistent with the STS and is acceptable.

(2) The requirements to have the CRD housing support in place for control rod Operability are being relocated to procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. The CRD

housing support does support control rod Operability. Having the CRD housing support out of place does impact control rod Operability. As a result, the requirement for the CRD housing support to be in place for the control rods to be considered Operable is adequately addressed in ITS 3.1.3, "Control Rod OPERABILITY," and the definition of Operability. This change is consistent with the STS and is acceptable.

2.3.1.1.D ITS 3.1.4, Control Rod Scram Times

There are no relocated CTS requirements associated with ITS 3.1.4.

2.3.1.1.E ITS 3.1.5, Control Rod Scram Accumulator

There are no relocated CTS requirements associated with ITS 3.1.5.

2.3.1.1.F ITS 3.1.6, Rod Pattern Control

There are no relocated CTS requirements associated with ITS 3.1.6.

2.3.1.1.G ITS 3.1.7, Standby Liquid Control System

CTS Section	Title
4.4.A.1	System Relief Valve Setpoint
4.4.2 and 4.4.3	Detail Of Methods Of Performing System Flow Surveillance Test
4.4.B.4	Verify Enrichment Of Solution Tank
4.4.B.3	Details Of SLC Pump Test

(1) The testing requirement of CTS 4.4.A.1 regarding Standby Liquid Control (SLC) System relief valves setting verification is being relocated to procedures implementing the requirements of the Inservice Testing (IST) Program. The requirement to verify SLC System relief valve settings are not required to be in TS to ensure the Operability of the SLC System since these valves are subject to the testing requirements of the IST Program. Implementation of the ASME Section XI IST Program is required by 10 CFR 50.55a. Any changes to the plant procedures used to implement the IST Program will be subject to the requirements of 10 CFR 50.59. These controls are adequate to ensure that the SLC System relief valves are demonstrate to be Operable. This change is consistent with the STS and is acceptable.

(2) The details of CTS 4.4.2 and 4.4.3 regarding the methodology for verifying flow through the SLC subsystem into the reactor pressure vessel are being relocated to procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. Inclusion of these details in ITS is not necessary to ensure that SLC System is maintained Operable. The requirements of ITS 3.1.7, SLC System, and SR 3.1.7.9 are adequate to ensure the capability to provide flow through each SLC subsystem into the reactor pressure vessel and to ensure SLC System Operability. This change is consistent with the STS and is acceptable.

(3) The requirement in CTS 4.4.B.4 to verify the boron enrichment by analysis within 30 days following each addition of boron to the SLC tank is being relocated to procedures. In accordance with ITS SR 3.1.7.10, boron enrichment is verified within 8 hours following addition of boron to the SLC tank. Given that the verification by analysis is not required until 30 days following the addition of boron to the SLC tank and that SR 3.1.7.10 requires verification of SLC boron enrichment within 8 hours following the addition of boron to the SLC tank, it is not necessary to include this requirement in the TS to ensure SLC boron enrichment is maintained within limits. Any changes to these requirements will require a 10 CFR 50.59 evaluation. This change is consistent with the STS and is acceptable.

(4) The details of the methodology for performing the SLC pump flow rate surveillance (by pumping boron solution to the test tank) in CTS 4.4.B.3 are being relocated to procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. These details are not necessary to ensure that SLC System is maintained Operable. The requirements of SR 3.1.7.8 of ITS 3.1.7, SLC System, are adequate to ensure the flow capabilities of the SLC pumps are maintained within the limits required for SLC System Operability. This change is consistent with the STS and is acceptable.

2.3.1.1.H ITS 3.1.8, SDV Vent and Drain Valves

CTS Section	Title
4.7.D.2.b	Post-maintenance Testing Of SDV Valves
4.7.D.2.a	Action Required With Inoperable SDV Valve
Table 3.7.1	Design And Operation Of SDV Valves

(1) The post-maintenance testing requirements for Scram Discharge Volume (SDV) Vent and Drain valves in CTS 4.7.D.2.b are being relocated to procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. Any time the Operability of a system or component has been affected by repair, maintenance or replacement of a component, the licensee must perform post-maintenance testing to demonstrate Operability of the system or component. After repair, maintenance or replacement of a system or component that could cause a required SR to be failed, SR 3.0.1 requires appropriate SRs to be performed to demonstrate the Operability of the affected components. As a result, the requirements proposed to be relocated are not necessary to ensure the Operability of the SDV Vent and Drain valves. This change is consistent with the STS and is acceptable.

(2) The requirement in CTS 4.7.D.2.a to record the position of at least one other valve in a line containing an inoperable SDV Vent and Drain valve is being relocated to procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. The SRs of ITS 3.1.8, SDV Vent and Drain Valves, provide adequate assurance that the remaining valve in the line is Operable. As a result, for the Condition of one SDV Vent and Drain valve inoperable in one or more lines, the

requirements of ITS 3.1.8 ensure the capability exists to isolate the affected penetrations. Therefore, the position (and the requirement to record valve position) of the remaining Operable SDV Vent and Drain valve in the affected line does not affect the capability to isolate the line and is not necessary to ensure this capability exists. This change is consistent with the STS and is acceptable.

(3) The specific details in CTS Table 3.7.1 relating to the design and operation of the SDV Vent and Drain valves (the number of valves, their normal position, and their action on an initiating signal) are being relocated to the ITS Bases. The Bases are subject to the requirements of the Bases Control Program (ITS 5.5.10). The detail relating to the number of valves is a design detail that is not necessary to ensure the Operability of the SDV Vent and Drain valves. The details relating to the normal position of the valves and the action of the valves on an initiating signal are adequately addressed by ITS SR 3.1.8.1 and SR 3.1.8.3 and need not be explicitly stated in the TS. This change is consistent with the STS and is acceptable.

The above relocated requirements relating to reactivity control systems are not required to be in the TS under 10 CFR 50.36, and are not required to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety. Further, the scope of ITS Section 3.1 provides sufficient controls on the safety functions that remain in the TS. In addition, the staff finds that sufficient regulatory controls exist under 10 CFR 50.59 and ITS 5.5.10 for the relocated requirements. Accordingly, the staff has concluded that these requirements may be relocated from the TS to the plant procedures, TRM, ITS Bases, or UFSAR, as applicable.

2.3.1.2 Less Restrictive Technical Changes

Requirements in ITS Section 3.1 which are less restrictive than related CTS requirements are described below for each of the specifications in Section 3.1.

2.3.1.2.A ITS 3.1.1, Shutdown Margin (SDM)

This change decreases the SDM limit in CTS 3.3.A.1 and 4.3.A.1 when the highest worth control rod is determined by test. The CTS indirectly requires that the SDM be $\geq 0.38\%\Delta k/k$ when the highest worth control rod is analytically determined. The ITS have a less restrictive requirement that allows the SDM to be $\geq 0.28\%\Delta k/k$ when the highest worth control rod is determined by test. This allows the SDM to be less when the highest worth control rod is determined by tests. This is reasonable since the highest worth control rod is directly calculated. Under the ITS, an actual measured value is obtained for the highest worth control rod. Under the CTS, an analytical value is determined which may contain additional uncertainties. The SR also incorporates the new SDM value. This change is consistent with the STS and is acceptable.

2.3.1.2.B ITS 3.1.2, Reactivity Anomalies

(1) This change allows a 72 hour time limit to allow the core reactivity difference to be restored to within limits (i.e., to "perform an analysis to determine and explain the cause of the reactivity difference"). Typically, a reactivity anomaly would be indicative of incorrect analysis inputs or assumptions of fuel reactivity used in the analysis. A determination and explanation of the cause of the anomaly may involve an analysis by an offsite fuel department and the fuel vendor. Contacting and obtaining the necessary input may require a time period much longer than the 24 hours allowed in CTS 3.3.D to place the plant in a non-applicable Mode. Since SDM has typically been demonstrated by test prior to reaching the conditions at which this surveillance is performed, the safety impact of the extended time for evaluation is negligible. Given these considerations, this time is being extended to 72 hours. This change is consistent with the STS and is acceptable.

(2) This change revises the required Frequency for comparing the critical rod configuration against the expected configuration, from once every full power month in CTS 4.3.D to 1000 MWD/T in ITS SR 3.1.2.1. At approximately 22 MWD/T average core exposure per day, a Frequency of 1000 MWD/T average core exposure is equivalent to approximately 6.5 weeks. The ITS Frequency is acceptable considering the relatively slow change in core reactivity with exposure and operating experience related to variations in core reactivity. In addition, under the ITS, the test is required only in Mode 1 since meaningful results cannot be obtained under other conditions. This change is consistent with the STS and is acceptable.

2.3.1.2.C ITS 3.1.3, Control Rod Operability

(1) This change extends the surveillance interval for exercising partially withdrawn control rods from 7 days in CTS 4.3.A.2.a to 31 days in ITS SR 3.1.3.3. CTS 4.3.A.2.a requires that all partially or fully withdrawn control rods be exercised at least once per week. ITS SR 3.1.3.2 and SR 3.1.3.3 differentiate between fully and partially withdrawn rods. Fully withdrawn rods will still be exercised once per 7 days. However, partially withdrawn rods will be exercised once per 31 days. The reason for decreasing the frequency of exercising partially withdrawn rods from 7 to 31 days is that partially withdrawn control rods have a significantly greater affect on core flux distribution than do fully withdrawn control rods. Power reductions may be required to perform this test on the partially withdrawn control rods. This potential impact on plant capacity is deemed excessive given the following considerations:

(a) At full power a large percentage of control rods (typically 80-90%) are fully withdrawn and would continue to be exercised each week. This represents a significant sample size when looking for an unexpected random event;

(b) Operating experience has shown "stuck" control rods to be a rare event while operating; and

(c) Partially withdrawn control rods are exercised during day to day plant operations. Should a stuck rod be discovered, all of the remaining control rods (even partially withdrawn) must be exercised within 24 hours (ITS Required Action A.3).

This change is consistent with the STS and is acceptable.

(2) This change eliminates the current requirement in CTS 4.3.A.2 to exercise all operable control rods once every 24 hours if three or more control rods are stuck. The ITS requirement for control rods that are inoperable but not stuck, ITS 3.1.3, Condition C, is to fully insert and disarm the inoperable rods. There will be no requirement to exercise the operable rods to verify their operability other than the scheduled SRs. Since an inoperable rod that is not stuck can be inserted, a verification that all rods can be inserted does not contribute to the identification of a generic failure that reduces scram capability. For a stuck control rod, the ITS requirement will still require that all operable rods be inserted at least one notch to verify that the stuck control rod is not caused by a generic failure that would interfere with scram capability. This change is consistent with the STS and is acceptable.

(3) This change extends the time allowed to perform a SDM check when a single control rod is stuck to 72 hours. CTS 3.3.A.2.b does not require that an inoperable rod be fully inserted prior to being disarmed because disarming the rod does not prevent the rod from scramming. The ITS requirement for an inoperable rod (Condition C) does require that an inoperable (but not stuck) rod be fully inserted before it is disarmed. Therefore, the ITS requirement eliminates the need for the SDM check that is necessary with the existing requirement. Likewise, the CTS 3.3.A.2.b allows for multiple stuck rods that are not fully inserted. ITS 3.1.3, Conditions A and B, allow only one stuck rod before requiring that the reactor be shutdown (Mode 3) within 12 hours. Since there will never be more than only one stuck rod, the time allowed to perform a SDM check is extended to 72 hours. With only one stuck rod, the plant still falls within the established design limits that sufficient negative reactivity be available to shut down the plant. This change is consistent with the STS and is acceptable.

(4) This change allows a maximum of 2 hours to disarm a inoperable stuck rod (ITS Required Actions A.1) and 4 hours to disarm an inoperable, non-stuck rod (ITS Required Action C.2). CTS 3.3.A.2.b requires this action to be initiated immediately since no maximum time limit is provided. The ITS Completion Times for disarming inoperable control rods are reasonable, considering that the additional requirement to fully insert the rod has been added. The 2 hour or 4 hour time limit provides time to insert (for non-stuck only) and disarm control rods without challenging plant systems. This change is consistent with the STS and is acceptable.

(5) This change deletes the requirement in CTS 4.3.B.1.a to observe discernible response of the nuclear instrumentation indication when withdrawing control rods. An indication of a flux level change on nuclear instruments demonstrates control rod motion but does not demonstrate that a control rod is coupled as is the intent of CTS 4.3.B.1.a. If sufficient friction is present to uncouple the control rod from its drive the rod would not following the drive as it is being withdrawn. In this case the lack of neutron flux level change, if discernible, would be indicative of an uncoupled rod. However, this is not a positive check that the control rod is uncoupled since if sufficient friction is not present an uncoupled rod would follow the drive being withdrawn. ITS SR 3.1.3.5 verifies a control rod does not go to the withdrawn overtravel position. The overtravel feature provides a positive check of coupling integrity since only an uncoupled control rod can go to the overtravel position. This verification is required to be performed any time a control rod is withdrawn to the full out position or prior to declaring a control rod operable after work on the control rod or Control Rod Drive System that could affect coupling. As a result ITS SR 3.1.3.5 provides assurance that the control rods are coupled. This change is consistent with the STS and is acceptable.

(6) This change deletes the requirement in CTS 4.3.B.1.c to perform a control rod coupling check during each refueling outage. This implies that coupling is required during cold shutdown and refueling. Coupling requirements during cold shutdown and refueling are not necessary since, at most, only one control rod can be withdrawn from core cells containing fuel assemblies. The probability and consequences of a single control rod dropping from its fully inserted position during Cold Shutdown are negligible (i.e., reactor will remain subcritical). As such, this coupling check requirement has been deleted. However, these requirements are retained for the ITS Special Operation of shutdown margin testing in Mode 5 (SR 3.10.8.4), when more than one control rod can be withdrawn. This change is consistent with the STS and is acceptable.

(7) This change deletes the requirement in CTS 3.3.A.2.a to shut down the reactor if the cause of a stuck control rod is determined to be a collet mechanism failure. ITS 3.1.3, Condition A, allows continued operation with only one stuck rod regardless of the cause. With a single withdrawn control rod stuck, the remaining operable control rods are capable of providing the required scram and shutdown reactivity. The assumptions used in establishing the proposed scram time limits account for a single stuck control rod in addition to an assumed single failure during a transient; however, separation criteria must be met to continue operations (Required Action A.1). Also, under the ITS, SDM still must be checked to account for the loss of negative reactivity due to the stuck control rod (refer to the ITS definition of SDM and ITS 3.1.3, Required Action A.4). In addition, a time limit of 72 hours on the shutdown margin determination has been provided. Reactor shutdown will not be required even if a collet mechanism failure is suspected because the reason for the failure (e.g., failed collet housing) is not significant provided all other rods are tested to ensure a like failure

has not occurred. ITS Required Action A.3 performs this check. Given that operation remains within the bounds of analyzed events, all remaining limitations continue to be required, and prompt action is required to confirm no additional stuck control rods exist, continued power operation will be allowed in the ITS, as are Mode changes in accordance with SR 3.0.4. This change is consistent with the STS and is acceptable.

(8) This change modifies the applicable power levels relating to the control rod separation requirements with inoperable control rods. CTS 3.3.A.2.f imposes separation requirements under all power operation conditions. ITS 3.1.3 imposes separation requirements only for power operation at < 10% Rated Thermal Power. The control rod separation requirement associated with the ITS Note to Condition D (which limits the requirement to ≤ 10% RTP) is necessary to ensure the rod pattern is in compliance with the banked position withdrawal sequence (BPWS). This ensures that a rod drop accident will not result in excessive local power in a fuel bundle. Analysis has shown that inoperable control rod distribution is not a problem when > 10% RTP. The analysis is described in NEDE-24011-P-A, "General Electric Standard Application for Reactor Fuel," Revision 8, Amendment 17. This analysis also showed that the inoperable control rod distribution is needed at ≤ 1% RTP, which is broader than the current requirement for reactor power operation. The inoperable control rod distribution requirement has been modified to include this new restriction. Therefore, any decrease in safety by eliminating the distribution requirement > 10% RTP, is offset by the added safety of requiring inoperable control rod distribution at lower power when a rod drop accident can impact fuel design limits. This change is consistent with the STS and is acceptable.

(9) This change modifies the requirement in CTS 3.3.A.2.f that no more than one control rod in any 5 x 5 array may be inoperable (at least four operable control rods must separate any two inoperable ones) to allow inoperable control rods to be separated by two operable control rods. This change is consistent with the safety analyses associated with this limitation. ITS Condition D addresses the condition when the reactor is ≤ 10% RTP and two or more inoperable control rods are not in compliance with the BPWS and not separated by two or more operable control rods. The Required Action is to restore compliance with the BPWS within 4 hours or restore the control rod to operable status within 4 hours. Inoperable control rod separation requirements are required at < 10% RTP because of Control Rod Drop Accident (CRDA) concerns related to control rod worth. Above 10% RTP, control rod worths that are of concern for the CRDA are not possible. The two operable control rod separation criteria in Action D is acceptable for the BPWS analysis and, therefore, is acceptable for use in the ITS. This change is consistent with the STS and is acceptable.

2.3.1.2.D <u>ITS 3.1.4, Control Rod Scram Times</u>

There are no less restrictive changes to the CTS associated with ITS 3.1.4.

2.3.1.2.E ITS 3.1.5, Control Rod Scram Accumulator

(1) This change allows a short out of service time for the CRD scram accumulators prior to declaring the associated control rods inoperable. Currently, control rods with inoperable accumulators are considered inoperable immediately per CTS 3.3.A.2.e. The change allows a short out of service time for the accumulators prior to declaring the associated control rods inoperable. New Conditions A, B, C, and D are being added to allow up to 8 hours, depending upon the number of inoperable accumulators and the reactor pressure, before the rod associated with the inoperable accumulator must be declared inoperable. ITS Condition A allows one accumulator to be inoperable for up to 8 hours, provided the reactor pressure is ≥ 900 psig. An inoperable control rod accumulator affects the associated control rod scram time. However, at sufficiently high reactor pressure, the accumulators only provide a portion of the scram force. With this reactor pressure, the control rod will scram even without the associated accumulator, although probably not within the required scram times. Therefore, providing this short time to restore the accumulator to operable status does not significantly increase the risk of an ATWS event.

In addition, the option to declare a control rod with an inoperable accumulator "slow" when reactor pressure is sufficient is also included in the ITS. The existing requirement to declare the control rod inoperable would allow the control rod to remain withdrawn as long as it is disarmed. The ITS action to declare the control rod "slow" allows the rod to remain withdrawn but not disarmed. Disarming the inoperable rod is intended to prevent inadvertent operation.

The ITS limits and allowances for numbers and distribution of inoperable and "slow" control rods (found in ITS 3.1.3 and 3.1.4 respectively) are appropriately applied to control rods with inoperable accumulators whether declared inoperable or "slow." The option for declaring the control rod with an inoperable accumulator "slow" is restricted (by a Note to Required Action A.1 and B.2.1) to control rods that were not previously known to be "slow." This restriction prevents allowing a "slow" control rod from remaining operable with the additional degradation to scram time caused by an inoperable accumulator.

ITS Condition B allows any number of control rods to be inoperable for up to 1 hour when reactor pressure is ≥ 900 psig. The requirement for declaration of "slow" or inoperable (and the implied concurrent restoration allowed time) is provided in ITS Required Actions B.2.1 and B.2.2. This 1 hour allowance provides a reasonable time to attempt investigation and restoration of the inoperable accumulator. The time is much shorter than that allowed in Condition A as described above, but is still sufficiently short such that it does not increase the risk significance of an ATWS event. Furthermore, ITS Required Action B.1 addresses the situation where additional accumulators may be rapidly becoming inoperable due to loss of charging pressure. Once verification of adequate charging pressure is made (20 minutes is provided), and considering that reactor pressure is adequate to ensure the scram function of the control rods with inoperable accumulators, the 1 hour extension is not significant.

ITS Condition C allows any number of accumulators to be inoperable for up to 1 hour when reactor pressure is < 900 psig. This 1 hour allowance provides a reasonable time to attempt investigation and restoration of the inoperable accumulators. ITS Required Action C.1 addresses the situation where additional accumulators may be rapidly becoming inoperable due to a loss of charging pressure. The verification is similar to that described in Condition B above; however, the verification must be made immediately since adequate scram pressure is not guaranteed without the CRD system in operation. Once verification of adequate charging pressure is made, and considering that reactor pressure is adequate to ensure the scram function of the control rods with inoperable accumulators, the 1 hour extension is not significant. In addition, since the reactor pressure may not be adequate to scram the rods in a proper time, the allowance provided in Conditions A and B above (to declare the rod "slow") is not provided under the lower pressure condition.

ITS Condition D provides the Required Actions if the CRD system verification is not satisfactory. If the system pressure is not adequate, an immediate scram is required. This ensures that the extensions of Condition B and C will not be used unless adequate CRD pressure is available to scram the reactor.

A Note at the start of the ITS Actions Table ("Separate Condition entry is allowed for each control rod scram accumulator") provides more explicit instructions for proper application for the new Actions for TS compliance. In conjunction with ITS 1.3, "Completion Times," this Note provides direction consistent with the intent of the CTS Actions for inoperable control rod accumulators. Upon discovery of each inoperable accumulator, it is intended that each specified action be applied regardless of its having been applied previously for other inoperable accumulators.

These changes are consistent with the STS and are acceptable.

2.3.1.2.F <u>ITS 3.1.6, Rod Pattern Control</u>

There are no less restrictive changes to the CTS associated with ITS 3.1.6.

2.3.1.2.G <u>ITS 3.1.7, Standby Liquid Control System</u>

(1) This change modifies the Applicability in CTS 3.4.A for the Standby Liquid Control System to include only Modes 1 and 2. The SLC system is not required during Hot or Cold Shutdown (Modes 3 or 4) since control rods can only be withdrawn in accordance with Section 3.10, "Special Operations," and adequate SDM prevents criticality under these conditions. As such, any Action requiring the unit to be placed in Cold Shutdown has also been changed to only require entry into Mode 3 since

this action would place the unit outside the new Applicability. This change is consistent with the STS and is acceptable.

(2) This change adds a Completion Time of 72 hours (and 10 days from discovery of failure to meet the LCO) for restoring boron concentration to ≤ 9.82% weight. An additional Condition and Required Actions have been provided for the situation when the concentration of boron in the SLC System is > 9.82% weight. In this Condition, the SLC System is still capable of performing the intended function provided the concentration and temperature of boron in solution in the SLC System is above the boron concentration versus saturation temperature curve (ITS Figure 3.1.7-1). The boron concentration limit of 9.82% weight was originally selected to ensure that the corresponding saturation temperature (43°F) including a 10°F margin could be met without requiring heat tracing (i.e., normal area temperature would be sufficient to maintain SLC System temperature above 53°F). Therefore, with boron concentration within the 9.82% weight limit, boron precipitation would be precluded. However, it is recognized that with the SLC System temperature above 53°F, increased boron concentration may still not result in boron precipitation, provided SLC boron concentration and temperature are within acceptable limits of ITS Figure 3.1.7-1. Therefore, a Completion Time of 72 hours (and 10 days from discovery of failure to meet the LCO) is allowed for restoring boron concentration to ≤ 9.82% weight. This Completion Time is considered acceptable since, during this time period, the concentration and temperature of boron in solution and SLC pump suction piping temperature must be verified to be within the limits of Figure 3.1.7-1 within 8 hours from entry into Condition A and once per 12 hours thereafter. The temperature versus concentration curve of Figure 3.1.7-1 ensures a 10°F margin will be maintained above the boron solution saturation temperature. As such, this periodic verification provides assurance that the SLC System remains capable of performing its intended function. These changes are less restrictive than the CTS but more restrictive than the STS and are, therefore, acceptable.

2.3.1.2.H <u>ITS 3.1.8, SDV Vent and Drain Valves</u>

(1) This change allows additional time to isolate and then to restore an inoperable SDV vent or drain line, and the option to administratively unisolate a SDV line isolated by a Required Action. CTS 3.7.D.2, Primary Containment Isolation Valves, gives the Required Actions if SDV vent and drain valves are inoperable. Currently, if one of the two automatic valves in any vent or drain line is inoperable, 4 hours are allowed to restore the inoperable valve or isolate the line. Otherwise the CTS require being in Hot Shutdown in 12 hours and Cold Shutdown in the following 24 hours. If both valves in a single vent or drain line are inoperable, only the last Action is applicable. This change recognizes that the SDV vent and drain valves' primary safety function is to isolate the SDV during a scram to contain the reactor coolant leakage past the CRD drive seals. This isolation function can be satisfied if only one valve is operable in each line or the line is isolated. Therefore, the Actions are modified to:

(a) allow 7 days to restore an inoperable SDV vent or drain valve provided at least one valve in each line is operable or the line is isolated (Action A). CTS 3.7.D.2 requires that any inoperable valve be made operable or the line isolated within 4 hours.

(b) establish an 8 hour limit when both valves in a line are inoperable and, allowing the option of isolating the line during this time (Action B) with a 7 day limit to restore both valves to operability (Action A). CTS 3.7.D.2.d requires Hot Shutdown within 12 hours and Cold Shutdown in the following 24 hours when both valves in a line are inoperable.

(c) recognize that the SDV vent and drain valves are normally open to prevent accumulation of water in the SDV from leakage. Therefore, a Note has been added to Required Action B.1 (which requires isolation of the line), allowing periodic opening of the affected line for draining and venting of the SDV. This will be necessary to avoid automatic reactor scrams on high level in the SDV.

(d) provide a Note at the start of the Actions Table ("Separate Condition entry is allowed for each SDV vent and drain line") to provide more explicit instructions for proper application of the Actions for ITS 1.3, "Completion Times." Each SDV line is tested independently and allowed a specified period of time to confirm it isolated or capable of isolation, or restore the complete function of the line.

The additional time allowed to isolate and then to restore an inoperable SDV vent or drain line, and the option to administratively unisolate a SDV line isolated by a Required Action are deemed to not substantially increase the risk of a SDV failing to accept the control rod drive water displaced during a scram. These changes are consistent with the STS and are acceptable.

(2) This change modifies the Frequency for cycling the vent and drain valves and the Frequency for integrated system testing including closure time for the Scram Discharge Vent and Drain Valves. CTS 4.3.A.2.c requires that the closure time of the Scram Discharge Volume Vent and Drain Valves be verified every 3 months. The ITS requirements will cycle the valves every 3 months (SR 3.1.8.2) but will verify closure time only every 24 months (SR 3.1.8.3). The 92 day Frequency for cycling the vent and drain valves and the 24 month Frequency for integrated system testing including closure time are based on operating experience and the level of redundancy in the system. These surveillance frequencies are consistent with the STS and are acceptable.

The above less restrictive requirements have been reviewed by the staff and have been found to be acceptable, because they do not present a significant safety question in the operation of the plant. The TS requirements that remain are consistent with current licensing practices, operating experience and plant accident and transient analyses, and provide reasonable assurance that the public health and safety will be protected.

2.3.1.3 More Restrictive Technical Changes

The PBAPS ITS Section 3.1, contains a number of requirements that are more restrictive than the CTS. In most cases, these are additional restrictions that are not in the CTS, but are, however, consistent with the STS. Requirements more restrictive than the CTS corresponding to ITS 3.1 are described below.

2.3.1.3.A ITS 3.1.1, Shutdown Margin (SDM)

(1) CTS 3.3.E requires the plant to be placed in Mode 4 within 24 hours if the SDM requirements are not met. ITS Action B requires the unit to be placed in Mode 3 if SDM is not met. While this change could be considered operationally less restrictive, it is considered to be more conservative with respect to providing proper reactivity controls. Also the current requirements do not require Actions for Modes 4 and 5 when the SDM requirements are not met. The following changes were made to the CTS:

   (a) If SDM is not met while the plant is in Modes 1 or 2, ITS Actions (Actions A and B) would require the SDM to be restored in 6 hours or to be in Mode 3 in the following 12 hours. This places the plant in a shutdown condition and does not require a cooldown to Mode 4, which would add positive reactivity during a time when SDM is not met (a cooldown could result in a restart accident). In addition, once in Mode 3, if the SDM was still not met the Actions (Action C) would require the insertion of all insertable control rods. This action further enhances the available SDM.

   (b) If SDM is not met in Modes 4 or 5, ITS Actions (Actions D and E) are provided to initiate action to insert all insertable control rods (in the core cells containing fuel), suspend Core Alterations (if applicable), and to initiate actions within 1 hour to restore secondary containment, the SGT System and the SCIVs to Operable status. The first two actions attempt to improve SDM, or at least to ensure SDM is not made worse, while the last three actions provide some protection from radioactive release if a SDM problem results in an inadvertent criticality.

   These Actions are more restrictive since new requirements are added that currently do not exist. These changes are consistent with the STS and are acceptable.

(2) CTS 4.3.A.1 requires that SDM be verified following a refueling outage. The ITS require SDM to be verified once within 4 hours after criticality following fuel movement within the reactor pressure vessel or control rod replacement and prior to each in-vessel fuel movement during the fuel loading sequence.

   A finite time (4 hours after criticality) is now provided to verify SDM following a refueling outage. In addition, a new Surveillance Frequency for SDM verification has been added to clarify the requirements necessary for assuring SDM during the refueling process. Because SDM is assumed in several refueling Mode analyses in the UFSAR, some measures must be taken to ensure the intermediate fuel loading patterns during refueling have adequate SDM. This change imposes a requirement where none is explicitly provided in the existing TS. This new requirement does not, however, require introducing tests or Modes of operation of a new or different nature than currently exist. These changes are consistent with the STS and are acceptable.

2.3.1.3.B ITS 3.1.2, Reactivity Anomalies

(1) The Applicability of CTS 3.3.D has been expanded from during "power operation" to "Modes 1 and 2." This change represents an additional restriction on plant operations necessary to achieve consistency with safety analysis assumptions and the STS. This change is consistent with the STS and is acceptable.

(2) The requirement in CTS 3.3.D to place the plant in the cold shutdown condition within 24 hours when the limit is not met has been revised to reflect placing the plant in a non-applicable condition. CTS 3.0.A states action requirements are applicable during the operational conditions of each specification. Therefore, the requirement to place the plant in cold shutdown is not currently applicable after entry into Mode 2. The revised Action requires the plant to be placed in Mode 3 (outside the applicable condition) within 12 hours. The current action allows 24 hours to place the plant in a non-applicable condition. As such, this is an additional restriction on plant operation. This change is consistent with the STS and is acceptable.

(3) A requirement has been added to CTS 4.3.D to perform the reactivity anomalies surveillance if control rods have been replaced, regardless of whether or not the plant is in a refueling outage. This ensures that any core change that could affect reactivity is evaluated properly. This change is consistent with the STS and is acceptable.

2.3.1.3.C ITS 3.1.3, Control Rod Operability

(1) CTS 4.3.A.2.a requires that control rods be "exercised one notch." ITS SR 3.1.3.2 and SR 3.1.3.3 require control rods to be "inserted" at least one notch, in lieu of the existing requirement for "exercising." The existing requirement could be met by control rod withdrawal. It is conceivable that a mechanism causing binding of the control rod that prevents insertion could exist and that a withdrawal test would not detect the problem. Since the purpose of the test is to ensure scram insertion capability, restricting the test to only allow control rod insertion provides an increased likelihood of this test detecting a problem that impacts insertion capability. This change is consistent with the STS and is acceptable.

(2) CTS 3.3.A allows continued operation with multiple stuck control rods if: 1) collet housing failure is eliminated as a potential cause; 2)

sufficient control rods remain operable to make the core subcritical with the most reactive rod fully withdrawn (i.e., SDM is maintained); 3) the stuck control rod is disarmed; and, 4) no more than one control rod in any 5x5 array is inoperable. The change will require Hot Shutdown (Mode 3) within 12 hours when more than one control rod is stuck but not fully inserted, regardless of the reasons for the stuck control rods. More than one stuck control rod (not fully inserted) will require Hot Shutdown within 12 hours because the assumptions utilized in establishing the scram time limits account for a single stuck control rod. In addition, rod exercising of all other rods will be required if a rod is stuck for any reason, not just when mechanism damage is possible (as is currently required). This change is consistent with the STS and is acceptable.

(3) Currently, with a stuck control rod (not fully inserted) CTS 3.3.2.a requires that the reactor be brought to a shutdown condition within 48 hours. Although not specifically stated in the CTS, the staff assumed that "shutdown" meant "Cold Shutdown" or Mode 4. The ITS Action E requires the reactor to be in Hot Shutdown (Mode 3) within 12 hours instead of currently required Cold Shutdown in 48 hours. This change is more restrictive because all rods must be fully inserted in 12 hours instead of 48 hours. Cooling the unit down (proceeding from Mode 3 to Mode 4) does not provide any additional margin and, in some case, could be counterproductive since positive reactivity is inserted during a cooldown. This change is consistent with the STS and is acceptable.

(4) CTS 3.3.A.2.c provides an exception to the Required Actions for an inoperable control rod if the reason for inoperability is scram time > 7 seconds and if the rod can be inserted with drive pressure. The ITS requirement for declaring a rod inoperable because scram time exceeds 7 seconds (SR 3.1.3.4) requires that a rod be declared inoperable. Therefore, under this change a rod with a scram time greater than 7 seconds must be fully inserted and disarmed in accordance with ITS 3.1.3 Condition C. This is more restrictive than the existing requirement which would allow the slow rod to remain withdrawn and armed. This change is consistent with the STS and is acceptable.

(5) CTS 3.3.A.2.e requires that a control rod whose position cannot be positively determined be considered inoperable. However, there is no requirement to periodically verify the position of each rod. This requirement has been modified to require the position of each control rod to be verified every 24 hours (ITS SR 3.1.3.1). This change is consistent with the STS and is acceptable.

(6) CTS 3.3.A.2.f requires that inoperable and stuck control rods be positioned such that SDM requirements (CTS 3.3.A.1) are maintained. The ITS 3.1.3 requires that with one stuck rod (Required Action A.4), SDM be verified within 72 hours; with more than one stuck rod (Required Action B.1), the reactor be in Hot Shutdown within 12 hours; and, with one or more inoperable rods (Required Action C.1), each inoperable rod be fully inserted. By allowing only one stuck rod and by requiring that all inoperable rods be fully inserted, ITS Required Actions A.4, B.1, and

C.1 provide greater assurance that SDM is maintained than the requirement for verifying SDM for multiple rods that remain withdrawn. These changes are consistent with the STS and are acceptable.

(7) This change reduces the time to reach a non-applicable condition from 24 hours to reach Cold Shutdown (Mode 4) (CTS 3.3.A.2.f) to 12 hours to reach Mode 3 (per ITS Required Action E.1). This change is more restrictive because all rods must be fully inserted in 12 hours instead of the currently required 24 hours. Cooling the unit down (proceeding from Mode 3 to Mode 4) does not provide any additional margin and, in some cases, could be counterproductive since positive reactivity is inserted during a cooldown. These changes are consistent with the STS and are acceptable.

(8) CTS SR 4.3.B.1.b requires that rod coupling be verified "when the rod is fully withdrawn the first time after each refueling outage." The ITS SR 3.1.3.5 requires this coupling check each time the rod is fully withdrawn. This change is consistent with the STS and is acceptable.

2.3.1.3.D <u>ITS 3.1.4, Control Rod Scram Times</u>

(1) This change provides a different method to determine if measured scram insertion times are sufficient to insert the amount of negative reactivity assumed in the accident and transient analyses than is provided under CTS 3.3.C.1, 3.3.C.2, and 3.3.C.3. A description and supporting analysis for the proposed method is contained in BWROG-8754, letter from R.F. Janecek (BWROG) to R. W. Starostecki (NRC), dated September 17, 1987. The purpose of the control rod scram time specification is to ensure the negative scram reactivity corresponding to that used in licensing basis calculations is supported by individual control rod drive scram performance distributions allowed by the TS. The CTS accomplish the above purpose by placing requirements on maximum individual control rod drive scram times (7.00 second requirement), average scram times and local scram times (average of three fastest control rods in all groups of four). Because of the methodology used in the design basis transient analysis (one dimensional neutronics), all control rods are assumed to scram at the same speed, which will be called the analytical scram time requirement. Performing an evaluation assuming all control rods scram at the analytical limit will result in the generation of a scram reactivity versus time curve, which is referred to as the analytical scram reactivity curve. It is the purpose of the scram time specification to ensure that, under allowed plant conditions, this analytical scram reactivity will be met. Since scram reactivity cannot be readily measured at the plant, the safety analyses use appropriately conservative scram reactivity versus insertion fraction curves to account for the variation in scram reactivity during a cycle. Therefore, the TS must only ensure the scram times are satisfied.

If all control rods scram at least as fast as the analytical limit, the analytical scram reactivity curve will be met. However, it is also known that a distribution of scram times (some slower and some faster than the analytical limit) can also provide adequate scram reactivity. By definition, for a situation where all control rods do not satisfy the analytical scram time limits, the condition is acceptable if the resulting scram reactivity meets or exceeds the analytical scram reactivity curve. This can be evaluated using models which allow for a distribution of scram speeds. It follows that the more control rods that scram more slowly than the analytical limit, the faster the remaining control rods must scram to compensate for the reduced scram reactivity rate of the slower control rods. The ITS incorporate this philosophy by specifying scram time limits for each individual control rod instead of limits on average of all control rods or the average of groups of four control rods. This philosophy is similar to that currently being used for the BWR/6 STS. The LCO scram time limits have margin to the analytical scram time limits to allow for a specified number and distribution of slow time limits to allow for a specified number and distribution of slow control rods, a single stuck control rod and an assumed single failure.

Therefore, if all control rods meet the ITS LCO time limit found in Table 3.1.4-1, the analytical scram reactivity assumptions are satisfied. If any control rods do not meet the LCO time limit, the LCO specifies the number and distribution of these "slow" control rods to ensure the analytical scram reactivity assumptions are still satisfied. If the "slow" rods are excessive (> 7% of 185 or > 13) or do not meet the distribution requirements, the unit must be shut down. This change is considered more restrictive on plant operation since the ITS individual times are more restrictive from the average times. That is, currently, the "average time" of all rods or a group can be improved by a few fast scramming rods, even when there may be more than 13 "slow" rods, as defined in the ITS. Therefore, this new specification limits the number of slow rods to 13 and ensures each slow rod is separated by two operable rods.

The current maximum scram time requirement, CTS 3.3.C.3, has been retained in ITS 3.1.3, for the purpose of defining the threshold between a "slow" control rod and an inoperable control rod even though the analyses to determine the LCO scram time limits assumed "slow" control rods did not scram. A Note to ITS Table 3.1.4-1 (Note 2) ensures that a control rod is not inadvertently considered "slow" when the scram time exceeds 7 seconds.

In addition, a note has been added to the ITS SR Table requiring that, during a single control rod scram time surveillance the CRD pumps be isolated from the associated accumulator. This ensures that accumulator pressure alone is scramming the rod, not the CRD pump pressure (which can improve the scram times).

These changes are consistent with the STS and are acceptable.

(2) CTS 3.3.E requires that, if minimum scram insertion times are not within required limits, the reactor must be in Cold Shutdown (Mode 4) within 24 hours. The ITS requirement specifies that the reactor be in Hot

Shutdown (Mode 3) within 12 hours. Since minimum scram time limits are applicable in Modes 1 and 2 only, this change requires that action be taken only while in the Modes for which the LCO is applicable. This change is more restrictive because all rods must be fully inserted in 12 hours instead of 24 hours. Cooling the unit down (proceeding from Mode 3 to 4) does not provide any additional margin and in some cases, could be counterproductive since positive reactivity is inserted during a temperature reduction. This change is consistent with the STS and is acceptable.

(3) CTS 3.3.C.1 gives the Applicability of minimum scram times as "in the reactor power operation condition." The ITS requirement has minimum scram time limits applicable during Modes 1 and 2. This change is more restrictive than the existing requirement because it now applies to all conditions where a reactor scram may be required by the accident analysis including reactor startup and power ascension. This change is consistent with the STS and is acceptable.

2.3.1.3.E ITS 3.1.5, Control Rod Scram Accumulator

(1) Currently, the requirement in CTS 3.3.A.2.e governing CRD hydraulic control unit (HCU) accumulators is not associated with an applicability statement governing when the accumulator and the associated rod must be operable. However, the Applicability is assumed to be during power operation as is the Applicability for other LCOs governing control rod operability. The ITS applicability is Modes 1 and 2. This change is more restrictive because it will require that CRD HCU accumulators be operable in all conditions where a reactor scram may be required by the accident analysis. The ITS will identify clearly that CRD HCU accumulators must be operable during reactor startup and power ascension when reactor pressure may be low. This change is consistent with the STS and is acceptable.

(2) This change adds ITS SR 3.1.5.1 which provides explicit requirements to verify CRD HCU accumulator pressure is greater than 955 psig once every 7 days. No explicit requirement to check accumulator pressure currently exists. This change is consistent with the STS and is acceptable.

2.3.1.3.F ITS 3.1.6, Rod Pattern Control

(1) This is a new specification requiring the control rod pattern to be in compliance with the banked position withdrawal sequence (BPWS). Appropriate Actions and SRs are also added. This change is consistent with the STS and the PBAPS Units 2 and 3 safety analyses and, therefore, is acceptable.

2.3.1.3.G ITS 3.1.7, Standby Liquid Control System

(1) This change adds a new monthly surveillance to CTS 4.4 to verify each subsystem manual and power-operated valve in the SLC flow path that is not locked, sealed, or otherwise secured in position is in the correct position, or can be aligned to the correct position. The addition of

new requirements reflects a more restrictive change. This change is consistent with the STS and is acceptable.

(2) This change adds a new monthly surveillance to CTS 4.4 to verify continuity of the explosive charge associated with the explosive valves. The addition of new requirements reflects a more restrictive change. This change is consistent with the STS and is acceptable.

(3) This change adds two new surveillances to CTS 4.4 to verify SLC System temperature. ITS SR 3.1.7.2 requires verification of the temperature of the sodium pentaborate solution in the SLC tank and ITS SR 3.1.7.3 requires verification of the temperature of the pump suction piping. These surveillances were added to ensure the temperature remains at least 10°F above the boron precipitation value for 9.82% sodium pentaborate. The addition of new requirements reflect a more restrictive change. This change is consistent with the STS and is acceptable.

(4) This change adds two new requirements to CTS 4.4.B.2 for checking the concentration of sodium pentaborate in the SLC Tank. A time limit of 24 hours was incorporated into the requirement to check sodium pentaborate concentration after additions to the SLC Tank are made. This ensures that concentration is checked on a timely basis after additions to the tank are made rather than the current open ended specification. In addition, a time limit of 24 hours is incorporated to require verification of sodium pentaborate concentration after solution temperature is restored within limits. This checks for the amount of boron that may have precipitated out of solution. The addition of new requirements reflects a more restrictive change. This change is consistent with the STS and is acceptable.

(5) This change adds a minimum pump flow requirement to the required test for the SLC pumps in CTS 4.4.B.3 to compliment the pressure requirement which already is in TS. This ensures that the pump meets the minimum design flow requirements. This change is consistent with the STS and is acceptable.

(6) This change adds a specified minimum value to CTS 4.4.B.5 for the level in the SLC Tank. This number corresponds to the minimum volume that is required for injection to meet shutdown and ATWS requirements. This change is consistent with the STS and is acceptable.

(7) This change modifies the Actions in CTS 3.4.C for one SLC subsystem inoperable to include a limit on the maximum time allowed for SLC subsystems to be inoperable during any single continuous failure to meet the LCO. This new restriction is intended to prevent exceeding the assumptions regarding out of service time for a SLC subsystem as a result of sequential inoperabilities of a SLC subsystems due to boron concentration not within limits and a SLC subsystem inoperable due to other reasons. This change is consistent with the STS and is acceptable.

2.3.1.3.H ITS 3.1.8, SDV Vent and Drain Valves

(1) This change revises the Applicability of the specification for SDV vent and drain valves from power operation (CTS 3.7.D) to Modes 1 and 2. The intent is for the valves to be Operable when needed to accept the water from a scram; i.e., Modes 1 and 2. This change represents an additional restriction on plant operations. This change is consistent with the STS and is acceptable.

The staff has reviewed these more restrictive requirements and concludes they result in enhancements to the CTS. Therefore, these more restrictive requirements are acceptable.

2.3.1.4 Significant Administrative Changes

Reformatting and renumbering of requirements are in accordance with the STS. As a result, the ITS should be easier to read and, therefore, easier to understand by plant operators as well as other users.

Editorial rewording (either adding or deleting) is generally consistent with the STS. Certain wording preferences or terminology changes appear in the ITS which result in no technical changes (either actual or interpretational) to the TS.

2.3.1.4.A ITS 3.1.1, Shutdown Margin (SDM)

(1) This change deletes the description of reactivity margin core loading since it is already covered by the definition of Shutdown Margin, which is in the Section 1.1. As such, this deletion is administrative. This changes is consistent with the STS and is acceptable.

2.3.1.4.B ITS 3.1.2, Reactivity Anomalies

(1) This change deletes the Frequency for the reactivity anomalies surveillance in CTS 4.3.D of "During the startup test program" since this test event has already occurred and can not occur again. This change is consistent with the STS and is acceptable.

(2) A specific time for completing the Reactivity Anomaly Surveillance is added. This will clarify when "during startup" the test must be performed. The test is performed by comparing the actual rod density to the predicted rod density as a function of cycle exposure while at steady state reactor power condition. Therefore, 24 hours after reaching these conditions is provided as a reasonable time to perform the required calculations and have appropriate verification completed. In addition, more explicit wording replaces the activity referred to as "refueling outage." The intent is to perform the test after in-vessel fuel movement. As an enhanced presentation of the existing intent, these changes are deemed to be administrative. This change is consistent with the STS and is acceptable.

2.3.1.4.C <u>ITS 3.1.3, Control Rod Operability</u>

(1) The Applicability of ITS 3.1.3 is Modes 1 and 2. ITS 3.9.5, "Control Rod OPERABILITY - REFUELING," identifies requirements for control rods when in Mode 5. Together, these Applicabilities are consistent with the CTS, and, therefore, this change is considered administrative. This change is consistent with the STS and is acceptable.

(2) ITS 3.1.3 includes all conditions that can affect the ability of the control rods to provide the necessary reactivity insertion and will simplify the control rod requirements as follows:

(a) A control rod is considered "inoperable" only when it is degraded to the point that it cannot provide its scram function. All inoperable control rods (except stuck rods) will be required to be fully inserted and disarmed.

(b) A control rod is considered "inoperable" and "stuck" if it is incapable of being inserted and requirements are retained to preserve Shutdown Margin for this situation.

(c) A control rod is considered "slow" when it is capable of providing the scram function but may not be able to meet the assumed time limits. The scam reactivity used in the safety analysis allows for a specified number of slow scramming control rods.

(d) Special considerations are provided for non-conformance to the BPWS, due to inoperable control rods, at less than 10% of Rated Thermal Power.

Two Notes have also been added. The first Note (at the start of the Actions Table) "Separate Condition entry is allowed for each control rod" provides more explicit instructions for proper application of the Actions for ITS 1.3, "Completion Times." This Note provides direction consistent with the intent of the existing Actions for inoperable control rods. Each inoperable control rod is intended to be allowed a specified period of time to verify compliance with certain limits and, when necessary, fully insert and disarm. The second Note, consistent with the requirements of ITS LCO 3.0.1 and LCO 3.0.2, is added to the Actions and allows for bypassing the RWM, if needed for operations, provided the proper Actions of ITS 3.3.2.1 (the RWM specification) are taken. This is a human factors consideration providing clarity of the requirement and allowance. These changes are consistent with the STS and are acceptable.

(3) The requirement that maximum control rod scram insertion time to be $\leq$ 7 seconds is contained in ITS SR 3.1.3.4, making it a requirement for control rods to be considered Operable. The Actions for control rods with scram times > 7 seconds are now more restrictive. However, eliminating the separate specification for excessive scram time by moving the requirement to an SR, does not eliminate any of the requirements, or impose a new or different treatment of the requirement

Therefore, this change is considered administrative. This change is consistent with the STS and is acceptable.

(4) The requirement that control rods be coupled to their drive mechanism is contained in ITS SR 3.1.3.5, making it a requirement for control rods to be considered Operable. The Actions for uncoupled control rods are in ITS 3.1.3, Condition C. Eliminating the separate specification for control rod coupling, by moving the surveillance and Actions to another specification (as an SR), does not eliminate any requirements, or impose a new or different treatment of the requirements. Therefore, this change is considered administrative. This change is consistent with the STS and is acceptable.

(5) The requirement in CTS 3.3.B.1 that two control rod drives may be removed as long as Specification 3.3.A.1 is met duplicates an identical and more appropriately placed requirement in CTS 3.10.A.5. Therefore, deletion of this requirement is an administrative change and is acceptable.

(6) For Unit 3 only, CTS 3.3.B.1.a was placed in the Unit 3 technical specifications to provide an exemption to CTS 3.3.B.1 for rod 54-35 which was determined to be uncoupled during Cycle 10 of Unit 3. This exemption for rod coupling for rod 54-35 will expire at the end of Cycle 10 or on October 30, 1995, whichever is earlier. When ITS is implemented, the time limit on the exemption will have expired. Therefore, CTS 3.3.B.1.a will no longer be applicable. Deletion of this requirement is an administrative change and is acceptable.

(7) The requirement in CTS 3.3.C.3 that the control rods have a maximum time to insert to 90% is changed to reference notch position 06 (ITS SR 3.1.3.4). This change more accurately identifies the actual distance the control rod is inserted, which is currently measured in notch position. This change is consistent with the STS and is acceptable.

2.3.1.4.D ITS 3.1.4, Control Rod Scram Times

(1) Currently, scram insertion time limits are specified in terms of "% insertion" per second in CTS 3.3.C.1. Scram times are measured from signals generated by reed switches corresponding to control rod notch positions. This change specifies scram insertion time limits in terms of "notch position" within a specified number of seconds. This will eliminate the need to convert notch position to "% insertion" to verify acceptance criteria. The only effect of specifying limits in terms of notch position instead of % insertion is to eliminate the need to convert the units after performance of a test. This change is consistent with the STS and is acceptable.

(2) The technical content of CTS 3.3.B.4 and 4.3.B.4 is being moved to Section 3.3 of the ITS. Any technical changes to these requirements are addressed in Section 2.3.3 of this safety evaluation. Moving these requirements is an acceptable administrative change.

2.3.1.4.E ITS 3.1.5, Control Rod Scram Accumulator

There are no significant administrative changes to the CTS associated with ITS 3.1.5.

2.3.1.4.F ITS 3.1.6, Rod Pattern Control

(1) The technical content of CTS 3.3.B.5 for the Rod Block Monitor (RBM) and CTS 3.3.B.3 for the Rod Worth Minimizer (RWM) are being moved to Section 3.3 of the ITS. Any technical changes to these requirements are addressed in Section 2.3.3 of this safety evaluation. Moving these requirements is an acceptable administrative change.

2.3.1.4.G ITS 3.1.7, Standby Liquid Control System

There are no significant administrative changes to the CTS associated with ITS 3.1.7.

2.3.1.4.H ITS 3.1.8, SDV Vent and Drain Valves

(1) This change deletes the portion of CTS SR 4.3.A.2.c that the SDV vent and drain valves reopen upon reset of the closure signal. Since the SDV vent and drain valves do not automatically reopen once the scram signal has been reset, the valves must be manually reopened. This is how the surveillance is currently being met. In the ITS, it is obvious that the surveillance is referring to the automatic capability of the valves to reopen. Since the PBAPS design does not include this feature, the ITS do not include this part of the surveillance. The valves will continue to be manually reopened upon completion of the closure time surveillance, since the valves are required by the ITS to be maintained open (except when performing certain surveillances). Therefore, the deletion of this requirement is administrative. This change is consistent with the PBAPS design and is acceptable.

The above changes result in the same limits as the current requirements, or they represent enhanced presentation of the CTS intent. Accordingly, the improved TS changes are purely administrative and they are acceptable.

2.3.1.5 Significant Differences Between the ITS and the STS

The following discussions relate to significant differences from the STS that affect individual specifications.

2.3.1.5.A ITS 3.1.1, Shutdown Margin (SDM)

(1) The PBAPS Units have some shared common systems. In order to clarify which Unit's systems, structures, or components are addressed by the actions, a unit identifier has been added to Required Actions D.3 and E.4. The need for a unit identifier is specific to PBAPS and, therefore, this difference is acceptable.

2.3.1.5.B <u>ITS 3.1.2, Reactivity Anomalies</u>

There are no significant differences from the STS associated with ITS 3.1.2.

2.3.1.5.C <u>ITS 3.1.3, Control Rod Operability</u>

(1) A modification has been made to ITS Required Action A.3's Completion Time, to preclude not meeting the Completion Time if Thermal Power is increased above the low power set point (LPSP) of the RWM > 24 hours after the Condition is entered. The Note states that the Required Action does not have to be performed if power is less than or equal to the LPSP. Thus, if this Condition is entered during a startup while below the LPSP, the Required Action does not have to be performed. However, according to ITS 1.3, "Completion Times," the 24 hour clock of Required Action A.2 (ITS Required Action A.3) starts upon entry into the Condition. If power is then increased above the LPSP, the Required Action now becomes applicable, and if the 24 hour clock has expired, the Required Action must be considered not met within the associated Completion Time. This would require entry into Action E, which requires a unit shutdown. The intent of this Required Action was to provide 24 hours to perform the SRs, after the capability to perform them exists (i.e., from discovery of Condition A concurrent with Thermal Power greater than the LPSP of the RWM). Therefore, the ITS Completion Time has been revised to incorporate this requirement, consistent with other similar requirements in the ITS. Because there is no change in intent from the STS, this difference is acceptable.

(2) The scram reactivity analysis assumes, among other things, that there are two "slow" rods adjacent to one another, a third control rod is stuck in the withdrawn position, and a fourth control rod fails to scram during the transient/accident analysis (the single failure). However, the analysis does not assume that the original stuck control rod is adjacent to the two "slow" rods or to another "slow" control rod. If this occurs, the local scram reactivity rate assumed in the analysis might not be met. Therefore, ITS 3.1.3, Required Action A.1, has been added to confirm that when a control rod is found to be stuck, it is properly separated from "slow" control rods. This difference reflects a PBAPS specific design analysis, and is, therefore, acceptable.

(3) STS SR 3.1.3.5 states "Verify each control rod does not go to the withdrawn overtravel position." This has been revised to state "Verify each <u>withdrawn</u> control rod does not go to the withdrawn overtravel position." The word "withdrawn" is being added for consistency with SR 3.10.8.5, which is the same surveillance as SR 3.1.3.5 but includes the word "withdrawn." This is a minor editorial difference from the STS which provides additional clarification and is, therefore, acceptable.

2.3.1.5.D <u>ITS 3.1.4, Control Rod Scram Times</u>

(1) The STS wording of SR 3.1.4.1 requires each control rod to be tested if any fuel movement in the RPV occurs. This effectively means that even if only one bundle is moved (e.g., replacing a leaking bundle mid-

cycle), all the control rods are required to be tested per the words of the SR. While words were included in the STS Bases to attempt to ensure that only those rods affected be tested, PECO believes that the Bases change does not preclude misinterpretation of the requirement. The actual STS SR (3.1.4.1) was not modified and continues to require each rod to be tested. In addition, there are other SRs (SR 3.1.4.3 and SR 3.1.4.4) which require only the affected control rods to be tested, further adding confusion. Therefore, SR 3.1.4.1 has been modified to require each rod to be tested following a refueling, and SR 3.1.4.4 has been modified to require each affected rod to be tested following fuel movement within the RPV. This difference is consistent with the Bases for SR 3.1.4.4 which specifically address testing the affected control rod following fuel movement within the reactor vessel, and, therefore, is acceptable.

2.3.1.5.E ITS 3.1.5, Control Rod Scram Accumulator

There are no significant differences from the STS associated with ITS 3.1.5.

2.3.1.5.F ITS 3.1.6, Rod Pattern Control

There are no significant differences from the STS associated with ITS 3.1.6.

2.3.1.5.G ITS 3.1.7, Standby Liquid Control System

(1) As the result of the modification of Action A of Specification 3.1.7 discussed in Section 2.3.1.2.G(2) of this safety evaluation, a new concentration versus saturation temperature curve, Figure 3.1.7-1, has been added. This difference is consistent with the design analysis of the PBAPS SLC System and is, therefore, acceptable.

(2) SLC System ITS SRs, 3.1.7.5, 3.1.7.7, 3.1.7.9, 3.1.7.10 and Table 3.1.7-1 are modified from the STS SRs to reflect the PBAPS specific analysis and licensing basis approved in Amendment Nos. 122 and 126, for Units 2 and 3, respectively, dated June 2, 1987. This difference reflects a PBAPS specific analysis, is consistent with the licensing basis in the CTS and, therefore, is acceptable.

2.3.1.5.H ITS 3.1.8, SDV Vent and Drain Valves

(1) This change revises the Note allowing the SDV vent and drain valves to be closed during test per SR 3.1.8.1 to include performing Channel Functional Tests of the Manual Scram Function of the Reactor Protection System. At PBAPS, this testing will cause one valve in each SDV vent and drain line to close. This difference is consistent with the PBAPS specific design and, therefore, is acceptable.

(2) This change revises SR 3.1.8.3 to reflect the PBAPS specific design; the SDV vent and drain valves do not automatically reopen when the scram signal is reset. They must be manually reopened. This difference is consistent with the PBAPS specific design and, therefore, is acceptable.

These proposed differences from STS Section 3.1 are consistent with PBAPS plant-specific characteristics and existing requirements and commitments, or they provide improvements to the STS requirements. Therefore, they are acceptable.

2.3.2 Power Distribution Limits (ITS Section 3.2)

2.3.2.1 Relocated Requirements

In accordance with the STS, the licensee proposed relocating portions of the following CTS to other licensee-controlled documents. The listing is broken down by the equivalent specifications in the ITS.

2.3.2.1.A ITS 3.2.1, Average Planar Linear Heat Generation Rate (APLHGR)

(1) The CTS 3.5.I requirement regarding which APLHGR limit to select from the COLR when limits are determined using hand calculations is relocated to procedures. The requirements of Specification 3.2.1, Average Planar Linear Heat Generation Rate (APLHGR), are adequate to ensure the APLHGR limits are not exceeded. As a result, the requirement being relocated is not necessary to ensure the APLHGR limits are maintained. Any changes to this requirement will require a 10 CFR 50.59 evaluation. This change is consistent with the STS and is acceptable.

2.3.2.1.B ITS 3.2.2, Minimum Critical Power Ratio (MCPR)

(1) The applicability of the MCPR limits are verified by performing scram time testing to determine the average control rod scram time (τ). The details of the method used to determine τ and the acceptance criteria associated with τ in CTS 3.5.K are being relocated to procedures. The requirements for determining the applicable MCPR limit are adequately addressed in SR 3.2.2.2. As a result, the requirements being relocated are not necessary for ensuring that the required MCPR limits are maintained. Any changes to these requirements will require a 10 CFR 50.59 evaluation. This change is consistent with the STS and is acceptable.

The above relocated requirements relating to power distribution limits are not required to be in the TS under 10 CFR 50.36, and are not required to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety. Further, the scope of the ITS 3.2.1 and 3.2.2 provide sufficient controls on the safety functions that remain in the TS. In addition, the staff finds that sufficient regulatory controls exist under 10 CFR 50.59 for the relocated requirements. Accordingly, the staff has concluded that these requirements may be relocated from the TS to the plant procedures.

2.3.2.2 Less Restrictive Technical Changes

Requirements in ITS Section 3.2 which are less restrictive than related CTS requirements are described below for each of the specifications in Section 3.2.

2.3.2.2.A ITS 3.2.1, Average Planar Linear Heat Generation Rate (APLHGR)

(1) The CTS 3.5.I requirement to initiate action within 1 hour to restore the APLHGR limit is removed from the ITS. The CTS requirement is replaced with the ITS Bases statement that "prompt action" should be taken to restore the APLHGR to within limits. However, ITS 3.2.1, Required Action A.1, requires the APLHGR to be restored within limits in 2 hours versus the CTS allowance of 5 hours. Immediate action may not always be the conservative method to ensure safety. The 2 hour Completion Time for restoration of the limit allows appropriate actions to be evaluated by the operator and completed in a timely manner. This change is consistent with the STS and is acceptable.

(2) CTS 3.5.I requires placing the plant in a cold shutdown condition within 36 hours when the APLHGR limit is not restored within 5 hours. ITS 3.2.1, Required Action B.1, allows 4 hours to reduce the reactor thermal power to below 25% RTP if the APLHGR is not restored within limits in 2 hours as required by ITS 3.2.1, Required Action A.1. CTS 3.0.A states that action requirements are applicable during the operational conditions of each specification. CTS 3.0.A allows the option of placing the reactor in an operational condition where the specification is not applicable, in lieu of a cold shutdown. Since the APLHGR limits are not applicable after thermal power is reduced below 25% RTP, the ITS Required Action B.1 requirement to reduce the reactor thermal power to < 25% RTP within 4 hours meets the intent of the CTS. The ITS allowance to reduce the reactor thermal power avoids the unnecessary CTS required forced reactor shutdown and, therefore, will result in less thermal stress on components and the potential for a plant transient which could challenge safety systems. This change is consistent with the STS and is acceptable.

2.3.2.2.B ITS 3.2.2, Minimum Critical Power Ratio (MCPR)

(1) The CTS 3.5.K requirement to initiate action within 1 hour to restore the MCPR limit is removed from the ITS. The CTS requirement is replaced with the ITS Bases statement that "prompt action" should be taken to restore the MCPR to within limits. However, ITS 3.2.2, Required Action A.1, requires the MCPR to be restored within limits in 2 hours versus the CTS allowance of 5 hours. Immediate action may not always be the conservative method to ensure safety. The 2 hour completion time for restoration of the limit allows appropriate actions to be evaluated by the operator and completed in a timely manner. This change is consistent with the STS and is acceptable.

(2) CTS 3.5.K requires placing the plant in a cold shutdown condition within 36 hours when the MCPR limit is not restored within 5 hours. ITS 3.2.2,

Required Action B.1, allows 4 hours to reduce the reactor thermal power to below 25% RTP if the MCPR is not restored within limits in 2 hours as required by ITS 3.2.2, Required Action A.1. CTS 3.0.A states that action requirements are applicable during the operational conditions of each specification. CTS 3.0.A allows the option of placing the reactor in an operational condition where the specification is not applicable in lieu of a cold shutdown. Since the MCPR limits are not applicable after thermal power is reduced below 25% RTP, the ITS requirement to reduce the reactor thermal power to < 25% RTP within 4 hours meets the intent of the CTS. The ITS allowance to reduce the reactor thermal power avoids the unnecessary CTS required forced reactor shutdown and, therefore, will result in less thermal stress on components and the potential for a plant transient which could challenge safety systems. This change is consistent with the STS and is acceptable.

2.3.2.2.C ITS 3.2.3, Linear Heat Generation Rate (LHGR)

(1) The CTS 3.5.J requirement to initiate action within one hour to restore the LHGR limits is removed from the ITS. The CTS requirement is replaced with the ITS Bases statement that "prompt action" should be taken to restore the LHGR to within limits. However, ITS 3.2.3, Required Action A.1, requires the LHGR to be restored within limits in 2 hours versus the CTS allowance of 5 hours. Immediate action may not always be the conservative method to ensure safety. The 2 hour completion time for restoration of the limit allows appropriate actions to be evaluated by the operator and completed in a timely manner. This change is consistent with the STS and is acceptable.

(2) CTS 3.5.J requires placing the plant in a cold shutdown condition within 36 hours when the LHGR limit is not restored within 5 hours. ITS 3.2.3, Required Action B.1, allows 4 hours to reduce the reactor thermal power to 25% RTP if the LHGR is not restored within limits in 2 hours as required by ITS 3.2.3, Required Action A.1. CTS 3.0.A states that action requirements are applicable during the operational conditions of each specification. CTS 3.0.A allows the option of placing the reactor in an operational condition where the specification is not applicable in lieu of a cold shutdown. Since the LHGR limits are not applicable after thermal power is reduced below 25% RTP, the ITS requirement to reduce the reactor thermal power to < 25% RTP within 4 hours meets the intent of the CTS. The ITS allowance to reduce the reactor thermal power avoids the unnecessary CTS required forced reactor shutdown and, therefore, will result in less thermal stress on components and the potential for a plant transient which could challenge safety systems. This change is consistent with the STS and is acceptable.

The above less restrictive requirements have been reviewed by the staff and have been found to be acceptable, because they do not present a significant safety question in the operation of the plant. The TS requirements that remain are consistent with current licensing practices, operating experience and plant accident and transient analyses, and provide reasonable assurance that the public health and safety will be protected.

2.3.2.3 More Restrictive Technical Changes

The PBAPS ITS Section 3.2 contains a number of requirements that are more restrictive than the CTS. In most cases, these are additional restrictions that are not in the CTS, but are, however, consistent with the STS. Requirements in ITS Section 3.2 which are more restrictive than related CTS requirements are described below.

2.3.2.3.A ITS 3.2.1, Average Planar Linear Heat Generation Rate (APLHGR)

(1) In addition to the CTS 3.5.I requirement to verify that the APLHGR is within limits every 24 hours, ITS SR 3.2.1.1 requires the verification within 12 hours of reaching or exceeding 25% Rated Thermal Power (RTP). This change is consistent with the STS and is acceptable.

(2) The CTS 3.5.I Completion Time for restoring the APLHGR limit has been reduced from 5 hours to 2 hours in ITS 3.2.1, Required Action A.1. This change is consistent with the STS and is acceptable.

2.3.2.3.B ITS 3.2.2, Minimum Critical Power Ratio (MCPR)

(1) In addition to the CTS 3.5.K requirement to verify that the MCPR is within limits every 24 hours, ITS SR 3.2.2.1 requires the verification within 12 hours of reaching or exceeding 25% RTP. This change is consistent with the STS and is acceptable.

(2) The CTS 3.5.K Completion Time for restoring the MCPR limit has been reduced from 5 hours to 2 hours in ITS 3.2.2, Required Action A.1. This change is consistent with the STS and is acceptable.

(3) Both CTS 4.5.K.2 and ITS SR 3.1.4.2 require verification of the applicability of the Operating Limit MCPR values every 120 operating days by performing scram time testing. However, the CTS does not specify a time limit for determining the MCPR limits after completion of the tests. ITS SR 3.2.2.2 requires the determination of the MCPR limits within 72 hours after completion of ITS SR 3.1.4.2. ITS SR 3.2.2.2 also requires the determination of the MCPR limits within 72 hours after completion of ITS SR 3.1.4.1. ITS SR 3.1.4.1 requires scram time testing following a reactor shutdown > 120 days. These additional restrictions ensure that MCPR limits are updated in a timely manner. This change is consistent with the STS and is acceptable.

2.3.2.3.C ITS 3.2.3, Linear Heat Generation Rate (LHGR)

(1) In addition to the CTS 3.5.J requirement to verify that the LHGR is within limits every 24 hours, ITS SR 3.2.3.1 requires the verification within 12 hours of reaching or exceeding 25% RTP. This change is consistent with the STS and is acceptable.

(2) The CTS 3.5.J Completion Time for restoring the LHGR limit has been reduced from 5 hours to 2 hours in ITS 3.2.3, Required Action A.1. This change is consistent with the STS and is acceptable.

The staff has reviewed these more restrictive requirements and concludes they result in enhancement to the CTS. Therefore, these more restrictive requirements are acceptable.

2.3.2.4 Significant Administrative Changes

Reformatting and renumbering of requirements are in accordance with the STS. As a result, the ITS should be easier to read and, therefore, easier to understand by plant operators as well as other users.

Editorial rewording (either adding or deleting) is generally consistent with the STS. Certain wording preferences or terminology changes appear in the ITS which result in no technical changes (either actual or interpretational) to the TS. Two administrative changes which apply to more than one specification in the CTS are discussed here.

(1) The Applicability of the APLHGR, MCPR, and LHGR limits was changed from "power operation" (i.e., ≥ 1% RTP) in the CTS to "Thermal Power ≥ 25% RTP" in ITS 3.2.1, 3.2.2, and 3.2.3 respectively. This change is considered administrative in nature since the CTS and ITS surveillance only requires the limit to be checked when thermal power is ≥ 25% RTP. This change also implements human factors considerations to ensure that the Applicability and SRs work in conjunction with one another. This change is administrative in nature. This change is consistent with the STS and is acceptable.

(2) The CTS requirements to verify that the APLHGR, MCPR, and LHGR are within limits when the limits are not met is not included in ITS 3.2.1, 3.2.2, and 3.2.3, respectively. ITS Condition A and Condition B requirements for these specifications include a total Completion Time of 6 hours for either restoring the limit or placing the plant in a condition outside the limit Applicability. Since this 6 hour time frame is less than the CTS and ITS required 24 hour surveillance, the surveillance would not be required to be performed again while the plant was in the action condition. The requirement to continue to comply with these actions until the limits are met has been moved and is now addressed by ITS LCO 3.0.2. As a result, these changes are administrative in nature. This change is consistent with the STS and is acceptable.

The above changes result in the same limits as the current requirements, or they represent enhanced presentation of the CTS intent. Accordingly, the improved TS changes are purely administrative and they are acceptable.

2.3.2.5 Significant Differences Between the ITS and the STS

There are no significant differences from the STS associated with ITS Section 3.2.

2.3.3 Instrumentation (ITS Section 3.3)

2.3.3.1 Relocated Requirements

In accordance with the STS and the criteria in the Final Policy Statement and 10 CFR 50.36, the licensee proposed relocating all or portions of the following CTS to other licensee-controlled documents. The listing is broken down by the equivalent specifications in the ITS, with accompanying discussion for the more significant items not covered in the general categories discussed below.

Several types of relocated provisions which apply to more than one specification in the CTS are discussed in the following general categories. The CTS to which these changes apply are identified in the tables included with the discussions for the associated specifications in the ITS.

Trip Level Settings Replaced with Allowable Values

These changes relocate the current "Trip Level Setting" in CTS instrumentation tables to plant procedures and replace it with an "Allowable Value" column in ITS instrumentation tables. Trip setpoints are an operational detail not directly related to the Operability of the instrumentation. The Allowable Value is the required limitation for the parameter and this value is inserted in the table. Any change to the trip setpoints will require a 10 CFR 50.59 evaluation. This change is consistent with the STS and is acceptable.

Inoperable Channel or Trip System - Operational Details

System operational details (when not to place in trip) are relocated to the Bases and procedures. These details are unnecessary to ensure system Operability and can be adequately controlled in the Bases and procedures. Changes to the Bases are controlled by the provisions of the Bases Control Program (ITS 5.5.10). Changes to procedures will be subject to the requirements of 10 CFR 50.59. These changes are consistent with the STS and are acceptable.

Number of Design Channels

CTS instrumentation tables includes the "Number of Instrument Channels Provided by Design." This information is relocated to the ITS Bases for the applicable specification. The number of instrument channels provided in the design is a design detail that does not affect to the Operability of the associated Function. The Operability requirements of the associated Function are controlled by the applicable LCO. These changes are consistent with the STS and are acceptable.

Operability Requirements and Instrument Descriptions

Details of the system Operability requirements and instrument descriptions are relocated to the Bases, procedures, and the UFSAR. These details are related to the design of the instrumentation (such as number of instruments, type of indication and display, and the range of the instrument) and do not ensure the Operability of the instrumentation. Changes to the Bases are controlled by the provisions of the Bases Control Program (ITS 5.5.10). Changes to plant procedures and the UFSAR will be subject to the requirements of 10 CFR 50.59. These changes are consistent with the STS and are acceptable.

Procedural Details

Details of the performance of surveillances are relocated to plant procedures and the UFSAR. Procedural details of surveillance tests do not ensure channel Operability. Changes to the procedures and the UFSAR will be subject to the requirements of 10 CFR 50.59. SRs ensure that the instruments are Operable and the details on performing surveillance tests are provided in the ITS instrumentation surveillance test definitions. These changes are consistent with the STS and are acceptable.

2.3.3.1.A ITS 3.3.1.1, Reactor Protection System (RPS) Instrumentation

CTS Section	Title
2.1.A.1	APRM Flow Biased High Scram Definitions
Figure 1.1-1	APRM Flow Biased Scram Relation to Normal Operating Conditions
Table 4.1.1	Functional Test of Mode Switch in Shutdown
Table 3.1.1, Note 11	APRM Operable Definition
Table 3.1.1	Number of Design Channels
Table 3.1.1, Note 6	Note on Closing Turbine Control Valves Without Scram
Table 3.1.1, Notes 5 and 10	Nuclear Instrument Trip Bypasses
Table 4.1.1	Procedural Details, Instrument Descriptions
Table 4.1.2	Procedural Details, Instrument Descriptions
Table 4.1.1	Minimum Surveillance Frequency
Table 4.1.1	Post-Maintenance Test Requirements
Table 3.1.1	Trip Level Settings Replaced with Allowable Values
3/4.1, Footnote 2	Inoperable Channel or Trip System - Operational Details

(1) The terms and definitions (S, W, and ΔW) in CTS 2.1.A.1 for setting the Allowable Value of the APRM Flowed Biased High Scram equation are being relocated to the UFSAR. Changes to these terms and definitions will be subject to the requirements of 10 CFR 50.59. This Function monitors neutron flux to approximate the thermal power being transferred to the reactor coolant. The term W, loop recirculation flow in percent of design, is set in the plant expressed in terms of volts dc, and is defined in the UFSAR. The ITS Allowable Value is stated in the terms used by the analysis. This change is consistent with the STS and is acceptable.

(2) The APRM Flow Biased Scram Relationship to Normal Operating Conditions figure (CTS Figure 1.1-1) is being relocated to plant procedures. This figure is not referenced in the CTS or associated Bases. Thus, this

figure is not required to ensure the Operability of the APRM Flow Biased High Scram. Any changes to this curve will require a 10 CFR 50.59 evaluation. This change is consistent with the STS and is acceptable.

(3) The detail in CTS 3.1.1, Note 11, that an APRM is considered Operable if there are at least 2 LPRM inputs per level and at least 14 LPRM inputs of the normal complement is being relocated to the ITS Bases. Inclusion of these details in the TS is not necessary to ensure the Operability of the APRMs. The definition of Operability suffices. Any changes to this requirement will be controlled by the Bases Control Program (ITS 5.5.10). This change is consistent with the STS and is acceptable.

(4) The statement in CTS 3.1.1, Note 6, regarding the design permitting closure of any two lines without initiating a scram is being relocated to the UFSAR. Changes to this statement will be subject to the requirements of 10 CFR 50.59. This statement is not necessary to ensure the Operability of the RPS MSIV Function. This change is consistent with the STS and is acceptable.

(5) This change relocates the information in CTS Table 3.1.1, Note 5, "IRM's are bypassed when APRM's are onscale and the reactor Mode Switch is in the run position," [associated with the Intermediate Range Monitor (IRM) High Flux and IRM Inoperative Functions] and Note 10, "the APRM downscale trip is automatically bypassed when the IRM instrumentation is operable and not high," (associated with the APRM Downscale Function). These notes are relocated to plant procedures because they are not necessary to ensure the Operability of the IRM High Flux and IRM Inoperable Functions (Note 5) and APRM Downscale Function (Note 10). Any changes to these requirements require a 10 CFR 50.59 evaluation. This change is consistent with the STS and is acceptable.

(6) The requirements of Note 3, related to the Minimum Frequency column of CTS Table 4.1.1, are being relocated to plant procedures. Any changes to this requirement will require a 10 CFR 50.59 evaluation. This requirement specifies that "functional tests are not required on the part of the system that is not required to be operable or are tripped. If tests are missed on parts not required to be operable or are tripped, then they shall be performed prior to returning the system to an operable status." In addition, ITS SR 3.0.1 and the associated Bases also ensure this current requirement is maintained. This change is consistent with the STS and is acceptable.

(7) The CTS Table 4.1.1 requirement to perform a Channel Functional Test after maintenance is performed is being relocated to plant procedures. Post-maintenance requirements are being relocated out of the TS. Any changes to the current post-maintenance testing requirements relating to the RPS Test Switch require a 10 CFR 50.59 evaluation. This change is consistent with the STS and is acceptable.

(8) The RPS response time acceptance criteria (50 milliseconds) in CTS 3/4.1.A is being relocated to the PBAPS UFSAR consistent with NRC Generic Letter 93-08, "Relocation of Technical Specification Tables of

Instrument Response Time Limits." Changes to these acceptance criteria will be subject to the requirements of 10 CFR 50.59. The requirements of ITS SR 3.3.1.1.18 are adequate to ensure the affected RPS functions are tested to ensure response times are maintained within required limits. ITS SR 3.3.1.1.18 requires RPS response times to be verified within limits once per 24 months. If the requirements of SR 3.3.1.1.18 are not satisfied, SR 3.0.1 requires the affected channels of the RPS to be declared inoperable and the Actions of ITS 3.3.1.1 entered. The requirements being relocated are not required to be included in the TS to ensure required RPS response time testing is performed and RPS response times are maintained within required limits. In addition, this change is also consistent with the STS and is, therefore, acceptable.

2.3.3.1.B ITS 3.3.1.2, Source Range Monitor (SRM) Instrumentation

CTS Section	Title
3.10.B.1.a	Core Monitoring
3.10.B.1.b	Core Monitoring

(1) The CTS 3.10.B.1.a requirement for SRMs to be inserted to the normal operating level during core alterations is being relocated to plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. The ITS has requirements for minimum SRM count rate during Core Alterations, but do not require that the SRMs be fully inserted. Ensuring the SRMs are inserted is an operational detail that does not ensure SRM Operability. The ITS SRs ensure SRM operability. This change is consistent with the STS and is acceptable.

(2) CTS 3.10.B.1.b requires the minimum SRM count rate (3 cpm) during Core Alterations be achieved with all rods fully inserted in the core. The ITS has requirements for the minimum SRM count rate during Core Alterations, but does not specifically require the control rods be fully inserted. Ensuring the SRM count rate (3 cpm) during Core Alterations is achieved with all rods fully inserted in the core is an operational detail that does not ensure SRM Operability. This CTS requirement is relocated to plant procedures to provide assurance it is maintained. The ITS SRs ensure SRM operability. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. This change is consistent with the STS and is acceptable.

2.3.3.1.C ITS 3.3.2.1, Control Rod Block Instrumentation

CTS Section	Title
2.1.B, 3.2.C, Tables 3.2.C and 4.2.C	Non-Rod Block Monitor Requirements
Table 3.2.C	Number of Design Channels
Notes 4 and 6, Table 4.2.C	Simulated Automatic Actuation Once/Cycle
4.3.B.3.b.1	Procedural Details
Table 4.2.C	Rod Block Monitor Once/Day Instrument Check

(1) CTS 2.1.B, 3.2.C.2.1, and 4.2.C.2.1 include the Safety Limits, LCOs and SRs for Rod Block Functions associated with the APRMs, IRMs, SRMs, and Scram Discharge Volume (SDV) Level. These requirements are relocated to the TRM, which will be subject to the requirements of 10 CFR 50.59. Only the power-biased local power RBM Functions are retained in the ITS. The APRM, IRM, SRM, and SDV rod blocks are intended to prevent control rod withdrawal when plant conditions make such withdrawal imprudent. However, there are no safety analyses that depend upon these rod blocks to prevent, mitigate or establish initial conditions for design basis accidents or transients. The evaluation summarized in NEDO-31466, "Technical Specification Screening Criteria Application and Risk Assessment," determined the loss of the APRM, IRM, SRM, and scram discharge volume rod blocks would be a non-significant risk contributor to core damage frequency and offsite releases. The results of this evaluation have also been determined to be applicable to PBAPS Units 2 and 3. Therefore, this instrumentation does not satisfy the criteria in the Final Policy Statement and 10 CFR 50.36 for inclusion in the TS and relocation to the TRM and control in accordance with 10 CFR 50.59 is acceptable.

(2) CTS Table 4.2.C, Notes 4 and 6, contain details on the performance of the RBM surveillance tests. Surveillance tests for the RBM are retained in ITS 3.3.2.1. However, details of the methods for performing surveillance tests are relocated to plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. This change is consistent with the STS and is acceptable.

(3) CTS 4.2.C.2 (Table 4.2.C) requires an "Instrument Check" of the RBM once per day. This test is performed by comparison of redundant channels as a simple check of instrument performance. The STS has no equivalent check for the RBM. Signals from the Local Power Range Monitor (LPRM) are fed to the RBM and filtered upon selection of a rod for insertion or withdrawal. Once the filtered signal nears its steady state value, the RBM renulls by applying a gain to the reference signal, making a Channel Check of limited value. Therefore, performance of the daily "Instrument Check" of the RBM is relocated to plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. This change is consistent with the STS and is acceptable.

2.3.3.1.D ITS 3.3.2.2, Feedwater and Main Turbine High Water Level Trip Instrumentation

This specification is a new specification and has no relocated requirements.

2.3.3.1.E ITS 3.3.3.1, Post Accident Monitoring (PAM) Instrumentation

CTS Section	Title
Tables 3.2.F and 4.2.F	Instruments Not Regulatory Guide 1.97 Category 1 or Type A
Tables 3.2.F and 4.2.F	Operability Requirements and Instrument Descriptions

CTS Section	Title
Note to Table 4.2.F, 4.7.A.6	Procedural Details
4.7.A.6	Functional Test of the Atmospheric Analyzing System

(1) The licensee reviewed their instrumentation in CTS Tables 3.2.F and 4.2.F for post-accident monitoring in accordance with Regulatory Guide 1.97. A NRC letter, dated May 7, 1988, from T. E. Murley (NRC) to R. F. Janecek (BWROG), states that the Post-Accident Monitoring (PAM) instrument table contained in TS should include, on a plant-specific basis, all Regulatory Guide 1.97, Type A instruments and all Category 1 instruments. Those instruments meeting this criteria remain in ITS 3.3.3.1 and comprise all of the post-accident monitoring instrumentation that meet the criteria in the Final Policy Statement and 10 CFR 50.36 for inclusion in TS.

Those instruments not meeting this criteria, and their associated TS requirements, are being relocated to the TRM. Changes to the TRM will be subject to the requirements of 10 CFR 50.59. For PAM instrumentation that does not satisfy the Type A or Category 1 screening criteria, their loss is not risk significant since the variable they monitor is not considered important to safety or required by the operator to perform required manual actions. Therefore, these instruments also do not meet the criteria in the Final Policy Statement and 10 CFR 50.36 for inclusion in TS. Consistent with the STS, the following instruments and their associated requirements are relocated to the TRM:

(a) Reactor Water Level (Narrow-Range)
(b) Drywell Pressure
(c) Drywell Temperature
(d) Suppression Chamber Water Level (Narrow-Range)
(e) Control Rod Position
(f) Neutron Monitoring
(g) Safety-Relief Valve Position Indication
(h) Main Stack High-Range Radiation Monitor
(i) Reactor Building Roof Vent High-Range Radiation Monitor

These changes are consistent with the STS and are acceptable.

(2) The once per operating cycle functional test surveillance in CTS 4.7.A.6 is relocated to plant procedures, since a Channel Functional Test is included in the ITS definition for Channel Calibration per ITS SR 3.3.3.1.2 every 92 days. As described in Bases B 3.3.3.1, the drywell and suppression chamber hydrogen and oxygen analyzers must both be capable of monitoring either the drywell or the suppression chamber. Therefore, the Channel Functional Test portion of the Channel Calibration verifies the capability to sample and analyze the drywell and the suppression chamber atmospheres once every 92 days. Thus, the relocated functional test surveillance is not necessary to ensure the Operability of the drywell and suppression chamber hydrogen and oxygen analyzers. This change is consistent with the STS and is acceptable.

2.3.3.1.F ITS 3.3.3.2, Remote Shutdown System

CTS Section	Title
3.11.C.1 and 4.11.C.1	Security and Checking of the Emergency Shutdown Control Panels

(1) CTS 3.11.C and 4.11.C require the Emergency Shutdown Control Panels be "secured" at all times and that this status be verified once per week by visual inspection. Keeping the Emergency Shutdown Control Panels "secured" is intended to prevent inadvertent operation. These requirements are being relocated to plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. There are no safety analyses dependent upon these panels being secured to prevent, mitigate, or establish initial conditions for design basis accidents or transients. This change is consistent with the STS and is acceptable.

2.3.3.1.G ITS 3.3.4.1, Anticipated Transient Without Scram Recirculation Pump Trip (ATWS-RPT) Instrumentation

CTS Section	Title
3.2.G/4.2.G	ATWS - Alternate Rod Insertion
3.2.G	Manual Actuation of ATWS - Recirculation Pump Trip (RPT)
3.2.G	Automatic Actuation of Logic and Actuation Devices for ATWS-RPT
Table 3.2.G	Number of Design Channels
Table 4.2.G, Note 2	Frequency of ATWS-RPT Logic System Functional Test
3.2.G - Footnote 2	Instrument Channel or Trip System - Operational Details

(1) CTS 3.2.G establishes requirements for the ATWS Functions "Alternate Rod Insertion and Recirculation Pump Trip. ITS 3.3.4.1 maintains the requirement for the recirculation pump trip. However, the ATWS Alternate Rod Insertion (ARI) function, which serves only as a backup to the RPS scram function does not satisfy the criteria in the Final Policy Statement and 10 CFR 50.36 for inclusion in the TS, since ATWS is an accident that is beyond the design basis and loss of the ARI instrumentation is a non-significant risk contributor to core damage frequency and offsite releases. As such, ARI Function requirements are relocated to the TRM. Changes to the TRM will be subject to the requirements of 10 CFR 50.59. In addition, the ARI Function must meet the requirements of 10 CFR 50.62 and is maintained in accordance with Appendix B to 10 CFR Part 50 per NRC Generic Letter 85-06, "Quality Assurance Guidance for ATWS Equipment That is Not Safety-Related." This change is consistent with the STS and is acceptable.

(2) CTS 3.2.G requires that the Anticipated Transient Without Scram Recirculation Pump Trip (ATWS-RPT) Function have manual actuation

capability. However, manual actuation of the ATWS-RPT Function is not credited in the ATWS analysis; as such, ATWS-RPT manual actuation Function requirements are being relocated to licensee procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. This change is consistent with the STS and is acceptable.

(3) CTS 3.2.G includes the phrase "automatic actuation of logic and actuation devices" when describing the features of the ATWS-RPT Function required to be Operable for the ATWS-RPT Function to be Operable. These details do not ensure system Operability. This type of information is relocated to the ITS Bases. Any changes to this requirement will be controlled by the Bases Control Program (ITS 5.5.10). This change is consistent with the STS and is acceptable.

(4) CTS Table 4.2.G, including Note 2, requires the performance of a Logic System Functional Test of the ATWS-RPT Function, without tripping the recirculation pump breaker, every 3 months. The licensee states this requirement was placed in the CTS as a result of an SER dated December 21, 1988, that evaluated the PBAPS compliance with the ATWS rule and required the ATWS trip units and logic systems be tested once per quarter. ITS SR 3.3.4.1.2 and SR 3.3.4.1.4 require an ATWS-RPT Channel Functional Test once per 92 days and a Logic System Functional Test once per 24 months. The ATWS-RPT Channel Functional Test ensures the entire channel will perform its intended trip function, and is required every 92 days. This testing includes functional testing (actuation) of the trip units and actuation logic, conforming with the SER requirements, and setpoint verification. The Logic System Functional Test demonstrates the Operability of the trip logic for each specific channel every 24 months. The Recirculation Pump System Functional Test overlaps the Logic System Functional Test, thus assuring the assumed safety function. The logic system uses Foxboro electronic trip modules from the reactor level compensation instrumentation. These modules are also used in the emergency core cooling system (ECCS) instrumentation, the reactor core isolation cooling (RCIC) system instrumentation, post-accident monitoring (PAM) instrumentation, and the remote shutdown instrumentation. The instrumentation for these other systems have Logic System Functional Tests once per 24 months. With the ATWS-RPT Channel Functional Test every 92 days, the CTS quarterly Logic System Functional Test of the ATWS-RPT Function is not necessary to ensure Operability of the ATWS-RPT instrumentation. Further, performance of a Logic System Functional Test of the ATWS-RPT Function without tripping the recirculation pump breaker is not required by the STS. Therefore, the 92 day ATWS-RPT Logic System Functional Test, excluding recirculation pump trip, is relocated to plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. This change is consistent with the STS and is acceptable.

2.3.3.1.H <u>ITS 3.3.5.1 Emergency Core Cooling (ECCS) Instrumentation</u>

CTS Section	Title
2.1.I, 2.1.J, and Table 3.2.B	Procedural Details
Table 3.2.B	Trip Level Settings Replace with Allowable Values
Table 3.2.B	Table, Remarks
3.2 and 4.2	Trip Systems Bus Power Monitors
Table 3.2.B	Core Spray Sparger dP monitor
Table 3.2.B	LPCI Cross Connect Position Indicator Table
3.2.B	Surveillance Requirements for ADS Relief Valve Bellows
Table 3.2.B	Footnote 7, Instrument Description
Table 4.2.B, Cooling for Safeguards Systems	Logic System Functional Test Requirements
Table 3.2.B	Containment High Pressure - Prevent Inadvertent Containment Spray

(1) The CTS Table 3.2.B information specific to the Functions, that is, other Functions required to initiate the system, the role of the Function in initiating the system, etc., is being relocated to the ITS Bases. These details do not ensure Operability of the ECCS instrumentation and Functions. Any changes to this requirement will be controlled by the Bases Control Program (ITS 5.5.10). This change is consistent with the STS and is acceptable.

(2) This change relocates the Table 3.2.B requirements for the Trip System bus power monitors to TRM. These monitors alarm if a fault is detected in the power system to the appropriate system's logic. No design basis accident or transient analysis takes credit for the Trip System bus power monitors. Therefore, these monitors do not meet the criteria in the Final Policy Statement and 10 CFR 50.36 for inclusion in TS. Control of the availability of indications, monitoring instruments, and alarms, and necessary compensatory activities if these components are not available, are addressed by plant operational procedures and policies. Therefore, this instrumentation, along with the supporting surveillances and actions are relocated to the licensee's TRM. Changes to the TRM will be subject to the requirements of 10 CFR 50.59. This change is consistent with the STS and is acceptable.

(3) The requirements in CTS 3.2 and 4.2 for core spray sparger d/p instrumentation are being relocated to the TRM. This instrumentation measures the differential pressure between the core spray sparger and the reactor pressure vessel above the core plate and alarms if a break is detected. This Function does not actuate any equipment; it provides an alarm function only. This Function monitors the integrity of the core spray system piping in the reactor annulus region which would not otherwise be apparent to the operators. It is not credited in the accident analysis. Therefore, this instrumentation does not meet the criteria in the Final Policy Statement and 10 CFR 50.36 for inclusion in

TS. Control of the availability of indications, monitoring instruments, and alarms, and necessary compensatory activities if these components are not available, are addressed by plant operational procedures and policies. Therefore, this instrumentation, along with the supporting surveillances and actions are relocated to the licensee's TRM. Changes to the TRM will be subject to the requirements of 10 CFR 50.59. This change is consistent with the STS and is acceptable.

(4) The requirements in CTS 3.2 and 4.2 for LPCI cross connect position instrumentation are being relocated to the TRM. This instrumentation initiates annunciation when the LPCI cross connect valve is not closed. During normal operation, the LPCI cross connect valve is required to be closed. In addition, ITS SR 3.5.1.4 will require verification that the LPCI cross connect valve is closed and power is removed once per 31 days. Thus, this instrument is not the primary method to ensure the valve remains closed, nor is it credited in any accident analysis. Therefore, this instrumentation does not meet the criteria in the Final Policy Statement and 10 CFR 50.36 for inclusion in TS. Control of the availability of indications, monitoring instruments, and alarms, and necessary compensatory activities if these components are not available, are addressed by plant operational procedures and policies. Therefore, this instrumentation, along with the supporting surveillances and actions are relocated to the licensee's TRM. Changes to the TRM will be subject to the requirements of 10 CFR 50.59. This change is consistent with the STS and is acceptable.

(5) The SRs in CTS 4.2 for the ADS relief valve bellows pressure switches are being relocated to the plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. The requirements for ADS bellows instrumentation do not necessarily relate directly to the respective system Operability. In general, the STS do not specify indication only equipment to be Operable to support Operability of a system or component. Control of the availability of indications, monitoring instruments, and alarms, and necessary compensatory activities if these components are not available, are addressed by plant operational procedures and policies. This change is consistent with the STS and is acceptable.

(6) The CTS Table 3.2.B instrument descriptions (what components the instrumentation consists of) are being relocated to the UFSAR. The descriptions themselves do not ensure the Operability of the ECCS instrumentation Functions. Changes to these instrument descriptions will be subject to the requirements of 10 CFR 50.59. This change is consistent with the STS and is acceptable.

(7) The surveillance for the area cooling for safeguards systems (CTS Table 4.2.B, Function 8) is being relocated to the TRM. Changes to the TRM will be subject to 10 CFR 50.59. The relocated requirements include testing the compartment coolers initiation and details on testing some support systems. Relocating requirements for the compartment coolers does not preclude their being Operable. They are required to be Operable in order for the High Pressure Coolant Injection (HPCI), RCIC,

LPCI and CS systems to be Operable and, as a result, are adequately addressed by the definition of Operability for these systems. This change is consistent with the STS and is acceptable.

(8) The Containment High Pressure Function is being relocated from CTS Table 3.2.B to the TRM. The purpose of this instrument is to preclude inadvertent actuation of containment and suppression pool sprays during a LOCA. If a LOCA signal is present, the containment and suppression pool spray valves cannot be opened unless the reactor vessel water level is above the 2/3 core height level (to preclude diversion of LPCI when it is needed for core flooding) and the drywell pressure trip setting of ≥ 1.0 psig and ≤ 2.0 psig has been reached. (This is indicative of a valid need for operating drywell and suppression pool sprays.) If the instrument is inoperable such that it trips too soon, too late, or not at all, the LPCI System is not impacted.

If the instrument trips too soon, the reactor vessel water level 2/3 core height Function ensures that flow is not diverted from core flooding. The licensee states the major contributor to potential flow diversion is suppression pool cooling, and its valves are only precluded from opening by the 2/3 core height instrument. The flow diverted by the drywell and suppression pool sprays is a small fraction of that diverted by suppression pool cooling. Thus, Operability of LPCI is not impacted by the containment high pressure instruments. While tripping allows one of the permissives for opening drywell and suppression pool spray valves to be met, inadvertent operation does not result, since manual actions must be taken to open the valves if the other permissive (2/3 core height) is also met. In addition, if a LOCA signal is not present, this instrument does not preclude operation of the drywell and suppression pool spray valves. Therefore, inadvertent operation of the drywell spray has been analyzed at PBAPS and does not result in containment failure due to operation of the reactor building-to-suppression chamber and the suppression chamber-to-drywell vacuum breakers. These vacuum breakers are controlled by TS (both CTS and ITS). Therefore, Operability of the Suppression Pool Spray System is not impacted by the relocation of this information.

If the instrument trips too late or not at all, then no flow can be diverted by the drywell and suppression pool sprays; thus, LPCI is not affected. The only TS system affected in this case is the Suppression Pool Spray System. A failure of the instrument to function would preclude the suppression pool spray valves from being opened from the control room. However, this system is a manually controlled system that is not needed for a minimum of 10 minutes following a design basis accident LOCA, and the valve could still be opened locally at the valve operator. In addition, the instrument could be overridden to allow operation from the control room. Therefore, failure of this instrument will not result in the Suppression Pool Spray System being inoperable.

This Function is not a process variable that is an initial condition of any design basis accident or transient analysis and does not meet the criteria in the Final Policy Statement and 10 CFR 50.36 for inclusion in

TS. Since this instrument does not relate to LPCI Operability, and the Suppression Pool Spray System is a manually actuated system, this instrument Function is relocated to the TRM. Changes to the TRM will be subject to the requirements of 10 CFR 50.59. This relocation is acceptable.

2.3.3.1.I ITS 3.3.5.2 Reactor Core Isolation (RCIC) System Instrumentation

CTS Section	Title
2.1.J, Table 3.2.B	Procedural Details
Table 3.2.B	Trip Level Settings Replaced With Allowable Values
Table 3.2.B, Remarks	Instrument Description
Table 3.2.B	RCIC Trip Systems Bus Power Monitors

(1) The RCIC Trip System bus power monitor requirements of CTS Table 3.2.B are being relocated to the TRM. This monitor does not verify the RCIC system Operability. Control of the availability of indications, monitoring instruments, and alarms, and necessary compensatory activities if these components are not available, are addressed by plant operational procedures and policies. Therefore, this instrumentation, along with the supporting surveillances and actions are relocated to the licensee's TRM. Changes to the TRM will be subject to the requirements of 10 CFR 50.59. This change is consistent with the STS and is acceptable.

2.3.3.1.J ITS 3.3.6.1 Primary Containment Isolation System (PCIS) Instrumentation

CTS Section	Title
Table 3.2.B, Rx Low Pressure	LPCI Injection Valves
Tables 3.2.A - D	Number of Design Channels
2.1.C and K, Safety Limit 2, Tables 4.1.2, 3.2.A, and 4.2.B	Procedural Details
Table 3.2.B	Trip Reset, HPCI and RCIC Steam Line Low Pressure
Tables 3.2.A - D	Trip Level Settings Replaced with Allowable Values
Table 3.2.A	Main Steam Line Tunnel Exhaust Duct High - Compensatory Actions
3.2 Conditions and Required Actions, Note 2	Operational Details
3.2 Conditions and Required Actions, Note 3 and Table 4.2.A, Reactor Water Cleanup High Temp and Note 9	Reactor Water Cleanup High Temperature

(1) CTS 3.2.B, Table 3.2.B, Reactor Low Pressure, is being relocated to the TRM because the permissive from the reset of Reactor High Pressure (Shutdown Cooling Isolation) does not serve a safety function. The Reactor High Pressure (Shutdown Cooling Isolation) Function isolates the Shutdown Cooling System whenever reactor pressure exceeds 75 psig. This trip has a reset function, controlled by CTS 3.2.B, Table 3.2.B, Reactor Low Pressure. This reset function is a permissive including the LPCI injection valves in the Shutdown Cooling System Isolation if reactor pressure is below the reset setpoint and the shutdown cooling suction valves are open. Including the LPCI injection valves in the Shutdown Cooling System Isolation requires the shutdown cooling suction valves to be open, in addition to the reset of the reactor pressure trip. However, opening the shutdown cooling suction valves also requires the reset of the reactor pressure trip. Failure of the reactor pressure trip to reset prevents the shutdown cooling suction valves from opening and eliminates the need for the Shutdown Cooling Isolation Function. Therefore, relocating CTS 3.2.B, Table 3.2.B, Reactor Low Pressure, to the TRM is acceptable. Any changes to this requirement will require a 10 CFR 50.59 evaluation. Additionally, relocating this requirement is consistent with the STS.

(2) CTS setpoints for HPCI and RCIC isolation on the steam line low pressure Function (Table 3.2.B) are specified as "100 > p > 50 psig." This specification of both the trip and trip reset pressure provides some assurance of the capability to restore HPCI and RCIC following a trip on steam line low pressure. ITS 3.3.6.1 (Functions 3.c and 4.c) specify the steam line low pressure trip Allowable Value. However, the trip reset is being relocated to plant procedures. The trip reset is not assumed in any accident analysis. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. This change is consistent with the STS and is acceptable.

(3) The compensatory actions in CTS 3.2.A (Table 3.2.A, Note 9) associated with recovery of a loss of ventilation in the MSL tunnel are being relocated to the ITS Bases. These compensatory actions are not needed to satisfy Required Actions for a complete loss of isolation function specified in the STS, but represent good engineering practice. Any changes to this requirement will be controlled by the Bases Control Program (ITS 5.5.10). This change is consistent with the STS and is acceptable.

(4) CTS 3.2.A, Table 3.2.A, Function 11, Reactor Cleanup System High Temperature, isolates the Reactor Water Cleanup (RWCU) System non-regenerative heat exchanger. This protects the ion exchanger resin from damage from high temperatures. Credit for this Function is not assumed in any transient or accident analysis in the UFSAR, because this isolation only protects the ion exchanger resin. It is not a safety-related Function. As a result, CTS requirements for this Function (including actions and surveillances) are relocated to the licensee's TRM. Any changes to these requirements will require a 10 CFR 50.59 evaluation. This change is acceptable.

2.3.3.1.K ITS 3.3.6.2 Secondary Containment Isolation Instrumentation

CTS Section	Title
Table 3.2.D, Trip Level Setting	Trip Level Settings Replaced with Allowable Values
Table 3.2.D, Tables 4.2.A and 4.2.D, Note 4	Number of Design Channels, Procedural Details
Note 2 to Conditions and Required Actions	Inoperable Channel or Trip System - Operational Details

There are no relocated CTS requirements associated with ITS 3.3.6.2 other than those described in Section 2.3.3.1 of this safety evaluation.

2.3.3.1.L ITS 3.3.7.1 Main Control Room Environmental Control (MCREC) System Instrumentation

CTS Section	Title
Table 3.2.D, Trip Level Settings	Trip Level Settings Replaced with Allowable Values
Table 3.2.D, 3.11.A.5 and 3.11.A.5.b	Number of Design Channels
Table 3.2.D,3.11.A.5.a, 4.11.A.3, 4.11.A.4 and 4.11.A.6	Trip Function Requirements
4.11.A.5	Procedural Details

(1) The requirements (CTS Table 3.2.D, Main Control Room, 3.11.A.5.a, 4.11.A.3, 4.11.A.4 and 4.11.A.6) for trip functions for the Main Control Room Emergency Ventilation (MCREV) initiation instrumentation not associated with the Control Room Air Intake Radiation — High channels are being relocated to the licensee's TRM. These trip functions are not credited in the safety analysis for initiating the MCREV System. In addition, the functions relocated have no impact on the Control Room Air Intake Radiation — High channel Operability. Therefore, this instrumentation does not satisfy the criteria in the Final Policy Statement and 10 CFR 50.36 for inclusion in the TS and relocation to the TRM and control in accordance with 10 CFR 50.59 is acceptable. In addition, this change is consistent with the STS.

2.3.3.1.M ITS 3.3.8.1 Loss of Power (LOP) Instrumentation

CTS Section	Title
Table 3.2.B	Procedural Details
Table 3.2.B	Trip Level Settings Replaced with Allowable Values
Table 3.2.B	Instrument Descriptions

There are no relocated CTS requirements associated with ITS 3.3.8.1 other than those described in Section 2.3.3.1 of this safety evaluation.

2.3.3.1.N ITS 3.3.8.2 Reactor Protection System (RPS) Electric Power Monitoring

CTS Section	Title
3.1.D.1 and 3.1.D.2	Definition of One Trip Train
4.4.D.1 and 4.1.D.2	Limits on Undervoltage, Underfrequency, Overvoltage, and Time Delay Relays

(1) The footnote details in CTS 3.1.D.1 and 3.1.D.2 of what constitutes a trip train (an electric power monitoring assembly) are being relocated to the ITS Bases. Any changes will be controlled by the Bases Control Program (ITS 5.5.10). These details do not ensure Operability of the RPS Electric Power Monitoring instrumentation. LCO 3.3.8.2 contains Operability requirements for the instrumentation. This change is consistent with the STS and is acceptable.

(2) The maximum setpoint given in CTS 4.1.D.1 and 4.1.D.2 for the undervoltage and underfrequency relays, and the minimum setpoint for the overvoltage relay and underfrequency time delay relay are being relocated to licensee procedures. These setpoints are operational details not directly related to the Operability of the instrumentation. Not having the setpoint tolerance in the ITS does not negate the Operability of the relays as the tolerances are also maintained in procedures. The Allowable Value is the required limitation for the parameter and these Allowable Values are maintained in the applicable ITS SRs. Any change to the relocated setpoints requires a 10 CFR 50.59 evaluation. This change is consistent with the STS and is acceptable.

2.3.3.1.O CTS 3/4.15, Seismic Monitoring Instrumentation

(1) CTS 3/4.15, "Seismic Monitoring Instrumentation," and associated Bases are being relocated to the TRM. This specification provides the requirements for the seismic monitors and recorders. The seismic monitors and recorders function to determine the magnitude of a seismic event. These instruments do not perform any automatic action. They are used to measure the magnitude of a seismic event to ensure the design margins for plant equipment and structures have not been violated. Since the determination of the magnitude of the seismic event is performed after the event has occurred, this instrumentation has no bearing on the mitigation of any design basis accident or transient. These instruments do not meet any of the criteria in the Final Policy Statement and 10 CFR 50.36 for inclusion in the TS. Therefore, this specification is relocated out of TS to the TRM. Any changes to these requirements will require a 10 CFR 50.59 evaluation. The change is consistent with the STS and is acceptable.

The above relocated requirements relating to installed plant instrumentation are not required to be in the TS under 10 CFR 50.36, and are not required to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety. Further, the scope of ITS Section 3.3 provides sufficient controls on the safety functions that remain in the TS. In addition, the staff finds that sufficient regulatory controls exist under 10 CFR 50.59 and ITS 5.5.10 for the relocated requirements. Accordingly, the staff has concluded that these requirements may be relocated from the TS to the plant procedures, TRM, ITS Bases, or UFSAR, as applicable.

2.3.3.2 Less Restrictive Technical Changes

CTS setpoints are revised for ITS Section 3.3 instrumentation to reflect Allowable Values consistent with the philosophy of the STS. All such changes were discussed as less restrictive. These Allowable Values (to be included in TS) and the Trip Setpoints (to be included in plant procedures) have been established consistent with the PECO Energy Instrument Setpoint Methodology or the General Electric (GE) Instrument Setpoint Methodology; the PBAPS Units 2 and 3 specific safety analysis limits as modified by NEDC-32183P, "Power Rerate Safety Analysis Report for Peach Bottom 2 and 3," dated May 1993; and the uncertainties associated with the PBAPS Units 2 and 3 instrumentation. The setpoint evaluation used actual PBAPS physical data and operating practices to ensure the validity of the resulting Allowable Values and Trip Setpoints. Changes resulting from the Power Rerate analyses and the effect on safety analysis limits were previously evaluated in the licensee amendment requests (93-12) for Power Rerate [letter dated June 23, 1993, from G.A. Hunger (PECO) to NRC]. All changes to safety analysis limits, applied in the methodologies, were evaluated and confirmed as ensuring safety analysis licensing acceptance limits are maintained. All design limits, applied in the methodologies, were confirmed as ensuring that applicable design requirements of the associated systems are maintained. The methodologies used to derive the allowable Values and Trip Setpoints are based on combining the uncertainties of the associated channels as documented in letter dated May 2, 1994, from G. A. Hunger (PECO Energy) to NRC responding to the Request for Additional Information Regarding Power Rerate Request dated March 29, 1994 (RAI-2). The methodologies used in the evaluation are consistent with the methodology used for Limerick Units 1 and 2 and documented in NEDC-31336, "General Electric Instrumentation Setpoint Methodology." The NRC approval of NEDC-31336 is documented in a Safety Evaluation Report (SER) transmitted by letter from B. Boger (NRC) to D. Roare (GE) dated February 9, 1993. In the methodologies, the Trip Setpoints take into consideration calibration accuracies that were specifically assumed in the PBAPS-2/-3 setpoint calculations. In these methodologies, the allowed value establishes a procedural allowance. Accuracy, error, drift, and temperature effect on the drift are separate components that factor in the methodology. Plant calibration procedures ensure the assumptions regarding calibration accuracy are maintained. The ITS Allowable Values and proceduralized Trip Setpoints are established from each design or safety analysis limit by accounting for instrument accuracy, calibration and drift uncertainties, as well as process measurement accuracy and primary element accuracy using the PECO Energy Instrument Setpoint Methodology or the GE Instrument Setpoint Methodology. This results in a single-sided probability distribution for channel trips and permissives. Where independent trip devices are used, one is used for each analytical limit. The use of these methodologies for establishing Allowable Values and Trip Setpoints ensures design or safety analysis limits are not exceeded in the event of transients or accidents and accounts for uncertainties and environmental conditions. Although NEDC-31336 does not specify a particular confidence level, Regulatory Guide 1.105 does state, "95% of the data points will be bounded by the value selected." The staff has interpreted this as defining a tolerance interval and thus a confidence level based on sample size. For 24-month surveillance interval extension requests the staff has historically requested that the data be represented as a 95/95 tolerance interval. The GE methodology does not incorporate a specific confidence level but assumes a normal random distribution of generic drift data that is justified for the plant-specific case by utilizing a "confirmation ratio" as referenced by GE. The staff notes that only PBAPS plant-specific data is used in the PBAPS analysis and the confirmation ratios (generic data) cited by the licensee may not be directly applicable to the PBAPS analysis.

However, the licensee's incorporation of portions of the GE Setpoint Methodology with regard to 24-month surveillance intervals was previously evaluated and approved by the staff. Based on that evaluation, the incorporation of Generic Letter 91-04 criteria for 24-month calibration intervals (including a drift evaluation program and as-left/as-found data analysis) by the licensee, plant operating experience and the subsequent staff approval of Topical Report NEDC-31336, "General Electric Setpoint Methodology," the staff finds the incorporation of the GE setpoint methodology into the ITS to be acceptable for PBAPS. Application of the GE setpoint methodology (including drift analysis) to surveillance intervals greater than 24 months (30 months with 25% extension) is currently under review by the staff.

PECO Energy states the following instrument functions have not had a drift analysis completed:

• MSIV Closure	NAMCO Limit Switches
• Turbine Stop Valve Closure	NAMCO Limit Switches
• HPCI Pump Discharge Flow	Barton dP Switches
• Core Spray Pump Discharge Flow	Barton dP Switches
• LPCI Pump Discharge Flow	Barton dP Switches
• HPCI Steam Line Flow	Barton dP Switches
• RCIC Steam Line Flow	Barton dP Switches
• RWCU Flow	Barton dP Switches

These switches are not subject to an electronic instrument drift as are transmitters and associated trip unit modules. They are mechanical devices set with a mechanical locking mechanism that is historically stable. The ITS requires calibration of both the NAMCO limit switches and the Barton d/p switches once per operating cycle, except for the Barton d/p switches associated with HPCI steam line flow, RCIC steam line flow, and RWCU flow, which are required to be calibrated once per 92 days. The calibration requirements are more restrictive than the allowable value. The licensee tracks calibration failures and, as a result, identifies root causes and forms corrective actions. The ITS requires functional testing of these switches which are done at least once per operating cycle. Functional testing includes verification of valve position indication and switch actuation. Through the above calibration, testing, and remedial programs, the licensee is confident that unacceptable switch performance will be corrected in a timely manner. Based on that confidence and the historical stability of the switches, the use of these switches without a drift analysis is acceptable.

Nomenclature is modified as well. For example, the CTS "538 inches above vessel zero" is stated in the ITS as "0 inches above instrument zero." The difference between the analytical limit and the Allowable Value of the ITS is additional margin. The actual trip setting is more conservative than the CTS setpoints. These changes from the CTS setpoints to the ITS Allowable Values are acceptable.

Requirements in ITS Section 3.3 which are less restrictive than related CTS requirements are described below for each of the specifications in Section 3.3.

2.3.3.2.A <u>ITS 3.3.1.1, Reactor Protection System (RPS) Instrumentation</u>

(1) ITS SR 3.3.1.1.12 implements the CTS Table 4.1.2 Note excluding neutron detectors from Channel Calibrations. The change adds a note to the 184 day and 18 month Channel Calibration SRs excluding the neutron detectors from these surveillances. The Channel Calibration is a complete check of the instrument loop and the sensor. The Channel Calibration verifies that the channel responds to the measured parameter within the necessary range and accuracy. The neutron detectors are excluded from the Channel Calibrations because they are passive devices, because they have minimal drift, and because of the difficulty of simulating a meaningful signal. Changes in neutron detector sensitivity are compensated for by performance of the 7 day calorimetric calibration (SR 3.3.1.1.2) and the 1000 MWD/T LPRM calibration against the TIPs (SR 3.3.1.1.8). This change is consistent with the STS and is acceptable.

(2) ITS Table 3.3.1.1-1 implements CTS Table 3.1.1, Refuel Function Operability Requirements, for Mode 5. This change relaxes the following requirement for the specified Functions. With the Mode Switch in Shutdown, the Manual Scram, High Flux IRM, IRM Inoperable, and High Scram Discharge Volume Water Level Functions can be bypassed. These Functions will be Operable with the Mode Switch in Refuel, the reactor subcritical, and the water temperature less than 212°F.

The change requires the above Functions to be Operable only when in Mode 5 (Refuel) with any control rod withdrawn from a core cell containing one or more fuel assemblies. This change does not impact the safety of the plant or any of the safety analysis assumptions. The design function of the RPS Functions are to shut down the reactor when required by initiating a reactor scram. This is only possible when control rods are withdrawn. Control rods withdrawn from a core cell containing no fuel assemblies do not affect the reactivity of the core. With all the rods inserted,the shutdown margin requirements (ITS 3.1.1) and the required one-rod-out interlock (ITS 3.9.2) ensure no event will occur. The CTS Actions for inoperable equipment in Mode 5 are also revised to be consistent with the ITS Applicability. Since all control rods are required to be fully inserted during fuel movement (ITS 3.9.3), the applicable conditions cannot be entered while moving fuel. The only possible core alteration is control rod withdrawal which is adequately addressed by the ITS actions. This change is consistent with the STS and is acceptable.

(3) ITS SR 3.1.1.1.13 implements CTS Table 4.1.2, Turbine First Stage Pressure Permissive (interlock/bypass for the Turbine Control Valve Fast Closure and Turbine Stop Valve Closure Functions), decreasing the Surveillance Frequency from 6 months to 24 months. Operating history has shown this instrument reliable over a 24 month period at PBAPS. Therefore, based on historical operational data, it is acceptable to decrease the Frequency of this surveillance. This change is also essentially consistent with the STS, which requires the SR to be performed on a refueling outage basis.

(4) ITS Table 3.3.1.1-1, Actions, implements the CTS Table 3.1.1, Required Actions for Inserting Control Rods. Only the control rods in core cells containing one or more fuel assemblies are required to be inserted if the applicable Action A, B, or C cannot be performed within the required Completion Times. Control rods in core cells containing no fuel assemblies do not affect the reactivity of the core cells and are, therefore, not required to be inserted. The removal of the four fuel bundles surrounding a control rod very significantly reduces the reactivity worth of the associated control rod to the point where removal of that rod no longer has the potential to cause a reactivity excursion. This fact is recognized in the design of the control rod velocity limiter which precludes removal of a rod prior to removal of the four adjacent bundles. This is also reflected in the definition of Core Alterations. This change is consistent with the STS and is acceptable.

(5) ITS Table 3.3.1.1-1, Turbine Condenser Low Vacuum, implements CTS Table 3.1.1, Turbine Condenser Low Vacuum. The change relaxes the current Actions for the Condenser Vacuum Low Function if the channel or trip system cannot be placed in trip within the required Completion Time. The current Actions require inserting the control rods or reducing the turbine load and closing the MSL isolation valves within 6 hours. The change requires the plant to be brought to Mode 2 within 6 hours. This puts the plant in a Mode outside the Applicability. The Condenser Low Vacuum Function ensures the integrity of the main turbine condenser by decreasing the severity of the transient on the condenser. This Function is only required in Mode 1 because, in Mode 2, the heat generation rate is low enough so that the other diverse RPS functions provide sufficient protection. Therefore, by placing the plant in Mode 2, the plant is in a Mode where protection from this Function is not required. Thus, carrying out the current Actions is not required to put the plant in a safe condition. This change is consistent with the STS and is acceptable.

(6) ITS Table 3.3.1.1-1, Main Steam Line Isolation Valve Closure, implements CTS Table 3.3.1, Main Steam Line Isolation Valve Closure. The change relaxes the current Actions for the MSL Isolation Valve Closure Function if the channel or trip system cannot be placed in trip within the required Completion Time. The CTS Actions require the rods to be inserted immediately. The change requires the plant to be brought to Mode 2 within 6 hours. This puts the plant in a Mode which is outside the Applicability. The Main Steam Line Isolation Valve Closure Function ensures the reactor is shutdown in the event of MSL isolation valve closure which reduces the amount of heat generation by the reactor. This Function, along with the ECCS, ensures that the fuel peak cladding temperature remains below the limits of 10 CFR 50.46. In Mode 2, this Function is not required because the heat generation rate is low enough that the other diverse RPS functions provide sufficient protection. Therefore, by placing the plant in Mode 2, the plant is in a Mode where protection from this Function is not required. Thus, carrying out the current Actions is not required to put the plant in a safe condition. This change is consistent with the STS and is acceptable.

(7) ITS SR 3.3.1.1.3 and SR 3.3.1.1.11 implement CTS Table 4.1.1, IRM and APRM Functional Tests. They allow 12 hours to complete the surveillance when entering Mode 2 from Mode 1. This change adds a Note to the 7 day Channel Functional Test (SR 3.3.1.1.3), and the 184 day Channel Calibration (SR 3.3.1.1.11). The Note allows the plant to enter Mode 2 from Mode 1 without performing the required surveillance. The surveillance, however, must be performed within 12 hours after entering Mode 2. This is allowed because the testing of the Mode 2 required IRM and APRM Functions cannot be performed in Mode 1 without utilizing jumpers, lifted leads, or movable links. Twelve hours is based on operating experience and is considered a reasonable time in which to complete the SR. Therefore, this change is acceptable.

(8) ITS SR 3.3.1.1.2 implements CTS Table 4.1.2, reducing the surveillance interval for the APRM Heat Balance Calculation from twice per week to once per week. This SR ensures that the APRMs are accurately indicating the true core average power which is affected by the sensitivity of the LPRMs. The 7 day Surveillance Frequency is acceptable, based on operating experience and the fact that only minor changes in LPRM sensitivity occur during this time frame. Also, the usual outcome of the performance of the surveillance is the successful demonstration that the acceptance criteria are satisfied. This change is consistent with the STS and is acceptable.

(9) A Note is added to ITS SR 3.3.1.1.2, giving 12 hours to complete the surveillance after Thermal Power is ≥ 25%. This is acceptable because it is difficult to accurately determine core Thermal Power from a heat balance when at < 25% RTP. At low power levels, a high degree of accuracy is unnecessary because of the large inherent margin to thermal limits (MCPR and APLHGR). The 12 hour time limit for performing the surveillance is based on operating experience and providing reasonable time for completing the SR. This change is consistent with the STS and is acceptable.

(10) ITS SR 3.3.1.1.11 implements the CTS Table 4.1.2, IRM High Flux, allowing, by Note, 12 hours to complete IRM High Flux Channel Calibration when entering Mode 2 from Mode 1. Currently, the surveillance is required to be met throughout the shutdown. This change only requires the surveillance to be met during the transition from Mode 2 to Mode 1. After this requirement has been met, maintaining overlap is not required. This change is consistent with the STS and is acceptable.

2.3.3.2.B <u>ITS 3.3.1.2, Source Range Monitor (SRM) Instrumentation</u>

(1) CTS 3.3.B.4 does not identify Required Actions if SRM Operability requirements in Mode 2 are not satisfied. CTS 3.3.B.4 therefore defaults to LCO 3.0.C which requires that the plant be in Hot Shutdown (Mode 3) within 6 hours. ITS 3.3.1.2 identifies the Required Actions and associated Completion Times if SRM Operability requirements in Mode 2 are not satisfied. ITS Condition A allows 4 hours to restore the 3 required SRM channels to Operable as long as at least one SRM is always Operable. ITS Condition B requires the suspension of all control rod withdrawal if there are no Operable SRMs, and, in accordance with Condition A, allows 4 hours to restore the required 3 SRM channels to Operable status. ITS Condition C requires the reactor to be in Mode 3 within 12 hours if the Required Actions and Completion Times for Condition A or B are not satisfied. ITS Conditions A, B, and C are less restrictive than the CTS for the following reasons:

(a) Condition A allows control rod withdrawal to continue for up to 4 hours with less than the required number of SRMs Operable; Condition A may be exited either by restoration of the required number of SRM channels or by increasing reactor power until the IRMs are above Range 2.

(b) Condition B allows up to 4 hours to restore the required number of SRM channels before a reactor shutdown must be initiated.

(c) Conditions A, B, and C allow up to 16 hours (4 hours for Conditions A and B and 12 hours for Condition C) before the reactor must be in Mode 3 when SRM Operability requirements are not satisfied (CTS LCO 3.0.C requires that the plant be in Mode 3 within 6 hours).

These changes are acceptable because the SRMs are not credited in the analysis of any accident and exist solely to allow operators to monitor changes in power level during startup. At least one SRM will remain Operable during any rod withdrawal. Excessive reactivity additions during Mode 2 will be quickly identified and mitigated by the IRMs, IRM rod blocks, and the IRM Range 1 High Flux Trip Function. Reactivity addition accidents from the source range are assumed to begin with flux below the level of source range detector sensitivity and the analysis assumptions are not affected by the operators ability to monitor changes in flux levels. These less restrictive requirements are consistent with the STS and are acceptable.

(2) ITS 3.3.1.2 (Table 3.3.1.2-1 Mode 5 requirements) contains a requirement to perform a Channel Calibration (SR 3.3.1.2.7) every 184 days to verify the performance of the SRM detectors and associated circuitry. SR 3.3.1.2.7 is modified by a Note that excludes the neutron detectors from calibration requirements because the detectors are fission chambers that are designed to have a relatively constant sensitivity over the range and with an accuracy specified for a fixed useful life and cannot readily be adjusted. Note 2 to SR 3.3.1.2.7 explicitly acknowledges that the Channel Calibration cannot be performed at power and allows deferring performance until 12 hours after the IRMs are on Range 2 or below during a reactor shutdown. This change is consistent with the STS and is acceptable.

2.3.3.2.C <u>ITS 3.3.2.1, Control Rod Block Instrumentation</u>

(1) ITS 3.3.2.1, Conditions A and B, extend the Completion Time for blocking control rod withdrawal if one RBM channel is inoperable from "immediately" to "within 25 hours." Additionally, ITS 3.3.2.1, Condition B, extends the Completion Time for blocking control rod withdrawal if both RBM channels are inoperable from "immediately" to "within 1 hour." However, the requirement to block control rod withdrawal if a RBM channel is inoperable exists whenever the RBM function is required to be Operable and not just "during operation with limiting control rod patterns" as is required by CTS 3.3.B.5. If one or both RBM channels are inoperable when "limiting control rod patterns" exist, CTS 3.3.B.5 requires blocking all control rod withdrawal or adjusting thermal power to a level where the RBM system is not required to be Operable. The increase in the amount of time allowed to block control rod withdrawal if one RBM channel is inoperable is acceptable because the remaining Operable channel is adequate to perform the control rod block function but the change does not allow continued operation in a configuration where a single failure will result in the loss of the control rod block function. The 1 hour Completion Time to block control rod withdrawal if both RBM channels are inoperable allows the operator time to evaluate and repair any discovered inoperabilities and is acceptable because it strictly limits the amount of time operation may continue with a complete loss of the RBM function while allowing time for restoration or tripping of inoperable channels. This change is consistent with the STS and is acceptable.

(2) CTS 4.3.B.3.b.1 requires a Channel Functional Test of the Rod Worth Minimizer (RWM) "prior to the start of control rod withdrawal toward criticality" and "prior to attaining the Rod Worth Minimizer low power setpoint during rod insertion." ITS 3.3.2.1 requires a Channel Functional Test of the RWM every 92 days in Mode 2 and every 92 days in Mode 1 when Thermal Power is ≤ 10%. ITS SR 3.3.2.1.2 is modified by a Note stating that the Channel Functional Test is not required during a startup until 1 hour after any control rod is withdrawn at ≤ 10% RTP in Mode 2. ITS SR 3.3.2.1.3 is modified by a Note stating that the Channel Functional Test is not required during a shutdown until 1 hour after Thermal Power is ≤ 10% in Mode 2. The addition of these Notes makes the ITS requirement for a Channel Functional Test less restrictive because

the SR is not required until 1 hour after the RWM is required to be Operable. These changes are acceptable for the following reasons:

(a) The RWM does not monitor core thermal conditions. It enforces preprogrammed rod patterns as a backup intended to prevent reactor operator error in selecting or positioning control rods.

(b) The reliability analysis documented in NEDC-30851-P-A, "Technical Specification Improvement Analysis for BWR Control Rod Block Instrumentation," October 1988, determined that the failure frequency curve for this instrumentation is relatively flat in the range of 30 to 124 days and starts a gradual increase after 124 days. Thus, more frequent testing is unlikely to identify problems.

(c) It is overly conservative to assume that the RWM is not Operable when a surveillance is not performed because of its demonstrated reliability as demonstrated by successful completion of most Channel Functional Tests.

These changes are consistent with the STS and are acceptable.

(3) The ITS eliminates CTS 4.3.B.5, which requires a Functional Test of the RBM "prior to withdrawal of the designated rod(s)" whenever "a limiting control rod pattern exists" and relies completely upon the Functional Test which is required every 92 days. The change is acceptable because:

(a) two independent RBM channels will be Operable during any rod withdrawal except for short and infrequent periods when one channel is inoperable; and

(b) deletion of this requirement allows taking credit for routine periodic tests in place of performing unscheduled testing whenever the potential exists that the RBM may be required to function.

The Frequency of 92 days for the Channel Functional Test is based upon the reliability analysis in NEDC-30851-P-A, "Technical Specification Improvement Analysis for BWR Control Rod Block Instrumentation," October 1988. This reliability study found that the failure frequency curve for this type of instrumentation is relatively flat in the range of 30 to 124 days and starts a gradual increase after 124 days. Based on this finding, performing this testing more frequently than every 92 days does not significantly increase the probability of detecting a random failure of the RBM. This change is consistent with the STS and is acceptable.

2.3.3.2.D <u>ITS 3.3.2.2, Feedwater and Main Turbine High Water Level Trip Instrumentation</u>

There are no less restrictive changes to the CTS associated with ITS 3.3.2.2.

2.3.3.2.E ITS 3.3.3.1, Post Accident Monitoring (PAM) Instrumentation

(1) ITS 3.3.3.1, Condition B provides an Action for when a channel is not restored to Operable status within 30 days as required by ITS Condition A. The Action of ITS Condition B requires the initiation of action per ITS 5.6.6, to submit a report. The action of submitting a report is appropriate, in lieu of the existing shutdown requirement, when a single PAM instrument channel (of redundant channels) has not been restored to Operable status. There is a low probability that unit conditions would require the information provided by this instrumentation and the report identifies alternative actions to be taken before a complete loss of alternate instrumentation occurs. This change is consistent with the STS and is acceptable.

(2) PAM instruments are provided for assisting operators in the diagnosing and in determining preplanned actions required to mitigate the consequences of design basis accidents, which are assumed to have occurred in Modes 1 and 2. The probability of an event in Modes 3, 4, or 5 that requires PAM instrumentation is sufficiently lower, such that PAM instruments are not required in these Modes. As a result, the appropriate non-applicable Mode for shutdown actions is Mode 3 for PAM instruments. The CTS Action (Note 3 to Table 3.2.F) to be in Mode 4 if at least one of the two Reactor Pressure or Suppression Chamber Water Temperature channels can not be restored to Operable status within the appropriate time has been revised to reflect placing the unit in the non-applicable Mode, Mode 3. This change is consistent with the STS and is acceptable.

(3) The CTS Table 3.2.F Action for a single inoperable Drywell High-Range Radiation channel has been revised to ITS 3.3.3.1, Condition A. This allows 30 days for restoration of the inoperable channel or the initiation of the alternate method of monitoring per Condition B. The change from the CTS 72 hours for initiation of the alternate monitoring method and the CTS 7 days for restoration of the inoperable channel to the ITS 30 days for both actions is acceptable based on the availability of the remaining Operable Drywell High-Range Radiation channel and Operable diverse (backup) instrument channels, the passive nature of the instrument (no required automatic action) and the low probability of an event requiring the PAM instrumentation during the interval. This change is consistent with the STS and is acceptable.

(4) The CTS Actions (Table 3.2.F) have been changed for two Drywell High-Range Radiation channels inoperable. ITS 3.3.3.1, Action C, allows 7 days for restoration of one channel prior to initiating an alternate method for monitoring, instead of the CTS requirement for initiation of the alternate method of monitoring within 72 hours and restoration of two channels to Operable status. The Completion Time of 7 days for restoration of one channel or initiation of the alternate method of monitoring is acceptable based on the relatively low probability of an event requiring PAM instrumentation, the passive function of the instruments, and the availability of alternate means to obtain the information. This change is consistent with the STS and is acceptable.

(5) The CTS restrictions on the Completion Times for one or two instrument channels inoperable which require the availability of other instruments to monitor the affected variables are deleted from the ITS. ITS 3.3.3.1, Action A, ensures information is available to the operator based on the availability of the remaining redundant monitoring channel (for one channel inoperable) or the alternate monitoring methods (for two channels inoperable). As such, no requirements for the availability of specific instruments need be specified for these Conditions. This change is consistent with the STS and is acceptable.

(6) The Instrument Checks (CTS Table 4.2.F) performed once each shift and once per day have been replaced by a Channel Check performed once per 31 days. The change to ITS SR 3.3.3.1.1 is acceptable given the passive nature of these devices and the fact that the most common outcome of the performance of a surveillance is demonstrating the acceptance criteria are satisfied. In addition, this change is consistent with the STS.

(7) The CTS 3.7.A.6.c Completion Times for the Condition with one and two inoperable oxygen analyzer channels is revised from 7 days and 48 hours, respectively. ITS 3.3.3.1, Condition A, allows 30 days for restoration of a single channel and Condition C allows 7 days for restoration of either channel when both channels are inoperable. The increased repair time is acceptable based on the availability of the remaining Operable channel (one channel inoperable condition) or Operable diverse instrument channels (two channel inoperable condition), the passive nature of the instruments (no required automatic action), and the low probability of an event requiring PAM instrumentation during the intervals. This change is consistent with the STS and is acceptable.

2.3.3.2.F <u>ITS 3.3.3.2, Remote Shutdown System</u>

There are no less restrictive changes to the CTS associated with ITS 3.3.3.2.

2.3.3.2.G <u>ITS 3.3.4.1, Anticipated Transient Without Scram Recirculation Pump Trip (ATWS-RPT) Instrumentation</u>

(1) The Applicability requirement in ITS 3.3.4.1 for the ATWS Recirculation Pump Trip is Mode 1 instead of "Run or Startup Mode" as is required by CTS 3.2.G. The ATWS-RPT Function is required to mitigate the consequences of a common mode failure of the RPS scram function. The ATWS-RPT Function reduces reactor power by tripping the recirculation pump breakers to reduce core flow. This function is required to be Operable in Mode 1 because the reactor may be producing significant power and the recirculation system could be at high flow. The function is not required in Startup (Mode 2) because the reactor is at low power and the recirculation system is at low flow; thus, both the need for and the effectiveness of the ATWS-RPT Function in Mode 2 is significantly reduced. A commensurate change (ITS Required Action D.2) revises the shutdown action to be consistent with placing the unit in a Mode outside the Applicability. This change is consistent with the STS and is acceptable.

(2) An additional Required Action (ITS Required Action D.1) allows the removal of the associated recirculation pump from service. This action accomplishes the functional purpose of the instrumentation and enables continued operation. This change is consistent with the STS and is acceptable.

2.3.3.2.H <u>ITS 3.3.5.1 Emergency Core Cooling (ECCS) Instrumentation</u>

(1) The Applicability for the LPCI Functions associated with the recirculation discharge valves are modified by requiring them to be Operable in Modes 1, 2, and 3, with the associated recirculation pump discharge valves open. This is reasonable since this Function is only required Operable when the recirculation valves are open, which could hinder the coolant reaching the core. If the recirculation valves are closed then this Function is not required, since its function is to close the recirculation valves. Also, with the recirculation valve closed, the instruments function has been completed. Re-opening of the valves is a very controlled evolution, and could not be performed without strict administrative controls. This change is consistent with the STS and is acceptable.

(2) The Frequency for the Channel Calibration of the HPCI suction source transfer instrumentation (Condensate Storage Tank Level—Low and Suppression Pool Water Level—High) has been changed from 3 months to 24 months. These instruments are mechanical float type switches. Due to the construction and principles of operation of float type switches, the typical failure mode is to not operate. As a result, this type of failure would be detected during the quarterly Channel Functional Test. Therefore, extending the surveillance is considered acceptable and is consistent with other similar surveillances.

2.3.3.2.I <u>ITS 3.3.5.2 Reactor Core Isolation (RCIC) System Instrumentation</u>

There are no less restrictive changes to the CTS associated with ITS 3.3.5.2.

2.3.3.2.J <u>ITS 3.3.6.1 Primary Containment Isolation System (PCIS) Instrumentation</u>

(1) CTS 3.2.A (Table 3.2.A, Functions 3, 5, 7, 8, and 9 and associated Notes 2.A and 2.B, as applicable) requires an orderly load reduction to be initiated and the reactor to be in Cold Shutdown in 24 hours if a required channel of Function 3 (MSL Isolation of Reactor Low Low Low Water Level) is inoperable and not placed in trip within the required time and the MSLs be isolated in 12 hours if a required channel of Functions 5, 7, 8, or 9 (MSL Isolation on Main Steam Tunnel High Radiation, Main Steam Line High Flow, or Main Steam Tunnel High Temperature) is inoperable and not placed in trip within the required time period. Under the identical conditions, ITS 3.3.6.1 (Table 3.3.6.1-1, Condition D) allows the option of isolating the affected MSL in 12 hours or placing the reactor in Mode 3 within 12 hours and Mode 4 within 36 hours. Placing the unit in Mode 3 within 12 hours and Mode 4 within 36 hours places the unit in a condition that is outside the

Applicability for the Function. This change is consistent with the STS and is acceptable.

(2) CTS Table 3.2.A (Functions 1 and 4 and associated Note 2.A.) requires the Reactor be in Cold Shutdown within 24 hours after determining there are fewer than the minimum required number of Operable or tripped channels of Reactor Low Level (ITS Function 2.a) or High Drywell Pressure (ITS Function 2.b). Under the identical conditions, ITS 3.3.6.1 (Table 3.3.6.1-1, Functions 2.a and 2.b and associated Condition G) requires the reactor be in Mode 3 within 12 hours and Mode 4 within 36 hours. The change in Completion Time from Cold Shutdown within 24 hours to Mode 3 within 12 hours and Mode 4 within 36 hours requires the plant be shut down (Mode 3) sooner than the CTS, but it increases the amount of time before the reactor is outside the Mode of Applicability. This change is acceptable because the plant is required to be shutdown sooner, while allowing for a more controlled cooldown, reducing thermal stress on components and the chance for a plant transient which could challenge safety systems. Additionally, this change makes the Completion Times associated with inoperable primary containment isolation instrumentation consistent with the Completion Times associated with an inoperable primary containment isolation valve in ITS 3.6.1.3. This change is consistent with the STS and is acceptable.

(3) CTS 3.2.A (Table 3.2.A, Note 9) allows the setpoint of the MSL tunnel exhaust duct temperature Function to be increased from the setpoint of 200°F to 250°F for a period of 30 minutes to avoid a MSL isolation transient during a temporary loss of ventilation in the MSL tunnel. ITS 3.3.6.1 does not include this specific allowance; however, by deliberately entering ITS Condition B, and then raising the setpoints for the Main Steam Tunnel Temperature — High Function to 250°F causing all channels of Main Steam Tunnel Temperature — High Function to be inoperable, the licensee avoids an MSL isolation during a temporary loss of MSL tunnel ventilation by another method. Use of entry into Condition B allows the Main Steam Tunnel Temperature — High setpoints to remain above the required setpoint for 1 hour, instead of the 30 minutes allowed by CTS Table 3.2.A, Note 9. This change is acceptable for the same reasons that ITS 3.3.6.1, Conditions B and D, are acceptable as Required Actions for a complete loss of the function MSL Tunnel Temperature — High. The duration that the setpoint will be above the allowable value is short. During this short period of time, the MSL isolation capability as protection against a MSL break is maintained by redundant Functions, including MSL Flow — High, MSL Pressure — Low, and Reactor Water Level — Low. Additionally, increasing the setpoint for the MSL tunnel exhaust duct high temperature from approximately 200°F to 250°F will not disable the MSL isolation on high tunnel temperature. However, it increases the size and duration of the leak that will initiate isolation. Finally, allowing this extended time will potentially avoid a plant transient caused by a plant shutdown while not representing a significant decrease in safety. This change is consistent with the STS and is acceptable.

(4) The Frequency for the Safeguards Area High Temperature (HPCI and RCIC Compartments) Channel Calibration is being decreased from the CTS Table 4.2.B required 3 months to 24 months in ITS Table 3.3.6.1-1. Operating history shows this instrument consistently reliable over a 24 month period. In addition, these instruments are the same type as the HPCI and RCIC Steam Line High Temperature instruments, which already have a 24 month Frequency for the Channel Calibration. Therefore, decreasing the Frequency of this surveillance is acceptable. Further, this change is consistent with the STS for, which requires the surveillance on a refueling outage basis, for the comparable HPCI instrument. The STS requires the surveillance on a 3 month basis for the RCIC instrument, mainly due to the design of the instrumentation for the plant on which the STS is based. At PBAPS, the same instrument is used to monitor both the HPCI and RCIC compartment temperatures, therefore, the requirement to perform the Channel Calibration every 24 months is acceptable for both the HPCI and RCIC Functions.

2.3.3.2.K ITS 3.3.6.2 Secondary Containment Isolation Instrumentation

(1) ITS Condition C modifies CTS Action B by adding the options of declaring secondary containment isolation valves (SCIVs) or the Standby Gas Treatment (SGT) System inoperable. The CTS requires the isolation of the secondary containment and the start of the SGT System. By allowing the associated SCIVs to be declared inoperable, the Action of that specification must be entered. This ensures the plant is within the bounds of the TS and approved actions. The option to declare the SGT System inoperable is acceptable. This also ensures the plant is within the bounds of the TS and approved actions. Declaring the associated SCIVs and SGT System inoperable is also acceptable since the Required Actions of the respective LCOs provide appropriate actions for the inoperable components. The 1 hour Completion Time is sufficient for plant operations personnel to establish required plant conditions or to declare the associated components inoperable without unnecessarily challenging plant systems. This change is consistent with the STS and is acceptable.

2.3.3.2.L ITS 3.3.7.1 Main Control Room Emergency Ventilation (MCREV) System Instrumentation

(1) The CTS SRs in Table 4.2.D which are reflected in the SRs for ITS 3.3.7.1 are modified by a Note that when a channel is placed in an inoperable status solely for the performance of required surveillances, entry into the associated Conditions and Required Actions may be delayed for up to 6 hours, provided the associated Function maintains MCREV system initiation capability. The Note only applies when the MCREV system initiation Function is maintained by the redundant Control Room Air Intake Radiation — High channels. The 6 hour period is based on GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications" (SER dated July 21, 1992). Confirmation of the applicability of GENE-770-06-1 to PBAPS for the MCREV system is documented in Technical Specification Change Request (TSCR) 90-03.

(TSCR 90-03 was approved in PBAPS Amendment Nos. 203 and 206, dated June 6, 1995, for Units 2 and 3, respectively.) This change is consistent with the STS and is acceptable.

(2) The Frequency for CTS surveillance 4.11.A.3 is changed from 18 months to 24 months in the ITS. CTS surveillance 4.11.A.3 requirements are addressed in the Logic System Functional Test for the MCREV System Instrumentation and the system functional test for the MCREV System. The refueling outage interval, which is what the test was originally based upon, is now 24 months. A review of the operating performance history of this system shows this SR has failed only due to an instrument failure (detectable during a Channel Functional Test) or a fan failure [detectable during the tests required by the Ventilation Filter Test Program (VFTP)]. The VFTP requirements are located in ITS 5.5.7. Extending the LSFT Frequency is consistent with other similar surveillances. Therefore, extending the LSFT Frequency is acceptable.

2.3.3.2.M <u>ITS 3.3.8.1 Loss of Power (LOP) Instrumentation</u>

(1) Note 2 is added to the SRs allowing a 2 hour delay from entering into the associated Conditions and Required Actions for a channel placed in an inoperable status solely for performance of required surveillances provided the associated Function (Function 1) maintains initiation capability for three diesel generators (DGs) and, for Functions 2, 3, 4, and 5, undervoltage transfer capability for three 4-kVac emergency buses. When a Function's channel trips for Functions 2 - 5, the preferred offsite power source circuit breaker to the 4-kVac emergency bus is tripped and a transfer to the alternate offsite source is automatically initiated. If the alternate source power, as sensed by the Function 1 undervoltage relay, is inadequate, a DG start signal is initiated by the Function 1 relay. The loss of Function is acceptable in these cases because only three of the four DGs are required to start within the required time. The short period of time (2 hours) in this Condition will have no appreciable impact on risk. Also, upon completion of the surveillance, or expiration of the 2 hour allowance, the channel must be returned to Operable status or the applicable Condition entered and Required Actions taken. A review of log entries is required prior to rendering a loss of power channel inoperable for performing required surveillance. This review, as required by ITS 5.5.11, "Safety Function Determination Program," is a control to prevent the intentional deactivation of a channel of loss of power instrumentation when non-associated DGs or alternate sources are not available. Thus, the loss of the safety function of the loss of power instrumentation would not occur due to the required surveillance. Therefore, this change is acceptable.

(2) The ITS requires the associated DGs be declared inoperable immediately if the Required Actions of Conditions A, B, or C cannot be met within one hour. The CTS, Note 1 to Table 3.2.B, requires that if the Actions cannot be met, the reactor must be placed in the Shutdown Condition within 24 hours. By declaring the DG inoperable and taking the actions of the DG, the plant is within the bounds of the TS and approved

actions. Therefore, this action is appropriate since the LOP Instrumentation may be incapable of performing the intended function (starting the associated DGs), and the supported features (DGs) associated with the inoperable untripped channels must be declared inoperable immediately. This change is consistent with the STS and is acceptable.

(3) This change extends the Completion Times for Degraded Voltage High Setting and Degraded Voltage Non-LOCA Functions (Functions 3 and 5, respectively, of Table 3.3.8.1-1) from 1 hour to the following:

14 days in ITS Condition A when one or two Function 3 channels are inoperable on one 4 kV emergency bus; or

14 days in ITS Condition A when one or two Function 5 channels are inoperable on one 4 kV emergency bus; or

24 hours in ITS Condition B when one Function 3 channel is inoperable on each of two 4 kV emergency buses; or

24 hours in ITS Condition B when one Function 5 channel is inoperable on each of two 4 kV emergency buses; or

24 hours in ITS Condition B when one Function 3 channel is inoperable on one 4 kV emergency bus and one Function 5 channel is inoperable on a different 4 kV emergency bus.

During Modes 1, 2, and 3, four 4 kV emergency buses from the subject unit and at least two 4 kV emergency buses from the opposite unit are required to have Operable LOP instrumentation. During other Modes or conditions, at least two 4 kV emergency buses from the subject unit and at least one 4 kV emergency bus from the opposite unit are required to have Operable LOP instrumentation. The actual number of 4 kV emergency buses and, as a result, the LOP instrumentation channels required will vary depending on which components are being credited with satisfying TS requirements and from where these components are being powered.

The 14 day Completion Time when one or two Function 3 channels or when one or two Function 5 channels are inoperable on one 4 kV emergency bus is acceptable because these relays provide only a marginal increase in the voltage monitoring scheme (there is only a small range where the relay protection provided by either of these relays does not overlap with other voltage monitoring relays). In this condition, autotransfer capability from the normal offsite power source to the alternate power source may be lost from Function 3 or 5 channels for one 4 kV emergency bus. However, autotransfer capability will still be provided by the remaining Function 3 or 5 channels on the affected 4 kV emergency bus while maintaining adequate protection for equipment powered from the affected bus. Therefore, this change has no adverse impact on plant operation. In addition, the probability of the grid operating in this unprotected band is extremely remote. There has been no historical evidence of the grid operating in these bands for sufficient time that would have caused operation of these relays. Manual actions can also be taken on the 4 kV emergency bus with the inoperable channels as a result of observed automatic actions on the other 4 kV emergency buses with Operable channels. (The number of other 4 kV emergency buses available with Operable LOP instrumentation channels is based on the number of required 4 kV emergency buses as discussed above.) These actions (manually transferring the 4 kV emergency bus power supply to the alternate source) can be performed without detriment to plant equipment.

The 24 hour Completion Time when two 4 kV emergency buses have one required Function 3 channel inoperable, or when two 4 kV emergency buses have one required Function 5 channel inoperable, or when one 4 kV emergency bus has one required Function 3 channel inoperable and a different 4 kV emergency bus has one required Function 5 channel inoperable is acceptable based on the discussions above, except that, in Condition B, autotransfer capability may be lost for the two affected 4 kV emergency buses. Since the degradation addressed in Condition B is more severe than the degradation addressed in Condition A (two 4 kV emergency buses are impacted in Condition B, but only one 4 kV emergency bus is impacted in Condition A), the ITS Completion Time for Condition B is reduced to 24 hours from the 14 day Completion Time specified for Condition A.

(4) The CTS Table 4.2.B requirement for a Channel Calibration on the undervoltage relay for the Loss of Voltage Function (Function 1) is deleted. The CTS requires a Channel Calibration once per 5 years. The design intent of the undervoltage relays for the Loss of Voltage Function is to monitor the gross availability of voltage on the respective emergency bus. The relay makes no determination concerning the quality of the voltage. The functional requirements are that the relays operate (de-energize) when there is no source of voltage to the bus, and not operate during the load sequencing. These results are achieved in the design process by selecting a relay with a dropout well below the anticipated lowest voltage during the load sequencing, and by functional verification that the relay drops out when the bus is de-energized and that it does not drop out during load sequencing. Therefore, a Channel Calibration is not required for the undervoltage relay to verify its safety function (starting the DG on a loss of voltage on the emergency bus). The Channel Functional Test will still be performed once per 24 months to ensure that the DG does start on a loss of voltage. Therefore, this change is acceptable.

In addition, the ITS Allowable Value for Table 3.3.8.1-1, Function 1, (HGA) is listed as NA instead of the CTS 25% (±5%). This instrument does not have an adjustable setpoint. The relay is chosen to have a dropout voltage well below the lowest anticipated voltage during load sequencing. Functional tests verify it drops out when the bus is de-energized and that load sequencing does not cause dropout. Therefore, an Allowable Value and calibrations are not required for this device to be Operable. The ITS specifies a 24-month interval for Channel Functional Testing to ensure this relay starts the DG on loss of bus voltage. This change is acceptable.

2.3.3.2.N ITS 3.3.8.2 Reactor Protection System (RPS) Electric Power Monitoring

(1) The Completion Time allowed to de-energize the bus when both electric power monitoring assemblies of a power supply are inoperable has been extended from 30 minutes (CTS 3.1.D.1 and 3.1.D.2) to 1 hour (ITS 3.3.8.2, Action B). The 1 hour Completion Time is justified because it minimizes risk while allowing time for restoration or removal from service of the electric power monitoring assemblies. This change is consistent with the STS and is acceptable.

(2) A Note was added to ITS SR 3.3.8.2.1 so the surveillance is only required to be performed ≥ 24 hours before returning to Mode 2 or 3 when the unit is in Mode 4 . Thus, the 6 month Frequency would not have to be met until a shutdown to Mode 4 for ≥ 24 hours occurs. Performing this surveillance could result in half-scrams, actual valve isolations, and other plant perturbations, since if the assembly opens, power is removed. The test requirement has been changed to allow it to be performed while shutdown to minimize the impact of this surveillance on plant operation. This change is consistent with the guidance in NRC Generic Letter 91-09, "Modification of Surveillance Requirements for the Electrical Protective Assemblies in Power Supplies for the Reactor Protection System," dated June 27, 1991, and will reduce the possibility of inadvertent trips and challenges to the safety systems. This change is consistent with the STS and is acceptable.

The above less restrictive requirements have been reviewed by the staff and have been found to be acceptable, because they do not present a significant safety question in the operation of the plant. The TS requirements that remain are consistent with current licensing practices, operating experience and plant accident and transient analyses, and provide reasonable assurance that the public health and safety will be protected.

2.3.3.3 More Restrictive Technical Changes

The PBAPS ITS Section 3.3, contains a number of requirements that are more restrictive than the CTS. In most cases, these are additional restrictions that are not in the CTS, but are, however, consistent with the STS. Requirements more restrictive than the CTS corresponding to ITS 3.3 are described below.

2.3.3.3.A ITS 3.3.1.1, Reactor Protection System (RPS) Instrumentation

(1) ITS Table 3.3.1.1-1, Water Level in Scram Discharge Volume, implements CTS Table 3.1.1, Water Level in Scram Discharge Volume, while adding restrictions on the Operability of the Functions. The change adds restrictions to the provision allowing the bypass of the Scram Discharge Volume High Function when the Mode switch is in Refuel or Shutdown. The ITS requires this Function to be Operable whenever any control rod is withdrawn from a core cell containing one or more fuel assemblies. This ensures that if an RPS initiated scram occurs, the control rod insertion

will not be hindered by the excessive scram discharge volume. This change is consistent with the STS and is acceptable.

(2) ITS Table 3.3.1-1, APRM Inoperative (Function 2.c) implements CTS Table 3.1.1, APRM Inoperative. If the Required Actions of Condition A, B, or C are not completed within the Completion Time, the operator is required to go to Mode 3. In Mode 3, the unit is outside the Applicability. The CTS requirement allows the unit to be taken to Mode 2 with or without the control rods inserted. Since the APRM Inoperative is required Operable whenever the other APRM Functions are Operable, and the APRM Startup High Flux Scram Function is required in Mode 2, bringing the unit to Mode 2 will not place the Function outside its Applicability. Therefore, it is more appropriate to bring the unit to Mode 3 which is outside the Applicability. This change is consistent with the STS and is acceptable.

(3) Various RPS Function surveillances are added to ITS SR 3.3.1.1.1, from the CTS Table 3.1.1. This change adds the following SRs for the RPS Functions in the ITS.

(a) requirements to perform Channel Checks every 12 hours (SR 3.3.1.1.1) for the Functions listed below:

IRM High Flux (Modes 2 and 5)
APRM Startup High Flux Scram (Mode 2)
APRM Flow Biased High Scram
APRM Scram Clamp
Main Steam Line High Radiation

(b) a requirement to verify SRM and IRM channels overlap prior to withdrawing SRMs from the fully inserted position (SR 3.3.1.1.5)

(c) a requirement to perform a Channel Functional Test every 92 days for the APRM Flow Biased High Scram Function

(d) a requirement to perform a Channel Calibration of the IRM High Flux (Modes 2 and 5) every 184 days (SR 3.3.1.1.11)

(e) a requirement to perform a Channel Calibration of the Functions listed below every 18 months (SR 3.3.1.1.12):

APRM Startup High Flux Scram (Mode 2)
APRM Scram Clamp

(f) requirements were added to perform Logic System Functional Tests every 24 months (SR 3.3.1.1.17) for the following Functions listed below:

IRM High Flux (Modes 2 and 5)
IRM Inoperative (Modes 2 and 5)
APRM Startup High Flux Scram (Mode 2)
APRM Flow Biased High Scram

APRM Scram Clamp
APRM Downscale
APRM Inoperative (Modes 1 and 2)
Reactor Vessel Pressure High
Reactor Vessel Water Level Low
Main Steam Isolation Valve Closure
Drywell Pressure High
SDV Water Level High (Modes 1, 2, and 5)
Turbine Stop Valve Closure
Turbine Control Valve Fast Closure, Trip Oil Pressure Low
Reactor Mode Switch - Shutdown Position (Modes 1, 2, and 5)
Turbine Condenser Low Vacuum
Main Steam Line High Radiation
Manual Scram (Modes 1, 2, and 5)
RPS Channel Test Switch (Modes 1, 2, and 5)

The addition of new requirements (surveillances) to the CTS constitutes a more restrictive change. This change is consistent with the STS and is acceptable.

(4) ITS SR 3.3.1.1.1, Functions 3, 4, 6, and 10, increases the frequency of the Table 4.1.1, note 6, instrument checks from once per day to once per 12 hours. The change affects the High Steam Dome Pressure, High Drywell Pressure, Reactor Low Water Level, and Turbine Condenser Low Vacuum Functions. The Channel Check ensures that a gross failure of instrumentation has not occurred. By detecting these gross failures, the Channel Check is the key to verifying the instrument continues to operate properly between each Channel Calibration. This change adds additional requirements and it constitutes a more restrictive change. This change is consistent with the STS and is acceptable.

2.3.3.3.B <u>ITS 3.3.1.2, Source Range Monitor (SRM) Instrumentation</u>

(1) CTS 3.3.B.4 and 4.3.B.4 require SRMs to be Operable whenever control rods are withdrawn for startup or refueling. ITS 3.3.1.2 (Table 3.3.1.2-1) will require SRMs to be Operable at all times in Mode 2 prior to and during control rod withdrawal until the flux level is sufficient to maintain the IRM on Range 3 or above. This more restrictive change is consistent with the STS and is acceptable.

(2) CTS 3.3.B.4 and 4.3.B.4 require SRMs to have an observable count rate with a signal to noise ratio above the curve in CTS Figure 3.3.1 (ITS Figure 3.3.1.2-1). However, the number of SRMs required during rod withdrawal may be reduced from three channels to two channels if the observed count rate is above 3 counts per second (cps). ITS 3.3.1.2 also requires an observable count rate with a signal to noise ratio above the curve in ITS Figure 3.3.1.2-1, but will not allow a reduction in the number of Operable SRM channels if the count rate is above 3 cps. This more restrictive change is consistent with the STS. However, the number of required SRM channels during Mode 2 may be reduced to two or fewer during certain circumstances as discussed in the less restrictive changes for this section. This change is acceptable.

(3) CTS 4.3.B.4 requires verification "prior to control rod withdrawal during startup" and CTS 3.10.B.1.b requires verification during "Alterations of the Core" that SRMs have an observable count rate with a signal to noise ratio above the curve shown in CTS Figure 3.3.1 (ITS Figure 3.3.1.2-1). ITS SR 3.3.1.2.4 has the same requirements; however, SR 3.3.1.2.4 requires periodic verification of the SRM count rate at least once per 24 hours while in Mode 5, Mode 4, and Mode 3, and in Mode 2 when IRMs are on Range 2 or below. This change is consistent with the STS and is acceptable.

(4) ITS 3.3.1.2 requires three additional SRs to demonstrate SRM Operability when the IRMs are on Range 2 or below in Mode 2. SR 3.3.1.2.1 requires performance of an SRM Channel Check every 12 hours. SR 3.3.1.2.6 requires an SRM Channel Functional Test and determination of signal to noise ratios every 31 days. SR 3.3.1.2.7 requires an SRM Channel Calibration every 184 days. ITS SR 3.3.1.2.6 and SR 3.3.1.2.7 are modified by a Note that allows deferral of these surveillances until 12 hours after the IRMs are on Range 2 or below when the reactor is being shutdown. SR 3.3.1.2.7 is also modified by a Note that excludes the neutron detectors from calibration requirements because the detectors are fission chambers that are designed to have a relatively constant sensitivity over the range and with an accuracy specified for a fixed useful life and cannot readily be adjusted. These additional requirements for testing of SRMs are consistent with the STS and are acceptable.

(5) The CTS do not have requirements for SRM Operability during Modes 3 and 4. ITS 3.3.1.2 (Table 3.3.1.2-1) requires two SRM channels Operable at all times in Modes 3 and 4. Additionally, SRM Operability in Modes 3 and 4 must be demonstrated by the performance of ITS SR 3.3.1.2.3, SR 3.3.1.2.4, SR 3.3.1.2.6, and SR 3.3.1.2.7. ITS 3.3.1.2, Condition D, requires all insertable control rods be fully inserted and the reactor Mode switch be in the Shutdown position within 1 hour if less than the two required SRM channels are Operable. The requirements for SRM Operability in Modes 3 and 4 and the associated SRs, Conditions, Required Actions and Completion Times are consistent with the STS, and are acceptable.

(6) The CTS (3.10.B.1.b and 4.3.B.4) required SRMs be Operable "during Alterations of the Core" and "prior to control rod withdrawal for startup or during refueling." These requirements were modified in Amendment Nos. 205 and 208, for Units 2 and 3, respectively, dated June 13, 1995, to require SRMs be Operable "while in the refuel mode" (CTS 3.10.B.1) and "prior to control rod withdrawal for startup," (CTS 4.3.B.4). ITS 3.3.1.2 (Table 3.3.1.2-1) establishes Operability requirements for SRMs at all times during Mode 3, Mode 4, and Mode 5 and during Mode 2 when the IRMs are on Range 2 or below. This change is consistent with the STS and is acceptable.

2.3.3.3.C ITS 3.3.2.1, Control Rod Block Instrumentation

(1) ITS 3.3.2.1, Control Rod Block Instrumentation, includes specific requirements in Table 3.3.2.1-1 for the RBM "Inop" Function (ITS Function 1.d) and RBM Timer Bypass (ITS Function 1.f). These RBM Functions were included in the APRM Rod Block Monitor Technical Specifications/Maximum Extended LoadLine Limit Analysis (ARTS/MELLA) for the RBM. However, they are not in the CTS. The ARTS/MELLA analysis is documented in NEDC-32162P, Rev. 1, "Maximum Extended Load Line Limit and ART Improvement Program Analyses for PBAPS Atomic Power Station, Unit 2 and 3." The RBM Bypass Timer must be set to "minimum" because the current analysis does not support the use of the timer, used to compensate for a noisy instrument channel that could prevent rod withdrawal. All Conditions, Required Actions, and SRs for the RBM are also applicable to the "Inop" and "Timer Bypass" Functions of the RBM. This change is consistent with the STS and is acceptable.

(2) ITS 3.3.2.1, Control Rod Block Instrumentation, includes the Control Rod Block Function of the Reactor Mode Switch as a required Function (Function 3 on ITS Table 3.3.2.1-1). The new requirement (the CTS does not have this requirement) is that two channels of the Rod Block Function of Reactor Mode Switch -- Shutdown Position must be Operable whenever the Mode Switch is in the Shutdown position. This addition to the specification for the Control Rod Block Instrumentation includes ITS SR 3.3.2.1.7 (Channel Functional Test every 24 months) and ITS 3.3.2.1, Condition E (Required Actions and Completion Times if this Function is inoperable). Performance of ITS SR 3.3.2.1.7 is not required until 1 hour after the Reactor Mode Switch is placed in Shutdown. This change is consistent with the STS and is acceptable.

(3) The CTS requires the RBM be Operable "During operations with limiting control rod patterns, as determined by qualified personnel" (CTS 3.3.B.5), "For Startup and Run Positions of the Reactor Mode Switch" except that "RBM rod blocks need not be Operable in 'Startup' mode" (CTS Table 3.2.C, Note 1), and RBM "trip is bypassed when reactor power is $\leq$ 30%" (CTS Table 3.2.C, Note 7). The 30% reactor power bypass value is changed in ITS 3.3.2.1 identifying the Applicability for the RBM in Footnotes (a), (b), (c), (d), and (e) to Table 3.3.2.1-1, summarized as the RBM must be Operable when Thermal Power is $\geq$ 28.3% and $\leq$ 90% when MCPR is less than the limit specified in the COLR and when Thermal Power is $\geq$ 90% when MCPR is less than the limit specified in the COLR. The change is the result of the application of setpoint methodology as already described. ITS SR 3.3.2.1.4 verifies the bypass values. The ITS Applicability was determined by the ARTS analysis for the RBM (NEDC-32162P, Rev.1, "Maximum Extended Load Line Limit and ART Improvement Program Analyses for Peach Bottom Atomic Power Station, Unit 2 and 3" and GE-NE-901-029[illegible], "APRM, RBM, and Technical Specifications (ARTS) Setpoint Calculations for Philadelphia Electric Company Peach Bottom 2, 3"). This change is consistent with the STS and is acceptable.

(4) ITS 3.3.2.1 includes an additional surveillance (SR 3.3.2.1.6) to verify every 24 months that the Rod Worth Minimizer (RWM) is not bypassed when Thermal Power is ≤ 10%. Both CTS 3.3.B.3.b and ITS 3.3.2.1 [Table 3.3.2.1-1, Footnote (f)] specify that the RWM function is only required to be Operable when Thermal Power is less than 10% and the RWM is automatically bypassed when power is above 10%. However, the CTS does not have an explicit requirement to verify the setpoint of the RWM bypass feature. This change is consistent with the STS and is acceptable.

(5) The once/cycle CTS surveillance system logic check has been deleted since it is covered by the combination of SRs 3.3.2.1.1, 3.3.2.1.4, and 3.3.2.1.5. In addition, these SRs are performed at a Frequency no greater than 184 days. Therefore, this change is more restrictive and acceptable.

2.3.3.3.D <u>ITS 3.3.2.2, Feedwater and Main Turbine High Water Level Trip Instrumentation</u>

(1) ITS 3.3.2.2 and the associated Conditions, Required Actions, Completion Times, and SRs are added. The feedwater and main turbine high water level trip instrumentation is assumed capable of providing feedwater and main turbine high water level trips in the design basis transient analysis for a feedwater controller failure, maximum demand event. Justification for the Completion Times for inoperable instrument channels and the minimum Frequency for Channel Functional Tests is provided by GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications," approved by the NRC staff in a safety evaluation dated July 21, 1992. Confirmation of the applicability of GENE-770-06-1 to PBAPS is documented in TSCR 90-03, which was approved in Amendments Nos. 203 and 206, dated June 6, 1995, for Units 2 and 3, respectively . The 24 month Frequency for Channel Calibration and the associated Allowable Value account for instrument drift between successive calibrations, consistent with the assumptions of the current plant specific setpoint methodology. This additional restriction is consistent with the STS, helps ensure the safety analysis assumptions are maintained, and is acceptable.

2.3.3.3.E <u>ITS 3.3.3.1, Post Accident Monitoring (PAM) Instrumentation</u>

(1) Requirements for Primary Containment Isolation Valve (PCIV) position indication are added to Table 3.3.3.1-1, as Function 8. These requirements include an LCO, Applicability, Actions, and SRs. The requirements for PCIV position indication are included consistent with the STS guidelines that apply to Regulatory Guide 1.97, Category 1, instruments.

(2) The Applicability for the oxygen analyzers is clarified from the CTS 3.7.A.6.c "power operation" to the ITS Table 3.3.3.1-1, Functions 9 and 10, "Modes 1 and 2." This change achieves consistency with the ITS

3.6.3.1 and is an additional restriction on plant operation. This change is consistent with the STS and is acceptable.

2.3.3.3.F <u>ITS 3.3.3.2, Remote Shutdown System</u>

(1) CTS 3.11.C and 4.11.C identify requirements for the Emergency Shutdown Control Panel. These requirements are minimal, and the LCO requires the Emergency Shutdown Control Panels be secured at all times and surveillances verify, by visual inspection once per week, that the panels are secured. An electrical check is required once per refueling outage. ITS 3.3.3.2, Remote Shutdown System, is added, requiring the appropriate number of Functions be available for shutdown and control of the plant if the control room must be evacuated. Appropriate Actions and SRs are also added. This change represents an additional restriction on plant operations. This change is consistent with the STS and is acceptable.

2.3.3.3.G <u>ITS 3.3.4.1, Anticipated Transient Without Scram Recirculation Pump Trip (ATWS-RPT) Instrumentation</u>

(1) The required Frequency for performance of an ATWS-RPT Instrument Check is increased from once per day, specified in CTS Table 4.2.G, to a Channel Check once per 12 hours, specified in ITS SR 3.3.4.1.1. The purpose of the Channel Check is to ensure that a gross failure of instrumentation has not occurred. Thus, performance of the Channel Check limits an undetected outright channel failure to 12 hours. This change is consistent with the STS and is acceptable.

2.3.3.3.H <u>ITS 3.3.5.1 Emergency Core Cooling (ECCS) Instrumentation</u>

(1) New Functions are added to the ECCS Instrumentation Table (ITS Table 3.3.5.1-1). Along with these added Functions, the ITS adds associated Actions, SRs, and Required Actions. The addition of new requirements constitute a more restrictive change. Below is a list of the added Functions, and SRs and their associated Frequency. The list is categorized by ECCS System.

<u>Core Spray</u>

1.d Core Spray Pump Discharge Flow — Low (Bypass):

SR 3.3.5.1.2	Channel Functional Test - 92 days
SR 3.3.5.1.4	Channel Calibration - 24 months

<u>LPCI</u>

2.g LPCI Pump Discharge Flow — Low (Bypass)

SR 3.3.5.1.2	Channel Functional Test - 92 days
SR 3.3.5.1.4	Channel Calibration - 24 months
SR 3.3.5.1.5	Logic System Functional Test - 24 months

HPCI

3.f HPCI Pump Discharge Flow — Low (Bypass)

SR 3.3.5.1.2 Channel Functional Test - 92 days
SR 3.3.5.1.4 Channel Calibration - 24 months
SR 3.3.5.1.5 Logic System Functional Test - 24 months

ADS

4.d Reactor Vessel Water Level — Low Low Low (Level 1), (Permissive)

SR 3.3.5.1.1 Channel Check - 12 hours
SR 3.3.5.1.2 Channel Functional Test - 92 days
SR 3.3.5.1.4 Channel Calibration - 24 months
SR 3.3.5.1.5 Logic System Functional Test - 24 months

5.d Reactor Vessel Water Level—Low Low Low (Level 1), (Permissive)

SR 3.3.5.1.1 Channel Check - 12 hours
SR 3.3.5.1.2 Channel Functional Test - 92 days
SR 3.3.5.1.4 Channel Calibration - 24 months
SR 3.3.5.1.5 Logic System Functional Test - 24 months

These changes are consistent with the STS and are acceptable.

(2) The Surveillance Frequency for the CTS Table 4.2.B Channel Check is changed from daily to once per 12 hours. The Channel Check performed every 12 hours ensures that a gross failure of instrumentation has not occurred. Thus, performance of the Channel Check limits an undetected outright channel failure to 12 hours. Increasing Surveillance Frequencies constitutes a more restrictive change. This change is consistent with the STS and is acceptable.

(3) CTS Table 3.2.B requires two channels of RHR (LPCI) pump discharge pressure instruments per trip system and specifies that there are four trip channels by design. This change, implemented in ITS Table 3.3.5.1-1, Functions 4.g and 5.g, requires eight channels of RHR pump discharge pressure instruments. Increasing the number of channels required to eight channels is consistent with the PBAPS design (eight RHR pump discharge pressure inputs per trip system - two per pump). This change increases the number of channels required which constitutes a more restrictive change. This change is acceptable.

2.3.3.3.I ITS 3.3.5.2 Reactor Core Isolation (RCIC) System Instrumentation

(1) The CTS Table 4.2.B Surveillance Frequency for the Channel Check is increased from daily to once per 12 hours. The Channel Check performed every 12 hours, per ITS SR 3.3.5.2.1, ensures a gross failure of instrumentation has not occurred. Thus, performance of the Channel Check guarantees that undetected outright channel failure is limited to 12 hours. Increasing the Surveillance Frequency constitutes a more

restrictive change. This change is consistent with the STS and is acceptable.

(2) A requirement to perform a Logic System Functional Test of the RCIC System is added in ITS SR 3.3.5.2.4. The CTS Table 4.2.B requirement only applies to the RCIC System Auto Isolation Function. Since this change adds requirements, it is a more restrictive change. This change is consistent with the STS and is acceptable.

2.3.3.3.J <u>ITS 3.3.6.1 Primary Containment Isolation Instrumentation</u>

(1) The ITS adds new Functions to the Primary Containment Isolation Instrumentation Table, Table 3.3.6.1-1. Along with these additional Functions are associated Conditions, Required Actions, and SRs. The addition of new requirements is a more restrictive change. Below is a list of the added Functions, and SRs and associated frequency. The list is categorized by ITS Containment Isolation Group.

<u>HPCI Isolation</u>

3.d Drywell Pressure—High

SR 3.3.6.1.1 Channel Check - 12 hours
SR 3.3.6.1.2 Channel Functional Test - 92 days
SR 3.3.6.1.5 Channel Calibration - 24 months
SR 3.3.6.1.7 Logic System Functional Test - 24 months

<u>RCIC Isolation</u>

4.d Drywell Pressure--High

SR 3.3.6.1.1 Channel Check - 12 hours
SR 3.3.6.1.2 Channel Functional Test - 92 days
SR 3.3.6.1.5 Channel Calibration - 24 months
SR 3.3.6.1.7 Logic System Functional Test - 24 months

<u>RWCU System Isolation</u>

5.b SLC System Initiation

SR 3.3.6.1.7 Logic System Functional Test - 24 months

5.c Reactor Water Level—Low

SR 3.3.6.1.1 Channel Check - 12 hours
SR 3.3.6.1.2 Channel Functional Test - 92 days
SR 3.3.6.1.5 Channel Calibration - 24 months
SR 3.3.6.1.7 Logic System Functional Test - 24 months

<u>Shutdown Cooling System Isolation</u>

6.b Reactor Water Level—Low

SR 3.3.6.1.1	Channel Check - 12 hours
SR 3.3.6.1.2	Channel Functional Test - 92 days
SR 3.3.6.1.5	Channel Calibration - 24 months
SR 3.3.6.1.7	Logic System Functional Test - 24 months

These changes are acceptable.

(2) ITS 3.3.6.1 increases the Frequency of the Channel Checks currently specified in CTS Tables 4.2.A, 4.2.B, and 4.2.D from once per day to once per 12 hours, and for CTS Table 4.2.B, Function 12, adds a Channel Check requirement once per 12 hours (none is currently required). This change adds requirements and is a more restrictive change. This change is consistent with the STS and is acceptable.

(3) ITS 3.3.6.1 includes a more restrictive Required Action if the Refuel Area Ventilation Exhaust Radiation — High (ITS Table 3.3.6.1-1, Function 2.e) or the Reactor Building Ventilation Exhaust Radiation — High (ITS Table 3.3.6.1-1, Function 2.d) have fewer than the minimum required number of Operable channels and the channels are not placed in trip within 24 hours. CTS Table 3.2.D requires only that operation of refueling equipment cease, secondary containment be isolated, and standby gas treatment started. Under identical conditions, ITS 3.3.6.1, Condition H, requires the reactor be in Mode 3 within 12 hours and Mode 4 within 36 hours. Since this change requires placing the reactor outside of the applicable Modes for these instruments, the change is more restrictive. This change is consistent with the STS and is acceptable.

(4) Note 5 to CTS Table 4.2.A indicates that the SRs for the primary containment isolation Functions associated with high drywell pressure, reactor low water level, and MSL high radiation are specified in CTS Table 4.1.2 with the SRs for the RPS. CTS Table 4.1.2 requires Channel Calibrations (ITS SR 3.3.6.1.3 and SR 3.3.6.1.5). ITS 3.3.6.1 adds new requirements for Channel Functional Tests (ITS SR 3.3.6.1.2 for Functions 2.a and 2.b) and Logic System Functional Tests (ITS SR 3.3.6.1.7 for Functions 1.d, 2.a, 2.b, and 7.a). These additional requirements will affect the following primary containment isolation Functions:

<u>MSL Isolation</u>

1.d MSL High Radiation

SR 3.3.6.1.1	Channel Check - 12 hours
SR 3.3.6.1.7	Logic System Functional Test - 24 months

Primar ntainment Isolation

2.a Reactor Vessel Water Level—Low

SR 3.3.6.1.1	Channel Check - 12 hours
SR 3.3.6.1.2	Channel Functional Test - 92 days
SR 3.3.6.1.7	Logic System Functional Test - 24 months

2.b Drywell Pressure—High

SR 3.3.6.1.1	Channel Check - 12 hours
SR 3.3.6.1.2	Channel Functional Test - 92 days
SR 3.3.6.1.7	Logic System Functional Test - 24 months

Feedwater Recirculation Isolation

7.a Reactor Pressure—High

SR 3.3.6.1.7	Logic System Functional Test - 24 months

These changes are consistent with the STS and are acceptable.

(5) CTS Table 3.2.A (Function 6 and associated Note 2.B) requires the MSL be isolated within 12 hours of the determination that there are fewer than the minimum required number of Operable or tripped channels. Under the identical conditions, ITS Table 3.3.6.1-1, Function 1.b, Condition E requires that the reactor be in Mode 2 within 6 hours. This change places the reactor outside the Mode of Applicability in less time than the CTS. This change is consistent with the STS and is acceptable.

(6) The ITS adds new SRs to the Primary Containment Isolation Instrumentation Table. The addition of new requirements is a more restrictive change. Below is a list of the added SRs and the associated Frequency. The list is categorized by ITS Containment Isolation Group.

Primary Containment Isolation

2.c SR 3.3.6.1.7, Logic System Functional Test - 24 months
2.d SR 3.3.6.1.7, Logic System Functional Test - 24 months
2.e SR 3.3.6.1.7, Logic System Functional Test - 24 months

These changes are consistent with the STS and are acceptable.

2.3.3.3.K ITS 3.3.6.2 Secondary Containment Isolation Instrumentation

(1) CTS Action A, Table 3.2.D, is modified to include, additionally, in ITS Actions C.1 and C.2, discontinuing operations with a potential for draining the reactor vessel (OPDRVs) [as a result of declaring the associated SCIVs and SGT subsystem inoperable] and taking the appropriate actions if the channel is not placed in trip (placing the plant in a non-applicable Mode or condition) due to specifying OPDRVs as an applicable Condition. In the corresponding CTS, Table 3.2.D, Action

A, only operation of the refueling equipment has to cease. The ITS Action of declaring the SCIVs or SGT system inoperable causes the licensee to take the Required Actions for that equipment, immediately suspending movement of irradiated fuel and CORE ALTERATIONS. The addition of OPDRVs to the applicable Conditions further ensures that offsite dose limits will not be exceeded should fuel damage result from a vessel draindown event by discontinuing operations which could initiate an event. This change is more restrictive, establishing a time limit where there was no time limit in the CTS. This change is consistent with the STS and is acceptable.

(2) The ITS adds two new Functions (Functions 1 and 2). With these added Functions, the ITS also adds associated Actions and SRs. Required Action A.1 requires placing the channel in trip if one or more channels are inoperable. The Completion Time for Functions 1 and 2 is 12 hours. These times are based on analyses in NEDC-31677P-A and NEDC-30851P-A. One hour is allowed to restore a loss of Function (Condition B). If these requirements are not met within the Completion Times, then Condition C is entered. The Required Actions for Condition C requires the isolation of the associated secondary containment penetration flow path or declaring the SCIVs inoperable, and the start of the SGT system or declaring the SGT system inoperable. A list of the added SRs for each Function follows.

<u>1. Reactor Vessel Water Level — Low (Level 3)</u>

Modes 1, 2, and 3, and during operations with a potential for draining the reactor vessel:

SR 3.3.6.2.1	Channel Check - 12 hours
SR 3.3.6.2.2	Channel Functional Test - 92 days
SR 3.3.6.2.4	Channel Calibration - 24 months
SR 3.3.6.2.5	Logic System Functional Test - 24 months

<u>2. Drywell Pressure — High</u>

Modes 1, 2, and 3:

SR 3.3.6.2.1	Channel Check - 12 hours
SR 3.3.6.2.2	Channel Functional Test - 92 days
SR 3.3.6.2.4	Channel Calibration - 24 months
SR 3.3.6.2.5	Logic System Functional Test - 24 months

The addition of requirements (Functions with Actions and SRs) is a more restrictive change. This change is consistent with the STS and is acceptable.

(3) The CTS Frequency for Channel Checks is changed from daily to 12 hours in ITS SR 3.3.6.2.1. A Channel Check performed every 12 hours ensures that a gross failure of instrumentation has not occurred. Increasing the Surveillance Frequency is a more restrictive change. This change is consistent with the STS and is acceptable.

2.3.3.3.L <u>ITS 3.3.7.1 Main Control Room Environmental Control (MCREC) System Instrumentation</u>

(1) The CTS Table 4.2.D Frequency of the Channel Check requirement for the Control Room Air Intake Radiation — High Function is increased from once per day to once per 12 hours in ITS SR 3.3.7.1.1. A Channel Check performed every 12 hours ensures that a gross failure of instrumentation has not occurred. This change is consistent with the STS, represents an additional restriction on plant operations, and is acceptable.

(2) CTS 3.11.A.5.b requires if one channel is inoperable or in trip in both trip systems that emergency ventilation be initiated and maintained, but specifies no Completion Time for the Action. In this same Condition, ITS Required Action A.1 requires the associated MCREV subsystem be declared inoperable within 1 hour from discovery. The MCREV specification (ITS 3.7.4) then provides the actions for the associated MCREV subsystems. The change is an additional restriction on plant operation because it provides a specific time period for completing the actions. In addition, declaring the associated MCREV subsystems inoperable will result in having to place the plant in a non-applicable Mode or condition. This change is consistent with the STS and is acceptable.

(3) CTS 3.11.A.5.a specifies that "one radiation monitoring channel may be inoperable for 7 days, as long as the remaining radiation monitoring channel maintains the capability of initiating emergency ventilation on any designed trip functions." ITS 3.3.7.1, Condition A, requires an inoperable channel be placed in trip within 6 hours, in addition to the requirement that the associated MCREV subsystem be declared inoperable within one hour of discovery of loss of initiation capability in both trip systems. Although ITS 3.3.7.1 permits operation with one channel in trip for an indefinite period (instead of 7 days as allowed by CTS 3.11.A.5.a), the requirement that the inoperable channel be placed in trip within 6 hours is more restrictive because it reestablishes the capability to tolerate a single failure of an instrument channel within 6 hours. The change is consistent with the analysis in GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications," approved by the NRC staff in an SER dated July 21, 1992. Confirmation of the applicability of GENE-770-06-1 to PBAPS for the MCREV system is documented in Technical Specification Change Request 90-03. This change is consistent with the STS and is acceptable.

(4) CTS 3.11.A.7 requires that if the actions of CTS 3.11.A.5 or 3.11.A.6 cannot be met, the MCREV must be manually initiated and maintained, but specifies no Completion Time for this action. The ITS Required Actions B.1 and B.2 require the associated MCREV subsystem be initiated within 1 hour or the associated MCREV subsystem be declared inoperable within 1 hour. Declaring the associated MCREV subsystem inoperable within 1 hour results in having to take the actions of Specification 3.7.4 for the associated subsystems. This change is an additional restriction on plant operation because it provides a specific time for completing the

actions. In addition, declaring the associated MCREV subsystems inoperable results in having to place the plant in a non-applicable Mode or condition. This change is acceptable.

2.3.3.3.M <u>ITS 3.3.8.1 Loss of Power (LOP) Instrumentation</u>

(1) ITS Table 3.3.8.1-1 adds a new subfunction to each of the Degraded Voltage Functions in the LOP Instrumentation Table. The added Functions (2.b, 3.b, 4.b, and 5.b) are the Time Delays for the DG start signal on a degraded voltage condition. Along with these added subfunctions are added Actions and SRs. The addition of new requirements is a more restrictive change. Below is a list of the added SRs and associated Frequency.

SR 3.3.8.1.1 Channel Functional Test - 31 days
SR 3.3.8.1.2 Channel Calibration - 18 months
SR 3.3.8.1.4 Logic System Functional Test - 24 months

This change is consistent with the STS and is acceptable.

(2) ITS SR 3.3.8.1.4, Logic System Functional Test, is added to the Loss of Power Instrumentation Functions for the Loss of Voltage and Degraded Voltage Functions where no such requirements existed in the CTS. The addition of new requirements is a more restrictive change. This change is consistent with the STS and is acceptable.

(3) Since each unit requires some equipment powered from sources of the other unit to be Operable, Loss of Power instruments that transfer offsite circuits and start DGs due to loss of power to emergency buses of both units are needed in both units. Therefore, each units ITS SR 3.3.8.1.5 requires the opposite units loss of power instrumentation, Functions 1, 2, 3, and 5, to be Operable. Appropriate Actions and SRs are also been added. The addition of new requirements is a more restrictive change. This change is acceptable.

(4) The ITS has a new Note added to Required Actions for Conditions A, B, and C. This Note requires an offsite circuit be declared inoperable, if placing a channel in trip results in inoperability of the offsite circuit. The addition of new requirements is a more restrictive change. This change is acceptable.

2.3.3.3.N <u>ITS 3.3.8.2 Reactor Protection System (RPS) Electric Power Monitoring</u>

(1) If one RPS electric power monitoring assembly per RPS motor-generator (MG) set or alternate power supply is inoperable or bypassed and not restored within 72 hours, CTS 3.1.D.1 and 3.1.D.2 allow 30 minutes to transfer the RPS bus to the alternate source or de-energize the bus. ITS Required Actions for Conditions C and D, for this condition, require placing the unit in a non-applicable Mode or condition if transfer or deenergization is not accomplished within the 72 hour restoration time.

As such, the change is an additional restriction on plant operation. The change is consistent with the STS and is acceptable.

(2) An additional surveillance is provided in ITS SR 3.3.8.2.4 to perform a system functional test once per 24 months. This surveillance demonstrates that with a system actuation signal, the logic of the system will automatically trip open the associated RPS electric power monitoring assembly. This change represents an additional restriction on plant operation, is consistent with the STS and is acceptable.

(3) Time delay setting Allowable Values (ITS SR 3.3.8.2.2 and SR 3.3.8.2.3) have been added to CTS 4.1.D.1 and 4.1.D.2 requirements for the undervoltage and overvoltage protective devices of the RPS MG sets and the underfrequency and overvoltage protective devices of the RPS alternate power supplies. These devices have adjustable time delay settings. Adding the Allowable Values is an additional restriction on plant operations, assuring abnormal voltage or frequency condition will not preclude the function of RPS bus powered components. This change is acceptable.

The staff has reviewed these more restrictive requirements and concludes they result in enhancement to the CTS. Therefore, these more restrictive requirements are acceptable.

2.3.3.4 Significant Administrative Changes

Reformatting and renumbering of requirements are in accordance with the STS. As a result, the ITS should be easier to read and, therefore, easier to understand by plant operators as well as other users.

Editorial rewording (either adding or deleting) is generally consistent with the STS. Certain wording preferences or terminology changes appear in the ITS which result in no technical changes (either actual or interpretational) to the TS. Several types of administrative changes which apply to more than one specification in the CTS are discussed in the following general categories.

Note Added to Actions Allowing Separate Condition Entry

A Note is added to the ITS Actions which allows separate Condition entry for each channel. This change provides more explicit instructions for proper application of the Actions for TS compliance. In conjunction with ITS 1.3, "Completion Times," the Note, "Separate Condition entry is allowed for each channel" provides more explicit direction of the current interpretation of the CTS. This change is consistent with the STS and is acceptable.

Channel Functional Test Encompassed by Channel Calibration

Channel Functional Test requirements for several Functions have been deleted when performed at the same time as the Channel Calibration, since they are encompassed by the Channel Calibration requirements (performed at the same periodicity). As such, this deletion is purely administrative and acceptable.

Channel Functional Test Definition Encompasses CTS Exemptions

Several CTS instrumentation tables contain Notes allowing the exemption of the certain instrumentation from the functional test definition by allowing a simulated signal to be injected into the measurement channel. The ITS definition of Channel Functional Test includes this same allowance, and a Note is no longer needed. This change is consistent with the STS and is acceptable.

Deletion of Notes Specifying Instrumentation Function Applicability

Several CTS instrumentation tables Note are deleted that allowed Functions to be inoperable when the system they are supporting is not required to be Operable. In the ITS, the Applicability of the instrumentation Functions and the systems they support have been revised to be consistent. Therefore, these Notes are not needed. This change is consistent with the STS and is acceptable.

2.3.3.4.A ITS 3.3.1.1, Reactor Protection System (RPS) Instrumentation

(1) The CTS Table 3.1.1 note referring to Chapter 2.0 for more information on the APRM Flow Biased High Scram equation is deleted since the discussion of the equation in Chapter 2.0 has been relocated. This change is consistent with the STS and is acceptable.

(2) A Note is added to the ITS SRs to refer to Table 3.3.1.1-1 to determine which SRs are for each RPS Function. This is an informational Note which has no technical impact on any of the SRs. Therefore, this change is considered administrative. This change is consistent with the STS and is acceptable.

(3) CTS LCO 2.1.A.1 wording for the single loop term from the APRM Flow Biased High Scram Function Allowable Value for single loop operation (-0.66 Δw) is moved to Note b in ITS Table 3.3.1.1-1, which discusses the reset for single loop operation. This change is consistent with the STS and is acceptable.

(4) The following requirements for the RPS Functions when in Mode 5 are deleted.

(a) The High Reactor Pressure Function -- Operable with the Mode Switch in Refuel and the reactor pressure vessel head bolted to the vessel.

(b) The High Drywell Pressure Function -- Operable with the Mode Switch in refuel and primary containment integrity required.

(c) The Reactor Low Water Level Function -- Operable with the Mode Switch in refuel.

(d) The Main Steam Line Radiation Monitor High Function -- Operable with the Mode Switch in Refuel.

(e) The APRM Startup High Flux and Inoperable Functions -- Operable with the Mode Switch in Refuel.

The change deletes the requirement for these Functions to be Operable when the Mode switch is in the refuel mode (even if rods are withdrawn). The High Reactor Pressure Function is not required in Mode 5 because the RCS is not pressurized and the reactor pressure vessel head is not bolted on. The High Drywell Pressure Function is not required in Mode 5 because there is not enough energy in the RCS to overpressurize the drywell and containment integrity is not required. The Reactor Low Water Level Function is not required in Mode 5 because ITS 3.9.6, "RPV Water Level," 3.9.7, "RHR—High Water Level," 3.9.8, "RHR—Low Water Level," ensure adequate cooling and retention of fission product activity. The Main Steam Line Radiation Monitor High Function is not required in Mode 5 because there is not enough energy in the system to produce steam. The APRM Functions are not required in Mode 5 since they are not assumed in any safety analysis, and the IRMs are the safety-related subsystem of the neutron monitoring system and are required to be Operable in Refuel with a control rod withdrawn. These changes are consistent with the STS. These changes are administrative since CTS Note (7) states that, in this condition (effectively Mode 5), only the Mode switch in Shutdown Function, Manual Scram Function, High Flux IRM Function and Scram Discharge Instrument Volume High Level Functions need be Operable. These changes are acceptable.

(5) The LPRM calibration Frequency is changed for the LPRM calibration from every 6 weeks to every 1000 MWD/T (megawatt days/ton) average core exposure. There are approximately 22 MWD/T average core exposure per day (cycle specific); therefore, 1000 MWD/T is approximately equal to six and a half weeks when operating. Therefore, this slight difference when operating is considered administrative in nature. This change is consistent with the STS and is acceptable.

(6) The CTS action (Table 3.3.1, Note A) to initiate insertion of operable rods and complete the insertion within 12 hours is revised. For Modes 1 and 2 requirements (ITS Condition G), the actions already say to reduce power within 12 hours, thus the subject statement is not needed. The unit must be in Mode 3 within 12 hours; thus, to do so, the control rod insertion must obviously be initiated at some point. It is not necessary to state this. For Mode 5 requirements (ITS Condition H), the existing requirement would appear to provide 12 hours in which control rods could be left withdrawn, even if able to be inserted. The intent of the action is more appropriately presented in ITS Required Action H.1. With the ITS action, a more conservative requirement to immediately insert the control rod(s), if capable, and to maintain them inserted is imposed. This change is consistent with the STS and is acceptable.

(7) This change modifies the RPS response time requirements in CTS 4.1.A, as issued in Amendment Nos. 203 and 206, for Units 2 and 3, respectively, dated June 6, 1995, to correct an error made during the processing of a these amendments. In Amendment Nos. 203 and 206, the SR for RPS

response time testing was moved from CTS Table 4.1.2, Note 4, to CTS 4.1.A. There were supposed to be no technical changes (either actual or interpretational) to the TS. However, Note 4 of CTS Table 4.1.2 applied to only those RPS trip functions listed in CTS Table 4.1.2. In moving the response time requirement of Note 4 of CTS Table 4.1.2 to CTS 4.1.A, CTS 4.1.A was erroneously revised to state, "The RPS response time test for each reactor trip function shall be demonstrated to be within limits once per operating cycle." As presently written CTS 4.1.A requires RPS response time testing to be performed on each RPS trip function which includes RPS trip functions not listed in CTS Table 4.1.2, in error.

RPS response time SRs for each of the RPS trip functions in CTS Table 4.1.2 have been explicitly applied to the corresponding Functions in PBAPS ITS Table 3.3.1.1-1, except for the LPRM Signal Function and the Turbine First Stage Pressure Permissive Function. The response time test requirements are not explicitly listed for the LPRM Signal Function in PBAPS ITS Table 3.3.1.1-1 since the LPRMs are considered to be part of the APRM channel as described in the Bases for ITS 3.3.1.1. Therefore, the CTS response time test requirements for LPRMs are adequately addressed by the ITS response time testing requirements for the associated APRM Functions in PBAPS ITS Table 3.3.1.1-1. The response time test requirements are also not explicitly listed for the Turbine First Stage Pressure Permissive Function in PBAPS ITS Table 3.3.1.1-1 since the Turbine First Stage Pressure Permissive Function is an interlock associated with the Turbine Stop Valve - Closure Function channels and Turbine Control Valve Fast Closure, Trip Oil Pressure - Low Function channels as described in the Bases for ITS 3.3.1.1. Therefore, the CTS response time test requirements for the Turbine First Stage Pressure Permissive are adequately addressed by the ITS response time testing requirements for the associated Turbine Stop Valve - Closure Function and Turbine Control Valve Fast Closure, Trip Oil Pressure - Low Function in PBAPS ITS Table 3.3.1.1-1. As a result, all RPS response time requirements of CTS Table 4.1.2 are considered to be addressed, either explicitly or implicitly, by ITS 3.3.1.1 and PBAPS ITS Table 3.3.1.1-1. Since the ITS requirements for RPS response time testing encompass all of the RPS response time testing requirements in the CTS (errors in Amendment Nos. 203 and 206 excluded), this change is considered administrative. This change is consistent with the PBAPS current licensing basis and is acceptable.

2.3.3.4.B <u>ITS 3.3.1.2, Source Range Monitor (SRM) Instrumentation</u>

(1) CTS 4.3.B.4 requires verification "prior to control rod withdrawal during startup" and CTS 3.10.B.1.b requires verification during "Alterations of the Core" that SRMs have an observable count rate with a signal to noise ratio above the curve shown in CTS Figure 3.3.1 (ITS Figure 3.3.1.2-1). ITS SR 3.3.1.2.4 has the same requirements; however, SR 3.3.1.2.4 requires periodic verification of SRM count rate every 12 hours during Core Alterations. The acceptability of this changes is documented in Amendment Nos. 205 and 208, for Units 2 and 3, respectively, dated June 13, 1995. This change to the CTS was approved after PECO's submittal of TSCR 93-16. Therefore, this change to the CTS

submitted with TSCR 93-16 is considered administrative. This change is consistent with the STS and the PBAPS current licensing basis, and is acceptable.

(2) CTS 3.10.B.1 and 3.10.B.5 establish requirements for the location of the SRMs during Core Alterations and during core unloading and reloading. ITS SR 3.3.1.2.2 sets similar requirements for SRM location during Core Alterations which, because of a change in the definition of Core Alteration, includes core loading and unloading. ITS SR 3.3.1.2.2 adds a new requirement to verify, every 12 hours during Core Alterations, that the SRMs are properly located. Additionally, SR 3.3.1.2.2 requires that one of the SRMs be located in "the fueled region" during all Core Alterations whereas CTS 3.10.B.5 requires one of the SRMs be located in "intermediate arrays of fuel" during the unloading and reloading of fuel. Finally, in both the CTS and ITS, only two SRMs are required to Operable, but three SRM location criteria are identified. Note 2 to ITS SR 3.3.1.2.2 explicitly acknowledges that one SRM may be used to satisfy more than one location criteria. The acceptability of these changes is documented in Amendment Nos. 205 and 208, for Units 2 and 3, respectively, dated June 13, 1995. These changes to the CTS were approved after PECO's submittal of TSCR 93-16. Therefore, these changes to the CTS submitted with TSCR 93-16 are considered administrative. These changes are consistent with the STS and the PBAPS current licensing basis, and are acceptable.

(3) ITS 3.3.1.2 (Table 3.3.1.2-1) requires that Channel Functional Tests (SR 3.3.1.2.5) be performed every 7 days when in Mode 5 instead of prior to Core Alterations and prior to core unloading and reloading as in CTS 4.10.B.1 and 4.10.B.2. ITS SR 3.3.1.2.5 also adds the requirement to determine signal to noise ratios once per 7 days. Additionally, ITS 3.3.1.2 (Table 3.3.1.2-1) requires Channel Checks (ITS SR 3.3.1.2.1) be performed every 12 hours when in Mode 5 instead of prior to unloading and reloading of fuel and prior to and daily during alterations of the core as in CTS 4.10.B.1 and 4.10.B.2. ITS SR 3.3.1.2.1 and SR 3.3.1.2.5 are more restrictive than the existing specifications. The acceptability of these changes is documented in Amendment Nos. 205 and 208, for Units 2 and 3, respectively, dated June 13, 1995. These changes to the CTS were approved after PECO's submittal of TSCR 93-16. Therefore, these changes to the CTS submitted with TSCR 93-16 are considered administrative. These changes are consistent with the STS and the PBAPS current licensing basis, and are acceptable.

(4) ITS 3.3.1.2 (Table 3.3.1.2-1 Mode 5 requirements) adds a new requirement to perform a Channel Calibration (SR 3.3.1.2.7) every 184 days to verify the performance of the SRM detectors and associated circuitry. SR 3.3.1.2.7 is modified by a Note that excludes the neutron detectors from calibration requirements because the detectors are fission chambers that are designed to have a relatively constant sensitivity over the range and with an accuracy specified for a fixed useful life and cannot readily be adjusted. Note 2 to SR 3.3.1.2.7 explicitly acknowledges

that the Channel Calibration cannot be performed at power and allows deferring performance until 12 hours after the IRMs are on Range 2 or below during a reactor shutdown. The acceptability of these changes is documented in Amendment Nos. 205 and 208, for Units 2 and 3, respectively, dated June 13, 1995. These changes to the CTS were approved after PECO's submittal of TSCR 93-16. Therefore, these changes to the CTS submitted with TSCR 93-16 are considered administrative. These changes are consistent with the STS and the PBAPS current licensing basis, and are acceptable.

(5) CTS 3.10.B does not identify Required Actions if SRM Operability requirements in Mode 5 are not satisfied. Therefore, CTS 3.10.B defaults to LCO 3.0.C which would require no action in Mode 5. ITS 3.3.1.2 adds Required Actions if less than the required number of SRMs are Operable in Mode 5. If one or more required SRMs are inoperable when in Mode 5, ITS 3.3.1.2, Condition E, requires Core Alterations be terminated and action be taken immediately to fully insert all control rods. The acceptability of this change is documented in Amendment Nos. 205 and 208, for Units 2 and 3, respectively, dated June 13, 1995. This change to the CTS was approved after PECO's submittal of TSCR 93-16. Therefore, this change to the CTS submitted with TSCR 93-16 is considered administrative. This change is consistent with the STS and the PBAPS current licensing basis, and is acceptable.

2.3.3.4.C <u>ITS 3.3.2.1, Control Rod Block Instrumentation</u>

(1) CTS 3.3.B.5 and Table 3.2.C (Note 1) specify that there shall be two Operable or tripped trip systems for each function of the RBM System. CTS Table 3.2.C, column 1, "Minimum Number of Operable Instrument Channels per Trip System," requires one channel per trip system for the RBM. There are two trip systems each of which has one RBM instrument. Therefore, in accordance with CTS 3.3.B.5, 3.2.C.2, and Table 3.2.C (Note 1), there must be two Operable RBM instruments and trip channels. Therefore, ITS 3.3.2.1 (Table 3.3.2.1-1, Function 1, RBM) requires two Operable channels in the RBM system. This is an acceptable administrative change because the number of instrument channels and trip systems has not changed.

(2) CTS 3.3.B.3.b.1 and 4.3.C.2 describe the control rod patterns the RWM must enforce with the terms "prescribed control rod pattern" and "correctness of the control rod withdrawal sequence." ITS 3.3.2.1, Conditions C and D, and ITS SR 3.3.2.1.8 identify the rod pattern that is enforced by the RWM as the banked position withdrawal sequence (BPWS) which establishes the required rod patterns as described in NEDO 21231, "Banked Position Withdrawal Sequence." This change is consistent with the STS and is acceptable.

(3) CTS Table 3.2.C, Note 11, states the values for the RBM high trip setpoint, intermediate trip setpoint, low trip setpoint, and downscale trip setpoint are located in the COLR. ITS 3.3.2.1 (Table 3.3.2.1-1) also references the COLR as the location of these limits. Therefore, this is an acceptable administrative change.

(4) Notes preceding ITS SR 3.3.2.1.4 and 3.3.2.1.5 permit excluding the neutron detectors from the RBM Functional Test and RBM Channel Calibration. The neutron detectors are excluded from these SRs because they are passive devices with minimal drift and because of the difficulty of simulating a meaningful signal. Neutron detectors are adequately tested in SR 3.3.1.1.2 and SR 3.3.1.1.8. CTS Table 4.2.C (Note 3) allows the use of a "simulated electrical signal" when performing a functional test or calibration of the RBMs. This is equivalent to the ITS Note excluding neutron detectors from testing. This change is consistent with the STS and is acceptable.

2.3.3.4.D ITS 3.3.2.2, Feedwater and Main Turbine High Water Level Trip Instrumentation

There are no significant administrative changes to the CTS associated with ITS 3.3.2.2.

2.3.3.4.E ITS 3.3.3.1, Post Accident Monitoring (PAM) Instrumentation

(1) The ITS Applicability for PAM instrumentation is specified as Modes 1 and 2. PAM instrumentation monitors variables related to the diagnosis and preplanned operator actions required to mitigate design basis accidents, which are assumed to occur in Modes 1 and 2. As such, the Applicability is specified as Modes 1 and 2. The change is administrative, since the CTS shutdown requirements associated with PAM instrumentation being retained in TS (other than the reactor Pressure and Suppression Chamber Water Temperature Functions) reflect placing the unit in Mode 3 (the non-applicable Mode). The shutdown actions for those instruments that are not consistent with this Applicability are addressed separately. This change is consistent with the STS and is acceptable.

(2) One of the Notes added to modify the Actions of the ITS 3.3.3.1 Actions states the provisions of LCO 3.0.4 are not applicable. As a result, a Mode change is allowed when not all PAM instrumentation is Operable. This allowance is acceptable because of the passive function of the instruments, the operator's ability to diagnose an accident using alternative instruments and methods, and the low probability of an event requiring the use of these instruments. Adding 'the provisions of LCO 3.0.4 are not applicable' is an administrative change; the CTS does not have a requirement prohibiting entry into a Mode or condition when an LCO required by that Mode or condition is not satisfied. Therefore, the CTS allows the actions added by this Note. This change is consistent with the STS and is acceptable.

(3) A new Condition D is added, directing the user to the appropriate Condition when the Required Action of Condition C is not met. This administrative change is consistent with the STS and is acceptable.

2.3.3.4.F ITS 3.3.3.2, Remote Shutdown System

There are no significant administrative changes to the CTS associated with ITS 3.3.3.2.

2.3.3.4.G ITS 3.3.4.1, Anticipated Transient Without Scram Recirculation Pump Trip (ATWS-RPT) Instrumentation

There are no significant administrative changes to the CTS associated with ITS 3.3.4.1.

2.3.3.4.H ITS 3.3.5.1 Emergency Core Cooling (ECCS) Instrumentation

(1) This change deletes the specific line items for performing the Logic System Functional Test for the Containment Cooling Subsystems from CTS Table 4.2.B, and Note 4. ITS Table 3.3.5.1-1 groups specific Functions by ECCS System (that is, for example, the Containment Cooling Subsystems will be depicted as the specific Functions which provide the isolation of the applicable valves in these subsystems, Function 2.e in Table 3.3.5.1-1). Since the test is retained for these items, this change constitutes an administrative change. In addition, the first sentence of Note 4 is deleted since it duplicates the simulated automatic actuation test requirement in each of the current ECCS specifications. These changes are consistent with the STS and are acceptable.

(2) The Calibration specified in the Logic System Functional Test Table for the specific time delay relays is deleted from note 6 to CTS Table 4.2.B. The ITS specifies, in Table 3.3.5.1-1, that Channel Calibrations are required for the specific time delay relays. This change is consistent with the STS and is acceptable.

2.3.3.4.I ITS 3.3.5.2 Reactor Core Isolation (RCIC) System Instrumentation

(1) CTS Table 4.2.B, Note 6, requiring the Logic System Functional Tests to include a calibration of time delay relays and timers necessary for proper functioning of the trip system, is deleted in the ITS incorporation. This note does not apply to the RCIC system since the RCIC system does not have timers or time delay relays. This change is consistent with the STS and acceptable.

2.3.3.4.J ITS 3.3.6.1 Primary Containment Isolation Instrumentation

(1) The steam line temperature monitoring system for MSL, HPCI, and RCIC each consists of 16 temperature detectors, monitoring four locations with one detector from each of the areas monitored contributing to one of four trip strings. Any of the four channels in a trip string is capable of tripping the trip string. The trip strings are arranged in a one-out-of-two-twice logic. Therefore, ITS Table 3.3.6.1-1, Functions 1.e (Main Steam), 3.e (HPCI), and 4.e (RCIC), are presented with two trip systems with eight channels required per trip system. This change creates consistency between MSL, HPCI and RCIC, is consistent with the STS and is acceptable.

(2) CTS Table 3.2.B, "Minimum Number of Operable Channels per Trip System," requires that the HPCI Steam Line Low Pressure Function have four Operable channels per trip system. CTS Table 3.2.B, Note 5, states that HPCI has only one trip system for this Function. UFSAR 7.3.4.8 and associated drawings indicate that low pressure in the HPCI turbine steam line is sensed by four pressure switches which are arranged as two trip systems. Both must trip to initiate isolation of the HPCI turbine steam line. Each trip system receives inputs from two pressure switches, either one of which can initiate isolation. ITS Table 3.3.6.1-1, Function 3.c, reflects the design as described in the UFSAR and associated plant drawings. Since the total number of channels required remains at four, the change is administrative in nature, and is acceptable.

(3) The Trip Level Setting for the Main Stack Monitor in CTS Table 3.2.D, 1×10^6 cps, has been revised in the CTS to an Allowable Value of 2×10^{-2} μCi/cc for Function 2.c (Primary Containment Isolation - Main Stack Monitor Radiation - High) of ITS Table 3.3.6.1-1. PBAPS is upgrading the main stack and vent stack radiation monitors. This modification will be completed prior to implementation of the ITS. As a result of the upgrade to the main stack radiation monitor, the Allowable Value for Function 2.c is changed in the ITS to a more restrictive value. The new Allowable Value for the main stack radiation monitors is documented in PECO Energy calculation PE-210 and was developed using the PECO Energy Instrument Setpoint Methodology. In addition, the Frequency of the Channel Calibration for ITS Function 2.c has been revised from 12 months in the CTS to 18 months in the ITS. The acceptability of these changes is documented in Amendment Nos. 204 and 207, for Units 2 and 3, respectively, dated June 13, 1995. This change to the CTS was approved after PECO's submittal of TSCR 93-16. Therefore, this change to the CTS submitted with TSCR 93-16 is considered administrative. This change is consistent with the PBAPS current licensing basis and is acceptable.

2.3.3.4.K <u>ITS 3.3.6.2 Secondary Containment Isolation Instrumentation</u>

(1) The CTS "Minimum No. of Operable Instrument Channels" and "No. of Instrument Channels Provided by Design," columns in Table 3.2.D is replaced with a "Required Channels Per Trip System" column in ITS Table 3.3.6.2-1. This specifies the number of channels required Operable to achieve the actuation when required, including consideration of the single failure criterion. This change is consistent with the STS and is acceptable.

(2) The CTS requirement that Channel Functional Tests, Channel Calibrations, and Channel Checks are not required when the instruments are not required to be operable or are tripped is deleted. If a channel is outside of its Mode of Applicability or inoperable then there is no reason the test needs to be performed. The tests will, however, be performed on the channel prior to entering the Applicability or declaring the channel Operable. This is consistent with ITS LCOs in Chapter 3.0. If a channel is tripped, testing does not need to be

performed because the channel has performed its safety function. This change is consistent with the STS and is acceptable.

(3) The Logic System Functional Test note that specifies calibration of time delay relays and timers necessary for the proper functioning of the trip systems be performed with the Logic System Functional Test is deleted. This note is not applicable since there are no timers or delay relays associated with the Secondary Containment Isolation Instrumentation at PBAPS. This change is consistent with the STS and is acceptable.

2.3.3.4.L <u>ITS 3.3.7.1 Main Control Room Environmental Control (MCREC) System Instrumentation</u>

There are no significant administrative changes to the CTS associated with ITS 3.3.7.1.

2.3.3.4.M <u>ITS 3.3.8.1 Loss of Power (LOP) Instrumentation</u>

(1) The CTS "Minimum No. of Operable Instrument Channels Per Trip System" and "Number of Instrument Channels Provided by Design" columns of Table 3.2.B are replaced with a "Required Channels Per Bus" column in ITS Table 3.3.8.1-1. This specifies the number of channels required Operable to ensure a DG start when required. This change is consistent with the STS and is acceptable.

(2) The CTS Trip Level Setting Value is replaced with an Allowable Value for the Loss of Power Instrumentation Functions in ITS Table 3.3.8.1-1. The Trip Level Setting Values in Table 3.2.B are the same as the Allowable Values and have been treated as the Allowable Values. In some cases, the percent of rated voltage (4160 V) was converted to the actual voltage. These values were derived from the limiting values of the process parameters obtained from the safety analysis and corrected for calibration, process, and some of the instrument errors. Since the CTS values are equivalent to the ITS values, this change is administrative and acceptable.

2.3.3.4.N <u>ITS 3.3.8.2 Reactor Protection System (RPS) Electric Power Monitoring</u>

There are no significant administrative changes to the CTS associated with ITS 3.3.8.2.

The above changes result in the same limits as the current requirements, or they represent enhanced presentation of the CTS intent. Accordingly, the improved TS changes are purely administrative and they are acceptable.

2.3.3.5 <u>Significant Differences Between the ITS and the STS</u>

The following discussions relate to differences that appear in multiple specifications.

(1) The STS bracketed requirement to calibrate the trip units once per 92 days is deleted. This affects all specifications except ITS 3.3.4.1. The CTS does not require this surveillance, however, trip unit calibration is accomplished using administrative procedures at the same Frequency. Because this surveillance is not part of the CTS, these differences from the STS are acceptable.

The following discussions relate to differences that affect individual specifications.

2.3.3.5.A <u>STS 3.3.1.1, Reactor Protection System (RPS) Instrumentation</u>

(1) Condition C is split into two parts. They are for one or more automatic Functions with RPS trip capability not maintained and for two or more manual Functions with RPS trip capability not maintained. Both require the restoration of RPS trip capability within 1 hour. Thus, if one manual Function with RPS trip capability not maintained is discovered, Condition A allows 12 hours to place the channel in trip. The licensee documents that there are three manual trip Functions versus the two assumed in the STS. Therefore, this difference is equivalent to the STS, with two capable manual Function channels when one is inoperable. Therefore, this difference is acceptable.

(2) The Frequency of SR 3.3.1.1.7 (flow biased high scram) is changed from 7 days in the STS to 31 days in the ITS. This change is consistent with the PBAPS current licensing basis and is acceptable.

(3) Table 3.3.1.1-1 of the ITS has three Functions added: Function 11, Turbine Condenser - Low Vacuum, Function 12, Main Steam Line - High Radiation and associated SR 3.3.1.1.10, Channel Calibration (excluding the radiation detectors) every 92 days, and Function 14 - RPS Channel Test Switch. These Functions are specific to Peach Bottom, and, therefore, their addition to Table 3.3.1.1-1 is acceptable.

(4) STS SR 3.3.1.1.14, "Verify the APRM Flow Biased Simulated Thermal Power High time constant," is deleted. Peach Bottom does not have this specific Function. Therefore, this difference is acceptable.

(5) SR 3.3.1.1.16, to calibrate each radiation detector, with a 24-month Frequency is added. This requirement is contained in the CTS and the difference is acceptable.

(6) Information on the subfunctions (Thermal Probes and Float Switches) for Table 3.3.1.1-1, Function 7, Scram Discharge Volume Water Level - High, are deleted. Unit 2 only uses float switches and the Bases clarify the type of instrumentation used for each unit. Including these plant specific details in the Bases is acceptable.

(7) The requirements for RPS response time testing in STS SR 3.3.1.1.17 have been revised in ITS SR 3.3.1.1.18 to be consistent with the requirements described in CTS 4.1.A. This change is consistent with the PBAPS current licensing basis and is acceptable.

2.3.3.5.B <u>STS 3.3.1.2, Source Range Monitor (SRM) Instrumentation</u>

(1) A Note is added to SR 3.3.1.2.4 exempting the surveillance to verify the count rate while performing spiral unloading. Using spiral unloading reduces reactivity. Therefore, verifying the count rate after starting spiral unloading is unnecessary. This difference is consistent with the PBAPS current licensing basis and is acceptable.

(2) The count rate is verified to be within the limits of an added figure (Figure 3.3.1.2-1) instead of the fixed [0.7] cps with a signal to noise ratio ≥ [20:1]. This difference is acceptable because it conforms with the current licensing basis.

2.3.3.5.C <u>STS 3.3.2.1, Control Rod Block Instrumentation</u>

(1) The Allowable Values for Table 3.3.2.1, Rod Block Monitor Power Biased Functions, are relocated to the Core Operating Limits Report (COLR) because these Allowable Values are subject to change. This difference from the STS is based on Amendment No. 184 for Unit 3, dated September 14, 1993, and Amendment No. 192 for Unit 2, dated August 10, 1994, which approved relocating the Allowable Values for the RBM Power Biased Functions to the COLR as part of the APRM Rod Block Monitor Technical Specification/Maximum Extended Load Limit Line Analysis (ARTS/MELLA). Any changes to the COLR Allowable Values will require a 10 CFR 50.59 evaluation. This difference is acceptable.

(2) The ITS requires performance of a Channel Functional Test once per 92 days (SR 3.3.2.1.1) and a Channel Calibration once per 184 days (SR 3.3.2.1.5) for the RBM Bypass Time Delay (Function 1.f). Notes are being added for Function 1.f stating the Channel Functional Test and Channel Calibration are not required to be performed if the time delay circuit is disabled. The purpose of the RBM Bypass Time Delay Function is to allow the plant, when it is within thermal limits, to withdraw a control rod at least a single notch despite extremely noisy signals that would normally block rod withdrawal. Currently, the LPRM signals have not exhibited excessive noise characteristics that would necessitate use of this time delay. Since this time delay is not needed, the supporting analyses have not been performed and the allowed setting is zero. During the development of the procedures to implement SR 3.3.2.1.1 and SR 3.3.2.1.5 for Function 1.f, it was determined that the allowed setting (zero) is achieved by physically disabling the circuitry that enables the RBM Bypass Time Delay Function on the RBM Delay and Filter Card. As a result, the performance of a Channel Functional Test or a Channel Calibration is not required to verify the Operability of Function 1.f when the time delay circuit is disabled. This difference is related to the PBAPS-specific design and is, therefore, acceptable.

2.3.3.5.D STS 3.3.2.2, Feedwater and Main Turbine High Water Level Trip Instrumentation

(1) Conditions, Required Actions, and Completion Times in this LCO are adjusted to account for the PBAPS one-out-of-two-taken-twice logic to be consistent with similar instrumentation for EOC-RPT in the STS. The differences from 'One' channel to 'One or more' channels and reducing the Completion Time from 7 days to 72 hours are acceptable. The other associated differences in nomenclature are also acceptable.

2.3.3.5.E STS 3.3.3.1, Post Accident Monitoring (PAM) Instrumentation

(1) PAM Instrument Functions specific to PBAPS and the number of required channels were added to Table 3.3.3.1-1. These differences are based on the currently approved PAM instrumentation. Therefore, this difference is acceptable.

(2) The STS Condition D provided separate Conditions, Required Actions, and Completion Times for hydrogen monitoring channels. The ITS treats the hydrogen monitoring channels the same as the other post-accident monitoring channels. Calibration per SR 3.3.3.1.2 is every 92 days. This also allows a 7 day Completion Time instead of 72 hours. This difference is in accordance with the CTS and is acceptable.

(3) The Note, "These SRs apply to each Function in Table 3.3.3.1-1," is deleted. Because the SR intervals are 92 days for drywell and suppression chamber H_2 and O_2 analyzers (SR 3.3.3.1.2), all other PAM instrumentation is calibrated under SR 3.3.3.1.3, every 24-months. SR 3.3.3.1.2 is an addition to the STS SRs. This difference is acceptable.

(4) Footnote c to Table 3.3.3.1-1 is changed with plant specific information. Each Peach Bottom channel for suppression chamber water temperature requires 10 resistance temperature detectors (RTDs) Operable, with no 2 adjacent RDTs inoperable. This difference is consistent with the CTS and is acceptable.

2.3.3.5.F STS 3.3.3.2, Remote Shutdown System

(1) STS Table 3.3.3.2, Remote Shutdown System Instrumentation, is deleted in the ITS. That table listed illustrative instrument Functions and did not list instruments or requirements. This information is available in the ITS Bases. Removing this table is consistent with the CTS and is acceptable.

(2) STS SR 3.3.3.2.1 to perform a CHANNEL CHECK for each required instrumentation channel that is normally energized is deleted. Only one PBAPS Remote Shutdown System instrument is normally energized, the 'A' Torus Temperature. The CTS do not require a Channel Check of this instrument. This difference is acceptable because it conforms with the current licensing basis.

2.3.3.5.G STS 3.3.4.1, End of Cycle Recirculation Pump Trip (EOC-RPT) Instrumentation

This STS is deleted because Peach Bottom does not have this instrumentation. On the basis of the plant specific design, this difference is acceptable.

2.3.3.5.H STS 3.3.4.2, Anticipated Transient Without Scram Recirculation Pump Trip (ATWS-RPT) Instrumentation

Other than renumbering and nomenclature, this specification has no additional differences from the STS.

2.3.3.5.I STS 3.3.5.1 Emergency Core Cooling (ECCS) Instrumentation

(1) Table 3.3.5.1-1 of the ITS has five Functions added: Function 1.e, Core Spray Pump Start - Time Delay Relay (loss of offsite power), Function 1.f, Core Spray Pump Start - Time Delay Relay (offsite power available) Function 2.f, Reactor Pressure Low (Recirculation Discharge Valve Permissive), Function 4.d - Reactor Vessel Water Level - Low Low Low, and Function 5.d - Reactor Vessel Water Level - Low Low Low. These Functions are specific to PBAPS, and, therefore, their addition to Table 3.3.5.1-1 is acceptable.

(2) The STS Note in Required Action G.1 is deleted. The Note specified which Functions the Required Action was applicable to. Since all Functions that reference the Condition require the Required Action, the Note is not applicable. Therefore, the deletion of this Note is acceptable.

(3) STS SR 3.3.5.1.7, "Verify the ECCS RESPONSE TIME is within limits," is deleted in the ITS. The CTS does not require response time testing. This difference is acceptable because it conforms with the current licensing basis.

(4) The PBAPS does not have plant service water (PSW) turbine building (T/B) isolation valves. Therefore, reference to them in Table 3.3.5.1-1, footnote b, is deleted. This difference is acceptable.

(5) The Allowable Value for the time delay relay for LPCI pump D is the same as pump C, and different from the Allowable Value for pumps A and B. Therefore, the table listing for pump C is changed from the grouping with pumps A and B to being grouped with pump D. The difference is based on the plant design. Therefore, this difference is acceptable.

(6) SR 3.3.5.1.5, Logic System Functional Test, is deleted for Table 3.3.5.1-1, Function 1.d, Core Spray Pump Discharge Flow - Low (Bypass). This test is part of the Channel Functional Test. The ITS presents these requirements in the same fashion as the CTS. Therefore, the difference to the STS is acceptable.

(7) The Channel Check requirements for the Condensate Storage Tank Level - Low and Suppression Pool Water Level - High, Functions 3.d and 3.e, respectively, are deleted in the ITS. The control room does not have indication from these instruments. Further, the CTS does not require Channel Checks of these Functions. Therefore, this difference is acceptable.

(8) Note (b) which states "Also required to initiate the associated DG" has been deleted from the LPCI - Reactor Vessel Water Level - Low Low Low (Level 1) and Drywell Pressure - High Functions (Functions 2.a and 2.b). At Peach Bottom Atomic Power Station (PBAPS), the Diesel Generators (DGs) are initiated from the Core Spray (CS) System initiation logic. The CS and LPCI Reactor Vessel Water Level - Low Low Low (Level 1) and Drywell Pressure - Functions are derived from the same instrumentation. However, any inoperability of the LPCI Reactor Vessel Water Level - Low Low Low (Level 1) or Drywell Pressure - Function that could negatively impact DG initiation will also result in the CS Reactor Vessel Water Level - Low Low Low (Level 1) or Drywell Pressure - Function being inoperable. The CS Reactor Vessel Water Level - Low Low Low (Level 1) and Drywell Pressure - Functions will still include Note (b). Therefore, this change has no impact on DG initiation capability. This difference is related to the PBAPS-specific design and is, therefore, acceptable.

(9) Footnote e is added to Table 3.3.5.1-1 for the ADS Functions, reflecting the Applicability of the ADS as Modes 2 and 3 with reactor pressure greater than 100 psig. This clarification is based on the plant design and is acceptable.

(10) The manual initiation Function of the ADS is deleted because the PBAPS design does not have that capability. This difference is acceptable.

(11) The manual initiation Functions (Function 2.i, LPCI, Function 1.e, Core Spray, and Function 3.f, HPCI) are deleted from Table 3.3.5.1-1. These Functions are not part of the current licensing basis, and are not credited in any accident analysis. This difference is acceptable.

2.3.3.5.J <u>STS 3.3.5.2 Reactor Core Isolation (RCIC) System Instrumentation</u>

(1) Function 4, Suppression Pool Water Level - High, is deleted from Table 3.3.5.2-1. The Peach Bottom Station does not have this Function. Therefore, deleting the Function from the table is acceptable.

(2) The manual initiation Function (Function 5, RCIC) is deleted from Table 3.3.5.2-1. This Function is not part of the current licensing basis, and is not credited in any accident analysis. This difference is acceptable.

(3) SR 3.3.5.2.4, Perform Channel Calibration, is deleted. No RCIC instrumentation requires quarterly calibrations in the CTS. The 24 month Channel Calibration is still required (ITS SR 3.3.5.2.3). Since

this difference conforms to the current licensing basis, this difference is acceptable.

2.3.3.5.K <u>STS 3.3.6.1 Primary Containment Isolation Instrumentation</u>

(1) The Completion Time for Required Action A.1 is broken into two parts - 12 hours and 24 hours. The 12 hour Completion Time in the STS is for Functions 2.a, 2.b, and 6.b. The 12 hour Completion Time in the ITS is for Functions 1.d, 2.a, and 2.b. The 24 hour Completion Time in the STS is for Functions other than Functions 2.a, 2.b, and 6.b. The 24 hour Completion Time is for Functions other than Functions 1.d, 2.a, and 2.b. Function 1.d (Main Steam Line - High Radiation) was added to the 12 hour Completion Time consistent with NEDC-31677P-A and NEDC-30851-A. Function 6.b (Reactor Vessel Water Level - Low [Level 3]) was changed from 12 hours to 24 hours allowable outage time because the Function is not common with the RPS.

(2) Condition G and its Required Action and associated Completion Time are deleted, along with the Manual Initiation Functions for the Main Steam Line Isolation, Primary Containment Isolation, Reactor Water Cleanup System, and Shutdown Cooling System Isolation. These Functions are not part of the Peach Bottom design. On the basis of this design difference, this change is acceptable.

(3) SR 3.3.6.1.4, a 12 month Channel Calibration, is added for Functions 2.c (Main Stack Radiation Monitor - High), with a Note excluding the radiation detectors, and 4.e (RCIC Compartment and Steam Line Area Temperature - High). SR 3.3.6.1.6, a 24 month calibration of radiation detectors is also added. These differences are based on the PBAPS design capabilities and the setpoint analysis. Therefore, these plant-specific differences are acceptable.

(4) STS SR 3.3.6.1.8, "Verify the ISOLATION SYSTEM RESPONSE TIME is within limits," is deleted in the ITS. The CTS does not require response time testing. This difference is acceptable because it conforms with the current licensing basis.

(5) New Functions are added to Table 3.3.6.1-1

Function 1.d	Main Steam Line - High Radiation
Function 2.c	Main Stack Monitor Radiation - High
Function 3.b	HPCI Steam Supply Line Flow - Time Delay Relays
Function 4.b	RCIC Steam Supply Line Flow - Time Delay Relays
Function 7.a	Reactor Pressure - High

Functions were deleted from Table 3.3.6.1-1

Function 1.d	Condenser Vacuum - Low
Function 1.f	Main Steam Tunnel Differential Temperature - High
Function 1.g	Turbine Building Area Temperature - High
Function 3.c	HPCI Turbine Exhaust Diaphragm Pressure - High
Function 3.f	Suppression Pool Area Ambient Temperature - High

Function 3.g	Suppression Pool Area Temperature - Time Delay Relays
Function 3.h	Suppression Pool Area Differential Temperature - High
Function 3.i	Emergency Area Cooler Temperature - High
Function 4.c	RCIC Turbine Exhaust Diaphragm Pressure - High
Function 4.e	RCIC Suppression Pool Ambient Area Temperature - High
Function 4.f	Suppression Pool Area Temperature - Time Delay Relays
Function 4.g	RCIC Suppression Pool Area Differential Temperature - High
Function 4.h	Emergency Area Cooler Temperature - High
Function 4.j	RCIC Equipment Room Differential Temperature - High
Function 5.b	Area Temperature - High
Function 5.c	Area Ventilation Differential Temperature - High

Associated footnotes and surveillances are also deleted or added. These differences are based on plant specific design. With these changes, these differences from the STS Table 3.3.6.1-1 are acceptable.

(6) Quarterly Channel Functional Testing is deleted where quarterly Channel Calibration is required that includes the Channel Functional Test requirements.

(7) The footnote to Table 3.3.6.1-1 for the Shutdown Cooling System Isolation, Function 6.b, Reactor Vessel Water Level - Low (Level 3) is changed from 'only one trip system required in Modes 4 and 5 when RHR Shutdown Cooling System integrity maintained' to 'In Modes 4 and 5, provided RHR Shutdown Cooling System integrity is maintained, only one channel per trip system with an isolation signal available to one shutdown cooling pump suction isolation valve is required'. This difference makes the note consistent with the PBAPS Shutdown Cooling System Isolation logic. Thus, this difference is acceptable.

(8) SR 3.3.6.1.5, requiring a Channel Functional Test every 184 days, is deleted. No primary containment isolation instrumentation requires this frequency of functional testing in the current licensing basis. Based on this plant specific difference and the current requirements, this difference is acceptable.

2.3.3.5.L <u>STS 3.3.6.2 Secondary Containment Isolation Instrumentation</u>

(1) STS SR 3.3.6.2.7, "Verify the ISOLATION SYSTEM RESPONSE TIME is within limits," is deleted in the ITS. The CTS does not require response time testing. This difference is acceptable because it conforms with the current licensing basis.

(2) The manual initiation Function of the secondary containment isolation in Table 3.3.6.2-1 is deleted because the PBAPS design does not have that capability. This difference is acceptable.

2.3.3.5.M STS 3.3.6.3 Low-Low Set (LLS) Instrumentation

This STS is deleted, because Peach Bottom does not have this instrumentation. Based on the plant specific design, this difference is acceptable.

2.3.3.5.N STS 3.3.7.1 Main Control Room Environmental Control (MCREC) System Instrumentation

(1) The only MCREV instrumentation at PBAPS is the Control Room Air Intake Radiation Monitoring Instrumentation. The LCO, Applicability, Required Actions and SRs are altered to reflect this singularity; Table 3.3.7.1-1 is deleted. Further, the Completion Time for Required Action A.2 is 6 hours rather than the STS 24 hours. This time is now consistent with the Completion Time for Required Action B.2, and is acceptable.

(2) The Note 'place in toxic gas protection Mode if automatic transfer to toxic gas protection Mode is inoperable' is deleted. This is because the PBAPS design does not have a toxic gas protection Mode. Based on the plant specific design, this difference is acceptable.

2.3.3.5.O STS 3.3.8.1 Loss of Power (LOP) Instrumentation

(1) ITS 3.3.8.1 provides another LCO statement regarding the loss of power instrumentation in the other unit, by stating which Functions are to be Operable in the other unit. This is in addition to the Operability requirements for the subject unit. Equipment in one unit receives power from buses in the other unit. Therefore, the loss of power instrumentation in both units is required Operable to start the DGs and tie power to required equipment should there be a loss of power event. The opposite unit's Required Actions are referenced. A SR is added to ensure the other unit's Loss of Power instrumentation Functions and SRs are complied with. This difference is based on the PBAPS-specific design and is, therefore, acceptable.

(2) The Applicability of STS 3.3.8.1 was revised from ITS 3.3.8.1 to reflect the autotransfer function of the Degraded Voltage LOP instrumentation. This difference is based on the PBAPS-specific design and is, therefore, acceptable.

(3) The PBAPS loss of power instrumentation differs from the STS model. New Actions address these differences. Peach Bottom has four Functions of degraded voltage Loss of Power instrumentation. Two (Function 2, degraded voltage low setting, and Function 4, degraded voltage LOCA) retain Actions similar to the STS, 1 hour to place an inoperable channel in trip. The Degraded Voltage LOCA Function preserve the LOCA analysis power quality assumptions. The Degraded Voltage Low Setting Function preserves the assumptions of the accident sequence analysis in the UFSAR. Thus, requiring placing channels of these Functions in trip within 1 hour if inoperable is acceptable.

For a discussion of the differences from the STS for the other two Functions (Function 3, Degraded Voltage High Setting, and Function 5, Degraded Voltage Non-LOCA), see Section 2.3.3.2.M(3) of this safety evaluation. These differences are based on the PBAPS-specific design and are, therefore, acceptable.

(4) Table 3.3.8.1-1, Function 1, Bus Undervoltage, Allowable Value, is specified as NA instead of the STS recommended voltage range. Along with this difference is the deletion of Channel Calibrations and trip level settings, and because there is no time delay, the time delay settings. Additionally, a separate Channel Functional Test, SR 3.3.8.1.3, every 24 months, is added. These relays monitor power availability, de-energizing when power to the bus is lost. The relay dropout voltage is substantially below the anticipated lowest voltage observed during load sequencing. Channel Functional Tests verify each relay drops out when the bus is de-energized, but not during sequencing. Therefore, Channel Calibration and trip level setting for this Function are not required for the relays to perform their safety-related function. Based on the design of these instruments, the differences implemented by the licensee are acceptable.

(5) The 12-hour Channel Check of SR 3.3.8.1.1 is deleted. The licensee states that 12 hour Channel Check for this instrumentation is not necessary and that this such a test is not required in the current licensing basis. Since this difference conforms to the current licensing basis, this difference is acceptable.

2.3.3.5.P <u>STS 3.3.8.2 Reactor Protection System (RPS) Electric Power Monitoring</u>

(1) The Applicability is changed from:

Modes 1, 2, and 3,
Modes 4 and 5 [with any control rod withdrawn from a core cell containing one or more fuel assemblies].

to:

Modes 1 and 2,
Modes 3, 4, and 5 with any control rod withdrawn from a core cell containing one or more fuel assemblies.

This change was made to be consistent with the CTS, Amendment Nos. 99 and 101, dated June 21, 1984, for Units 2 and 3, respectively. The change is designed to have RPS power available as required to support the Reactor Protection System Applicability in ITS 3.3.1.1. This change also affects Conditions C and D, and deletes Required Actions C.2, D.2.1, and D.2.2. Since this difference conforms to the current licensing basis, this difference is acceptable.

(2) STS SR 3.3.8.2.2 is split into two separate SRs, the first for the RPS MG set electric power monitoring assemblies (SR 3.3.8.2.2), the second for the RPS alternate power supply electric power monitoring assemblies (SR 3.3.8.2.3). The Allowable Values for the time delay for undervoltage and underfrequency differ between the two SRs. These

differences carry over from the CTS, as changed from setpoints to Allowable Values. Since this difference conforms to the current licensing basis, this difference is acceptable.

These proposed differences from STS Section 3.5 are consistent with PBAPS plant-speciifc characteristics and existing requirements and commitments, or they provide improvements to the STS requirements. Therefore, they are acceptable.

2.3.4 REACTOR COOLANT SYSTEM (ITS SECTION 3.4)

2.3.4.1 Relocated Requirements

In accordance with the STS and the criteria in the Final Policy Statement and 10 CFR 50.36, the licensee proposed to relocate all or portions of the following CTS to other licensee-controlled documents. The listing is broken down by the equivalent sections in the ITS.

2.3.4.1.A ITS 3.4.1, Recirculation Loops Operating

CTS Section	Title
3.6.F.1	Recirculation Pumps
4.6.F.1	Recirculation Pumps
4.6.F.5.b	Recirculation Pumps
3.6.F.5.b	Recirculation Pumps

(1) The requirement in CTS 3.6.F.1 that, "Following one-pump operation, the discharge valve of the low speed pump may not be opened unless the speed of the faster pump is less than 50% of its rated speed," is being relocated to plant procedures. This requirement is an instruction on the operation of equipment that is not assumed in safety analyses. Specific requirements related to Recirculation Loop flow mismatch and single recirculation loop operation are adequately addressed in the requirements of Specification 3.4.1, Recirculation Loops Operating. As a result, the relocated requirement is not necessary for ensuring the requirements of Specification 3.4.1 are maintained. Any changes to this requirement will require a 10 CFR 50.59 evaluation. This change is consistent with the STS and is acceptable.

(2) The requirement in CTS 4.6.F.1 to obtain baseline APRM and LPRM neutron flux noise data is being relocated to plant procedures. Changes to these procedures will be subject to the requirements 10 CFR 50.59. This requirement is not necessary to ensure the capability for stability monitoring exists since Required Action A.1 of Specification 3.4.1, Recirculation Loops Operating, will still require (if operating in a region of potential thermal hydraulic instability) APRM and LPRM noise levels to be verified to be $\leq$ 3 times baseline noise levels. As such, the requirement to have baseline APRM and LPRM neutron flux noise data is adequately addressed in technical specifications. This change is consistent with the STS and is acceptable.

(3) The requirements to immediately initiate action to avoid operation in Region 1 of the power-to-flow map during single recirculation loop operation and to immediately initiate corrective action to restore noise levels to within required limits during operation in Region 1 or 2 of the power-to-flow map are being relocated to the ITS Bases. These requirements are not necessary for inclusion in technical specifications since Required Actions B.1, C.1 and C.2 of Specification 3.4.1, Recirculation Loops Operating, require restoration of the requirements within a limited period of time. As a result, the requirements being relocated are not necessary for ensuring operation in Region 1 during single recirculation loop operation or operation in Region 1 or 2 with noise levels exceeding required limits is restricted in accordance with the applicable technical specification Completion Times. Any changes to this requirement will be controlled by the Bases Control Program (ITS 5.5.10). This change is consistent with the STS and is acceptable.

(4) The specific details of the LPRM detectors to use and their location for determining LPRM neutron flux noise levels are being relocated to the ITS Bases. These details are not necessary to be included in the technical specifications to ensure neutron flux noise levels are determined. The neutron flux noise level verification requirements of Required Action A.1 of Specification 3.4.1, Recirculation Loops Operating, are adequate for ensuring neutron flux is determined. Any changes to this requirement will be controlled by the Bases Control Program (ITS 5.5.10). This change is consistent with the STS and is acceptable.

2.3.4.1.B <u>ITS 3.4.2, Jet Pumps</u>

CTS Section	Title
3.6.E.	Jet Pumps
4.6.E.3	Jet Pumps

(1) The requirements in CTS 3.6.E.2, 3.6.E.3, and 3.6.E.4 for jet pump flow indication instrumentation are being relocated to procedures. Jet pump flow instrumentation does not necessarily relate directly to the respective system Operability. In general, the STS do not specify indication only equipment to be Operable to support Operability of a system or component. Control of the availability of indications, monitoring instruments, and alarms, and necessary compensatory activities if these components are not available, are addressed by plant operational procedures and policies. Therefore, the requirements associated with this instrumentation are being removed from the TS. In addition, the requirements of ITS SR 3.4.2.1 ensure that adequate flow indication is available to demonstrate jet pump Operability. Any changes to these requirements will require a 10 CFR 50.59 evaluation. This change is consistent with the STS and is acceptable.

(2) The requirement in CTS 4.6.E.3 to obtain baseline data to evaluate jet pump Operability is being relocated to procedures. This requirement is not necessary to be included in technical specifications since the requirements of ITS SR 3.4.2.1 requires comparison of data to

established patterns. In order to have established patterns a baseline must exist. As such, the requirement to have baseline data to evaluate jet pump Operability is adequately addressed in technical specifications. Any changes to these requirements will require a 10 CFR 50.59 evaluation. This change is consistent with the STS and is acceptable.

2.3.4.1.C <u>ITS 3.4.3 Safety Relief Valves (Specific) and Safety Valves (SVs)</u>

CTS Section	Title
4.6.D.2	Safety and Relief Valves
4.6.D.3	Safety and Relief Valves
4.6.D.4	Safety and Relief Valves

(1) The requirement in CTS 4.6.D.2 to disassemble and inspect one relief valve every 24 months is being relocated to procedures. This requirement is a preventive maintenance type requirement. The failure to perform this requirement does necessarily result in an inoperable relief valve. This requirement is oriented toward long term relief valve Operability and does not have an immediate impact on relief valve Operability. Relief valve Operability is verified by the SRs maintained in ITS 3.4.3. As a result, this requirement is not necessary to include in the technical specifications. Any changes to this requirement will require a 10 CFR 50.59 evaluation. This change is consistent with the STS and is acceptable.

(2) The requirements in CTS 4.6.D.3 for SRV bellows instrumentation are being relocated to plant procedures. These requirements do not necessarily relate directly to the respective system Operability. In general, the STS do not specify indication only equipment to be Operable to support Operability of a system or component. Control of the availability of indications, monitoring instruments, and alarms, and necessary compensatory activities if these components are not available, are addressed by plant operational procedures and policies. Therefore this instrumentation, along with the supporting SRs is being removed from the TS. Any changes to this requirement will require a 10 CFR 50.59 evaluation. This change is consistent with the STS and is acceptable.

(3) The specific details in CTS 4.6.D.4 on how to verify that a relief valve is manually opened have been relocated to the ITS Bases. The requirement to manually open each relief valve is adequately addressed in ITS SR 3.4.3.2. As a result, the requirements being relocated are not necessary for ensuring each of the relief valves is manually opened once per 24 months. Any changes to this requirement will require a 10 CFR 50.59 evaluation. This change is consistent with the STS and is acceptable.

(4) The requirement in CTS 4.6.D.3 to inspect for relief valve accumulator and air piping leakage every 24 months is being relocated to procedures. This requirement is a preventive maintenance type requirement. The failure to perform this requirement does necessarily result in an

inoperable relief valve. This requirement is oriented toward long term relief valve Operability and does not have an immediate impact on relief valve Operability. Relief valve Operability is verified by the SRs maintained in Specification 3.4.3, Safety Relief Valves and Safety Valves. As a result, this requirement is not necessary to include in the technical specifications. Any changes to this requirement will require a 10 CFR 50.59 evaluation. This change is consistent with the STS and is acceptable.

2.3.4.1.D ITS 3.4.4, RCS Operational LEAKAGE

There are no relocated CTS requirements associated with ITS 3.4.4.

2.3.4.1.E ITS 3.4.5, RCS Leakage Detection Instrumentation

CTS Section	Title
4.6.C.1	Coolant Leakage

(1) CTS 4.6.C.1 identifies that RCS leakage shall be determined "by the primary containment (Drywell) sump collection and flow monitoring system." The details regarding how reactor coolant system leakage will be determined are being relocated to procedures. The requirements of ITS SR 3.4.4.1 are adequate to determine reactor coolant system leakage is within required limits. As a result, the details relocated to procedures are not necessary for ensuring reactor coolant system leakage is determined. Any changes to this requirement will require a 10 CFR 50.59 evaluation. This change is consistent with the STS and is acceptable.

(2) The requirement in CTS 4.6.C.2 to record drywell atmosphere radioactivity levels is being relocated to procedures. The requirement for recording drywell atmosphere radioactivity levels is not necessary to ensure the RCS operational Leakage is maintained within limits. ITS SR 3.4.4.1 is adequate to ensure RCS operational Leakage is maintained within limits. In addition, drywell atmosphere radioactivity levels will still be monitored during the performance of the Channel Check of the primary containment atmospheric monitoring system (ITS SR 3.4.5.1). Any changes to this requirement will require a 10 CFR 50.59 evaluation. This change is consistent with the STS and is acceptable.

2.3.4.1.F ITS 3.4.6, RCS Specific Activity

CTS Section	Title
3.6.B/4.6.B	Coolant Chemistry

(1) The additional sampling requirements in CTS 4.6.B.1 for reactor coolant and offgas system sampling during startup, following significant power level changes, and following significant changes in offgas radiation levels are being relocated to procedures. The requirements associated with stack gas continuous gross activity measurement and coolant liquid sample monthly isotopic analysis are also being relocated to procedures. The results of any of these samples are intended to determine if RCS

specific activity is exceeding specified limits. Main Steam Line (MSL) radiation monitoring requirements are provided by ITS 3.3.1.1, Function 11 (Main Steam Line-High Radiation) of Reactor Protection System Instrumentation Table 3.3.1.1-1 and by ITS 3.3.6.1, Function 1.d (Main Steam Line Isolation - Main Steam Line-High Radiation) of Primary Containment Isolation Instrumentation Table 3.3.6.1-1. Offgas radiation monitoring requirements are provided in ITS 3.7.5, "Main Condenser Offgas." The combination of these technical specification requirements and the requirements of ITS SR 3.4.6.1 provide adequate assurance that RCS specific activity will be maintained within required limits. As a result, the additional sampling requirements and other requirements specified in Table I of CTS 4.6.B (Stack gas continuous gross activity measurement and coolant liquid sample monthly isotopic analysis) are not necessary for assuring RCS specific activity is within required limits.

In addition, the criteria for when specific activity has been returned to limits (until two successive samples indicate a decreasing trend below the limit with at least three consecutive samples being taken) are being relocated to procedures. The requirements of ITS SR 3.4.6.1 are adequate for ensuring specific activity is within limits. As a result, the criteria being relocated are not necessary for ensuring specific activity is restored to within limits. Any changes to this requirement will require a 10 CFR 50.59 evaluation. This change is consistent with the STS and is acceptable.

2.3.4.1.G <u>ITS 3.4.7, Residual Heat Removal (RHR) Shutdown Cooling System - Hot Shutdown</u>

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no relocated requirements.

2.3.4.1.H <u>ITS 3.4.8, Residual Heat Removal (RHR) Shutdown Cooling System - Cold Shutdown</u>

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no relocated requirements.

2.3.4.1.I <u>ITS 3.4.9 RCS Pressure and Temperature (P/T) Limits</u>

CTS Section	Title
3.6/4.6	Primary System Boundary

(1) The criteria in CTS 4.6.A.1 for when the RCS temperature surveillance for heatups and cooldowns may be discontinued are being relocated to procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. The requirements for when to monitor RCS temperature are adequately addressed in the Note to ITS SR 3.4.9.1. The Note states that verification of RCS pressure, temperature, and heatup and cooldown rates is only required to be performed during RCS heatup and cooldown operations and RCS inservice leak and hydrostatic testing. As a result, these criteria are not necessary for ensuring RCS pressure

and temperature are maintained within required limits. This change is consistent with the STS and is acceptable.

(2) The specific details in CTS 4.6.A.1 of the RCS locations for monitoring temperature during heatups and cooldowns are being relocated to procedures. These details are not necessary to ensure that RCS pressure and temperature are maintained within required limits. The requirements of ITS SR 3.4.9.1 are adequate to ensure RCS pressure and temperature limitations are not exceeded. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. This change is consistent with the STS and is acceptable.

(3) The reactor vessel test specimen location and the associated details of the sample program in CTS 4.6.A.1 are being relocated to the UFSAR. Changes to these items will be subject to the requirements of 10 CFR 50.59. The requirements being relocated describe the PBAPS reactor vessel surveillance capsule program requirements established by Appendix H to 10 CFR Part 50. These regulations require licensee compliance and cannot be revised by the licensee. Therefore, duplication of the regulations within the TS is not necessary. As a result, the requirements being relocated are not necessary for ensuring the reactor vessel surveillance capsule program at PBAPS is maintained. This change is consistent with the STS and is acceptable.

2.3.4.1.J <u>ITS 3.4.10, Reactor Steam Dome Pressure</u>

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no relocated requirements.

The following requirements that existed in the CTS were relocated by the licensee to licensee-controlled documents. The licensee did not associate them with a specific section of the ITS.

2.3.4.1.K <u>CTS 3.6.B.2, Coolant Chemistry</u>

(1) CTS 3.6.B.2 establishes the controls for reactor water quality including chloride concentration, conductivity, and pH. The chemistry limits are provided to prevent long term component degradation and provide long term maintenance of acceptable structural conditions of the system. However, degradation of the reactor coolant pressure boundary is a long-term process, and there are other, direct means to monitor and correct the degradation of the reactor coolant pressure boundary which are controlled by regulations and TS; for example, inservice inspection and primary coolant leakage limits are provided to prevent long-term degradation of the reactor coolant pressure boundary materials, and provide long term maintenance of acceptable structural conditions of the system. These limitations on coolant chemistry are not of immediate importance to the operator, and are not required to ensure operability of the reactor coolant system pressure boundary. Therefore, this requirement specified in the CTS does not satisfy the criteria in the Final Policy Statement and 10 CFR 50.36 for inclusion in TS. This requirement will be relocated to the TRM. Changes to this requirement

will require a 10 CFR 50.59 evaluation. This change is consistent with the STS and is acceptable.

2.3.4.1.L <u>CTS 3.6.G, Structural Integrity</u>

(1) The structural integrity inspections are provided in CTS 3.6.G to prevent long term component degradation and provide long term maintenance of acceptable structural conditions of the system. The inspection programs for ASME Code Class 1, 2, and 3 components ensure that the structural integrity of these components will be maintained. The inspection program associated with the TS requirements is performed on systems assumed to function to mitigate a design basis accident. However, the TS establish operability requirements for these same systems to ensure that structural degradation of safety systems will be within limits. The associated inspections are not required to ensure immediate Operability of the system. Therefore, this requirement specified in the CTS does not satisfy the criteria in the Final Policy Statement and 10 CFR 50.36 for inclusion in TS. This requirement will be relocated to the TRM. Changes to this requirement will require a 10 CFR 50.59 evaluation. This change is consistent with the STS and is acceptable.

The above relocated requirements relating to the reactor coolant system are not required to be in the TS under 10 CFR 50.36, and are not required to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety. Further, the scope of ITS Section 3.4 provides sufficient controls on the safety functions that remain in the TS. In addition, the staff finds that sufficient regulatory controls exist under 10 CFR 50.59 and ITS 5.5.10 for the relocated requirements. Accordingly, the staff has concluded that these requirements may be relocated from the TS to the plant procedures, TRM, ITS Bases, or UFSAR, as applicable.

2.3.4.2 <u>Less Restrictive Technical Changes</u>

Less restrictive requirements than CTS for Unit 2 and Unit 3 corresponding to the scope of the requirements of ITS Section 3.4 are described below for each of the specifications in Section 3.4.

2.3.4.2.A <u>ITS 3.4.1, Recirculation Loops Operating</u>

(1) This change relaxes the time allowed in CTS 3.6.F (from 6 to 24 hours) to comply with the LCO for conditions other than thermo-hydraulic instability. This change is consistent with the STS.

In addition, a Note to LCO 3.4.1 which states "Required limit modifications for single recirculation loop operation may be delayed for up to 12 hours after transition from two recirculation loop operation to single loop operation" is being added to the ITS. The addition of the Note will eliminate any confusion brought on by the inconsistency with ITS 3.3.1.1, "Reactor Protection System Instrumentation," and the need to enter Condition D of ITS 3.4.1, "Recirculation Loops Operating," just to transition from two loop operation to single loop operation (Condition D allows 24 hours to reset the APRM settings to the single loop values, but ITS 3.3.1.1 does not provide a 24 hour Completion Time for inoperable APRM channels). The Note extends the time to implement the single loop operation requirements from 6 hours to 12 hours. This change is more restrictive than the STS.

Relaxing the Completion Time to restore compliance with the LCO or complete limit modifications in this condition is reasonable considering the low probability of an accident occurring during this period, the time required to perform the Required Action and the frequent core monitoring by operators allowing abrupt changes in core flow conditions to be quickly detected. The consequences of an accident are unchanged by adding additional time to restore compliance with the LCO or complete limit modifications for single loop operation. Also, allowing this extended time will potentially avoid a plant transient caused by a plant shutdown and does not represent a significant decrease in safety.

Based on the above, these changes are acceptable.

(2) This change relaxes the time allowed in CTS 3.6.F.2 to place the plant in Mode 3 to allow for a more controlled shutdown. This change is relaxing the time required to bring the plant to a Mode in which the LCO does not apply. It changes the time to bring the plant to Mode 3 from 6 hours to 12 hours. The ITS Completion Time is based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems. The probability of an accident is not increased because the time allowed to restore the recirculation loops is not a precursor to any accident. Also the consequences of an accident occurring in the additional 6 hours allowed to reach Mode 3 are unchanged. The additional time also allows for a more controlled reduction in power. This change is consistent with the STS and is acceptable.

(3) This change adds a Note to CTS 3.6.F.2 that will allow the licensee to wait for up to 24 hours to perform the surveillance after the recirculation loops are placed in service. The surveillance is not required to be performed until both loops are operating since the mismatch limits are meaningless during single loop or natural circulation operation. Also, the surveillance is allowed to be delayed 24 hours after both recirculation loops are operating. This allows for time to establish appropriate conditions for the test to be performed. This change is consistent with the STS and is acceptable.

2.3.4.2.B <u>ITS 3.4.2, Jet Pumps</u>

(1) This change adds Notes to CTS 4.6.E that allow for not performing the jet pump surveillance until power is greater than 25% RTP and for 4 hours after the recirculation loop is placed in service. The first Note allows the surveillance not to be performed until 4 hours after the associated recirculation loop is in operation, because these checks can only be performed during jet pump operation. The 4 hours is considered

an acceptable time to establish conditions appropriate for data collection and evaluation. The second Note allows the surveillance to not be performed when Thermal Power is ≤ 25% of RTP. During low flow conditions, jet pump noise approaches the threshold response of the associated flow instrumentation and precludes the collection of the repeatable and meaningful data. Currently, the surveillance is required whenever there is recirculation flow and the reactor is in the startup or run Modes. This change is consistent with the STS and is acceptable.

(2) This change adjusts the acceptance criteria in CTS 4.6.E.1.c for the differential pressure variations between the jet pump diffusers and the lower plenum from 10% to 20%. This requirement is located in the surveillance that verifies the Operability of the jet pumps. This change corrects an error in the CTS. This change is consistent with the recommendations of General Electric Service Information Letter Number 330 (GE SIL-330) and NUREG/CR-3052 (Closeout of IE Bulletin 80-07: BWR Jet Pump Assembly Failure). SIL-330 specifies a 10% criteria for individual jet pump flow distribution. When measured by jet pump diffuser-to-lower plenum differential pressure, the equivalent limit is 20% because of the relationship between flow and delta-P. Since PBAPS Units 2 and 3 utilize the diffuser-to-lower plenum differential pressure measurement, the variance allowed should have been 20% as was recommended in SIL-330 and NUREG/CR-3052. Since the value is being changed from 10% to 20%, it is considered a relaxation from existing requirements although the change corrects an error. This change is consistent with the STS and is acceptable.

(3) This change deletes the current shutdown requirement in CTS 3.6.E.3 associated with jet pump flow indication. Currently, when required jet pump flow indication is lost, in orderly shutdown must be initiated in 12 hours and the reactor is required to be in Cold Shutdown within the following 24 hours. ITS 3.4.2 implicitly requires the jet pump flow indication to be Operable only for the performance of ITS SR 3.4.2.1. If the flow indication is inoperable when the SR is required to be performed, the jet pump would be declared inoperable and the appropriate Actions would be followed. Since the ITS SR 3.4.2.1 is required to be performed every 24 hours (the 25% extension per SR 3.0.2 can be applied) and the Required Actions require the reactor to be in Mode 3 within 12 hours, the maximum difference between the CTS and the ITS is 6 hours. As a result, the ITS effectively allows a maximum of an additional 6 hours (which is the 25% extension) to reach a non-applicable Mode if a required core flow indicator is inoperable. Under the ITS, 42 hours is the maximum time that would be allowed if a required jet pump flow indicator is inoperable. In the CTS, a maximum of 36 hours is allowed.

Jet pump flow indication Operability does not directly impact jet pump Operability. Jet pump flow indication is only required to perform ITS SR 3.4.2.1. SR 3.4.2.1 verifies jet pump Operability and has a Frequency of every 24 hours. The 24 hour Frequency plus the 25% extension has been shown by operating experience to be timely for detecting jet pump degradation and is consistent with the Surveillance

Frequency for recirculation loop Operability verification. This change is consistent with the STS and is acceptable.

(4) CTS 3.6.E.1 states that if it is determined that a jet pump is inoperable, an orderly shutdown shall be initiated and the reactor shall be in a Cold Shutdown within 24 hours. ITS 3.4.2 for the Condition of an inoperable jet pump requires the reactor to be placed in Mode 3 (Hot Shutdown) within 12 hours. Since the ITS shutdown action does not require placing the unit in Mode 4 (Cold Shutdown), the change to the shutdown action has been categorized as a less restrictive change. The change is considered acceptable since the Applicability of CTS 3.6.E, Jet Pumps, is whenever the reactor is in the startup or run Modes (Mode switch position as defined in CTS 1.0, "Definitions"). The Applicability of ITS 3.4.2 is Modes 1 and 2, which are equivalent to the run and startup Modes, respectively, of the CTS. In the event of a failure to comply with requirements of the LCO, the reactor must be placed in a non-applicable Mode or condition. The ITS change reflects placing the reactor in the first available non-applicable Mode or condition. This change also achieves consistency with CTS 3.0.A. CTS 3.0.A states "Limiting Conditions for Operation and action requirements are applicable during the operational conditions and other states specified for each specification." Since the Applicability of the CTS jet pumps specification is with the Mode switch in startup or run, placing the Mode switch in shutdown (Mode 3 in the ITS) results in exiting the jet pump condition of Applicability. As a result, any further reduction in Mode or condition (to Cold Shutdown) is not required per CTS 3.0.A. In addition, not requiring the reactor to be placed in Cold Shutdown (Mode switch in shutdown and average reactor coolant temperature ≤ 212°F) reduces the potential for an unnecessary shutdown transient and the resultant thermal effects on plant equipment. This change is consistent with the STS and is acceptable.

2.3.4.2.C <u>ITS 3.4.3, Safety Relief Valves (Specific) and Safety Valves (SVs)</u>

(1) This change modifies CTS 3.6.D to reduce the number of Specific and SVs to be Operable from 13 to 11. The current requirement requires all 13 Specific and SVs to be Operable. It specifies a Completion Time of 30 days if one SRV is inoperable and 7 days if two are inoperable. The ITS requires 11 Specific and SVs to be Operable because the analysis for the worst case accident (closure of all main steam isolation valves (MSIVs) with failure of the direct scram associated with MSIV position) shows 11 Specific and SVs are sufficient to maintain reactor pressure below the ASME Code limit of 110% of design pressure. This change will eliminate the CTS Actions for one or two Specific out of service when 13 Specific and SVs are required to be Operable. The ITS will require that, with one or more required Specific or SVs inoperable, the plant be shutdown since this condition represents a loss of function. This is consistent with the CTS requirement when more than two Specific are inoperable. This change is consistent with the STS and is acceptable.

(2) This change relaxes the shutdown requirement in CTS 3.6.D if the Required Actions and the associated Completion Times are not met. The

change requires the reactor to be brought to Mode 3 in 12 hours and Mode 4 in 36 hours. The current requirements require reactor pressure to be reduced to below atmospheric pressure in 24 hours (equivalent to cold shutdown, i.e., when the reactor can be vented). The ITS Completion Times are based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems. The ITS shutdown requirement brings the plant to Mode 4, which is outside of the Applicability. In Mode 4, decay heat is low enough for the RHR System to provide adequate cooling, and reactor pressure is low enough that the overpressure limit cannot be approached by assumed operational transients or accidents. The CTS would require the plant to be depressurized to a condition which is beyond the accident assumptions of when the Specific and SVs are required to mitigate credible accidents and transients. This change is consistent with the STS and is acceptable.

2.3.4.2.D <u>ITS 3.4.4, RCS Operational LEAKAGE</u>

(1) CTS 3.6.C.4 requires that the reactor be in Hot Shutdown within 12 hours and Cold Shutdown within the following 24 hours if the specified requirements for RCS leakage are not being met. ITS 3.4.4, Condition A and Condition B (Required Action B.1), provide an additional 4 hours to allow the operators to reduce the leakage (or leakage increase) to within acceptable limits before a reactor shutdown must be initiated. This additional 4 hours is acceptable because the leakage limits are significantly below the leakage that would constitute a critical crack size. This change is consistent with the STS and is acceptable.

(2) ITS 3.4.4 adds an alternative to the existing requirement in CTS 3.6.C.1 and 3.6.C.4 that a reactor shutdown be initiated if unidentified leakage increases at a rate of more than 2 gpm within a 24 hour period. Under ITS Required Action B.2 unidentified leakage that increases at a rate of more than 2 gpm within a 24 hour period will not require initiation of a reactor shutdown if it can be determined within 4 hours that the source of the unidentified leakage is not service sensitive type 304 and type 316 austenitic stainless steel piping that is subject to high stress or that contains relatively stagnant or intermittent flow fluids. This alternative Required Action is acceptable because the low limit on the rate of increase of unidentified leakage was established as a method for early identification of Intergranular Stress Corrosion Cracking (IGSCC) in type 304 and type 316 austenitic stainless steel piping. IGSCC produces tight cracks and the small flow increase limit is capable of providing an early warning of such deterioration. Verification that the source of leakage is not type 304 and type 316 austenitic stainless steel eliminates IGSCC as a cause of a leak. This significantly reduces concerns about crack instability and the rapid failure in the RCS pressure boundary. Also, the unidentified LEAKAGE limit is still being maintained and will continue to limit the maximum unidentified LEAKAGE allowed. This change is consistent with the STS and is acceptable.

2.3.4.2.E ITS 3.4.5, RCS Leakage Detection Instrumentation

(1) This change deletes the requirement in CTS 3.6.C to perform a Channel Check on the drywell sump instrumentation. An instrument check would not consistently demonstrate operability since normally the instruments could not be compared to any other instruments. There is only one equipment drain sump flow integrator and only one floor drain sump flow integrator. The equipment drain sump collects identified leakage and the floor drain sump collects unidentified leakage. Since the two types of leakage are different, comparing the indication of two integrators during a Channel Check would not be a valid demonstration of Operability. In addition, the readings of these two integrators could not be compared to any diverse instruments since the two integrators are the only means available to quantify leakage based on a meter reading. The Channel Functional Test requirement is the best indicator of Operability while operating, and this requirement is being maintained. This is also consistent with the STS and is acceptable.

2.3.4.2.F ITS 3.4.6, RCS Specific Activity

(1) This change deletes the annual limit in CTS 3.6.B on time spent operating with Dose Equivalent I-131 between 0.2 μCi/gm and 0.4 μCi/gm. CTS 4.6.B.1 limits the amount of time to 800 hours in any consecutive 12 month period that the reactor may be operated with reactor coolant specific activity Dose Equivalent I-131 > 0.2 μCi/gm. In accordance with the recommendations in Generic Letter 85-19, "Reporting Requirements on Primary Coolant Iodine Spikes," ITS 3.4.6 will not include the 800 hour limit. Generic Letter 85-19 states that the 800 hour limit is not necessary because reactor fuel has improved significantly since this requirement was established and that proper fuel management by licensees and existing reporting requirements for fuel failures will preclude ever approaching this limit of operating with specific activity > 0.2 μCi/gm for more than 800 hours. This change is consistent with the STS and is acceptable.

2.3.4.2.G ITS 3.4.7, Residual Heat Removal (RHR) Shutdown Cooling System - Hot Shutdown

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no less restrictive requirements.

2.3.4.2.H ITS 3.4.8, Residual Heat Removal (RHR) Shutdown Cooling System - Cold Shutdown

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no less restrictive requirements.

2.3.4.2.I ITS 3.4.9, RCS Pressure and Temperature (P/T) Limits

(1) The Frequency for verifying that RCS temperature and pressure are within limits has been extended from 15 minutes in CTS 4.6.A.2 to 30 minutes in ITS 3.4.9. The 30 minute Frequency is adequate for maintaining RCS

temperature and pressure within limits during planned changes in view of the available control room indication to monitor the RCS status and the fact that RCS heatup and cooldown operations and RCS inservice leak and hydrostatic tests are very controlled evolutions. In addition, industry operating experience has shown this Frequency to be adequate for maintaining RCS temperature and pressure limits during planned evolutions. This change is consistent with the STS and is acceptable.

2.3.4.2.J <u>ITS 3.4.10, Reactor Steam Dome Pressure</u>

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no less restrictive requirements.

The above less restrictive requirements have been reviewed by the staff and have been found to be acceptable, because they do not present a significant safety question in the operation of the plant. The TS requirements that remain are consistent with current licensing practices, operating experience and plant accident and transient analyses, and provide reasonable assurance that the public health and safety will be protected.

2.3.4.3 <u>More Restrictive Technical Changes</u>

The PBAPS ITS Section 3.4, contains a number of requirements that are more restrictive than the CTS. In most cases, these are additional restrictions that are not in the CTS, but are, however, consistent with the STS. Requirements more restrictive than the CTS corresponding to ITS 3.4 are described below.

2.3.4.3.A <u>ITS 3.4.1, Recirculation Loops Operating</u>

(1) A new SR is being added to verify that core flow as a function of Thermal Power is in the "Unrestricted" Region of Figure 3.4.1-1 once per 24 hours. This ensures that core flow and Thermal Power are within appropriate limits to prevent uncontrolled power oscillations. This change represents an additional restriction on plant operations and is acceptable.

(2) The flow imbalance limit is being reduced to 10% of rated core flow when operating at < 70% of rated core flow, and to 5% of rated core flow when operating at ≥ 70% of rated core flow in ITS SR 3.4.1.1. The current requirement is 15% mismatch of flow at the given flow conditions. While the limit appears to be less restrictive if core flow is ≤ 66% of rated core flow, it is more restrictive when > 66% of rated core flow (i.e., 15% x 66% or less is ≤ 10% of rated core flow), where the unit normally operates. In addition, currently, this is only a problem if there is an imbalance in combination with three other conditions (CTS 4.6.E.1 b, c, and d). The new requirement is separate from the other three, thus, actions will now be required if there is an imbalance by itself. Therefore, this change is more restrictive on plant operations. This change is consistent with the STS and is acceptable.

2.3.4.3.B ITS 3.4.2, Jet Pumps

(1) This change is adding two requirements in ITS 3.4.2.1 to detect significant degradation in jet pump performance that precedes jet pump failure. The first requirement added would detect a change in the relationship between pump speed, and pump flow and loop flow (difference > 5%). A change in the relationship indicates a plug flow restriction, loss in pump hydraulic performance, or new flow path between the recirculation pump discharge and jet pump nozzle. The second requirement added monitors the jet pump flow versus established patterns. Any deviations > 10% from normal are considered indicative of potential problem in the recirculation drive flow or jet pump system. These two added requirements to the surveillance help to detect significant degradation in jet pump performance that precedes jet pump failure. These requirements are not contained in CTS 4.6.E and constitute a more restrictive change. This change is consistent with the STS and is acceptable.

2.3.4.3.C ITS 3.4.3, Safety Relief Valves (Specific) and Safety Valves (SVs)

(1) CTS 4.6.D.4 requires each SRV to be verified to open when manually actuated with reactor steam dome pressure ≥ 100 psig. ITS SR 3.4.3.2 replaces the requirement for reactor steam dome pressure to be ≥ 100 psig with a note that states that the surveillance is not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. This change applies a time limit for performance of the surveillance which constitutes a more restrictive change. The ITS Bases identify the conditions that constitute "reactor pressure and flow are adequate to perform the test." This change is consistent with the STS and is acceptable.

2.3.4.3.D ITS 3.4.4, RCS Operational LEAKAGE

(1) ITS 3.4.4 includes an additional requirement not contained in CTS 3.6.C that no pressure boundary leakage is allowed because this condition is indicative of material degradation. Leakage of this type is unacceptable as the leak itself could cause further deterioration, resulting in higher leakage and continued degradation of the RCPB. In addition, shutdown Actions have been provided for the Condition when pressure boundary leakage exists. This change is consistent with the STS and is acceptable.

2.3.4.3.E ITS 3.4.5, RCS Leakage Detection Instrumentation

(1) CTS 3.6.C.2 and 3.6.C.3 require that the drywell sump collection and flow monitoring system and the drywell atmosphere radioactivity monitor be Operable "during reactor power operation." ITS 3.4.5 is applicable in Modes 1, 2, and 3. ITS 3.4.5 governs all of the instrumentation needed to support implementation of ITS 3.4.4, "RCS Operational Leakage." Therefore, this more restrictive change is being made so that the Applicability of ITS 3.4.5 will match the Applicability of ITS 3.4.4. This is consistent with the STS and is acceptable.

(2) CTS 3.6.C.3 allows continued operation with the drywell atmosphere radioactivity monitor inoperable for "up to 30 days provided grab samples of the containment atmosphere are obtained and analyzed at least once every 24 hours." ITS 3.4.5, Required Action B.1 requires that grab samples be obtained every 12 hours whenever the drywell atmosphere radioactivity monitor is inoperable. With both gaseous and particulate primary containment atmospheric monitoring channels inoperable, grab samples of the primary containment atmosphere must be taken and analyzed to provide periodic leakage information. The 12 hour interval provides periodic information that is considered adequate to detect leakage provided at least one other form of leakage detection is available. This change is consistent with the STS and is acceptable.

(3) ITS 3.4.5, Action D, adds an explicit requirement to enter ITS 3.0.3 if all required leakage detection systems are inoperable. This is a more restrictive change because CTS 3.6.C.2, governing the drywell sump collection and flow monitoring system, and CTS 3.6.C.3, governing the drywell atmosphere radioactivity monitor, are independent and CTS will allow continued operation even if action statements have been entered for both CTS 3.6.C.2 and 3.6.C.3, (i.e. no operable leakage detection systems). This change is consistent with the STS and is acceptable.

(4) CTS 4.2.E and associated Table 4.2.E specify the Surveillance Frequency of once/day for an instrument check for the drywell atmosphere radiation monitor. This Frequency is being increased to every 12 hours to be consistent with the STS. This change is more restrictive and is acceptable.

2.3.4.3.F <u>ITS 3.4.6, RCS Specific Activity</u>

(1) CTS 3.6.B.1 is applicable "whenever the reactor is critical." ITS 3.4.6 will make the LCO applicable in Mode 1, and Modes 2 and 3 with any main steam line not isolated. The Applicability for RCS specific activity requirements is based on limiting the consequences of a main steam line break outside containment. In Modes 2 and 3 with the MSIVs closed, RCS specific activity limits are not necessary since the main steam line break outside containment would not result in a release of reactor coolant outside containment. In Modes 4 and 5, no limits are required since the reactor is not pressurized and the potential for leakage is reduced. This change in Applicability is consistent with the STS and is acceptable.

(2) CTS 4.6.B.1 requires sampling reactor coolant chemistry for specific activity "during equilibrium power operation." ITS SR 3.4.6.1, which contains the requirements for sampling reactor coolant chemistry for specific activity, is modified by a Note that requires this surveillance to be performed only in Mode 1. This change is slightly more restrictive because sampling will be required whenever the reactor is in Mode 1 and not just when equilibrium conditions have been established. This change is consistent with the STS and is acceptable.

2.3.4.3.G ITS 3.4.7, Residual Heat Removal (RHR) Shutdown Cooling System - Hot Shutdown and ITS 3.4.8, Residual Heat Removal (RHR) Shutdown Cooling System - Cold Shutdown

(1) Requirements are being added to the TS for the RHR shutdown cooling (SDC) subsystems in Modes 3 and 4. In Modes 3 and 4, the RHR shutdown cooling subsystem is not required to mitigate any events or accidents evaluated in the safety analyses. The RHR shutdown cooling subsystem was identified as an important contributor to risk reduction and, therefore, included in the ITS in accordance with Criterion 4 of the Final Policy Statement and 10 CFR 50.36. The addition of new specifications is a more restrictive change. This change is consistent with the STS and is acceptable.

2.3.4.3.H ITS 3.4.9, RCS Pressure and Temperature (P/T) Limits

(1) The reactor vessel temperature and reactor coolant pressure surveillance in CTS 4.6.A.2 are being modified to require the surveillance to be performed any time the RCS pressure and temperature conditions are undergoing changes, not just "whenever the shell temperature is below 220°F and the reactor vessel is not vented." This change is necessary since the potential exists for violating a P/T limit at all times. This change represents an additional restriction on plant operation, is consistent with the STS, and is acceptable.

(2) A new SR is being added to CTS 4.6.A. ITS SR 3.4.9.2 ensures that the RCS pressure and temperature are within the criticality limits once within 15 minutes prior to control rod withdrawal for the purpose of achieving criticality. This is an additional restriction on plant operation and is consistent with the STS and is acceptable.

(3) Actions are being added (ITS Actions A, B, and C) to provide direction when the LCO is not met. Currently, the only applicable Action is to enter CTS 3.0.C which does not provide adequate compensatory measures when the RCS P/T limits are not met. The ITS Actions are consistent with the STS, are additional restrictions on plant operation, and are acceptable.

(4) Three new Surveillance Frequencies are being added to CTS 4.6.A.3. ITS SR 3.4.9.5 ensures the vessel flange and head flange temperatures are within the specified pressure and temperature limits once per 30 minutes. SRs 3.4.9.6 and 3.4.9.7 ensure the vessel and head flange temperatures do not exceed the minimum allowed temperature once per 30 minutes and once per 12 hours, respectively. These are additional restrictions on plant operation since the current requirements have no times specified. This change is consistent with the STS and is acceptable.

2.3.4.3.I ITS 3.4.10, Reactor Steam Dome Pressure

(1) ITS 3.4.10, Reactor Steam Dome Pressure, and the associated Conditions, Required Actions, Completion Times, and an SR are being added. The ITS

will require that reactor steam dome pressure be maintained less than or equal to 1053 psig while in Modes 1 and 2. A Surveillance will require that reactor steam dome pressure be verified within the limit every 12 hours. If reactor steam dome pressure cannot be maintained within the limit and cannot be restored within the required Completion Time, the reactor must be placed in Mode 3 within 12 hours. The reactor steam dome pressure limit of less than or equal to 1053 psig is an assumption used in the Power Rerate Safety Analysis for PBAPS Units 2 and 3. This additional restriction is consistent with the STS, helps ensure the safety analysis assumptions are maintained, and is acceptable.

2.3.4.4 Significant Administrative Changes

Reformatting and renumbering of requirements are in accordance with the STS. As a result, the ITS should be easier to read and, therefore, easier to understand by plant operators as well as other users.

Editorial rewording (either adding or deleting) is generally consistent with the STS. Certain wording preferences or terminology changes appear in the ITS which result in no technical changes (either actual or interpretational) to the TS.

2.3.4.4.A ITS 3.4.1, Recirculation Loops Operating

There are no significant administrative changes to the CTS associated with ITS 3.4.1.

2.3.4.4.B ITS 3.4.2, Jet Pumps

(1) The wording of the CTS SR 4.6.E.1 is being changed in ITS SR 3.4.2.1 to require the verification that one of the following criteria is met rather than verifying that none of the conditions exist simultaneously. This is consistent with the STS which attempts to phrase everything in a positive manner. Due to the change in the phrasing of the surveillance "more than" was changed to "less than" in criteria b. This change is administrative in nature and is acceptable.

(2) The variance of the diffuser-to-lower plenum differential pressure reading on an individual jet pump is going to be taken from the established pattern in ITS SR 3.4.2.1.b rather than from the mean of all jet pump differential pressures, as currently required in CTS 4.6.E.1.c. This change is in accordance with the recommendations of General Electrical Service Information Letter 330 and NUREG/CR-3052. This change is consistent with the STS and is acceptable.

2.3.4.4.C ITS 3.4.3, Safety Relief Valves (Specific) and Safety Valves (SVs)

(1) The one time extension in CTS 3.6.D for Unit 2 to allow continued operation (past the 30 day Completion Time) with one of thirteen Specific and SVs inoperable is being deleted since the one time

extension has expired. This change is consistent with the STS and is acceptable.

2.3.4.4.D ITS 3.4.4, RCS Operational LEAKAGE

There are no significant administrative changes to the CTS associated with ITS 3.4.4.

2.3.4.4.E ITS 3.4.5, RCS Leakage Detection Instrumentation

(1) The Required Actions for ITS 3.4.5, Condition B add a Note to CTS 3.6.C.3 that states that the provisions of LCO 3.0.4 are not applicable. As a result, a Mode change is allowed when the gaseous primary containment atmospheric monitoring channel is inoperable. This allowance is provided because, in this Condition, the primary containment (drywell) sump collection and flow monitoring system will be available to monitor RCS leakage and the compensatory actions for the inoperable system will provide additional indication of RCS leakage. This is an administrative change because the CTS do not have a requirement that prohibits entry into a Mode or condition when an LCO required by that Mode or condition is not satisfied. Therefore, CTS already allow the actions being permitted by the Note being added. The change is consistent with the STS and is acceptable.

2.3.4.4.F ITS 3.4.6, RCS Specific Activity

(1) The Required Actions for ITS 3.4.6, Condition A, add a Note to CTS 3.6.B that states that the provisions of LCO 3.0.4 are not applicable. As a result, a Mode change is allowed when reactor coolant specific activity is > 0.2 microcuries per gram but ≤ 4.0 microcuries per gram. This allowance is provided because of the significant conservatism incorporated into the specific activity limit, the low probability of an event for which specific activity is limiting, and the ability to restore specific activity transients while the plant remains at, or proceeds to power operation. This is an administrative change because the CTS do not have a requirement that prohibits entry into a Mode or condition when an LCO required by that Mode or condition is not satisfied. Therefore, CTS already allow the actions permitted by the Note being added. This change is consistent with the STS and is acceptable.

(2) CTS 3.6.B.1 requires that if the Dose Equivalent I-131 cannot be restored to ≤ 0.2 μCi/gm within 48 hours, or if at any time it is > 4.0 μCi/gm, the reactor must be shut down and all the main steam lines must be isolated within 12 hours. ITS 3.4.6, Condition B, allow the alternative of being in Mode 3 within 12 hours and Mode 4 within 36 hours under the same conditions. This option is provided for those instances when isolation of main steam lines is not desired (e.g., due to the decay heat loads). In Mode 4, the requirements of the LCO are no longer applicable. This change is considered administrative because existing LCO 3.0.C would require that the reactor be placed in Mode 4

within 36 hours if the requirements in CTS 3.6.B.1 could not be met. This change is consistent with the STS and is acceptable.

2.3.4.4.G ITS 3.4.7, Residual Heat Removal (RHR) Shutdown Cooling System - Hot Shutdown

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no administrative changes.

2.3.4.4.H ITS 3.4.8, Residual Heat Removal (RHR) Shutdown Cooling System - Cold Shutdown

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no administrative changes.

2.3.4.4.I ITS 3.4.9, RCS Pressure and Temperature (P/T) Limits

(1) The surveillances in CTS 4.6.A.2 are a duplication of the regulations found in 10 CFR 50 Appendix H. These regulations require licensee compliance and cannot be revised by the licensee. Therefore, duplication of the regulations within the TS are repetitious and unnecessary. Furthermore, approved exemptions to the regulations, and exceptions presented within the regulations themselves, are also details which are adequately presented without repeating the details within the TS. Therefore, retaining the requirement to meet the requirements of 10 CFR 50 Appendix H, as modified by approved exemptions, and eliminating the TS details that are also found in Appendix H, is an administrative change. This change is consistent with the STS and is acceptable.

(2) For clarity, the terms "prior to and during startup" and "prior to" in CTS 4.6.A.4 are being replaced with "15 minutes" in ITS SR 3.4.9.4 This Frequency is effectively the same since the ITS SR now must be performed no more than 15 minutes prior to startup of the idle recirculation loop. This is essentially equivalent to the current requirements. This change is consistent with the STS and is acceptable.

2.3.4.4.J ITS 3.4.10, Reactor Steam Dome Pressure

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no administrative changes.

2.3.4.5 Significant Differences Between the ITS and the STS

The following discussion relates to a difference that does not apply to any individual ITS.

(1) STS LCO 3.4.5, "RCS Pressure Isolation Valve (PIV) Leakage," is being deleted from the PBAPS ITS and all subsequent specifications have been renumbered accordingly. PBAPS, with both Units licensed prior to 1979, does not have any specific requirements to individually leak test any

PIVs. Additionally, PBAPS was not identified by the NRC Event V Order, dated April 20, 1981, as an older plant that was required to add this requirement for leak testing PIVs. As described in the PBAPS response to Generic Letter 87-06, "Periodic Verification of Leak Tight Integrity of Pressure Isolation Valves," PBAPS, Units 2 and 3, periodically test PIVs in accordance with the requirements of 10 CFR 50, Appendix J and ASME Section XI. This is consistent with the recommendations in NEDC-31339, "BWR Owners' Group Assessment of ECCS Pressurization in BWRs." Therefore, it is not necessary for PBAPS Units 2 and 3 to add additional requirements to the TS to ensure these valves are leak tested. This change is consistent with the PBAPS current licensing basis and is acceptable.

The following discussions relate to differences that affect individual specifications.

2.3.4.5.A <u>ITS 3.4.1, Recirculation Loops Operating</u>

(1) The STS LCO is revised to reflect core thermal hydraulic stability requirements approved for PBAPS in Amendment Nos. 125 and 128, for Units 2 and 3 respectively, dated September 24, 1987. This difference is consistent with the PBAPS current licensing basis and is acceptable.

(2) A Note to STS LCO 3.4.1 which states "Required limit modifications for single recirculation loop operation may be delayed for up to 12 hours after transition from two recirculation loop operation to single loop operation" is being added to the ITS. The addition of the Note will eliminate any confusion brought on by the inconsistency with ITS 3.3.1.1, "Reactor Protection System Instrumentation," and the need to enter Condition D of ITS 3.4.1, "Recirculation Loops Operating," just to transition from two loop operation to single loop operation (Condition D allows 24 hours to reset the APRM settings to the single loop values, but ITS 3.3.1.1 does not provide a 24 hour Completion Time for inoperable APRM channels). The Note decreases the time allowed by STS 3.4.1 to implement the single loop operation requirements from 24 hours to 12 hours. This difference is more restrictive than the STS, and is acceptable.

2.3.4.5.B <u>ITS 3.4.2, Jet Pumps</u>

There are no significant differences from the STS associated with ITS 3.4.2.

2.3.4.5.C <u>ITS 3.4.3, Safety Relief Valves (Specific) and Safety Valves (SVs)</u>

(1) STS 3.4.3 is being revised to include safety valves in the ITS. This difference is based on the PBAPS-specific design and current licensing basis and is, therefore, acceptable.

(2) The PBAPS-specific analysis was performed assuming + 1% tolerance for SRV and SV lift settings. As a result, the requirement in STS SR 3.4.3.1 that lift settings be within ± 1% is unnecessary. This change is consistent with the PBAPS current licensing basis and is acceptable.

2.3.4.5.D ITS 3.4.4, RCS Operational LEAKAGE

(1) STS 3.4.4, Required Action B.1 is modified to make the Required Action consistent with the Condition and the LCO. This difference is considered editorial and is acceptable.

(2) The Surveillance Frequency for SR 3.4.4.1 is being revised from 8 hours in the STS to 4 hours in the PBAPS ITS to reflect the PBAPS CTS. This change is consistent with the PBAPS current licensing basis and is acceptable.

(3) The limit on the rate of increase of RCS unidentified leakage, specified in the STS as less than or equal to a 2 gpm increase in a 4 hour period, is being changed to the more conservative limit of less than or equal to a 2 gpm increase in a 24 hour period as required in the CTS. This change is consistent with the PBAPS current licensing basis and is acceptable.

2.3.4.5.E ITS 3.4.5, RCS Leakage Detection Instrumentation

(1) The Completion Time for Required Action A.1 of STS 3.4.6 is being revised from 30 days to 24 hours, and the Note that LCO 3.0.4 is not applicable is deleted. This change is consistent with the PBAPS current licensing basis and is acceptable.

(2) The PBAPS specific RCS leakage detection instrumentation does not include primary containment atmospheric particulate monitors. Also, the drywell sump monitoring system can include either the floor drain or the equipment drain, as specified in the Bases. Therefore, the words "floor drain" are being deleted. These changes to the LCO and Action A of STS 3.4.6 are replaced in ITS 3.4.5. This change is based on the PBAPS-specific design and is acceptable.

(3) The Frequency for the performance of Channel Calibrations of required leakage detection instrumentation specified as 18 months in STS SR 3.4.6.3 is being revised to 92 days in ITS SR 3.4.5.3. This change is consistent with the PBAPS current licensing basis and is acceptable.

2.3.4.5.F ITS 3.4.6, RCS Specific Activity

There are no significant differences from the STS associated with ITS 3.4.6.

2.3.4.5.G and H ITS 3.4.7, Residual Heat Removal (RHR) Shutdown Cooling System - Hot Shutdown and ITS 3.4.8, Residual Heat Removal (RHR) Shutdown Cooling System - Cold Shutdown

(1) The PBAPS design includes 4 RHR shutdown cooling subsystems. As a result, the modifier "required" is being added to the LCOs and Actions of STS 3.4.8 and 3.4.9, consistent with the Writers Guide. This is consider acceptable. This difference is based on the PBAPS-specific design and is, therefore, acceptable.

(2) The Required Action is being modified to be consistent with the BWR-6 STS (NUREG-1434), a similar Required Action (B.3) in the RHR Shutdown Cooling System—Hot Shutdown specification, and with the STS Bases. This difference is more restrictive than the STS and is acceptable.

2.3.4.5.I ITS 3.4.9, RCS Pressure and Temperature (P/T) Limits

(1) The Note in STS SR 3.4.10.3 is being modified in ITS SR 3.4.9.3 to only require the SR to be met during recirculation pump startup. This is when the actual stresses occur, and when the SR really needs to be met. The added words are consistent with the words in the SR Frequency and the STS Bases (LCO section). This difference is considered editorial and is acceptable.

(3) PBAPS will not be using a Pressure and Temperature Limits Report. As a result, the P/T limits have been explicitly stated in the PBAPS ITS consistent with the PBAPS CTS. This difference is consistent with the PBAPS current licensing basis and is acceptable.

2.3.4.5.J. ITS 3.4.10, Reactor Steam Dome Pressure

There are no significant differences from the STS associated with ITS 3.4.10.

These proposed differences from STS Section 3.4 are consistent with PBAPS plant-specific characteristics and existing requirements and commitments, or they provide improvements to the STS requirements. Therefore, they are acceptable.

2.3.5 EMERGENCY CORE COOLING SYSTEMS AND REACTOR CORE ISOLATION COOLING SYSTEM (ITS SECTION 3.5)

2.3.5.1 Relocated Requirements

In accordance with the STS, the licensee proposed relocating all or portions of the following CTS to other licensee-controlled documents. The listing is broken down by the equivalent sections in the ITS, with accompanying discussion for the more significant items.

2.3.5.1.A ITS 3.5.1, ECCS - Operating

CTS Section	Title
3.5.A.1.a and b	Core Spray and LPCI Subsystems
3.5.A.3.a and b	Core Spray and LPCI Subsystems
3.5.A.6	Core Spray and LPCI Subsystems
4.5.A.1.e	Core Spray and LPCI Subsystems
4.5.G.1	Maintenance of Filled Discharge Piping
4.5.G.2	Maintenance of Filled Discharge Piping
3.5.H/4.5.H	Engineered Safeguards Compartments Cooling and Ventilation
4.6.D.4	Safety and Relief Valves

(1) CTS for Core Spray (3.5.A.1.a and 3.5.A.1.b) and LPCI (3.5.A.3.a, 3.5.A.3.b, and 3.5.A.6) define what constitutes a subsystem and describe minimum requirements for an Operable flow path. These descriptions of the system are being relocated to the Bases for ITS LCO 3.5.1. Details of system Operability are not necessary in the LCO. The definition of Operability suffices. Any changes to this requirement will be controlled by the Bases Control Program (ITS 5.5.10). This change is consistent with the STS and is acceptable.

(2) CTS 4.5.A.1.e requires daily checks and quarterly calibration of the Core Spray header delta P instrumentation. This instrumentation provides continuous verification of the integrity of Core Spray piping inside the reactor vessel. In general, the STS does not specify that indication only equipment be Operable to support the Operability of a system or component. Control of the availability of indications, monitoring instruments, and alarms, and necessary compensatory activities if these components are not available, are addressed by plant operational procedures and policies. Therefore, the requirements for testing this type of instrumentation are being relocated to plant procedures. Any changes to these requirements will require a 10 CFR 50.59 evaluation. This change is consistent with the STS and is acceptable.

(3) CTS 4.5.G.1 presents technical details of the method to be employed to ensure that the HPCI and RCIC discharge pump discharge lines are full of water as is required by CTS SR 4.5.G and ITS SR 3.5.1.1. The specific details of how to demonstrate the ECCS piping is filled with water from the pump discharge valves to the injection valves have been relocated to the Bases. These details are not necessary to ensure that the ECCS piping is filled with water. The requirements of ITS SR 3.5.1.1 of Specification 3.5.1, ECCS-Operating, are adequate to ensure the ECCS lines are filled with water to maintain ECCS Operability. Any changes to the Bases will be controlled by the Bases Control Program (ITS 5.5.10). This change is consistent with the STS and is acceptable.

(4) CTS 4.5.G.2 requires the level switches that monitor the LPCI and CS lines to ensure these lines are filled with water are functionally tested every operating cycle. The requirements for CS and LPCI lines "keep fill" system level monitoring instrumentation are being relocated to procedures. CS and LPCI lines "keep fill" system level monitoring instrumentation does not necessarily relate directly to the respective system Operability. In general, the STS do not specify indication only equipment to be Operable to support Operability of a system or component. Control of the availability of indications, monitoring instruments, and alarms, and necessary compensatory activities if these components are not available, are addressed by plant operational procedures and policies. Any changes to these requirements will require a 10 CFR 50.59 evaluation. This change is consistent with the STS and is acceptable.

(5) CTS 3.5.H and 4.5.H, "Engineered Safeguards Compartments Cooling and Ventilation," are being relocated to the TRM. The Engineered Safeguards Compartments Cooling and Ventilation do support ECCS Operability and Engineered Safeguards Compartments Cooling and Ventilation inoperabilities do impact ECCS Operability. As a result, the requirement for Engineered Safeguards Compartments Cooling and Ventilation to be Operable for the ECCS to be considered Operable is adequately addressed in ITS 3.5.1, "ECCS-Operating," ITS 3.5.2, "ECCS-Shutdown," and the definition of Operability. There is no need for duplicate requirements in a subsystem specification since the definition of Operability suffices. Any changes to these requirements will require a 10 CFR 50.59 evaluation. This change is consistent with the STS and is acceptable.

(6) CTS SR 4.6.D.4 requires manual operation of each relief valve once per operating cycle. This SR is being replaced by SR 3.5.1.12 which performs a similar test on those relief valves designated as ADS valves and SR 3.4.3.2 which performs the same test on those relief valves that are not designated as ADS valves. CTS SR 4.6.D.4 contains details about performance of this test. The specific details on how to verify that an ADS relief valve is manually opened have been relocated to the Bases. The requirements being relocated are not necessary for ensuring each of the ADS relief valves is manually opened once per 24 months. Any changes to this requirement will be controlled by the Bases Control Program (ITS 5.5.10). This change is consistent with the STS and is acceptable.

2.3.5.1.B ITS 3.5.2, ECCS - Shutdown

CTS Section	Title
3.5.F.1.a.1	Minimum Low Pressure Cooling Availability
3.5.F.1.a.2	Minimum Low Pressure Cooling Availability
3.5.F.1.b.1	Minimum Low Pressure Cooling Availability
3.5.F.1.b.2	Minimum Low Pressure Cooling Availability

(1) CTS 3.5.F.1 defines what constitutes a subsystem and describe minimum requirements for an Operable flow path. The details of what constitutes an Operable CS subsystem and an Operable LPCI subsystem have been relocated to the Bases. Details for system Operability are not necessary in the LCO. The definition of Operability suffices. Any changes to this requirement will be controlled by the Bases Control Program (ITS 5.5.10). This change is consistent with the STS and is acceptable.

2.3.5.1.C ITS 3.5.3, RCIC System

CTS Section	Title
4.5.D.1.a (* Note)	Reactor Core Isolation Cooling (RCIC) Subsystem
4.5.D.1.f	Reactor Core Isolation Cooling (RCIC) Subsystem
4.5.G.1	Maintenance of Filled Discharge Piping

CTS Section	Title
3.5.H/4.5.H	Engineered Safeguards Compartments Cooling and Ventilation

(1) The requirement in CTS 4.5.D to include automatic restart on low water level signal during a simulated automatic actuation test once per cycle is being relocated to the Bases. This test requirement is included as part of the RCIC actuation test description of the Bases for SR 3.5.3.5. As a result, the requirements of SR 3.5.3.5 are adequate for ensuring the RCIC System functions as required in response to a low water level signal. Any changes to this requirement will be controlled by the Bases Control Program (ITS 5.5.10). This change is consistent with the STS and is considered acceptable.

(2) The requirement in CTS 4.5.D.1.f to verify automatic transfer from Condensate Storage Tank (CST) to suppression pool on low CST water level once per cycle is being relocated to the Bases. This test requirement is included as part of the RCIC actuation test description of the Bases for SR 3.5.3.5. As a result, the requirements of SR 3.5.3.5 are adequate for ensuring the RCIC System functions as required in response to a low CST water level signal. Any changes to this requirement will be controlled by the Bases Control Program (ITS 5.5.10). This change is consistent with the STS and is considered acceptable.

(3) The requirement in CTS 4.5.G.1 to ensure the piping is full from the discharge valve to the injection valve by venting the RCIC from the high point is being relocated to the Bases. These details are not necessary to ensure that the RCIC System piping is filled with water. The requirements of SR 3.5.3.1 are adequate to ensure the RCIC System piping is filled with water to maintain RCIC System Operability. Any changes to this requirement will be controlled by the Bases Control Program (ITS 5.5.10). This change is consistent with the STS and is acceptable.

(4) Requirements for Engineered Safeguards Compartments Cooling and Ventilation are being relocated to the TRM. Changes to the TRM will be subject to the requirements of 10 CFR 50.59. Engineered Safeguards Compartments Cooling and Ventilation does support RCIC System Operability and Engineered Safeguards Compartments Cooling and Ventilation inoperabilities do impact RCIC System Operability. As a result, the requirement for Engineered Safeguards Compartments Cooling and Ventilation to be Operable for the RCIC System to be considered Operable is adequately addressed in ITS 3.5.3, RCIC System, and the definition of Operability. There is no need for duplicate requirements in a subsystem specification since the definition of Operability suffices. This change is consistent with the STS and is acceptable.

The above relocated requirements relating to the ECCS and RCIC Systems are not required to be in the TS under 10 CFR 50.36, and are not required to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety. Further, the scope of ITS Section 3.5 provides sufficient controls on the safety functions that remain in the TS.

In addition, the staff finds that sufficient regulatory controls exist under 10 CFR 50.59 and ITS 5.5.10 for the relocated requirements. Accordingly, the staff has concluded that these requirements may be relocated from the TS to the plant procedures, TRM, or ITS Bases, as applicable.

2.3.5.2 Less Restrictive Technical Changes

Less restrictive requirements than CTS for Units 2 and 3 corresponding to the scope of the requirements of ITS Section 3.5 are described below for each of the specifications.

2.3.5.2.A ITS 3.5.1, ECCS - Operating

(1) This change modifies the required inlet pressure band allowed to the HPCI pump during flow rate surveillance testing from a maximum of ≤ 1030 psig to a minimum of ≥ 920 psig. CTS 4.5.C.1(d) requires verification that HPCI is capable of delivering at least 5000 gpm "at approximately 1030 psig reactor steam pressure." ITS SR 3.5.1.8, requires verification of a minimum 5000 gpm HPCI flow rate with reactor pressure ≥ 920 psig and ≤ 1030 psig. The HPCI performance test at high pressure is the second part of a two part test that verifies HPCI pump performance at the upper and lower end of the range of steam supply and pump discharge pressures in which the HPCI pump is expected to perform. Performance of the HPCI test at both ends of the expected operating pressure range confirms that the HPCI pump and turbine are functioning in accordance with design specifications. The ability of the HPCI pump to perform at the highest required pressure has already been demonstrated. A small decrease in the pressure to as low as 920 psig at which the performance to design specifications is verified will not affect the validity of the test to determine that the pump and turbine are still operating at the design specifications. Therefore, this change is acceptable.

(2) This change increases the time limit required to reduce reactor steam dome pressure from 24 to 36 hours when actions for HPCI and ADS valves cannot be met. CTS 3.5.C.3 requires "the reactor shall be in Cold Shutdown condition within 24 hours" when the actions for HPCI cannot be satisfied, and CTS 3.5.E.3 requires that "reactor pressure shall be reduced to at least 105 psig within 24 hours" when the Required Actions or Completion Times for an inoperable ADS valve cannot be satisfied. ITS 3.5.1, Conditions E and H, extend the time allowed for the plant to reduce pressure below 150 psig or 100 psig, as applicable, from 24 hours to 36 hours. This extension provides the necessary time to cool the plant and reduce pressure in a controlled and orderly manner. The additional time to complete these actions reduces the potential for a plant transient that could challenge plant safety systems. The 36 hours is a reasonable amount of time to reach the required plant operating conditions. This change is consistent with the STS and is acceptable.

(3) This change eliminates the monthly pump and valve operability testing for the CS, LPCI and HPCI systems. Currently, verification once per

month of pump and valve Operability is required for CS [CTS 4.5.A.1.(b) and (c)], LPCI [CTS 4.5.A.3.(b) and (c)], and HPCI [CTS 4.5.C.1.(b) and (c)]. These requirements to perform a monthly operability test on the CS, LPCI, and HPCI pump and motor operated valves are being deleted. The objective of these tests to verify operability is satisfied by the IST Program requirements for quarterly pump and valve testing. Industry plant operating experience has shown testing the HPCI, LPCI and CS components on a quarterly basis is adequate for maintaining Operability. Deleting the monthly tests also reduces wear and tear on the pumps and valves caused by more frequent testing. This change is consistent with the STS and is acceptable.

(4) This change increases the Completion Time for an inoperable HPCI system from 7 to 14 days. CTS 3.5.C.2 allows continued operation for a maximum of 7 days after HPCI is determined to be inoperable. ITS 3.5.1 Condition C, allows continued operation for a maximum of 14 days under the same conditions. As in the CTS, the 14 day completion time for restoring HPCI is contingent upon the Operability of RCIC (Required Action C.1) and all of the ECCS subsystems (ADS, LPCI, and CS) (Condition I). The 14 day Completion Time is based on a reliability study that evaluated the impact on ECCS availability (Memorandum from R. L. Baer (NRC) to V. Stello, Jr. (NRC), "Recommended Interim Revisions to LCOs for ECCS Components," December 1, 1975). Factors contributing to the acceptability of allowing continued operation for 14 days with HPCI inoperable include: the similar functions of HPCI and RCIC, and the fact that the RCIC is capable of performing the HPCI function, although at a substantially lower capacity; the continued availability of the full complement of ADS valves and the ADS system's capability in response to a small break LOCA; and the continued availability of the full complement of low pressure ECCS subsystems which, in conjunction with ADS, are capable of responding to a small break LOCA. This change is consistent with the STS and is acceptable.

(5) This change changes the minimum Operable equipment necessary to continue operation with HPCI inoperable. ITS 3.5.1, Condition D, establishes Required Actions and Completion Times for the situation when the HPCI System and one low pressure ECCS (CS or LPCI) subsystem are inoperable. ITS 3.5.1 is less restrictive than CTS 3.5.C.2 which allows continued operation if HPCI is inoperable only if "the ADS subsystem, the RCIC system, the LPCI subsystem and both core spray subsystems are Operable." The accident analysis presented in NEDC-32163P, "Peach Bottom Atomic Power Station Units 2 and 3 SAFER/GESTR-LOCA Loss-of-Coolant Accident Analysis," indicates that the plant is protected by the ADS system and the remaining ECCS subsystems when the HPCI System and one low pressure ECCS subsystem are inoperable. However, with both the HPCI System and a low pressure ECCS subsystem inoperable, another single failure may place the plant in a condition where adequate core cooling may not be available during an accident. Therefore, the ITS allow a Completion Time of 72 hours to either restore the inoperable HPCI System or the low pressure ECCS subsystem. This change is consistent with the STS and is acceptable.

(6) This change increases the Completion Time with the ADS system inoperable from 7 to 14 days. CTS 3.5.E.2 establishes that "continued reactor operation is permissible only during the succeeding seven days" when one ADS relief valve is not Operable. This requirement is being replaced by ITS 3.5.1, Condition F, which allows continued reactor operation for "14 days" under the same conditions. As in the CTS, the 14 day Completion Time for restoring ADS is contingent upon the Operability of HPCI (Condition I). The 14 day Completion Time is based on a reliability study that evaluated the impact on ECCS availability (Memorandum from R. L. Baer (NRC) to V. Stello, Jr. (NRC), "Recommended Interim Revisions to LCOs for ECCS Components," December 1, 1975). Factors contributing to the acceptability of allowing continued operation for 14 days with one ADS valve inoperable include: the continued availability of HPCI and the fact that the accident analysis presented in NEDC-32163P, "Peach Bottom Atomic Power Station Units 2 and 3 SAFER/GESTR-LOCA Loss-of-Coolant Accident Analysis," indicates that the plant is protected for a single failure even if one ADS valve is already inoperable. This change is consistent with the STS and is acceptable.

(7) This change sets the time delay for testing of safety and relief valves at 12 hours after establishing appropriate plant conditions. This change adds a Note to CTS SR 4.6.D.4 (ITS SR 3.5.1.12) which states, "Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test." This change allows the Applicability of the specification to be entered for 12 hours without performing the SR. This allows for sufficient conditions to exist and allow the plant to stabilize within these conditions prior to performing the SR. This change represents a relaxation over existing requirements. This change is consistent with the STS and is acceptable.

(8) This change allows one RHR pump in each RHR subsystem to be inoperable for 7 days. A new condition is being added (second portion of Condition A) to allow one RHR pump in each RHR subsystem to be inoperable for 7 days. Currently, this would require a shutdown in accordance with CTS 3.5.A.7. CTS 3.5.A.5 allows an entire LPCI subsystem to be inoperable for up to 7 days. The subsystem could be inoperable due to both LPCI pumps being inoperable or the injection valves being unable to open. Either of these would result in only one complete RHR subsystem being capable of injecting if an accident occurs. However, in this condition, the accident analysis presented in NEDC-32163P, "Peach Bottom Atomic Power Station Units 2 and 3 SAFER/GESTR-LOCA Loss-of Coolant Accident Analysis, "shows that the plant can respond to a LOCA without exceeding the limits of 10 CFR Part 50, Appendix K, assuming no additional single failures. With one LPCI subsystem inoperable, if a LOCA occurs, the remaining LPCI subsystem is not assumed to function since the break is assumed to be in the recirculation loop of the remaining LPCI subsystem. The PBAPS LOCA analysis has shown that two CS loops are sufficient to meet the accident analysis requirements. A reliability study (Memorandum from R.L. Baer (NRC) to V. Stello, Jr. (NRC), "Recommended Interim Revisions to LCOs for ECCS Components," December 1, 1975) reviewed this condition (one LPCI subsystem inoperable) and recommended a 7 day Completion Time. The PBAPS LPCI System is designed with two

pumps per subsystem. Each of the four pumps is powered from a separate DG, such that a single failure of a DG will only affect one pump. In addition, the LPCI valves that are required to operate during a LOCA are provided with a normal and backup power source. This ensures that a single DG failure will not negatively impact the operation of the valves. If the normal source of power is unavailable, an automatic bus transfer (which is surveilled per TS) will transfer power to the alternate source. The two LPCI subsystems are totally independent with respect to the valve's power supply. With one LPCI pump in each subsystem inoperable (and no other LPCI components inoperable), the assumptions of the accident analysis can still be met, assuming no additional single failure. This condition is analogous to one LPCI subsystem being inoperable. In fact, under worst case break location conditions, it results in more ECCS subsystems remaining capable of injecting than when only one LPCI subsystem is completely inoperable. As stated above, when one LPCI subsystem is inoperable and the break is in the opposite recirculation loop, only two CS subsystems remain. However, when only one pump per subsystem is inoperable, then regardless of the break location, one LPCI pump, in addition to both CS subsystems remain. In addition, a worst case single failure will have no more impact on the remaining ECCS while in this new condition. Therefore, a Completion Time of 7 days is allowed in the ITS when one pump in each LPCI subsystem is inoperable. This change is consistent with the STS and is acceptable.

2.3.5.2.B <u>ITS 3.5.2, ECCS - Shutdown</u>

There are no less restrictive changes to the CTS associated with ITS 3.5.2.

2.3.5.2.C <u>ITS 3.5.3, RCIC System</u>

(1) This change extends the current Completion Time for one RCIC System inoperable from 7 days to 14 days. The 14 days are allowed only if the HPCI System is verified Operable immediately. Loss of the RCIC System will not affect the overall plant capability to provide makeup inventory at high reactor pressure since the HPCI System is the only high pressure system assumed to function during a LOCA. However, the RCIC System is the preferred source of makeup for transients and certain abnormal events with no LOCA (RCIC as opposed to HPCI is the preferred source of makeup coolant because of its relatively small capacity, which allows easier control of the RPV water level). The 14 day Completion Time is also based on a reliability study that evaluated the impact on ECCS availability (Memorandum from R. L. Baer (NRC) to V. Stello, Jr. (NRC), "Recommended Interim Revisions to LCOs for ECCS Components," December 1, 1975). Because of the similar functions of HPCI and RCIC, and the fact that the HPCI is capable of performing the RCIC function, the Completion Times determined for HPCI can be applied to RCIC. This change is consistent with the STS and is acceptable.

(2) This change extends the time for the plant to be depressurized below 150 psig from 24 hours to 36 hours. This provides the necessary time to cooldown the plant and therefore reduce pressure to below 150 psig in a

controlled and orderly manner that is within the capabilities of the plant assuming the minimum required equipment is Operable. This extra time reduces the potential for a unit upset that could challenge safety systems. The 36 hours is reasonable, based on operating experience, to reach the required plant conditions from full power conditions. This change is consistent with the STS and is acceptable.

(3) This change increase the pressure for performing the low pressure test on the RCIC pump from approximately 150 psig to ≤ 175 psig. Performance of RCIC pump testing draws steam from the reactor and could affect reactor pressure significantly. Therefore, RCIC pump testing must be performed when the Electro-Hydraulic Control (EHC) System for the main turbine is available and capable of regulating reactor pressure. Operating experience has demonstrated that reactor pressures as high as 175 psig may be required before the EHC System is capable of maintaining stable pressure during the performance of the RCIC test. This change will not affect the test. Increasing the lower pressure value for the test by 25 psig will adequately verify that the pump provides sufficient flow at lower pressures while ensuring the test can be performed within the bounds of the system without challenging it unnecessarily. Therefore, this change is acceptable.

(4) This change deletes the requirement to perform a monthly operability test on the RCIC pump and motor operated valves. The requirements of these tests to verify operability are encompassed in quarterly pump and valve testing. Performing these tests on a quarterly basis is consistent with the IST Program. Industry plant operating experience has shown testing the RCIC components on a quarterly basis is adequate for maintaining Operability. Deleting these tests also reduces wear and tear on the pumps and valves caused by more frequent testing. This change is consistent with the STS and is acceptable.

(5) This change sets the required inlet pressure band allowed to the RCIC pump during flow rate surveillance testing from a maximum of ≤ 1030 psig to a minimum of ≥ 920 psig. CTS 4.5.D.1(d) requires verification that RCIC is capable of delivering at least 600 gpm "at approximately 1030 psig reactor steam pressure." ITS SR 3.5.3.3 requires verification of a minimum 600 gpm RCIC flow rate with reactor pressure ≥ 920 psig and ≤ 1030 psig. The RCIC performance test at high pressure is the second part of a two part test that verifies RCIC pump performance at the upper and lower end of the range of steam supply and pump discharge pressures in which the RCIC pump is expected to perform. Performance of the RCIC test at both ends of the expected operating pressure range confirms that the RCIC pump and turbine are functioning in accordance with design specifications. The ability of the RCIC pump to perform at the highest required pressure has already been demonstrated. A small decrease in the pressure to as low as 920 psig at which the performance to design specifications is verified will not affect the validity of the test to determine that the pump and turbine are still operating at the design specifications. Therefore, this change is acceptable.

2.3.5.3 More Restrictive Technical Changes

The PBAPS ITS Section 3.5 contains a number of requirements that are more restrictive than the CTS. In most cases, these are additional restrictions that are not in the CTS, but are, however, consistent with the STS. Requirements more restrictive than the CTS corresponding to ITS 3.5 are described below.

2.3.5.3.A ITS 3.5.1, ECCS - Operating

(1) An requirement is being added to the CTS for surveillance testing of CS (4.5.A.1), LPCI (4.5.A.3), and HPCI (4.5.C.1) by the inclusion of ITS SR 3.5.1.2. SR 3.5.1.2 is adding a requirement that each ECCS spray/ injection subsystem manual, power operated or automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, will be verified in the correct position every 31 days. This change is consistent with the STS and is acceptable.

(2) CTS 3.5.A.3.c requires that the LPCI cross tie valve be closed and de-energized "during power operation." This specification is being replaced with SR 3.5.1.4 which requires verification every 31 days that the LPCI cross tie valve is closed and de-energized. In addition, the ITS applicability requirements for SR 3.5.1.4 are such that the LPCI cross tie must remain closed and de-energized in Modes 1, 2, and 3, which is more restrictive than the existing Applicability which is "during power operation." This change is consistent with the STS and is acceptable.

(3) CTS 4.5.A.5 requires that recirculation pump discharge valves be demonstrated Operable (capable of shutting automatically upon a LPCI injection signal) following "any period of reactor shutdown exceeding 48 hours". This requirement is being replaced by SR 3.5.1.5 which requires that recirculation pump discharge valve Operability verification be performed once each reactor startup prior to exceeding > 25% RTP. The requirement to perform the verification during startup prior to exceeding 25% RTP is more restrictive than the existing requirement to perform the test since the test will now be required to be performed within 31 days of any startup not just a startup from a Cold Shutdown that exceeded 48 hours. This change is consistent with the STS and is acceptable.

(4) CTS 3.5.A.7 requires that "an orderly shutdown of the reactor shall be initiated and the reactor shall be in Cold Shutdown Condition within 48 hours" when the required actions or Completion Times associated with an inoperable LPCI or CS system cannot be satisfied. This requirement is being replaced by ITS 3.5.1, Condition B, which requires the plant be in Mode 3 within 12 hours and Mode 4 within 36 hours under the same conditions. Based on operating experience, these shorter Completion Time limits still allow for an orderly transition to Mode 3 and then an orderly transition to Mode 4 without challenging plant systems. This change is more restrictive because it stipulates that the reactor shutdown be completed much earlier than would be required by the CTS and

it requires that the end result, Cold Shutdown (Mode 4) be completed in 36 hours instead of 48 hours. This change is consistent with the STS and is acceptable.

(5) The existing Applicability for ADS Operability (CTS 3.5.E.1) requires ADS to be Operable whenever irradiated fuel is in the vessel, reactor steam pressure is greater than 105 psig, and prior to reactor startup from a Cold Condition. The ITS require that ADS be Operable in "Mode 1, Modes 2 and 3, except ADS valves are not required to be Operable with reactor steam dome pressure ≤ 100 psig." This change is going to require the ADS to be Operable at greater than 100 psig versus the current 105 psig. This change is being made to be consistent with the current PBAPS safety analysis assumptions regarding ADS Operability. A commensurate change is also being made to the shutdown actions associated with ADS inoperability. This change is consistent with the STS and is acceptable.

(6) CTS 4.5.C.1.d and e require verification that HPCI is capable of delivering at least 5000 gpm at ≤ 175 psig and approximately 1030 psig reactor steam pressure, respectively, once per operating cycle. ITS SR 3.5.1.9 contains a Note that states that the test is not required to be performed until 12 hours after reactor pressure and flow are adequate to perform the test. The equivalent specification for the high pressure test, SR 3.5.1.8, will contain a Note that states that the test is not required to be performed until 12 hours after reactor pressure and flow are adequate to perform the test. The Notes that are being attached to ITS SR 3.5.1.8 and SR 3.5.1.9 are more restrictive because they place a time limit on how long these verification tests can be deferred after reaching the conditions under which these tests can be performed. The CTS contains no such time limit. Therefore, establishing a time limit as well as a pressure limit on when the HPCI surveillance can be performed is more restrictive. This change is consistent with the STS and is acceptable.

(7) A requirement is being added (ITS Required Action E.1) which requires the plant be in Mode 3 within 12 hours when HPCI is not restored within the associated Completion Time. This change is more restrictive because it stipulates that the reactor shutdown be completed much earlier than would be required by the CTS. This change is consistent with the STS and is acceptable.

(8) CTS 3.5.E.3 requires that an orderly shutdown be initiated and the reactor pressure be reduced to at least 105 psig within 24 hours when the action requirements or Completion Times associated with an inoperable ADS valve cannot be satisfied. ITS 3.5.1, Condition H, will require that the reactor be in Mode 3 within 12 hours under the same conditions. Since the ITS requirement places the reactor in Mode 3 in a shorter period of time, the change is more restrictive. Operating experience indicates that 12 hours is sufficient time to perform an orderly shutdown without challenging plant systems. This change is consistent with the STS and is acceptable.

(9) This change is adding a requirement, ITS 3.5.1, Condition G, that limits continued reactor operation to 72 hours when there is a simultaneous inoperability of one ADS valve and one low pressure ECCS (CS or LPCI) subsystem. This requirement is more restrictive because the CTS allow 7 days of continued operation under the same conditions. The CTS do not require that the Operability of low pressure ECCS systems be considered when an ADS valve is inoperable. The accident analysis presented in NEDC-32163P, "Peach Bottom Atomic Power Station Units 2 and 3 SAFER/GESTR-LOCA Loss-of-Coolant Accident Analysis," indicates that the plant is protected even if one ADS valve and one low pressure ECCS subsystem is inoperable. However, with both an ADS valve and a low pressure ECCS subsystem inoperable, another single failure may place the plant in a condition where adequate core cooling may not be available during an accident. Therefore, a Completion Time of 72 hours is allowed to either restore the inoperable ADS valve or the low pressure ECCS subsystem. This change is consistent with the STS and is acceptable.

(10) This change adds a requirement to the CTS for surveillance testing of the ADS System. ITS SR 3.5.1.3 requires ADS nitrogen supply header pressure to be verified ≥ 85 psig every 31 days. The addition of a new SR constitutes a more restrictive change. This change is consistent with the STS and is acceptable.

2.3.5.3.B <u>ITS 3.5.2, ECCS - Shutdown</u>

There are no more restrictive changes to the CTS associated with ITS 3.5.2.

2.3.5.3.C <u>ITS 3.5.3, RCIC System</u>

(1) An SR is being added to verify each system manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position every 31 days. This SR provides assurance that the proper flow path will exist for RCIC operation. This change is consistent with the STS and is acceptable.

(2) This change adds a time limit of 12 hours to be in Mode 3 during the required shutdown and depressurization to place the plant in a nonapplicable condition versus the current requirement to be in a nonapplicable condition in 24 hours. This change works in conjunction with the requirement to reduce pressure to below 150 psig (the nonapplicable condition) in 36 hours. This allows for an orderly shutdown to Mode 3 prior to an orderly reduction in pressure to below 150 psig. This Completion Time is reasonable, based on operating experience, to reach the required plant conditions from full power conditions without challenging plant systems. This change is consistent with the STS and is acceptable.

(3) Notes are being added to the SRs to verify flow at high and low pressure which state the SR are not required to be performed until 12 hours after the reactor steam pressure and flow are adequate to perform the tests. The current specifications do not specify a time limit for performing the test. At lower pressure, the 12 hour period allows the plant to

achieve sufficient steam pressure and flow to adequately test the pump. At higher pressures, the note allows time to achieve normal operating pressure since it is assumed the low pressure surveillance has been satisfactorily completed and there is no reason to believe that RCIC is inoperable. This change is consistent with the STS and is acceptable.

2.3.5.4 Significant Administrative Changes

Reformatting and renumbering of requirements are in accordance with the STS. As a result, the ITS should be easier to read and, therefore, easier to understand by plant operators as well as other users.

Editorial rewording (either adding or deleting) is generally consistent with the STS. Certain wording preferences or terminology changes appear in the ITS which result in no technical changes (either actual or interpretational) to the TS.

2.3.5.4.A ITS 3.5.1, ECCS - Operating

(1) This change modifies the required inlet pressure allowed to the HPCI pump during flow rate surveillance testing to ≤ 175 psig. CTS 4.5.C.1(e) required verification that HPCI is capable of delivering at least 5000 gpm with reactor pressure ≤ 175 psig. ITS SR 3.5.1.9 requires verification of a minimum 5000 gpm HPCI flow rate with reactor pressure ≤ 175 psig. This change to the CTS was approved in Amendment Nos. 200 and 202, for Units 2 and 3, respectively, dated April 18, 1995. The change to the CTS in Amendment Nos. 200 and 202 was approved after submittal of TSCR 93-16. Therefore, this change to the CTS submitted with TSCR 93-16 is considered administrative. This change is consistent with the PBAPS current licensing basis and is acceptable.

(2) The CTS Applicability for CS Operability (3.5.A.1) and LPCI Operability (3.5.A.3) require both CS subsystems and both LPCI subsystems to be Operable whenever irradiated fuel is in the vessel and prior to reactor startup from Cold Shutdown. The change being made (ITS 3.5.1 Applicability) requires that both CS and both LPCI subsystems be Operable in "Mode 1, Modes 2 and 3". This change more clearly defines the conditions when CS and LPCI are required to be Operable without changing the specific requirements which are currently located in the individual specifications for each system. This change is administrative because the same requirements for Operability currently listed in specific specifications will be labeled Applicability and apply to the entire ITS 3.5.1, "ECCS—Operating." The CTS 3.5.A.2, 3.5.A.4, 3.5.A.5, and 3.5.F Applicabilities are only cross references and have been deleted. This change is consistent with the STS and is acceptable.

(3) CTS governing Operability and surveillance testing of CS (3.5.A.1), LPCI (3.5.A.3), HPCI (3.5.C.1), and ADS (3.5.E.1) are combined into ITS 3.5.1, in recognition of the interdependence of the Operability requirements of these systems in meeting the assumptions of the design

basis LOCA. This is an administrative change in the format designed to make the required actions for inoperable ECCS Systems more understandable to the operator. This change is consistent with the STS and is acceptable.

(4) CTS requirements for actuation testing of CS (4.5.A.1.a), LPCI (4.5.A.3.b), HPCI (4.5.C.1.a), and ADS (4.5.E.1) stipulate a "simulated automatic actuation test shall be performed." The change being made will allow an actual initiation signal to be used to satisfy requirements for the performance of the surveillance tests. This change will allow taking credit for unplanned actuation if sufficient information is collected to satisfy the SRs. Because an actual initiation is as good or better for testing than a simulated initiation, the ITS requirement does not change technical content or validity of the test. Therefore, this change is considered administrative. This change is consistent with the STS and is acceptable.

(5) The CTS Applicability for HPCI Operability (3.5.C.1) requires HPCI to be Operable whenever irradiated fuel is in the vessel, reactor steam pressure is greater than 105 psig, and prior to reactor startup from a Cold Condition. The change being made requires that HPCI be Operable in "Mode 1, Modes 2 and 3, except high pressure coolant injection (HPCI) is not required to be Operable with reactor steam dome pressure ≤ 150 psig. This change is administrative because the HPCI requirements for Operability currently listed in CTS 4.5.C.1.e and the associated CTS Bases will be labeled Applicability and apply to the entire ITS 3.5.1 HPCI requirements. The CTS 3.5.C.2 and 3.5.C.3 Applicabilities are only cross references and have been deleted. This change is consistent with the STS and is acceptable.

(6) CTS surveillance tests to simulate automatic actuation of CS (4.5.A.1.a), LPCI (4.5.A.3.a), and HPCI (4.5.C.1.a) are all covered by ITS SR 3.5.1.10. This SR is being modified by a Note that excludes vessel injection/spray during the surveillance. However, the Bases indicates that this test must include actuation of all automatic valves to their required positions. Since all active components are testable and full flow can be demonstrated by recirculation through the test line, coolant injection into the RPV is not required during the surveillance. This Note, therefore, is explicit recognition that SR 3.5.1.10 can be satisfied by a series of overlapping tests. Since surveillance testing of CS, LPCI, and HPCI are all currently satisfied by a series of overlapping tests, the addition of the Note excluding vessel injection/spray is an administrative change.

CTS 4.5.E.1 requires a simulated actuation test to be performed on the ADS valves. A Note has been added (Note to SR 3.5.1.11) to exclude valve actuation. The valves are actuated per ITS SR 3.5.1.12. Therefore, similar to the ECCS pump Note, this change is also administrative.

These change is consistent with the STS and is acceptable.

(7) CTS governing surveillance testing of ECCS Systems in (4.5.A.1.a, 4.5.A.1.d, 4.5.A.3.a, 4.5.A.3.d, 4.5.C.1.a, 4.5.C.1.d, 4.5.C.1.e, and 4.5.E.1) identify surveillance test Frequencies. The surveillance test Frequencies currently defined as "once/operating cycle" or "after each refueling outage" are being modified to be "24 months" since 24 months is the operating cycle and the refueling outage cycle. The surveillance test frequencies currently defined as "Once/3 months" have been modified to be "92 days". These changes are considered administrative. This change is consistent with the STS and is acceptable.

(8) CTS 3.5.C.3 requires that "the reactor shall be in a Cold Shutdown Condition within 24 hours" when the Required Actions or Completion Times for an inoperable HPCI system are not satisfied. ITS 3.5.1, Condition E, that is being added requires only that reactor steam dome pressure be reduced to ≤ 150 psig under the same conditions. However, under CTS 3.0.C, if an LCO or associated action cannot be satisfied, the specification is satisfied when "the reactor is placed in an operational condition in which the specifications not applicable." Therefore, when the Required Actions or Completion Times for an inoperable HPCI system are not satisfied, CTS 3.5.C.3 is satisfied by entering CTS 3.5.C.3 when reactor pressure is less than the HPCI Applicability pressure of 150 psig. Since the minimum required actions under the CTS and ITS are the same, this is an administrative change. This change is consistent with the STS and is acceptable.

(9) A Note is being added in ITS SR 3.5.1.7 for the CS pumps which allows the use of pump curves to determine equivalent values for flow rate and test pressure in order to meet the requirements of ITS SR 3.5.1.7. Since the Note requires the use of equivalent values for flow and test pressure, the test will still ensure the TS acceptance criteria are satisfied. The Note to SR 3.5.1.7 is consistent with the current licensing basis allowance for CS pump testing provided in the CTS Bases for Specification 4.5. This allowance was added to the CTS Bases in Amendment Nos. 195 and 199, for Units 2 and 3, respectively, dated September 16, 1994. As such, this change is considered administrative in nature and is acceptable.

(10) A finite Completion Time is being provided to verify RCIC Operability. The new time is immediately and is considered administrative since this is an acceptable interpretation of the time to perform the current requirement. This change is consistent with the STS and is acceptable.

2.3.5.4.B <u>ITS 3.5.2, ECCS - Shutdown</u>

(1) ITS 3.5.2 is written to require two low pressure ECCS subsystems. The Bases describes that this is two CS subsystems, or one CS subsystem and one LPCI subsystem, which is equivalent to the CTS requirements. This change is considered administrative since two LPCI subsystems cannot be used to meet the requirements of either the CTS or the ITS. This change is consistent with the STS and is acceptable.

(2) A Note is being added to SR 3.5.2.5 for the CS pumps which allows the use of pump curves to determine equivalent values for flow rate and test pressure in order to meet the requirements of ITS SR 3.5.2.5. Since the Note requires the use of equivalent values for flow and test pressure, the test will still ensure the TS acceptance criteria are satisfied. As such, this change is considered administrative in nature. This is considered acceptable.

(3) ITS 3.5.2 requires low pressure ECCS subsystems to be Operable in Mode 4 and in Mode 5 except when the spent fuel storage pool gates are removed and water level is ≥ 458 inches above reactor pressure vessel instrument zero, and when operations with a potential for draining the reactor vessel are in progress. CTS 3.5.F.1 included in TSCR 93-16 specifies low pressure ECCS subsystem requirements for the same conditions specified in Specification 3.5.2 of the PBAPS ITS with one exception. The ITS also requires low pressure ECCS subsystems to be Operable when operations with a potential for draining the reactor vessel are in progress. This requirement was added to the CTS in Amendment Nos. 195 and 199 for Unit 2 and Unit 3, respectively, dated September 16, 1994. The Applicability of ITS 3.5.2 is consistent with that of the CTS issued with Amendment Nos. 195 and 199. As such, this change is considered administrative in nature. This change is consistent with the PBAPS current licensing basis and is acceptable.

2.3.5.4.C <u>ITS 3.5.3, RCIC System</u>

(1) Requirements in CTS 4.5.D.1 for actuation testing of the RCIC System stipulate a "simulated automatic actuation test shall be performed." This change allows an actual initiation signal to be used to satisfy requirements for the performance of TS SR 3.5.3.5. This change will allow taking credit for unplanned actuations if sufficient information is collected to satisfy the surveillance test requirements. Because an actual initiation is as good as or better for testing than a simulated initiation, the ITS requirement does not change technical content or validity of the test. Therefore, this change is considered administrative. This change is consistent with the STS and is acceptable.

(2) A Note is being added to the simulated automatic actuation test in CTS 4.5.D.1 that excludes vessel injection during the ITS SR.3.5.3.5 Since all active components are testable and full flow can be demonstrated by recirculation through the test line, coolant injection into the RPV is not required during the surveillance. This change is consistent with the STS and is acceptable.

(3) A finite Completion Time is being provided to verify HPCI Operability. The new time is immediately and is considered administrative since this is an acceptable interpretation of the time to perform the current requirement. This change is consistent with the STS and is acceptable.

2.3.5.5 Significant Differences Between the ITS and the STS

The following discussions relate to significant differences from the STS that appear in multiple specifications.

(1) A Note is being added to allow the CS pump Surveillance to be satisfied using equivalent values for flow rate and test pressure determined using the pump curves. This Note allows normal testing to be performed without throttling in order to avoid damaging CS System valves. Use of the pump curves to determine equivalent flow rate and test pressure values ensure the TS acceptance criteria are satisfied. The Note to SR 3.5.1.7 is consistent with the current licensing basis allowance for CS pump testing provided in the CTS Bases for Specification 4.5. This allowance was added to the CTS Bases in Amendment Nos. 195 and 199, for Units 2 and 3, respectively, dated September 16, 1994. Therefore, this difference is acceptable.

(2) The Completion Time for STS 3.5.1, Required Action C.1, and STS 3.5.3, Required Action A.1 is 1 hour to verify HPCI or RCIC Operability when the other is inoperable. However, due to the mechanics of how Completion Times work, the 1 hour allowance can probably never be used. For example, if HPCI is inoperable, STS 3.5.1, Condition C is entered, and the 1 hour verification of Required Action C.1 is performed. If RCIC is not inoperable at this time, the Required Action is met. However, since the Completion Time starts upon entry into the Condition, if RCIC later becomes inoperable, the 1 hour time in the HPCI Action has already expired. Thus a unit shutdown would be required immediately upon discovery of RCIC being inoperable, even though the RCIC Action (STS 3.5.3, Required Action A.1) appears to allow 1 hour to verify HPCI Operability. To avoid this confusion, the Completion Time has been change to "Immediately". This change is acceptable.

The following discussions relate to significant differences from the STS that affect individual specifications.

2.3.5.5.A ITS 3.5.1, ECCS - Operating

(1) The PBAPS specific design does not use inverters for powering LPCI subsystem components. Instead, an automatic transfer of the power supply is provided to ensure a single failure of a power supply will not result in the inoperability of two LPCI pumps due to a LPCI inboard injection valve failing to open and a recirculation pump discharge valve failing to close. Therefore, SR 3.5.1.5 of the STS is being deleted and a new surveillance is being added (ITS SR 3.5.1.6) for the automatic transfer capability. This change is based on the PBAPS specific design and is acceptable.

(2) Condition E is being added if the Required Actions and associated Completion Times of Condition C or D are not met. The STS Action G (ITS Action H) does not apply since the pressures at which HPCI and ADS are required are different. Therefore, ITS Action E is being added to reflect this difference. This difference is acceptable.

2.3.5.5.B ITS 3.5.2, ECCS - Shutdown

(1) The PBAPS Units have some shared common systems. In order to clarify which Unit's systems, structures, or components are addressed by the Actions, a unit identifier is being added to the actions. This change is considered acceptable.

(2) ITS 3.5.2 requires low pressure ECCS subsystems to be Operable in Mode 4 and in Mode 5 except when the spent fuel storage pool gates are removed and water level is ≥ 458 inches above reactor pressure vessel instrument zero, and when operations with a potential for draining the reactor vessel are in progress. STS 3.5.2 specifies low pressure ECCS subsystem requirements for the same conditions specified in ITS 3.5.2 with one exception. The ITS also requires low pressure ECCS subsystems to be Operable when operations with a potential for draining the reactor vessel are in progress. This requirement was added to the CTS in Amendment Nos. 195 and 199 for Unit 2 and Unit 3, respectively, dated September 16, 1994. The Applicability of ITS 3.5.2 is consistent with that of the CTS issued with Amendment Nos. 195 and 199. As such, this difference is consistent with the PBAPS current licensing basis and is acceptable.

2.3.5.5.C ITS 3.5.3, RCIC System

There are no significant differences from the STS associated with ITS 3.5.3.

These proposed differences from STS Section 3.5 are consistent with PBAPS plant-specific characteristics and existing requirements and commitments, or they provide improvements to the STS requirements. Therefore, they are acceptable.

2.3.6 CONTAINMENT SYSTEMS (ITS SECTION 3.6)

2.3.6.1 Relocated Requirements

In accordance with the STS and the criteria in the Final Policy Statement and 10 CFR 50.36, the licensee has proposed to relocate all or portions of the following CTS to other licensee-controlled documents. The listing is broken down by the equivalent specifications in the ITS, with accompanying discussion for the more significant items.

2.3.6.1.A ITS 3.6.1.1 Primary Containment

CTS Section	Title
4.7.A.2.b	Integrated Leak Rate Testing
4.7.A.2.d	Allowable Leak Rates
4.7.A.2.f	Local Leak Rate Testing
4.7.A.4.c	Vacuum Breaker Maintenance

CTS Section	Title
4.7.A.2.f	Reference to Tables 3.7.2, 3.7.3, and 3.7.4
Tables 3.7.2, 3.7.3, and 3.7.4	Listing of Penetrations
Tables 3.7.2, 3.7.3, and 3.7.4	Notes 2, 10, and 11-22
4.7.A.2.g	Continuous Leak Rate Monitor
4.7.4	Visual Inspection of Suppression Chamber
4.7.A.2.h	Drywell Surfaces Inspection
4.7.A.4.c	Vacuum Breaker Visual Inspection

(1) Some, but not all, of the details of CTS 4.7.A.2.b, d, and f, and 4.7.A.4.c exist in 10 CFR 50 Appendix J. Therefore, the details not addressed in 10 CFR 50 Appendix J are being relocated to plant procedures. Any changes to these procedures will be subject to the requirements of 10 CFR 50.59. The details of the performance of the Integrated Leak Rate Test (ILRT), reduced pressure testing acceptance criteria, and the testing frequency for bolted double gasketed seals are procedural details that are not necessary for assuring the Operability of primary containment. SR 3.6.1.1.1 and the requirements of 10 CFR 50 Appendix J, as modified by approved exemptions, provide adequate assurance primary containment is maintained Operable. Also, specific plant values for parameters (P_a, P_t, and L_a) identified in 10 CFR 50 Appendix J are relocated to the Bases. Any changes to these requirements will be controlled by the Bases Control Program (ITS 5.5.10). This change is consistent with the STS and is acceptable.

(2) The lists of the containment penetrations in the CTS (Tables 3.7.2, 3.7.3, and 3.7.4) are being relocated to the UFSAR. Any changes to these lists will be subject to the requirements of 10 CFR 50.59. This is consistent with the guidance provided for PCIVs in Generic Letter 91-08, "Removal of Component Lists from Technical Specifications." This change is consistent with the STS and is acceptable.

(3) CTS 4.7.A.2.g specifies requirements for the continuous leak rate monitor. The continuous leak rate monitor does not relate directly to primary containment Operability. In general, the STS do not specify indication-only or alarm-only equipment to be Operable to support Operability of a system or component. Control of the availability of indications, monitoring instruments, and alarms, and necessary compensatory activities if these components are not available, are addressed by plant operational procedures and policies. Therefore CTS 4.7.A.2.g is being relocated to plant procedures. Any changes to these procedures will be subject to the requirements of 10 CFR 50.59. This change is consistent with the STS and is acceptable.

(4) The requirements in CTS 4.7.4, 4.7.A.2.h, and 4.7.A.4.c to perform visual inspections of the suppression chamber interior and exterior, and the drywell-to-suppression chamber vacuum breakers are being be relocated to plant procedures. Any changes to these procedures will be subject to the requirements of 10 CFR 50.59. The requirements to

perform visual inspections of the interior and exterior surfaces of the primary containment and visual inspections of the suppression chamber-to-drywell vacuum breakers are not necessary for assuring the Operability of primary containment. SR 3.6.1.1.1 and the requirements of 10 CFR 50 Appendix J (as modified by approved exemptions), SR 3.6.1.1.2, and the SRs of Specification 3.6.1.6, "Suppression Chamber-to-Drywell Vacuum Breakers," provide adequate assurance primary containment is maintained Operable. This change consistent with the STS and is acceptable.

2.3.6.1.B <u>ITS 3.6.1.2 Primary Containment Air Locks</u>

CTS Section	Title
4.7.A.f	Reference to Tables 3.7.2-3.7.4
Notes for Tables 3.7.2-3.7.4	Note (8) Personnel Air Lock P_a
Notes for Tables 3.7.2-3.7.4	Note (1) Minimum Test Duration

(1) The specific P_a in CTS 4.7.A.2.f and Note 8 to Table 3.7.2 is being relocated to the Bases. Any changes to this requirement will be subject to the requirements of the Bases Control Program (ITS 5.5.10). This variable is defined in 10 CFR 50 Appendix J and may change when containment analyses are changed. Since this variable is defined in the regulations and since this value may change, it is being relocated. This change is consistent with the STS and is acceptable.

(2) The details related to the performance of leak rate tests in Note 1 to Table 3.7.2 are being relocated to plant procedures. The minimum test duration requirement is not necessary for ensuring the Operability of the primary containment air lock. SR 3.6.1.2.1 and the requirements of 10 CFR Appendix J, as modified by approved exemptions, provide adequate assurance the primary containment air lock is maintained Operable. Any change to these procedures will be subject to the requirements of 10 CFR 50.59. This change is consistent with the STS and is acceptable.

2.3.6.1.C <u>ITS 3.6.1.3 Primary Containment Isolation Valves (PCIVS)</u>

CTS Section	Title
Table 3.7.1	Primary Containment Isolation Valves
4.7.D.2.b	Demonstration of PCIV Operability
4.7.D.1.b.(1)	All Normally Open Power Operated Isolation Valves
4.7.D.1.b.(2)	Reactor Power Less Than 75%
4.7.D.1.c	Main Steam Line (MSL) Power Operated Isolation Valve Exercising
4.7.E.2	LLRT Leak Rate
3.7.E.2.b	Purge Flow Path Limited To 90 Hours Per Calendar Year
3.7.E.2.c	Listing of Flow Paths
1.0	Definition of Primary Containment Integrity

(1) The list of the PCIVs in CTS Table 3.7.1, excluding the scram discharge vent and drain valves, is being relocated to the UFSAR. Any changes to these tables will be subject to the requirements of 10 CFR 50.59. This is consistent with the guidance provided for PCIVs in Generic Letter 91-08, "Removal of Component Lists from Technical Specifications." This change is consistent with the STS and is acceptable.

(2) CTS 4.7.D.2.b, specifying the PCIVs be demonstrated Operable prior to being returned to service after maintenance on or replacement of the valve, actuator, control or power circuit by performance of a cycling test, and verification of isolation time, is being relocated to post-maintenance procedures. Any time the Operability of a system or component has been affected by the repair, maintenance, or replacement, the licensee must perform post-maintenance testing to demonstrate Operability of the system or components. Explicit post-maintenance surveillance testing is therefore being relocated to procedures. This change is consistent with the STS and is acceptable.

(3) The details of CTS 4.7.D.1.b.1, specifying that all normally open power-operated isolation valves (except for the MSIVS) shall be fully closed and reopened is being relocated to the plant procedures implementing the requirements of the Inservice Testing (IST) Program. Any changes to plant procedures used to implement the IST Program will be subject to the requirements of 10 CFR 50.59. The requirement to perform a full stroke test on normally open PCIVs is not required to be in TS to ensure the Operability of the applicable PCIVs since these valves are subject to the stroke test requirements of the IST Program. Implementation of the ASME Code Section XI IST Program is required by 10 CFR 50.55a. These controls are adequate to ensure that PCIVs are demonstrated to be operable. This change is consistent with the STS and is acceptable.

(4) The portion of CTS 4.7.D.1.b.2 requiring power to be < 75% to perform MSIV isolation time testing is being relocated to those plant procedures which implement the requirements of the IST program for MSIV stroke timing. Changes to the IST Program implementing procedures will be subject to the requirements of 10 CFR 50.59. This requirement is not necessary to ensure the Operability of the MSIVs. MSIV stroke test requirements in CTS 4.7.D.1.b.2 are contained in ITS SR 3.6.1.3.9. These requirements are adequate to ensure MSIV stroke times are within required limits. This change is consistent with the STS and is acceptable.

(5) CTS 4.7.D.1.c, requiring exercising of the MSIVs by partial closure and subsequent opening, is being relocated to the IST program and the IST Program implementing procedures. Any changes to plant procedures used to implement the IST Program will be subject to the requirements of 10 CFR 50.59. This requirement to exercise the MSIVs is not required to be in TS to ensure the Operability of the MSIVs since these valves are subject to the stroke test requirements of the IST Program. Implementation of the ASME Code Section XI IST Program is required by 10 CFR 50.55a. These controls are adequate to ensure that MSIVs are

demonstrated to be operable. This change is consistent with the STS and is acceptable.

(6) CTS 4.7.E.2, specifying the LLRT for the large containment ventilation isolation valves be compared to the previously measured leak rate to detect excessive valve degradation, is being relocated to plant procedures. Any changes to these procedures will be subject to the requirements of 10 CFR 50.59. This requirement is a predictive maintenance type of surveillance and is not necessary to ensure the Operability of these valves. SR 3.6.1.1.1 and the requirements of 10 CFR 50 Appendix J, as modified by approved exemptions, provide adequate assurance that large containment ventilation isolation valves are maintained Operable. This change is consistent with the STS and is acceptable.

(7) The requirement in CTS 3.7.E.2.b specifying that the accumulated time a purge or vent flow path exists be limited to 90 hours per calendar year is being relocated to plant procedures. Any changes to these procedures will be subject to the requirements of 10 CFR 50.59. This requirement has no impact on primary containment purge and exhaust valve Operability. The primary containment purge valves and exhaust valves have been blocked so that opening is restricted to less than or equal to the maximum allowed opening angle. The primary containment purge and exhaust valve opening angles are verified to be within limits by SR 3.6.1.3.15. From this position, the valves have been demonstrated to be capable of closing following a design basis accident, thus the number of hours for which purging is allowed has no impact on the primary containment isolation function. In addition, the Note to SR 3.6.1.3.3, which limits the activities for which these valves may be opened, provides an additional control on the opening of the primary containment purge and exhaust valves. This change is consistent with the STS and is acceptable.

(8) The list of penetrations and flow path valves identified in CTS 3.7.E.2.c as being subject to the primary containment purge and exhaust valve specification is being relocated to plant procedures. Any changes to these procedures will be subject to the requirements of 10 CFR 50.59. This detailed listing is related to design and is not necessary for ensuring the Operability of the primary containment purge and exhaust valves. This change is consistent with the STS and is acceptable.

(9) The details that describe primary containment integrity in the CTS 1.0. definition of "Primary Containment Integrity" with respect to PCIVs are being relocated to the Bases of ITS 3.6.1.3, "Primary Containment Isolation Valves." The details of what constitutes primary containment integrity with respect to PCIVs are also attributes of PCIV Operability that are adequately addressed by the SRs of Specification 3.6.1.3. Therefore, these details are not necessary for ensuring the Operability of PCIVs. This change is consistent with the STS and is acceptable.

2.3.6.1.D ITS 3.6.1.4 Drywell Air Temperature

There are no relocated CTS requirements associated with ITS 3.6.1.4.

2.3.6.1.E ITS 3.6.1.5 Reactor Building-to-Suppression Chamber Vacuum Breakers

There are no relocated CTS requirements associated with ITS 3.6.1.5.

2.3.6.1.F ITS 3.6.1.6 Suppression Chamber-to-Drywell Vacuum Breakers

CTS Section	Title
3.7.A.4.b	Definition of Closed Vacuum Breaker

(1) CTS 3.7.A.4.b allows vacuum breakers to be considered closed even if the "not fully seated" indication is present if a leak test confirms the bypass area between the drywell and suppression pool is less than or equivalent to a one-inch diameter hole. The allowance to use a leak test to verify that the vacuum breakers are closed if a position indicator is inoperable is not necessary to ensure the suppression chamber-to-drywell vacuum breakers are closed. SR 3.6.1.6.1 provides adequate assurance that the vacuum breakers are closed. This modification to the definition of closed is being relocated to the ITS Bases. Any changes to this requirement will be controlled by the Bases Control Program (ITS 5.5.10). This change is consistent with the STS and is acceptable.

2.3.6.1.G ITS 3.6.2.1 Suppression Pool Average Temperature

CTS Section	Title
4.7.2	Indication of Relief Valve Operation

(1) CTS 4.7.2 requires monitoring suppression pool temperature when "there is indication of relief valve operation (except when the reactor is being shutdown and torus cooling is being established) or testing which adds heat to the suppression pool." The ITS SR 3.6.2.1.1 requires frequent monitoring of the suppression pool when performing testing which adds heat to the suppression pool. The requirement to monitor suppression pool temperature whenever there is indication of relief valve operation is being relocated to plant procedures because, if the relief valve is not being opened for testing, monitoring suppression pool temperature is part of the coordinated response to an unplanned transient which is governed by plant procedures. The limits on suppression pool temperature in LCO 3.6.2.1 will be applicable during the transient. This change is consistent with the STS and is acceptable.

2.3.6.1.H ITS 3.6.2.2 Suppression Pool Water Level

There are no relocated CTS requirements associated with ITS 3.6.2.2.

2.3.6.1.I ITS 3.6.2.3 RHR Suppression Pool Cooling

CTS Section	Title
4.5.B.1.(d)	Valve Testing Requirements
3.5.B.4.a.(1), (2) and (3)	Definition of Operable RHR Subsystem

(1) Testing requirements in CTS 4.5.B.1.d for RHR suppression pool cooling motor operated valves are being relocated to procedures implementing the requirements of the Inservice Testing (IST) Program. Any changes to the plant procedures used to implement the IST Program will be subject to the requirements of 10 CFR 50.59. The testing requirements for RHR suppression pool cooling valves are not required to be in TS to ensure the Operability of the RHR Suppression Pool Cooling System since these valves are subject to the testing requirements of the IST Program. Implementation of the ASME Section XI IST Program is required by 10 CFR 50.55a. These controls are adequate to ensure that the RHR suppression pool cooling motor operated valves are demonstrated to be Operable. This change is consistent with the STS and is acceptable.

(2) CTS 3.5.B.4a defines what constitutes an RHR suppression pool cooling subsystem (loop) and describes the minimum requirements for an Operable flow path. The details of what constitutes an Operable RHR suppression pool cooling subsystem have been relocated to the Bases. Details of system Operability are not necessary in the LCO. The definition of Operability suffices. This change is consistent with the STS and is acceptable.

2.3.6.1.J ITS 3.6.2.4 Residual Heat Removal (RHR) Suppression Pool Spray

CTS Section	Title
4.5.B.1(f)	Valve Testing Requirements
4.5.B.1(e), 4.5.B.1(g) and 3.5.B.5.a	Requirements for Drywell Spray
3.5.B.6.a(1), (2) and (3)	Definition of Operable RHR Subsystem

(1) The requirements of CTS 4.5.B.1.f for RHR suppression pool spray motor operated valve testing are being relocated to plant procedures which implement the IST Program. Any changes to plant procedures used to implement the IST Program will be subject to the requirements of 10 CFR 50.59. These testing requirements demonstrate the RHR suppression pool spray valves are Operable. However, as noted above, these valves are subject to the stroke test requirements of the IST Program. Implementation of the ASME Code Section XI IST Program is required by 10 CFR 50.55a. These controls are adequate to ensure that the RHR suppression pool spray valves are demonstrated to be operable. This change is consistent with the STS and is acceptable.

(2) The requirements for drywell spray in CTS 4.5.B.1.e, 4.5.B.1.g, and 3.5.B.5.a are being relocated to the TRM. RHR drywell spray is not credited in any design basis accident (i.e., it is not needed to

function to mitigate the consequence of any design basis accidents) and it is a secondary action in the emergency procedures. RHR drywell spray is not risk significant and does not meet any of the criteria in the Final Policy Statement and 10 CFR 50.36 for inclusion in TS. Any changes to the TRM will be subject to the requirements of 10 CFR 50.59. This change is consistent with the STS and is acceptable.

(3) CTS 3.5.B.6.a defines what constitutes an RHR suppression pool spray subsystem (loop) and describes the minimum requirements for an Operable flow path. The descriptions of the subsystems is being relocated to the Bases of LCO 3.6.2.4. Details of system operability are not necessary in the LCO. The definition of Operability suffices. Any changes to this requirement will be controlled by the Bases Control Program (ITS 5.5.10). This change is consistent with the STS and is acceptable.

2.3.6.1.K <u>ITS 3.6.3.1 Containment Atmospheric Dilution System</u>

<u>CTS Section</u>	<u>Title</u>
3.7.A.a	Containment Atmospheric Dilution
4.7.A.6.a	CAD Functional Test
3.7.A.6.e	30 psig limit using CAD System

(1) The requirement in CTS 3.7.A.a that the CAD System must be capable of supplying nitrogen to either the Unit 2 or Unit 3 containment for atmosphere dilution if required by post-LOCA conditions has been relocated to the Bases. This detail is an attribute of CAD System Operability. Details for system Operability are not necessary in the LCO. The definition of Operability suffices. This change is consistent with the philosophy of the STS which relocates these types of details to the Bases and is acceptable.

(2) The functional test of the CAD System once per operating cycle in CTS 4.7.A.6.a is being relocated to plant procedures since a "functional test" is routinely performed every time the SGIG system is functionally tested and every time system piping and valves are used to inert or de-inert the drywell. As such, it is not needed to be specified as a specific SR. If during a routine use of the system it was found to be inoperable, the appropriate Actions would be taken. This change is consistent with the STS and is acceptable.

(3) The requirements on the CAD System in CTS 3.7.A.6.e are being relocated to plant procedures. Any changes to these procedures will be subject to the requirements of 10 CFR 50.59. This type of action is a post-accident action routinely governed by the emergency operating procedures. This change is consistent with the STS and is acceptable.

2.3.6.1.L ITS 3.6.3.2 Primary Containment Oxygen Concentration

CTS Section	Title
3.7.A.5.a	< 4 % Oxygen With Nitrogen Gas
4.7.A.5	Oxygen Concentration Recorded Twice Weekly

(1) The requirement in CTS 3.7.A.5.a to inert with nitrogen gas is being relocated to the plant procedure for the Containment Inerting System. Any changes to this procedure will be subject to the requirements of 10 CFR 50.59. Procedural requirements are being relocated out of TS to plant procedures. This change is consistent with the STS and is acceptable.

(2) The requirement in CTS 4.7.A.5 to record the containment oxygen concentration is being relocated to plant procedures for performing ITS SR 3.6.3.2.1. Any changes to these plant procedures will be subject to the requirements of 10 CFR 50.59. Procedural requirements are being relocated out of TS to plant procedures. This change is consistent with the STS and is acceptable.

2.3.6.1.M ITS 3.6.4.1 Secondary Containment

CTS Section	Title
4.7.C.1.c	SGT Test Prior to Refueling
4.7.C.1.d	SGT Test After Secondary Containment Violation
3.7.C.1.d	Maintain Secondary Containment While Fuel Cask Is Being Moved
4.7.C.1.c	System Design Detail (Calm Wind)

(1) The requirement to perform the secondary containment capability test with the Standby Gas Treatment System subsystem "prior to refueling" is being relocated to plant procedures. Any changes to these procedures will be subject to the requirements of 10 CFR 50.59. The requirement to verify secondary containment capability to maintain ¼ inch vacuum "prior to refueling" is not necessary to ensure secondary containment is Operable during applicable Modes or specified conditions. The SRs of Specification 3.6.4.1, "Secondary Containment," SR 3.0.1 and the requirements of the Actions of Specification 3.6.4.1 are adequate to ensure secondary containment is Operable. This provision, although not required, is good plant practice since the test should be performed prior to refueling after shutting down to ensure that the surveillance does not expire while in the middle of refueling operations. This change is consistent with the STS and is acceptable.

(2) The requirement in CTS 4.7.C.1.d to operate the SGT System after a secondary containment violation is determined and has been isolated (i.e., restored), to check if it can maintain the proper vacuum, is being relocated to plant procedures. Any changes to these procedures will be subject to the requirements of 10 CFR 50.59. Any time the Operability of a system or component has been affected by maintenance,

replacement, or repair, the licensee must perform post-maintenance testing to demonstrate Operability of the system or components. Explicit post-maintenance surveillance testing has therefore been deleted from the TS and will be relocated to the appropriate plant procedures. This change is consistent with the STS and is acceptable.

(3) The requirements related to maintenance of secondary containment during crane operations associated with fuel cask movement are being relocated to procedures governing control of heavy loads since the movement of loads other than fuel assemblies is administratively controlled based on heavy loads analyses. Any changes to these procedures will be subject to the requirements of 10 CFR 50.59. The references to "crane operations with loads" has therefore been relocated to these administrative controls. The procedures governing heavy loads provide assurance that an appropriate level of safety is provided and mitigation capability exists. This change is consistent with the STS and is acceptable.

(4) The detail in CTS 4.7.C.1.c that secondary containment be capable of maintaining ¼ inch water vacuum "under calm wind (<5 mph) conditions" is being relocated to the Background section of the Bases for ITS 3.6.4.3 and to plant procedures governing the associated SR. Any changes to the Bases will be controlled by the Bases Control Program (ITS 5.5.10). Any changes to these procedures will be subject to the requirements of 10 CFR 50.59. This detail is related to design and is not necessary for ensuring the Operability of the secondary containment. This change is consistent with the STS and is acceptable.

2.3.6.1.N <u>ITS 3.6.4.2 Secondary Containment Isolation Valves</u>

<u>CTS Section</u>	<u>Title</u>
3.7.C.1.d	Fuel Cask Movement

(1) The requirements related to maintenance of secondary containment (and as a result secondary containment isolation valves) during crane operations associated with fuel cask movement are being relocated to procedures governing control of heavy loads since the movement of loads other than fuel assemblies is administratively controlled based on heavy loads analyses. Any changes to these procedures will be subject to the requirements of 10 CFR 50.59. The references to "crane operations with loads" has therefore been relocated to these administrative controls. The procedures governing heavy loads provides assurance that an appropriate level of safety is provided. This change is consistent with the STS and is acceptable.

2.3.6.1.O <u>ITS 3.6.4.3 Standby Gas Treatment System (SGT)</u>

<u>CTS Section</u>	<u>Title</u>
3.7.B.1 and 3.7.E.2.d	Requirements for Both SGT Operable When Purging
3.7.B.1 and 3.7.B.3	Operable SGT Subsystem

CTS Section	Title
4.7.B.1.e	Dry Gas Purge

(1) CTS 3.7.B.1, SGT System, and CTS 3.7.E.2, Large Primary Containment Purge/Vent Isolation Valves contain the requirement that both SGT trains shall be Operable when venting or purging the primary containment and that only one of the two SGT trains shall be used at a time for primary containment purge/vent operations. Additionally, CTS 3.7.B.1 contains a cross reference to these redundant requirements. This requirement is applicable only during primary containment purging which is limited to less than or equal to 90 hours per year. Neither of these requirements are included in the STS and both are being relocated to plant procedures governing purging operations and will be controlled administratively. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. This change is consistent with the STS and is acceptable.

(2) CTS 3.7.B specifies the details of what constitutes an Operable SGT subsystem. These details are being relocated to the ITS Bases. Details for subsystem Operability are not necessary in the LCO. The definition of Operability suffices. The Bases are subject to the requirements of the Bases Control Program (ITS 5.5.10). This change is consistent with the STS and is acceptable.

(3) The requirements in CTS 4.7.B.2.e to maintain a dry gas purge through the SGT filters to maintain the relative humidity in the filters below 70% during idle periods is being relocated to plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. This requirement is not necessary to ensure SGT System Operability. The definition of Operability suffices. This change is consistent with the STS and is acceptable.

The above relocated requirements relating to containment systems are not required to be in the TS under 10 CFR 50.36, and are not required to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety. Further, the scope of ITS Section 3.6 provides sufficient controls on the safety functions that remain in the TS. In addition, the staff finds that sufficient regulatory controls exist under 10 CFR 50.59 and ITS 5.5.10 for the relocated requirements. Accordingly, the staff has concluded that these requirements may be relocated from the TS to the plant procedures, TRM, ITS Bases, or UFSAR, as applicable.

2.3.6.2 Less Restrictive Technical Changes

Less restrictive requirements than CTS for Unit 2 and Unit 3 corresponding to the scope of the requirements of ITS Section 3.6 are described below for each of the specifications in Section 3.6.

Several types of less restrictive requirements which apply to more than one specification in the ITS are discussed in the following general categories.

Modification of Completion Times for Required Actions When a Required Action and Associated Completion Time Cannot Be Met

CTS	ITS
3.7.A.7	3.6.1.2, 3.6.1.5, 3.6.1.6, and 3.6.2.2
3.5.B.7	3.6.2.3 and 3.6.2.4
3.7.B.4	3.6.4.3

This change modifies the Completion Times for Required Actions when a Required Action and associated Completion Time specified in the TS cannot be met. The CTS generally require that the reactor be placed in Cold Shutdown within 24 hours when the Required Actions and associated Completion Times cannot be met. The ITS require that the reactor be in Mode 3 within 12 hours and Mode 4 within 36 hours whenever a Required Action and associated Completion Time cannot be met. The change from Cold Shutdown within 24 hours to Mode 3 within 12 hours and Mode 4 within 36 hours will require that the plant be shutdown sooner than the CTS but allows for a more controlled cooldown which reduces thermal stress on components and also reduces the chances for a plant transient which could challenge safety systems. This change is consistent with the STS and is acceptable.

2.3.6.2.A ITS 3.6.1.1 Primary Containment

There are no less restrictive changes to the CTS associated with ITS 3.6.1.1.

2.3.6.2.B ITS 3.6.1.2 Primary Containment Air Locks

There are no less restrictive changes to the CTS associated with ITS 3.6.1.2.

2.3.6.2.C ITS 3.6.1.3 Primary Containment Isolation Valves (PCIVS)

(1) This change relaxes the Completion Time in CTS 3.7.D.2 to isolate the affected penetration if one MSIV in one or more penetrations is inoperable from 4 hours to 8 hours. This will allow a longer period of time to restore the MSIVs to Operable status in order to prevent the potential for a plant shutdown by isolating the MSLs. During the additional time allowed, a limiting event would still be assumed to be within the bounds of the safety analysis, assuming no single active failure. Allowing this extended time to potentially avoid a plant transient caused by a plant shutdown is reasonable and does not represent a significant decrease in safety. This change is consistent with the STS and is acceptable.

(2) This change relaxes the Completion Time in CTS 3.7.D.2.d for Actions associated with inoperable excess flow check valves (EFCVs) in penetrations in which the EFCV is the only PCIV from 4 hours to 12 hours. The Completion Time is reasonable considering it is a closed system and the instrument and the small pipe diameter of the penetration. This Completion Time extension is considered acceptable because of the low probability of an event requiring a containment

isolation function concurrent with a rupture of the piping in the closed system. This change is consistent with the STS and is acceptable.

(3) This change modifies CTS 1.0 and 3.7.D.2 (definition of Primary Containment Integrity-item b) to allow a new method of isolating penetrations when one or more penetration flow paths with one PCIV inoperable. The new method allows the penetration to be isolated by a check valve with flow through the valve secured. This is acceptable for penetrations with only one PCIV inoperable because the other PCIV remains Operable, the likelihood of a event occurring in which a containment isolation is required is remote, the penetration is isolated by a check valve, and the probability of the other PCIV not being able to also isolate the penetration is remote. A description has also been added to the Bases to describe a passive PCIV. This change is consistent with the STS and is acceptable.

(4) This change modifies the requirement in CTS 4.7.D.8.a for the amount of liquid nitrogen stored in the CAD nitrogen storage tank from 2500 gallons to 16 inches water column which equates to less than 2500 gallons. The minimum inventory required in the CAD nitrogen storage tank for primary containment purge and exhaust valve Operability is being changed to the minimum inventory required for Safety Grade Instrument Gas (SGIG) System. The requirement for the minimum level in the tank for CAD System Operability (3841 gallons) exists in the CAD system specification (ITS 3.6.3.1). Therefore, this requirement will be adequately maintained. However, there exists a minimum requirement for inventory in the tank for the SGIG System (which supports primary containment purge and exhaust valve Operability) which is less than required for the CAD System. The minimum level required for SGIG System to support the Operability of the components supplied by the SGIG System is 16 inches water column. This minimum tank level to support the Operability of components supplied by the SGIG System has been specified in the individual component TS. This change is consistent with the specific PBAPS design requirements for the CAD and SGIG systems and is acceptable.

(5) This change relaxes the requirement in CTS 4.7.D.2.a to record isolation valve position of at least one valve in the affected line with one isolation valve inoperable as follows: from daily to once per 31 days for valves (isolation devices) outside containment and prior to entering Modes 2 or 3 from Mode 4, if primary containment was de-inerted while in Mode 4, if not performed in the previous 92 days for valves (isolation devices) inside containment. The extension of the verification is acceptable based on the administrative controls governing PCIV operation, the low probability of valve misalignment, and the accessibility of the valves. This change is consistent with the STS and is acceptable.

(6) This change to CTS 3.7.E.2.a expands the reasons that the large primary containment purge and exhaust isolation valves may be opened to include ALARA or air quality considerations for personnel entry or for SRs that require the valves to be open. This is considered acceptable since

these purge and exhaust valves are capable of closing in the environment following a LOCA and the accumulated time a purge or exhaust valve flow path exists will be limited (currently 90 hours per calendar year) by licensee administrative controls. This change is consistent with the STS and is acceptable.

2.3.6.2.D ITS 3.6.1.4 Drywell Air Temperature

There are no less restrictive changes to the CTS associated with ITS 3.6.1.4.

2.3.6.2.E ITS 3.6.1.5 Reactor Building-to-Suppression Chamber Vacuum Breakers

(1) This change modifies the Actions required if one vacuum breaker in each vent path is not closed, or if two vacuum breaker valves in one vent line are inoperable but closed. CTS 3.7.A.3.b identifies the Required Actions if one reactor building-to-suppression chamber vacuum breaker is inoperable. If more than one vacuum breaker is inoperable, the CTS assumes either containment integrity is lost or the ability to relieve negative pressure in the containment is lost. Therefore, CTS 3.7.A.3.b. defaults to CTS 3.7.A.7 which requires that the reactor be placed in Cold Shutdown within 24 hours. ITS 3.6.1.5 recognizes that there are two vacuum breakers in series in each of two vent paths between the reactor building and suppression chamber. As a result, if one vacuum breaker in each vent path is not closed (Condition A), containment integrity and venting capability are still maintained and 72 hours is provided to restore the redundancy for containment integrity in each vent line. Likewise, if two vacuum breaker valves in one vent line are inoperable but closed (Condition C), containment integrity and venting capability are still maintained and 72 hours is provided to restore the redundant vent path. Therefore, ITS 3.6.1.5 makes the distinction between loss of redundancy and loss of function. The CTS fails to make this distinction and, therefore, is unnecessarily conservative. In addition, loss of function, i.e., loss of containment integrity (Condition B) and loss of venting capability (Condition D), will require initiating action within 1 hour instead of immediately. Also, since there are a total of four vacuum breakers, and all are required, the LCO now specifies that "each" vacuum breaker shall be Operable. This change is consistent with the STS and is acceptable.

2.3.6.2.F ITS 3.6.1.6 Suppression Chamber-to-Drywell Vacuum Breakers

(1) This change decreases the required number of Operable vacuum breakers for opening from 10 to 9. Although CTS 3.7.A.4.a requires all vacuum breakers to be operable for opening, CTS 3.7.A.4.c allows 2 of the 12 to be inoperable with no required restoration time; thus, only 10 are actually required by CTS to be Operable for opening. ITS 3.6.1.6 requires 9 to be Operable because current analysis demonstrates that only 8 vacuum breakers must open to ensure the internal containment negative pressure limit will not be exceeded. The additional vacuum breaker ensures the single failure criterion is met. In addition, CTS 3.7.A.4.d only allows 24 hours to restore a required vacuum breaker to

Operable status (when 1 below the LCO limit). The ITS will allow 72 hours to restore a required vacuum breaker to Operable status. During this additional 48 hours, the unit is still capable of ensuring internal containment negative pressure limit is met, assuming no additional single failures. This change is consistent with the STS and is acceptable.

(2) This change eliminates the requirement to demonstrate the Operability of the redundant vacuum breakers whenever a vacuum breaker is declared inoperable. CTS 4.7.A.4.b requires that "when it is determined that a vacuum breaker is inoperable for opening at a time when operability is required, all other vacuum breakers shall be exercised immediately and every 15 days thereafter until the inoperable vacuum breaker has been returned to normal service." This requirement is not included in the STS and is being deleted. This change acknowledges that the inoperability of a vacuum breaker is not automatically indicative of a similar condition in the redundant vacuum breakers unless a generic failure is suspected and that the periodic Frequencies specified to demonstrate Operability have been shown to be adequate to ensure equipment Operability. Therefore, this change allows credit to be taken for normal periodic SR as a demonstration of Operability and availability of the remaining components and reduces unnecessary challenges and wear to redundant components. This change is consistent with the STS and is acceptable.

2.3.6.2.G <u>ITS 3.6.2.1 Suppression Pool Average Temperature</u>

(1) This change eliminates CTS SR 4.7.3 which requires an external visual inspection of the suppression chamber whenever there is indication of relief valve operation with the local suppression pool temperature reaching 200°F or greater. This SR is being deleted in accordance with NEDO-30832, "Elimination of Limit on BWR Suppression Pool Temperature for SRV Discharge with Quenchers," dated December 1984. The basis for deleting this SR is that testing has demonstrated that there are no undue loads on the suppression pool or its components at elevated temperatures and pressures when Specific discharge through "quenchers" (spargers). PBAPS UFSAR Section 4.4.5 states that each relief valve discharge line terminates in a T-quencher (sparger). Therefore, based on the above, the requirement for an external visual inspection of the suppression chamber is being deleted. This change is consistent with the STS and is acceptable.

(2) This change modifies the suppression pool average temperature limit in CTS 3.7.A.1.c.1, allowing the suppression pool to be maintained at an average temperature up to 110 °F if the reactor is not critical or at a power below the point of adding heat. The Applicability for ITS 3.6.2.1, is Modes 1, 2, and 3. However, this Applicability is modified within LCO 3.6.2.1 so that a lower suppression pool temperature limit applies if any Operable IRM channel is on Range 7 or above. This limit was selected so that the suppression pool temperature limits are applicable when the reactor is critical with reactor power approximately at the point of adding heat. As a result of this qualification to the

Applicability statement, suppression pool temperature is required to be maintained at a temperature of less than 95°F (or less than 105°F while performing tests that add heat to the suppression pool) only when the reactor is critical with reactor power at the approximate level where heat generated is approximately equal to normal system heat losses. If the reactor is not critical or at a power below the point of adding heat, the suppression pool may be maintained at an average temperature up to 110 °F. This change is less restrictive because CTS 3.7.A.1.c required the lower suppression pool temperature to be less than 95°F (or less than 105°F while performing tests that add heat to the suppression pool) "during startup/hot standby and run Modes" even if the reactor is not critical or not above the point of adding heat. If the reactor is not critical or the reactor is below the point of adding heat, there is significantly less heat generation from decay heat than assumed in the design basis. The suppression pool is designed to absorb the decay heat and sensible energy released during a reactor blowdown via safety/relief valves or from design basis accidents when the reactor has been operating continuously at full power for a considerable period of time. Any event initiated with reactor power or reactor power history less than these conditions will place considerably less heat load on the suppression pool than a DBA LOCA. In addition, the shutdown requirements, if the temperature is not restored, have been modified to only require reducing power to below IRM Range 7 within 12 hours, consistent with the new Applicability. This change is consistent with the STS and is acceptable.

2.3.6.2.H ITS 3.6.2.2 Suppression Pool Water Level

(1) This change deletes references to CS and LPCI inoperability as a basis for exceeding the water level requirements of CTS 3.7.A.1 in Modes 4 and 5. Water level requirements sufficient to satisfy the CS and LPCI subsystems Operability requirements in Modes 4 and 5 have been specified in CTS 3.5.F and in the SRs for LCO 3.5.2, "ECCS-Shutdown." Therefore, the minimum level requirements are duplicative and are being deleted. This change is an administrative change. Maximum level requirements have not been specified since they are not necessary to ensure the Operability of the CS System or LPCI subsystems. In addition, in Modes 4 and 5 the probability and consequences of events (S/RV discharges and excessive pool swell loads during a design basis accident LOCA) are reduced due to the pressure and temperature limitations of these Modes. As a result, maintaining the suppression pool level within the upper limit is not required in Mode 4 or 5 to ensure suppression pool integrity is maintained. This change is consistent with the STS and is acceptable.

(2) The change provides a 2 hour Completion Time to restore suppression pool level within limits. An Action is being provided for suppression pool water level outside limits. CTS 3.7.A.1 allows no time to restore level. An unanticipated change in the suppression pool level would require addressing the cause and aligning the appropriate system to raise or lower the pool level. These activities require some time to accomplish. The Completion Time is based on engineering judgement of

the safety significance, the probability of an event requiring the safety function of the system, and the relative risks associated with the plant transient and the potential challenge to safety systems experienced by requiring a plant shutdown. This change is consistent with the STS and is acceptable.

2.3.6.2.I ITS 3.6.2.3 RHR Suppression Pool Cooling

There are no less restrictive changes to the CTS associated with ITS 3.6.2.3.

2.3.6.2.J ITS 3.6.2.4 Residual Heat Removal (RHR) Suppression Pool Spray

(1) This change extends the Frequency of the spray nozzle obstruction SR in CTS 4.5.B.1.g from 5 years to 10 years. This change is justified due to the passive design of the nozzles, and has been shown acceptable through industry operating experience. This change does not represent a significant increase in the probability of an accident because obstruction of the RHR suppression pool spray nozzles is not a precursor to any design basis accident. This change is consistent with the STS and is acceptable.

2.3.6.2.K ITS 3.6.3.1 Containment Atmospheric Dilution System

There are no less restrictive changes to the CTS associated with ITS 3.6.3.1.

2.3.6.2.L ITS 3.6.3.2 Primary Containment Oxygen Concentration

(1) This change relaxes the requirement in CTS 4.7.A.5 to measure primary containment oxygen concentration from twice weekly to once per 7 days. This Frequency is based on the slow rate at which oxygen concentration can change and on other indications of abnormal conditions. Industry operating experience has shown that verifying the oxygen concentration weekly is adequate for maintaining the concentration within limits. This change is consistent with the STS and is acceptable.

(2) This change allows 24 hours to restore oxygen to within the limit prior to requiring a plant shutdown. CTS 3.7.A allows no time to restore oxygen concentration to within the limit prior to requiring a plant shutdown. ITS Required Action A.1 and associated Completion Time allow 24 hours to restore oxygen to within the limit prior to requiring a plant shutdown. During this time, the CAD System is normally still Operable, thus, a means to prevent combustible mixtures exists. This new Action would prevent an unnecessary shutdown and the increased potential for transients associated with the shutdown. This change is consistent with the STS and is acceptable.

(3) This change allows 24 hours after exceeding 15% RTP, instead of the current Run Mode (approximately 5% RTP) requirement in CTS 3.7.A.5.b, to establish the primary containment oxygen concentration within limits. This small difference provides some added time to inert the drywell. This minor change is justified, since the time allowed without an inerted drywell is only increased slightly and the fact that, at low

power levels, hydrogen generation would be very small compared to higher power levels. This change is consistent with the STS and is acceptable.

2.3.6.2.M ITS 3.6.4.1 Secondary Containment

(1) This change adds a 4 hour Completion Time to restore secondary containment to Operable status. CTS 3.7.C.2 requires the plant to begin shutting down when secondary containment is inoperable. This change will allow a period of time to restore the secondary containment to Operable status in order to prevent an immediate plant shutdown. The 4 hours is commensurate with the importance of maintaining secondary containment during Modes 1, 2, and 3. This time period also ensures that the probability of an accident (requiring secondary containment Operability) occurring during periods where secondary containment is inoperable is minimal. Allowing this extended time to potentially avoid a plant transient caused by a plant shutdown, is reasonable and does not represent a significant decrease in safety. This change is consistent with the STS and is acceptable.

2.3.6.2.N ITS 3.6.4.2 Secondary Containment Isolation Valves (SCIVs)

(1) This change adds Actions when one or more penetration flow paths with one and two SCIVs inoperable. With one SCIV inoperable, 8 hours will be allowed to isolate the penetration flow path. With two SCIVs inoperable, 4 hours will be allowed to isolate the penetration flow path. The CTS require the plant to begin shutting down in either case. The change will allow a period of time to restore the secondary containment to Operable status in order to prevent an immediate plant shutdown or suspension of movement of irradiated fuel assemblies, Core Alterations, and OPDRVs. The 8 and 4 hour Completion Times for one and two SCIVs inoperable, respectively, in one or more penetration flow path is commensurate with the importance of maintaining secondary containment during applicable Modes or conditions. This time period also ensures that the probability of an accident (requiring secondary containment operability) occurring during periods where secondary containment is inoperable is minimal. Allowing this extended time to potentially avoid a plant transient caused by a plant shutdown or immediate suspension of movement of irradiated fuel assemblies, Core Alterations and OPDRVs, is reasonable and does not represent a significant decrease in safety. This change is consistent with the STS and is acceptable.

(2) This change adds three Notes to the Actions of CTS 3.7.C. The first note allows penetration flow paths to be unisolated intermittently under administrative controls. This is considered acceptable since the administrative controls establish compensatory measures (i.e., stationing a dedicated operator, who is in continuous communication with the control room, at the controls of the valve) if secondary containment isolation was required. The administrative controls ensure the penetration can be rapidly isolated when a need for secondary containment is indicated. The second and third Notes are discussed in Section 2.3.6.4.N(2) and (3) of this safety evaluation. This change is consistent with the STS and is acceptable.

2.3.6.2.0 ITS 3.6.4.3 Standby Gas Treatment System (SGT)

(1) This change eliminates the requirement to demonstrate the Operability of the redundant system or subsystem whenever a system or subsystem is declared inoperable. CTS 4.7.B.3.b. requires that "when one filter train of the standby gas treatment system becomes inoperable the other filter train and one fan shall be demonstrated to be operable immediately and daily thereafter, except that filter and charcoal tests as described in 3.7.B.2.a and 3.7.B.2.b are not required." This requirement is not included in the STS and is being deleted. This change acknowledges that the inoperability of a subsystem is not automatically indicative of a similar condition in the redundant subsystem unless a generic failure is suspected. This change also acknowledges that the frequencies specified to demonstrate Operability have been shown to be adequate to ensure equipment Operability. Therefore, this change allows credit to be taken for normal periodic SR as a demonstration of Operability and availability of the remaining components and reduces unnecessary challenges and wear to redundant components. This change is consistent with the STS and is acceptable.

(2) This change allows placing the Operable SGT subsystem in operation in accordance with ITS LCO 3.6.4.3, Condition C, as an alternative to suspending movement of irradiated fuel, suspending Core Alterations, and suspending OPDRVs. CTS 3.7.B.4 requires that both Units shall be placed in Cold Shutdown and fuel handling operations prohibited whenever CTS 3.7.B.1 and 3.7.B.3 are not met. In ITS 3.6.4.3, Condition C, movement of irradiated fuel assemblies in the secondary containment, Core Alterations, and OPDRVs shall be prohibited if the requirements of ITS Condition A cannot be met. Suspending these activities will minimize the potential for releasing radioactive material to the secondary containment, thus placing the plant in a condition that minimizes risk. ITS 3.6.4.3, Condition C, will also allow placing the Operable SGT subsystem in operation as an alternative to suspending movement of irradiated fuel, suspending Core Alterations, and suspending OPDRVs. This alternative is less restrictive than the CTS requirement. However, the ITS alternative ensures that the remaining subsystem is Operable, that no failures that could prevent automatic actuation have occurred, and that any other failure would be readily detected. This change is consistent with the STS and is acceptable.

The above less restrictive requirements have been reviewed by the staff and have been found to be acceptable, because they do not present a significant safety question in the operation of the plant. The TS requirements that remain are consistent with current licensing practices, operating experience and plant accident and transient analyses, and provide reasonable assurance that the public health and safety will be protected.

2.3.6.3 More Restrictive Technical Changes

The PBAPS ITS Section 3.6 contains a number of requirements that are more restrictive than the CTS. In most cases, these are additional restrictions which are not in the CTS but are, however, consistent with the STS. Requirements more restrictive than the CTS corresponding to ITS Section 3.6 are described below.

2.3.6.3.A ITS 3.6.1.1 Primary Containment

(1) If primary containment integrity is breached, CTS 3.7.A.3 allows 24 hours to re-establish containment integrity or requires that the reactor be placed in a cold shutdown condition within the following 24 hours. ITS LCO 3.6.1.1 will allow only I hour to restore primary containment or require that the reactor be in Mode 3 within the 12 hours and Mode 4 within 36 hours if primary containment integrity is not restored within the 1 hour period. This change is more restrictive because the ITS requirement limits attempts to restore primary containment to 1 hour instead of 24 hours. Additionally, the ITS requirement will place the plant in a condition where primary containment is not required within 37 hours of the discovery of a containment breach whereas the CTS requirement will not place the plant in a condition where primary containment is not required until 48 hours after the discovery of a primary containment breach. This change is consistent with the STS and is acceptable.

(2) CTS 4.7.A.4.d. and ITS SR 3.6.1.1.2 both require verification every 24 months that the leak rate from the drywell to the suppression pool does not exceed specified limits. ITS SR 3.6.1.1.2 adds the requirement that if two consecutive leak tests fail, this test must be repeated every 12 months until two consecutive tests pass. The requirement for more frequent performance of this test following two consecutive test failures is new and, therefore, more restrictive than the CTS requirement. This change is consistent with the STS and is acceptable.

2.3.6.3.B ITS 3.6.1.2 Primary Containment Air Locks

(1) This change adds ITS Conditions B and C for an inoperable air lock interlock mechanism and for other reasons which may make the air lock inoperable respectively. The CTS contain no requirements for the interlock mechanism. The ITS require that the air lock be locked closed and verified locked closed periodically. Entry and exit through the primary containment air locks is permissible under the control of a dedicated individual in ITS Condition B. For a condition similar to that in ITS Condition C (air lock inoperable for reasons other than ITS Conditions A and B), CTS 3.7.A.3 allows 24 hours to restore the primary containment breach (i.e., inoperable air lock). In the ITS, 24 hours is also allowed to restore the inoperable air lock. However, the primary containment overall leakage must also be evaluated immediately using current air lock test results and one air lock door must be closed within I hour. A Note to the Actions will require LCO 3.6.1.1 to be entered if the air lock leakage results in exceeding primary containment leakage rate acceptance criteria. The addition of new requirements represent a more restrictive change. This change is consistent with the STS and is acceptable.

(2) Currently only an overall leak check is required on the air lock once per 6 months. This change adds acceptance criteria for the overall leak check (9000 scc/min when tested at P_a.). This test adds to the overall assurance that the air lock is "air tight." The addition of new requirements represents a more restrictive change. The CTS requirement (Note 4 to Table 3.7.2 through 3.7.4) only provides the overall Type B and C limits. This limit is found in SR 3.6.1.1.1 and is covered by the ITS Note to SR 3.6.1.2.1 (which states that the airlock leakage should be evaluated against the criteria of SR 3.6.1.1.1). This change is consistent with the STS and is acceptable.

(3) The ITS change adds a SR to verify the interlock mechanism works properly (that is, only one door can be opened at a time). This will ensure that one door is always closed which maintains containment integrity. The addition of new requirements represents a more restrictive change. This change is consistent with the STS and is acceptable.

(4) Currently, the definition of Primary Containment Integrity only requires one air lock door to be Operable. However, in the ITS both air lock doors must be Operable and Actions for one air lock door inoperable have been added consistent with the STS. In addition, Note 1 to the Actions has been added to allow entry and exit to perform repairs of the door, and Note 1 to SR 3.6.1.2.1 has been added to ensure the previous overall leak test is not invalidated by an inoperable door. The ITS change represents an additional restriction on plant operation since previously the Condition of one air lock door inoperable did not require any actions to be taken. This change is consistent with the STS and is acceptable.

(5) The requirements for air lock doors are being revised. Currently, the definition of Primary Containment Integrity only requires one air lock door to be closed and sealed. The ITS change will now require both air lock doors to be Operable (leakage within limits, i.e., sealed) and closed. Both doors are now required to be kept closed except when the air lock is being used for normal entry and exit. During this period of normal entry and exit one door must be closed. This change is consistent with the STS and is acceptable.

2.3.6.3.C <u>ITS 3.6.1.3 Primary Containment Isolation Valves (PCIVS)</u>

(1) The Applicability is being changed for the PCIVs to also include Modes 2 and 3 as well as when associated instrumentation is required to be Operable per LCO 3.3.6.1 (which adds a Mode 4 and 5 requirement to the RHR SDC System isolation valves). This ensures that the PCIVs are Operable during times when the primary containment penetrations may need to be isolated. In Modes 1, 2, and 3 a design basis accident could cause a release of material to primary containment. In Modes 4 and 5 the probability and consequences of these events are reduced due to the pressure and temperature limitations of these Modes. Therefore, most PCIVs are not required to be Operable. Only those PCIVs which isolate

to prevent reactor vessel draindown are required in Modes 4 and 5. This change is consistent with the STS and is acceptable.

(2) The Applicability for the primary containment purge and exhaust valves is being expanded to Modes 1, 2 and 3 from Mode 1 above 100 psig. In Modes 1, 2, and 3 a design basis accident could cause a release of radioactive material to primary containment. In Modes 4 and 5 the probability and consequences of these events are reduced due to the pressure and temperature limitations of these Modes. Therefore, primary containment purge valves are not required to be Operable in Modes 4 and 5. This change ensures that the primary containment purge and exhaust valves remain Operable during the times when significant containment releases are possible. This change is consistent with the STS and is acceptable.

(3) ITS Condition F is a new Condition which was added in the event any Required Action and associated Completion Time cannot be met in Modes 4 and 5. The plant must be placed in a condition in which the LCO does not apply. In this case, suspension of OPDRVs is required to minimize the probability of a vessel draindown and subsequent potential fission product release. Suspending an OPDRV may result in closing the RHR SDC isolation valves. Therefore, an alternative Required Action is provided to immediately initiate action to restore the valve(s) to Operable status. This allows RHR to remain in service while actions are being taken to restore the valve. This is a new requirement and as such is an additional restriction on plant operation. This change is consistent with the STS and is acceptable.

(4) This change adds an Action for one or more penetration flow paths with two PCIVs inoperable except for MSIV leakage not within limit. This Action will require the penetration to be isolated by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange within 1 hour. If not isolated within 1 hour then a shutdown should commence and the plant is required to be in Mode 3 within 12 hours and Mode 4 within 36 hours. If this condition existed under the CTS, CTS 3.7.A.3 requires that the primary containment be declared inoperable and allows 24 hours to restore it or the plant is required to be in Hot Shutdown (Mode 3) within 12 hours and Cold Shutdown within 24 hours. The CTS would allow 23 more hours than the ITS to restore primary containment. This represents a more restrictive change, is consistent with the STS, and is acceptable.

(5) Eight SRs are being added. These SRs will:

(a) Verify SGIG System header pressure,

(b) Verify 6 inch and 18 inch primary containment purge valves and 18 inch primary containment exhaust valves are closed and blocked to restrict opening to less than or equal to the required maximum opening angle,

(c) Verify PCIV manual valves (except test taps with a diameter ≤ 1 inch) and blind flanges that are located outside and inside primary containment and are required to be closed are closed,

(d) Verify continuity of the TIP shear isolation valve explosive charge, and remove and test them,

(e) Verify SGIG lineup,

These SRs provide the means of ensuring the PCIVs are Operable and able to perform their safety function which is to provide primary containment isolation. The addition of new SRs constitutes a more restrictive change. This change is consistent with the STS and is acceptable.

(6) An Action is added in the ITS for the condition when one or more penetration flow paths have one PCIV inoperable (for penetration flow paths with only one PCIV). This action would require the penetration to be isolated within 4 hours or the plant should be in Mode 3 within 12 hours and Mode 4 within 36 hours. If this condition would presently exist, the CTS (3.7.A.3) require that the primary containment be declared inoperable and allow 24 hours to restore it or the plant is required to be in Hot Shutdown (Mode 3) within 12 hours and Cold Shutdown within 24 hours. The CTS would allow 20 more hours than the ITS to restore primary containment. This ITS change represents a more restrictive change. This change is consistent with the STS and is acceptable.

(7) This change adds Actions to verify that penetrations which were isolated remain isolated. The Completion Time is every 31 days for isolation devices outside primary containment. The Completion Time is prior to entering Mode 2 or 3 from Mode 4 if primary containment was de-inerted while in Mode 4, if not performed within the previous 92 days, for isolation devices inside primary containment. The 31 days is reasonable because the valves are operated under administrative controls and the probability of their misalignment is low. The frequency for valves inside containment is considered reasonable in view of the inaccessibility of the valves and other administrative controls ensuring that valve misalignment is an unlikely possibility. These Actions are modified by a Note that applies to valves and blind flanges located in high radiation areas, and allows them to be verified by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Therefore, the probability of misalignment of these valves, once they have been verified to be in the proper position, is low. This change is consistent with the STS and is acceptable.

(8) This ITS change adds details on isolating instrument line penetrations with excess flow check valves (EFCVs) and purge and exhaust isolation valves. This change will require that the penetrations be isolated by use of at least one closed and de-activated automatic valve, closed manual valve or blind flange. This requirement adds details to an Action which constitute a more restrictive change. This change is consistent with the STS and is acceptable.

(9) This ITS change adds acceptance criteria to the SR which requires an Operability test of the instrument line EFCVs. The acceptance criteria added requires that the EFCVs actuate to the isolation position on a simulated instrument line break signal. The addition of acceptance criteria which did not previously exist in TS to a SR constitutes a more restrictive change. This change is consistent with the STS and is acceptable.

(10) The note which specifies that isolation valves are closed to comply with the Actions may be opened under administrative controls is being revised to make an exception to primary containment purge and exhaust isolation valves. In this case, the valves should not be allowed to be opened because of the gross breach of containment situation which could exist. This change is consistent with the STS and is acceptable.

(11) The Frequency for performing the closure time testing for power operated and automatically initiated valves is being changed from "at least once per operating cycle" to "In accordance with the IST Program." Since the current IST Program requires testing of some PCIVs every quarter, this change is more restrictive. This change is consistent with the STS and is acceptable.

2.3.6.3.D ITS 3.6.1.4 Drywell Air Temperature

(1) ITS 3.6.1.4 and the associated Conditions, Required Actions, Completion Times, and SRs are being added. The ITS will require that drywell air temperature be maintained less than or equal to 145°F while in Modes 1, 2, and 3. An additional SR will require that drywell air temperature be verified within the ITS limit every 24 hours. If drywell air temperature cannot be maintained within the ITS limits and cannot be restored within the required Completion Time, the reactor must be placed in Mode 3 within 12 hours and Mode 4 within 36 hours. The drywell temperature limit of less than or equal to 145°F is an assumption used in NEDC-32183P, "Power Rerate Safety Analysis Report for Peach Bottom 2 and 3," dated May 1993. This additional restriction is consistent with the STS and helps ensure the safety analysis assumptions are maintained. Therefore, this change is acceptable.

2.3.6.3.E ITS 3.6.1.5 Reactor Building-to-Suppression Chamber Vacuum Breakers

(1) ITS 3.6.1.5 will add a SR to verify every 14 days that each vacuum breaker is closed. This change is consistent with the STS and is acceptable.

(2) CTS 4.7.A.3.a. requires that the reactor building-to-suppression chamber vacuum breakers be checked for proper operation every refueling outage. The ITS requires a functional check of these four valves every 92 days which is consistent with the requirements of the IST Program. This change is consistent with the STS and is acceptable.

(3) CTS 3.7.A.3.b allows 7 days to restore an inoperable reactor building-to-suppression chamber vacuum breaker provided that primary containment integrity is maintained. The ITS 3.6.1.5, Conditions A and C, stipulate restoration within 72 hours of the affected vacuum breaker valves in the reactor building-to-suppression chamber vent path(s) provided primary containment is maintained. This change is consistent with the STS and is acceptable.

(4) The SGIG System provides nitrogen gas as a safety grade pneumatic source for the reactor building-to-suppression chamber vacuum breaker air operated isolation valves and inflatable seals. As such, appropriate SRs are being added to ensure SGIG System Operability. These SRs verify SGIG System level (CAD tank level), pressure, valve lineup, and provide for a functional test of the SGIG System. The addition of requirements is a more restrictive change and is acceptable.

2.3.6.3.F <u>ITS 3.6.1.6 Suppression Chamber-to-Drywell Vacuum Breakers</u>

(1) CTS 3.7.A.4.b allows suppression chamber-to-drywell vacuum breakers to be "not fully seated" as long as a test is initiated within 8 hours to confirm that the bypass area is less than a one inch diameter hole. This modification to the definition of closed for vacuum breakers is being relocated to the Bases for ITS 3.6.1.6. However, the relocated requirement was made more restrictive in that the test used to verify bypass area must be completed within 10 hours instead of initiated within 8 hours. Additionally, the requirement to repeat this test every 15 days whenever the valves indicate "not fully seated" is superseded by the more restrictive ITS SR 3.6.1.6.1 which requires verification that the vacuum breakers are closed every 14 days. SR 3.6.1.6.1 would use the same bypass leakage test if the vacuum breakers indicated "not fully seated." Finally, Condition B requires that the bypass leakage test be completed within 10 hours following exercising which leaves any vacuum breaker not fully seated. This change is more restrictive than CTS 3.7.A.4.b which allows 24 hours to perform the same bypass leakage test and is acceptable.

(2) The ITS 3.6.1.6 adds SR 3.6.1.6.1 that each vacuum breaker must be verified to be closed every 14 days to ensure that a potential breach in the primary containment boundary is not present. This change is consistent with the STS and is acceptable.

(3) An additional SR, SR 3.6.1.6.3, is being added. This verification of the suppression chamber-to-drywell vacuum breaker opening setpoint is necessary to ensure that the safety analysis assumption regarding vacuum breaker full open differential pressure of 0.5 psid is valid. This change is consistent with the STS and is acceptable.

2.3.6.3.G <u>ITS 3.6.2.1 Suppression Pool Average Temperature</u>

(1) CTS 3.7.A.1 governing suppression pool temperature is applicable "Whenever the nuclear system is pressurized above atmospheric pressure." However, this applicability is being modified for specific conditions in

CTS 3.7.A.1.c such that temperature limits apply only during hot standby/startup and run Modes and "during testing which adds heat to the suppression pool." ITS 3.6.2.1 is applicable in Modes 1, 2, and 3. As a result, the ITS requirements for suppression pool temperature are applicable when the reactor is critical or control rods are being withdrawn in addition to being applicable whenever the Reactor Coolant System is pressurized (greater than 212°F). Therefore, this change is more restrictive. This change is consistent with the STS and is acceptable.

(2) CTS 3.7.A.1.c.3 and ITS 3.6.2.1 Condition D contain the required actions if suppression pool temperature is greater than 110°F. The ITS change adds an explicit requirement (Required Action A.1) to verify that suppression pool temperature is less than 110°F once per hour when suppression pool temperature is greater than 95°F and no testing that adds heat to the pool is being performed. The ITS change also adds an explicit requirement to verify that suppression pool temperature is less than 120°F every 30 minutes whenever suppression pool temperature is greater than 110°F and to place the reactor in Mode 4 within 36 hours. The CTS does not contain these explicit requirements for monitoring temperature under these conditions or placing the reactor in a non applicable Mode (until the temperature has exceeded the limit for 24 hours). Therefore, this change is more restrictive. This change is consistent with the STS and is acceptable.

(3) CTS 3.7.A.1.c.4 and ITS 3.6.2.1 Condition E require that the reactor pressure vessel be reduced to less than 200 psig if suppression pool temperature proceeds to greater than 120°F. However, CTS 3.7.A.1.c.4 is applicable only "During reactor isolation conditions" when the only methods available for depressurizing (cooling) the reactor vessel rely on the suppression pool and requires that this depressurization (cooldown) be performed "at normal cooldown rates." ITS 3.6.2.1, Condition E also requires that the reactor pressure vessel be depressurized to less than 200 psig if suppression pool temperature proceeds to greater than 120°F but is applicable whether or not the reactor is isolated. Additionally, the ITS requires that the cooldown continue until the reactor is in Mode 4. Therefore, the ITS change is more restrictive. The Completion Time for depressurizing the reactor to less than 200 psig is increased from proceeding "at normal cooldown rates" to within 12 hours because it is a reasonable time considering cooling the reactor (if isolated) may involve adding additional heat to the suppression pool that is already greater than 120°F. This change is consistent with the STS and is acceptable.

2.3.6.3.H <u>ITS 3.6.2.2 Suppression Pool Water Level</u>

(1) CTS 3.7.A.1 governing suppression pool water level is applicable "Whenever the nuclear system is pressurized above atmospheric pressure." ITS 3.6.2.2 is applicable in Modes 1, 2, and 3. As a result, the ITS requirements for suppression pool water level are applicable when the reactor is critical or control rods are being withdrawn in addition to being applicable whenever the reactor coolant system is pressurized

(greater than 212°F). Therefore, this change is more restrictive, consistent with the STS, and is acceptable.

2.3.6.3.I ITS 3.6.2.3 RHR Suppression Pool Cooling

(1) SR 3.6.2.3.1 and SR 3.6.2.3.2 are being added to ensure the correct valve lineup for the RHR suppression pool cooling subsystems is maintained and RHR pump testing is performed to ensure the RHR suppression pool cooling subsystems remain capable of providing the overall design basis accident suppression pool cooling requirement. This change is consistent with the STS and is acceptable.

2.3.6.3.J ITS 3.6.2.4 Residual Heat Removal (RHR) Suppression Pool Spray

(1) SR 3.6.2.4.1 is being added to ensure the correct valve lineup for the RHR suppression pool spray subsystem is maintained to ensure the RHR suppression pool spray subsystems remain capable of providing the overall design basis accident heat removal requirements. This change is consistent with the STS and is acceptable.

2.3.6.3.K ITS 3.6.3.1 Containment Atmospheric Dilution System

(1) The ITS change adds Mode 2 (startup) to the Applicability to go along with Mode 1 which is already required. The CAD System is required to maintain the oxygen concentration within primary containment below the flammability limit following a LOCA. Below Mode 2, the hydrogen and oxygen production rates and the total amounts produced after a LOCA are less than those calculated for the design basis accident LOCA. Adding a new Mode to the Applicability constitutes a more restrictive change. This change is consistent with the STS and is acceptable.

(2) When the CAD System is not restored within the required Completion Time a ITS Action is being provided. The additional Action requires the plant to be brought to Mode 3 (outside the applicable condition) within 12 hours. Currently, no time is specified. As such, this is an additional restriction on plant operation. This change is consistent with the STS and is acceptable.

(3) CTS SRs require the minimum volume of liquid nitrogen in the CAD nitrogen storage tank to be 2500 gallons. The ITS change requires the level in the CAD nitrogen storage tank to be ≥ 33" water column which corresponds to 3841 gallons. This increase ensures there is enough liquid nitrogen to support both the CAD and SGIG Systems. Increasing the volume of liquid nitrogen in the CAD nitrogen storage tank constitutes a more restrictive change. This change is consistent with the STS and is acceptable.

(4) Four SRs are being added to the CAD System specification. These SRs were added to support the SGIG System (three SRs) and ensure proper valve lineup of the CAD System. The three SRs added to support the SGIG System will verify header pressure, verify SGIG System valve lineup, and

perform a functional test. Adding SRs constitutes a more restrictive change. This change is consistent with the STS and is acceptable.

2.3.6.3.L <u>ITS 3.6.3.2 Primary Containment Oxygen Concentration</u>

(1) The 24 hour time allowed to de-inert the drywell is being tied to when the reactor power is < 15% RTP, not just "prior to a reactor shutdown." This provides more explicit requirements as to when the 24 hour time starts. This change is consistent with the STS and is acceptable.

(2) The requirement to place the plant in a Cold Shutdown condition within 24 hours when the limit is not restored within the required Completion Time is being revised to reflect placing the plant in a non-applicable condition. CTS 3.0.A states action requirements are applicable during the operational conditions of each specification. Therefore, the requirement to place the plant in Cold Shutdown is not applicable after thermal power is reduced below 15% RTP. The revised action requires plant power to be reduced to <15% RTP (outside the applicable condition) within 8 hours. The CTS action allows 24 hours to place the plant in a non-applicable condition. As such, this is an additional restriction on plant operation. This change is consistent with the STS and is acceptable.

2.3.6.3.M <u>ITS 3.6.4.1 Secondary Containment</u>

(1) Currently at least one door in each access opening must be closed. The ITS SR 3.6.4.1.2 will require that both the access doors are verified closed except when exiting and entering the secondary containment, then one door must be maintained closed. This requirement ensures that the infiltration of outside air of such a magnitude as to prevent maintaining the desired negative pressure does not occur. This new requirement constitutes a more restrictive change. This change is consistent with the STS and is acceptable.

(2) A new Applicability is being added, and a new portion of Condition C and an appropriate Required Action for Condition C is being added, for OPDRVs. Secondary containment is now required to be Operable during OPDRVs to provide mitigation if an inadvertent vessel draindown event occurs. The new Applicability and the addition of the Required Action is an additional restriction to plant operation and constitutes a more restrictive change. This change is consistent with the STS and is acceptable.

(3) The ITS change requires the vacuum to be maintained greater than or equal to ¼ inch of water vacuum instead of requiring it to be maintained at ¼ inch which allows for a plus or minus each way. The ITS new requirement will not allow vacuum to fall below ¼ inch water vacuum. This added requirement constitutes a more restrictive change. This change is consistent with the STS and is acceptable.

(4) The ITS change will require the secondary containment capability test on both trains of the SGT Subsystem to be tested over a two refueling

outage period (on a staggered test basis, i.e., each train will be tested every 48 months). The CTS requirements requires "a filter train" to be tested each refueling outage, so actually the same train could be tested each outage. Since this change adds an additional more prescriptive requirement, it is classified as a more restrictive change. This change is consistent with the STS and is acceptable.

(5) The ITS change requires the movement of irradiated fuel in secondary containment and Core Alterations, to be "Immediately" suspended if secondary containment is inoperable. In addition, action must be "Immediately" initiated to suspend operations with the potential to drain the reactor vessel in this Condition. The CTS does not establish a time limit to suspend these activities. Immediately suspending these activities minimizes the probability of a fission product release if a reactivity event occurs while the secondary containment is inoperable. Also, immediately initiating action to suspend operation with the potential to drain the reactor vessel will minimize the potential for reactor vessel draindown and subsequent potential for fission release. Imposing a time limit to suspended these activities is a more restrictive change. This change is consistent with the STS and is acceptable.

(6) A time limit of 1 hour was added to the secondary containment capability test in CTS 4.7.C.1.c, using a SGT subsystem, for maintaining the quarter inch vacuum on secondary containment (ITS SR 3.6.4.1.4). The 1 hour test period allows secondary containment to be in thermal equilibrium at steady state conditions. This helps to ensure the secondary containment boundary integrity. Requiring a 1 hour duration time for maintaining the vacuum, where currently no time limit is required, constitutes a more restrictive change. This change is consistent with the STS and is acceptable.

(7) Three SRs are being added to:

(a) verify all secondary containment equipment hatches are closed and sealed,

(b) verify each secondary containment access door is closed, except when the access opening is being used for entry and exit, then at least one door shall be closed, and

(c) verifying each SGT System subsystem will draw down secondary containment within a specified time limit.

These tests help ensure the integrity of the secondary containments boundary so it will perform as assumed in the safety analysis. The addition of SRs constitutes a more restrictive change. This change is consistent with the STS and is acceptable.

(8) Required Action C.1 is being modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in Mode 4 or 5, LCO 3.0.3 would not specify any action. If moving irradiated fuel

assemblies while in Modes 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, in either case, inability to suspend movement of irradiated fuel assemblies would not be a sufficient reason to require a reactor shutdown. In addition, by adding an exception to LCO 3.0.3 for the suspension of irradiated fuel movement in Mode 1, 2, or 3 the plant would still be required to shutdown after 4 hours per ITS Required Actions B.1 and B.2 and suspend fuel movement per Required Action C.1. Therefore, this is a more restrictive change since the note would ensure suspension of movement of irradiated fuel. This change is consistent with the STS and is acceptable.

2.3.6.3.N <u>ITS 3.6.4.2 Secondary Containment Isolation Valves</u>

(1) Currently the Operability of secondary containment only includes reactor building ventilation system automatic isolation valves required to be Operable or isolated. The ITS change will require all secondary containment isolation valves to be Operable. The SCIVs form a part of the secondary containment boundary. Thus, all SCIVs should be required to be automatically capable of isolating or be maintained in the isolation position so the secondary containment can fulfil its safety function which is related to control of offsite radiation releases resulting from design basis accidents. Since "all SCIVs" encompasses more than just automatic valves commensurate actions have been specified for other types of SCIVs. Therefore, the phrase "isolated by the use of at least one closed and deactivated automatic valve, closed manual valve or blind flange" is ITS to replace "deactivated in the isolation position." The addition all SCIVs to the CTS Operability and Action requirements of secondary containment constitutes a more restrictive change. These new requirements are described in the Bases, and the LCO also requires each SCIV to be Operable. This change is consistent with the STS and is acceptable.

(2) Required Action D.1 is being modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in Mode 4 or 5, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in Modes 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, in either case, inability to suspend movement of irradiated fuel assemblies would not be a sufficient reason to require a reactor shutdown. In addition, by adding an exception to LCO 3.0.3 for the suspension of irradiated fuel movement in Modes 1, 2, or 3 the plant would still be required to shutdown after 4 or 8 hours, as applicable, per ITS Required Action C.1 and C.2 and suspend fuel movement per Required Action D.1. Therefore, this is a more restrictive change since the note would ensure movement of irradiated fuel. This change is consistent with the STS and is acceptable.

(3) A new Applicability is being added, and a new portion of Condition D and an appropriate Required Action for Condition D is being added, for OPDRVs. Secondary containment is now required to be Operable during OPDRVs to provide mitigation if an inadvertent vessel draindown event occurs. The addition of the Required Action is an additional

restriction to plant operation and constitutes a more restrictive change. This change is consistent with the STS and is acceptable.

(4) This ITS change requires the movement of irradiated fuel in secondary containment and Core Alterations, to be "Immediately" suspended if secondary containment is inoperable. In addition action must be "Immediately" initiated to suspend OPDRVs in this Condition. The CTS does not establish a time limit to suspend these activities. Immediately suspending these activities minimizes the probability of a fission product release if an reactivity event occurs while the secondary containment is inoperable. Also, immediately initiating action to suspend operation with the potential to drain the reactor vessel will minimize the potential for reactor vessel draindown and subsequent potential for fission product release. Imposing a time limit to suspended these activities is a more restrictive change. This change is consistent with the STS and is acceptable.

(5) Three SRs are being added to:

(a) verify each secondary containment isolation manual valve and blind flange that is required to be closed during accident conditions is closed,

(b) verify the isolation time of each power operated and each automatic SCIV is within limits, and

(c) verify each automatic SCIV actuates to the isolation position on an actual or simulated actuation signal.

These tests help ensure the secondary containment isolation valves function to help ensure the secondary containment will perform as assumed in the safety analysis. The addition of SRs constitutes a more restrictive change. This change is consistent with the STS and is acceptable.

(6) This ITS change will add an Action to verify the penetrations which were isolated are isolated every 31 days. The 31 days is reasonable because the valves are operated under administrative controls and the probability of their misalignment is low. This Action is modified by a note that applies to valves and blind flanges located in high radiation areas and allows them to be verified by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Therefore, the probability of misalignment of these valves, once they have been verified to be in the proper position, is low. The addition of new requirements constitute a more restrictive change. This change is consistent with the STS and is acceptable.

2.3.6.3.0 <u>ITS 3.6.4.3 SGT System (SGT)</u>

(1) CTS 3.7.B.1, SGT System, is applicable "at all times when secondary containment integrity is required." The ITS LCO 3.6.4.3 has an

applicability statement that is identical to the applicability statement for ITS LCO 3.6.4.2, Secondary Containment. However, ITS LCO 3.6.4.1 Secondary Containment, adds a requirement that secondary containment must be Operable "during operations with the potential for draining the reactor vessel (OPDRVs)." In addition, commensurate changes have been made to the Required Actions to reflect these additional conditions of Applicability. Therefore, the change in applicability from "at all times when secondary containment integrity is required" to listing the specific conditions when secondary containment is required is a more restrictive change. This change is consistent with the STS and is acceptable.

(2) CTS 3.7.B.1, SGT System, specifies that for two SGT subsystems to be considered Operable "at least two system fans shall be operable." This requirement is being modified because, although there are three SGT system fans that take suction from the common SGT exhaust plenum, only Fan 0AV020 and Fan 0BV020 start on an SGT initiation signal from Unit 2 and only Fan 0CV020 and Fan 0BV020 start on an SGT initiation signal from Unit 3. Therefore, the Bases for ITS LCO 3.6.4.3 will identify that SGT Operability for Unit 2 will require the Operability of both SGT system fans that receive an actuation signal from Unit 2 and SGT Operability for Unit 3 will require the Operability of both SGT system fans that receive an initiation signal from Unit 3. This change is more restrictive because the CTS allowed Operability of any two of the three SGT system fans for SGT to be Operable for either unit. This change is consistent with the STS and is acceptable.

(3) The ITS 3.6.4.3 includes a new requirement, SR 3.6.4.3.1, to operate each SGT subsystem for ≥ 15 minutes to ensure that both subsystems are Operable and that all associated controls are functioning properly. The ITS SR also ensures that blockage, fan or motor failure, or excessive vibration will be detected and promptly corrected. Operation with the heaters on (automatic heater cycling to maintain temperature) for ≥ 15 minutes every 31 days is also adequate to eliminate moisture on the absorbers and HEPA filters. This change is consistent with the STS and is acceptable.

(4) The CTS do not include required actions if both SGT subsystems are not Operable during Core Alterations, movement of irradiated fuel assemblies in the secondary containment, and OPDRVs. Without any specification covering this condition, the CTS would default to LCO 3.0.C which would require the reactor to be shutdown but would not stop or prevent those activities which have the potential for releasing radioactive material to the secondary containment. Therefore, ITS LCO 3.6.4.3, Action E, is being added. This new requirement will stop Core Alterations, movement of irradiated fuel assemblies in the secondary containment, and OPDRVs if both SGT subsystems are inoperable during any Mode of reactor operation. This change is consistent with the STS and is acceptable.

The ITS Required Actions of LCO 3.6.4.3, Action C, and LCO 3.6.4.3, Required Action E.1, are being modified by a Note stating that LCO 3.0.3 is not applicable. This clarification was necessary because defaulting to LCO 3.0.3 would require the reactor to be shutdown but would not require the suspension of the activities with the potential for releasing radioactive material to the secondary containment. Therefore, not allowing LCO 3.6.3.4, Action C, and Required Action E.1 to be bypassed by entry in LCO 3.0.3 suspends these activities, thus placing the plant in a condition that minimizes risk. This change is consistent with the STS and is acceptable.

The staff has reviewed these more restrictive requirements and concludes they result in enhancement to the CTS. Therefore, these more restrictive requirements are acceptable.

2.3.6.4 Significant Administrative Changes

Reformatting and renumbering of requirements are in accordance with the STS. As a result, the ITS should be easier to read and, therefore, easier to understand by plant operators as well as other users.

Editorial rewording (either adding or deleting) is generally consistent with the STS. Certain wording preferences or terminology changes appear in the ITS which result in no technical changes (either actual or interpretational) to the TS. Several types of administrative changes which apply to more than one specification in the CTS are discussed in the following general categories.

2.3.6.4.A ITS 3.6.1.1 Primary Containment

(1) An exception to the primary containment integrity requirement in CTS 3.7.A.2 is indirectly incorporated into ITS 3.10.8. This exception allows primary containment to not be Operable while performing "open vessel" physics testing at power levels not to exceed 5 Mw(t). ITS 3.10.8 allows the reactor Mode switch to be placed in startup/hot standby while in Mode 5 and the Mode 2 requirements not be required to be met except for the ones specified in the ITS 3.10.8 (primary containment is not required). This change is consistent with the STS and is acceptable.

(2) Primary containment leakage rate requirements (10 CFR 50 Appendix J, Type A, B, and C tests) are a supporting SR for primary containment Operability (ITS SR 3.6.1.1) in the ITS. The essence of an Operable containment is its leak-tightness. Additionally, CTS 4.7.A.2 contain details which are also found in 10 CFR 50 Appendix J such as the limit for combined Type B and C leakage (0.6 L_a), the limit for measured Type A leakage (0.75 L_a), and the description of the test method. These regulations require licensee compliance, cannot be revised by the licensee without NRC approval, and are addressed by direct reference in the TS. In addition, these limits are maintained in ITS SR 3.6.1.1.1. Therefore, these details (except for the limits) of the regulations within the TS are repetitious and unnecessary. Therefore, retaining the requirements to meet the requirements of 10 CFR 50 Appendix J, as modified by approved exemptions, and eliminating the TS details that are

also found in Appendix J, is considered a presentation preference which is administrative in nature. This change is consistent with the STS and is acceptable.

(3) The definition of Primary Containment Integrity is being deleted in the ITS. In its place the requirement for primary containment is that it "shall be Operable." This was done because of the confusion associated with these definitions compared to its use in the respective LCO. The change is editorial in that all the requirements along with the remainder of the LCOs covering primary containment requirements (i.e., air locks, isolation valves, suppression pool, etc.) are maintained in the TS and encompass the requirements of the definition of Primary Containment Integrity. Therefore, the change is purely a presentation preference. This change is consistent with the STS and is acceptable.

(4) CTS 4.7.A.2.b contains, in part, requirements for performance of Integrated Leak Rate Testing to be performed "Prior to initial operation." The requirement that certain integrated leak rate testing be completed prior to initial operation is being deleted because initial operation of both PBAPS units has already been completed. As such, the change is administrative in nature. This change is consistent with the STS and is acceptable.

2.3.6.4.B <u>ITS 3.6.1.2 Primary Containment Air Lock</u>

(1) Primary containment air lock leakage rate requirements in (10 CFR 50 Appendix J, Type B tests) are a supporting SR for primary containment air lock Operability (ITS SR 3.6.1.2.1) in the ITS. The essence of an Operable air lock is its leak-tightness. Additionally, CTS contain details which are also found in 10 CFR 50 Appendix J. These regulations require licensee compliance, cannot be revised by the licensee without NRC approval, and are addressed by direct reference in the TS. Therefore, these details of the regulations within the TS are repetitious and unnecessary. Therefore, retaining the requirements to meet the requirements of 10 CFR 50 Appendix J, as modified by approved exemptions, and eliminating the TS details that are also found in Appendix J, is considered a presentation preference which is administrative in nature. This change is consistent with the STS and is acceptable.

2.3.6.4.C <u>ITS 3.6.1.3 Primary Containment Isolation Valves (PCIVS)</u>

(1) ITS 3.6.1.3 now exempts the reactor building-to-suppression chamber vacuum breakers and scram discharge volume vent and drain valves since they are governed by other LCOs. Any changes to the requirements for these valves are discussed in other sections of this safety evaluation. This change is administrative in nature and is acceptable.

(2) Three new notes are being added to the Actions of ITS 3.6.1.3. The first new Note (Note 2) provides explicit instructions for proper application of the actions for TS compliance. In conjunction with ITS 1.3, "Completion Times," this Note provides direction consistent with

the intent of the CTS Actions for inoperable isolation valves. The second and third new Notes (Notes 3 and 4, respectively) facilitate the use and understanding of the intent to consider any system affected by inoperable isolation valves, which is to have its Actions also apply if it is determined to be inoperable. Note 4 clarifies that these "systems" include the primary containment. With the ITS LCO 3.0.6, this intent would not necessarily apply. This clarification is consistent with the intent and interpretation of the CTS, and is therefore considered an administrative presentation preference. This change is consistent with the STS and is acceptable.

(3) CTS requirements for actuation testing of the PCIVs stipulate a "simulated automatic actuation test shall be performed." The ITS change will allow an actual initiation signal to be used to satisfy requirements for the performance of the SRs. This change will allow taking credit for unplanned actuation if sufficient information is collected to satisfy the SRs. Because an actual initiation is as good or better for testing than a simulated initiation, the ITS requirement does not change technical content or validity of the test. Therefore, this change is considered administrative. This change is consistent with the STS and is acceptable.

(4) The technical requirements for scram discharge volume vent and drain valves in Table 3.7.1 are being moved to Section 3.1 of the ITS in accordance with the STS. Any technical changes to this requirement are addressed in Section 2.3.1 of this SE. This change is consistent with the STS and is acceptable.

(5) The Frequency in CTS 4.7.D.1.b has been changed from "quarterly" to "in accordance with the IST Program." Since the IST frequency is quarterly, this change is administrative. This change is consistent with the STS and is acceptable.

2.3.6.4.D ITS 3.6.1.4 Drywell Air Temperature

There are no significant administrative changes to the CTS associated with ITS 3.6.1.4.

2.3.6.4.E ITS 3.6.1.5 Reactor Building-to-Suppression Chamber Vacuum Breakers

(1) CTS 3.7.A.3 is being replaced by ITS 3.6.1.5. The ITS will contain a note stating that "Separate condition entry is allowed for each line." This note clarifies that the Conditions and Required Actions that follow may be applied to each of the two reactor building-to-suppression chamber vent paths without regard to the status of the other vent path. Each vent path contains two vacuum breaker valves in series. This note provides direction consistent with the intent of the Required Actions. This change is consistent with the STS and is acceptable.

2.3.6.4.F ITS 3.6.1.6 Suppression Chamber-to-Drywell Vacuum Breakers

(1) Both CTS 3.7.A.4.a. and ITS 3.6.1.6 require that all of the 12 vacuum breakers be closed. However, the ITS makes the exception "except when performing their intended function." This explicit recognition that the automatic cycling of the vacuum breakers does not violate the intent of the LCO and is considered an administrative change. This change is consistent with the STS and is acceptable.

2.3.6.4.G ITS 3.6.2.1 Suppression Pool Average Temperature

(1) CTS 3.7.A.1 establishes requirements for both suppression pool level and suppression pool temperature. ITS 3.6.2.1 governs suppression pool temperature only (ITS 3.6.2.2 governs suppression pool water level). The applicability for CTS 3.7.A.1 is modified by the following two conditions: "whenever work is being done which has the potential to drain the vessel" and except "when inoperability of the core spray systems, the LPCI and containment cooling subsystems is permissible as provided for in 3.5.F." These applicability statements are intended to govern suppression pool level. Therefore, these statements of applicability are being deleted as an administrative change because they do not apply to the temperature limit. This change is consistent with the STS and is acceptable.

(2) CTS 3.7.A.1 establishes requirements for both suppression pool level and suppression pool temperature. This specification requires that suppression pool level and temperature be maintained within required limits "except as specified by 3.7.A.2" which is the specification governing when primary containment is required. The phrase "except as specified by 3.7.A.2" indicates that suppression pool level and temperature limits are applicable only if primary containment is required. This cross reference has been deleted ITS 3.6.1.1, "Primary Containment," and ITS 3.6.2.1, "Suppression Pool Average Temperature," both are required in Modes 1, 2, and 3. This change is consistent with the STS and is acceptable.

(3) The Action in CTS 3.7.A.7 is being deleted since it is repetitive to the shutdown actions in CTS 3.7.A.1. In addition, this action states that if 3.7.A.1 is not met, then this CTS must be met. Essentially, it is saying if a shutdown action is not met in 3.7.A.1, then a shutdown per this specification can be performed; thus, extending the time allowed to shutdown the unit. However, since PBAPS uses the shutdown requirement in CTS 3.7.A.1, this deletion is purely administrative. This change is consistent with the STS and is acceptable.

2.3.6.4.H ITS 3.6.2.2 Suppression Pool Water Level

(1) The suppression pool water volume limits in the CTS have been specified in terms of level (in the units available to the operators in the control room). This change is administrative in nature since the level limits in the ITS correspond to the volume limits in the CTS.

(2) The requirement for suppression pool water volume to be maintained within limits when work is being done which has the potential for draining the reactor pressure vessel is provided to ensure an adequate source of water is available for ECCS pumps required to be Operable. This requirement is duplicative of requirements in CTS 3.5.F, which ensure suppression pool level is sufficient to provide a suction source for the ECCS when shutdown. Therefore, this requirement is being deleted in this specification. In addition, Amendment Nos. 195 and 199, for Units 2 and 3 respectively, dated September 16, 1994, deleted the containment cooling requirements from CTS 3.5.F. Therefore, this cross-reference has been deleted. This change is consistent with the STS and is acceptable.

2.3.6.4.I ITS 3.6.2.3 RHR Suppression Pool Cooling

There are no significant administrative changes to the CTS associated with ITS 3.6.2.3.

2.3.6.4.J ITS 3.6.2.4 Residual Heat Removal (RHR) Suppression Pool Spray

There are no significant administrative changes to the CTS associated with ITS 3.6.2.4.

2.3.6.4.K ITS 3.6.3.1 Containment Atmospheric Dilution System

(1) The actual number of subsystems comprising a CAD System is being added for clarity. This change is consistent with the STS and is acceptable.

(2) A Note is being added specifying LCO 3.0.4 is not applicable. Since the CTS do not have an equivalent requirement to LCO 3.0.4, stating it is not applicable constitutes an administrative change. This change is consistent with the STS and is acceptable.

2.3.6.4.L ITS 3.6.3.2 Primary Containment Oxygen Concentration

(1) The portion of the Applicability statement in CTS 3.7.A.5 which states, "with reactor coolant pressure above 100 psig" is being deleted since it is unnecessary. With the reactor in power operation, reactor coolant pressure will always be above 100 psig. This change is consistent with the STS and is acceptable.

2.3.6.4.M ITS 3.6.4.1 Secondary Containment

(1) The definition of Secondary Containment Integrity in CTS 1.0 is being deleted in the ITS. In its place the requirement for secondary containment is that it "shall be Operable." This was done because of the confusion associated with these definitions compared to its use in the respective LCO. The change is editorial in that all the requirements are specifically addressed in the ITS LCOs for the secondary containment. This change is consistent with the STS and is acceptable.

(2) The Applicability in CTS 3.7.C.1 is reworded to be consistent with the new definitions of Modes and to have a positive statement as to when it is applicable, not when it is not applicable. CTS parts a and b form the Modes 1, 2, and 3 requirements, part c forms the Core Alterations requirement, and part d forms the movement of irradiated fuel assemblies in the secondary containment requirement. In addition, a Required Action has been added to suspend Core Alterations (Required Action C.2). Therefore, the change is purely a presentation preference. This change is consistent with the STS and is acceptable.

(3) The statement in CTS 3.7.C.2, "activities which could reduce the shutdown margin," is being deleted. The CTS requirement is encompassed by the ITS requirement to suspend Core Alterations and OPDRVs. Therefore, this change is considered to be administrative in nature. This change is consistent with the STS and is acceptable.

(4) The requirement to perform preoperational tests and tests during the first operating cycle in CTS 4.7.C.1.b is being deleted since preoperational testing and the first refueling cycle has already been completed. As such, the change is administrative in nature. This change is consistent with the STS and is acceptable.

2.3.6.4.N <u>ITS 3.6.4.2 Secondary Containment Isolation Valves</u>

(1) The statement, "activities which could reduce the shutdown margin," in CTS 3.7.C.2 is being deleted. The CTS requirement is encompassed by the ITS requirement to suspend Core Alterations and OPDRVs. Therefore, this change is considered to be administrative in nature. This change is consistent with the STS and is acceptable.

(2) A New Note is being added to the Actions of CTS 3.7.C. The Note provides explicit instructions for proper application of the actions for TS compliance. In conjunction with the ITS 1.3, "Completion Times," this Note provides direction consistent with the intent of the CTS Actions for inoperable isolation valves. This change is consistent with the STS and is acceptable.

(3) Another new Note facilitates the use and understanding of the intent to consider any system affected by inoperable isolation valves, which is to have its Actions also apply if it is determined to be inoperable. With the ITS LCO 3.0.6, this intent would not necessarily apply. This clarification is consistent with the intent and interpretation of the CTS, and is therefore considered an administrative presentation preference. This change is consistent with the STS and is acceptable.

(3) The Applicability in CTS 3.7.C.1 is being reworded to be consistent with the new definitions of Modes and to have a positive statement as to when it is applicable, not when it is not applicable. CTS 3.7.C.1.a and b form the Modes 1, 2, and 3 requirements, 3.7.C.1.c forms the Core Alterations requirement, and part d forms the movement of irradiated fuel assemblies in the secondary containment requirement. In addition, a Required Action has been added to suspend Core Alterations (Required

Action D.2). Therefore, the change is purely a presentation preference. This change is consistent with the STS and is acceptable.

2.3.6.4.0 ITS 3.6.4.3 SGT System (SGT)

(1) ITS SR 3.6.4.3.2 requires performing required SGT filter testing in accordance with ITS 5.5.7, Ventilation Filter Testing Program (VFTP). This change from CTS 4.7.B in the location of the technical requirements for SGT filter testing to ITS 5.5.7 is in accordance with the format of the STS. ITS SR 3.6.4.3.2 is being added to ITS 3.6.4.3 to clarify that the tests specified in the VFTP must be completed and acceptable for the SGT System to be Operable. Therefore, moving all details for performing required SGT filter testing to ITS 5.5.7 is an administrative change. This change is consistent with the STS and is acceptable.

The above changes result in the same limits as the current requirements, or they represent enhanced presentation of the CTS intent. Accordingly, the ITS changes are purely administrative and they are acceptable.

2.3.6.5 Significant Differences Between the ITS and the STS

The following discussions relate to differences that appear in multiple sections of the ITS or to STS not included in the ITS.

(1) The following SRs were added. SRs 3.6.3.1.1, 3.6.3.1.4, and 3.6.3.1.5 to LCO 3.6.3.1. SRs 3.6.1.3.1, 3.6.1.3.2, 3.6.1.3.7 and 3.6.1.3.13 to LCO 3.6.1.3. SRs 3.6.1.5.1, 3.6.1.5.2, 3.6.1.5.4 and 3.6.1.5.7 to LCO 3.6.1.5. These SRs are necessary to support the Operability of the SGIG System. The SGIG System is required to be Operable in order for these systems and components to perform its design function during accident conditions therefore this difference is considered acceptable.

(2) Clarification to reflect the PBAPS specific design was provided to SRs, 3.6.1.5.6, 3.6.1.6.3, 3.6.2.3.2. These differences are editorial in nature and, therefore, are considered acceptable.

(3) The STS, 3.6.1.6 Low-Low Set (LLS) Valves, 3.6.1.9 Main Steam Isolation Valve (MSIV) Leakage Control System (LCS) and 3.6.3.1 Primary Containment Hydrogen Recombiners were deleted and subsequent LCOs renumbered accordingly. Because no comparable systems exist at PBAPS, this difference is considered acceptable.

(4) STS 3.6.2.5, Drywell-to-Suppression Chamber Differential Pressure, was deleted and subsequent LCOs renumbered accordingly. The specification was deleted since the PBAPS specific analysis does not assume a differential pressure is maintained between the drywell and the suppression chamber and, therefore, this difference is considered acceptable.

(5) Wording has been changed, added, or deleted throughout ITS Section 3.6 to make it consistent with the nomenclature used at PBAPS. These differences are editorial in nature and are considered acceptable.

(6) STS 3.6.3.2, Drywell Cooling System Fans, has been deleted and subsequent LCOs renumbered accordingly. Since the PBAPS analysis in UFSAR Section 5.2.3.9.5 does not assume drywell cooling system fans are available to ensure adequate mixing, this difference is considered acceptable.

(7) STS 3.6.1.4, Drywell Pressure, has been deleted and subsequent LCOs renumbered accordingly. This STS LCO is based on the initial assumption of .75 psig in the safety analysis, and is required in Modes 1, 2, and 3. A recent GE evaluation shows that an initial drywell pressure of 2.5 psig is acceptable for ensuring containment pressure design limits are not exceeded. This LCO is not needed since the RPS high drywell pressure scram will trip the unit prior to exceeding 2.5 psig, effectively placing the unit in Mode 3. While the RPS trip is not required in Mode 3, the EOPs will govern actions if the drywell pressure exceeds 2.0 psig (effectively bounding the 2.5 psig limit). The EOPs will require entry into the RPV control and primary containment control actions. These actions require steps to be taken to reduce primary containment pressure to less than 2 psig and to cooldown the reactor at normal cooldown rates to Mode 4 if pressure cannot be reduced to less than 2 psig. This difference reflects a PBAPS specific analysis and is consistent with the licensing basis in the CTS and, therefore, is acceptable.

The following discussions relate to differences that affect individual specifications.

2.3.6.5.A <u>ITS 3.6.1.1 Primary Containment</u>

(1) ITS SR 3.6.1.1.2 acceptance criteria for the drywell to suppression chamber bypass leakage test has been revised to reflect the PBAPS specific licensing basis as approved in Amendment Nos. 127 and 130, dated February 18, 1988, for Units 2 and 3, respectively. This difference reflects a PBAPS specific analysis and is consistent with the licensing basis in the CTS and, therefore, is acceptable.

2.3.6.5.B <u>ITS 3.6.1.2 Primary Containment Air Locks</u>

(1) The PBAPS primary containment air lock door design does not include double gasketed seals. As a result, the airlock leakage SR, SR 3.6.1.2.1 has been revised to reflect this plant specific design. This design feature of the primary containment airlock is specific to PBAPS, therefore, this difference is considered acceptable.

2.3.6.5.C <u>ITS 3.6.1.3 Primary Containment Isolation Valves (PCIVS)</u>

(1) PBAPS does not hydrostatically test lines to satisfy Appendix J requirements. Therefore, STS SR 3.6.1.3.14 has been deleted. This

difference is based on plant-specific practices and is considered acceptable.

(2) ITS 3.6.1.3 requires each PCIV shall be Operable. The SDV vent and drain valves are also PCIVs. Because SDV vent and drain valves have their own Specification (3.1.8), a statement excluding SDV vent and drain valves from ITS 3.6.1.3 is needed, similar to the statement concerning vacuum breakers. This difference is an improvement on the STS and is acceptable.

(3) The wording for ITS 3.6.1.3 Note 4 in the Actions has been changed, and the Notes for several ITS SRs which state, "Only required to be met in Modes 1, 2, and 3," have been deleted since there are no PCIV leakage tests required in Modes other than 1, 2, and 3 for PBAPS (i.e., there are no PCIVs required to be Operable in Modes other than 1, 2, and 3 that have leakage limits). Thus the clarification is not needed and these differences are considered acceptable.

(4) ITS 3.6.1.3, Required Action C.2, Completion Time of "Once per 31 days" was clarified by adding "for isolation devices outside primary containment." Also the Completion Time, "Prior to entering Mode 2 or 3 from Mode 4, if not performed within the previous 92 days, for isolation devices inside primary containment," was added. "For isolation devices outside primary containment," was added in order to avoid unnecessary exposure to individuals entering containment to comply with this action for affected valves which may be inside containment. The second frequency is required for valves inside primary containment. It is based on engineering judgment and is considered reasonable in view of the inaccessibility of the valves and other administrative controls ensuring that valve misalignment is an unlikely possibility. This difference makes Action C consistent with Actions A and E, and is more restrictive than the CTS, and, therefore, is acceptable.

(6) The time to restore MSIV leakage to within limit (Condition D) has been changed to 8 hours, consistent with the time to restore an inoperable MSIV (for reasons other than leakage) in Action A. Action A allows 8 hours to isolate the affected main steam line when an MSIV is inoperable due to a reason not involving leakage. This could include a MSIV that will not automatically isolate (which means it is essentially fully open). LCO 3.6.3.1, Action D was modified to include MSIV leakages, to allow the 8 hours in LCO 3.6.3.1, Action A. In addition, since for PBAPS there is only one type of leakage covered in ITS 3.6.1.3, MSIV leakage, Action D has been written specifically for MSIV leakage (there are no limits for hydrostatically tested valves, purge valves, or EFCVS). This change makes Action D consistent with Action A and therefore is considered acceptable.

(7) LCO 3.6.3.1, Action E and SR 3.6.1.3.7 have been deleted since PBAPS does not have specific leakage requirements for the purge valves. The NRC, in the SER for Amendment Nos. 144 and 146, for Units 2 and 3, respectively, dated May 8, 1989, found that replacement of the seals of the purge valves every third refueling outage in conjunction with the

SGIG System (ITS SRs 3.6.1.3.1, 3.6.1.3.2, 3.6.1.3.7, and 3.6.1.3.13) was an acceptable method of ensuring leak tightness. The frequency was modified to be every second refueling outage in Amendment Nos. 179 and 182, for Units 2 and 3, respectively, dated August 2, 1993, due to the extension of a refueling outage from 18 months to 24 months. SR 3.6.1.3.16 has been added to perform the required seal replacement. Appropriate Bases changes have been made to reflect these differences. This change is consistent with the PBAPS current licensing basis and is acceptable.

(8) ITS SR 3.6.1.3.11, to verify the EFCVs actuate on a simulated instrument line break, has been modified to be consistent with other SRs that test automatic PCIVs (e.g., STS SR 3.6.1.3.9 for the MSIV test). The EFCVs should actuate to the isolation position. In ITS SR 3.6.3.1.11, the requirement to restrict flow to ≤ 1 gpm has been deleted since the PBAPS analysis basis does not assume a specific leakage through the EFCVS. The leakage will be controlled administratively and will be based on valve design leakage. The current licensing basis does not assume a specific leakage through the EFCVS, therefore, this difference is considered acceptable.

(9) STS SR 3.6.1.3.12 has been deleted in the ITS since the CTS do not include this requirement. This type of leakage is part of the overall containment leakage and no special limits apply. Therefore, this difference is considered acceptable.

(10) ITS SR 3.6.1.3.4 (STS SR 3.6.1.3.3) has been modified by a Note that exempts test taps with a diameter ≤ 1 inch from the performance of the 31 day position verification. It is still the intent of the ITS that the SR must be met, but actual performance of the SR is not required. The test taps covered by this Note consist of at least one valve and a cap such that sufficient redundancy exists to maintain primary containment Operability in the event of a mispositioned valve or missing cap. Additionally, the occurrence of test tap valve misalignments has been rare at PBAPS. The provision of this Note is consistent with the PBAPS current licensing basis and is acceptable.

2.3.6.5.D <u>ITS 3.6.1.4 Drywell Air Temperature</u>

There are no significant differences from the STS associated with ITS 3.6.1.4.

2.3.6.5.E <u>ITS 3.6.1.5 Reactor Building-to-Suppression Chamber Vacuum Breakers</u>

There are no significant differences from the STS associated with ITS 3.6.1.5.

2.3.6.5.F <u>ITS 3.6.1.6 Suppression Chamber-to-Drywell Vacuum Breakers</u>

(1) The second Frequency in STS SR 3.6.1.8.1 (ITS SR 3.6.1.6.1) requires the vacuum breakers to be verified closed after they may have been opened. This Frequency is not needed. SRs must be continually met (SR 3.0.1); thus, if the vacuum breakers are open and the Surveillance Frequency is

not due yet, the SR would still be considered not met, and appropriate Actions taken. There are many other instances where valves are required to be closed, and verified closed on a periodic basis. If these other valves are cycled (e.g., ECCS valves) plant administrative controls ensure they are left in the correct position; a "special Frequency" of the SR is not required. In addition, these vacuum breakers have position indication in the control room, and are continuously monitored by control room operators. If conditions exist for the vacuum breakers to be potentially opened (e.g., venting the drywell), control room operators would be alert to the possibility and ensure the vacuum breakers were closed at the completion of the evolution. This requirement is not in the CTS and, therefore, this difference is considered acceptable.

(2) The Completion Time for closing an open suppression chamber-to-drywell vacuum breaker has been revised in Required Action B.1 to be more restrictive than the PBAPS current licensing basis approved in Amendments Nos. 127 and 130 for Units 2 and 3, respectively, dated February 18, 1988, and, therefore, is acceptable.

(3) The second and third Frequencies to STS SR 3.6.1.8.2 (ITS SR 3.6.1.6.2) require a functional test of the vacuum breakers (i.e., cycle the vacuum breakers) within 12 hours after the vacuum breakers have cycled, or after an operation that may have caused them to cycle.

Since the vacuum breakers are designed to operate and assumed to function after a LOCA blowdown, their operation as designed after some other minor steam release from the Specific should not raise questions regarding their immediate Operability. Furthermore, the steam quenching from the discharge of an SRV has been enhanced by the addition of T-quenchers since this Frequency was first imposed. Steam discharged to the torus, resulting in increased wetwell pressure and vacuum breaker opening, may pose a long term equipment degradation concern, rather than any immediate Operability concern. The 12 hour Frequency would be meaningless to detect long term degradation, while the normal 31 day Frequency would more than suffice to this concern.

In addition, review of vacuum breaker failures was performed and it was noted that no failures were due to the valves not opening. This difference is consistent with the licensing basis in the CTS and, therefore, is acceptable.

2.3.6.5.G <u>ITS 3.6.2.1 Suppression Pool Average Temperature</u>

There are no significant differences from the STS associated with ITS 3.6.2.1.

2.3.6.5.H <u>ITS 3.6.2.2 Suppression Pool Water Level</u>

There are no significant differences from the STS associated with ITS 3.6.2.2.

2.3.6.5.I ITS 3.6.2.3 RHR Suppression Pool Cooling

(1) Action B was added to ITS 3.6.2.3 to establish Required Actions when two RHR suppression pool cooling subsystems are inoperable. Action B allows 8 hours when two RHR suppression pool cooling subsystems are inoperable whereas the STS require a shutdown. The 8 hour Completion Time when two subsystems are inoperable was approved by the NRC in Amendment Nos. 148 and 151, for Units 2 and 3, respectively, dated September 27, 1989. Also, this difference is consistent with the Actions allowed for the RHR suppression pool spray subsystems, which utilize the same components. This difference reflects a PBAPS specific analysis, is consistent with the licensing basis in the CTS, and, therefore, is acceptable.

2.3.6.5.J ITS 3.6.2.4 Residual Heat Removal (RHR) Suppression Pool Spray

(1) A new SR, SR 3.6.2.4.2, was added which verifies each suppression pool spray nozzle is unobstructed every 10 years. This SR is required to ensure that when an RHR suppression pool spray subsystem is required per its design function that it performs per its design function. If the spray nozzles are obstructed then its design function may not be met. This SR is in the CTS, is an additional requirement to the STS, and, therefore, this difference is acceptable.

2.3.6.5.K ITS 3.6.3.1 Containment Atmospheric Dilution System

(1) STS 3.6.3.4 (ITS 3.6.3.1), Action A was changed to add both CAD subsystems which would allow 30 days if one or both CAD subsystems are inoperable. This is different than the STS Action B (deleted) which allows 7 days. PBAPS Amendment Nos. 58 and 58, for Units 2 and 3, dated September 13, 1979, allowed 30 days if both CAD subsystems are inoperable. This difference is consistent with the licensing basis in the CTS, and, therefore, is acceptable.

(2) The CAD System nitrogen tank SR, SR 3.6.3.1.2, Frequency has been changed from 31 days to 24 hours to be consistent with CTS requirements. The CAD System tank is used to supply nitrogen to components other than the CAD System. Since the nitrogen tank level decreases due to reasons that are not strictly controlled by operator action, a more frequent check of tank level is required. This more restrictive surveillance interval is specific to PBAPS and, therefore, is acceptable.

2.3.6.5.L ITS 3.6.3.2 Primary Containment Oxygen Concentration

(1) LCO 3.6.3.2 Applicability b, has been revised for clarity and to reflect the PBAPS specific licensing basis. Additionally, the difference achieves consistency with the Bases of the STS for the Applicability of the Primary Containment Oxygen Concentration specification. This difference is consistent with the licensing basis in the CTS and, therefore, is considered acceptable.

2.3.6.5.M ITS 3.6.4.1 Secondary Containment

There are no significant differences from the STS associated with ITS 3.6.4.1.

2.3.6.5.N ITS 3.6.4.2 Secondary Containment Isolation Valves

There are no significant differences from the STS associated with ITS 3.6.4.2.

2.3.6.5.0 ITS 3.6.4.3 Standby Gas Treatment (SGT) System

(1) SR 3.6.4.3.1 changes the required time the SGT System must be run from 10 hours to 15 minutes. During idle periods, the SGT System has instrument air injected into the filter plenum to maintain the filters dry. A 10 hour continuous run is not necessary to dry out the filters. This difference is consistent with the CTS and, therefore, is acceptable.

These proposed differences from STS Section 3.5 are consistent with PBAPS plant-speciifc characteristics and existing requirements and commitments, or they provide improvements to the STS requirements. Therefore, they are acceptable.

2.3.7 PLANT SYSTEMS (ITS SECTION 3.7)

2.3.7.1 Relocated Requirements

In accordance with the STS and the criteria in the Final Policy Statement and 10 CFR 50.36, the licensee proposed relocating all or portions of the following CTS to other licensee-controlled documents. The listing is broken down by the equivalent specifications in the ITS.

2.3.7.1.A ITS 3.7.1, High Pressure Service Water (HPSW) System

CTS Section	Title
4.5.B.1	Containment Cooling System Components

(1) The requirements of CTS 4.5.B for High Pressure Service Water (HPSW) pump Operability and capacity testing and HPSW motor operated valve testing are being relocated to procedures implementing the requirements of the IST Program. Any changes to the plant procedures used to implement the IST Program will be subject to the requirements of 10 CFR 50.59. These requirements are not required to be in TS to ensure the Operability of the HPSW System since these pumps and valves are subject to the testing requirements of the IST Program. Implementation of the ASME Section XI IST Program is required by 10 CFR 50.55a. These controls are adequate to ensure that the HPSW System pumps and valves are demonstrate to be Operable. This change is consistent with the STS and is acceptable.

2.3.7.1.B ITS 3.7.2, Emergency Service Water (ESW) System and Normal Heat Sink

CTS Section	Title
3.9.C.4	ESW Pump Room Fans Required Operable
4.9.C.2	Testing Requirements of ESW Pump Room Fans
4.9.C.1	IST Requirements of ESW System
4.9.C.4	Maintenance Inspection Of ESW Pump Intake Structure

(1) The requirements in CTS 3.9.C.4 and 4.9.C.2 for ESW fans are being relocated to the TRM. Any changes to the TRM will be subject to the requirements of 10 CFR 50.59. ESW fans are a support system for the ESW pumps and do support ESW pump Operability. As a result, the requirement for ESW fans to be Operable for the ESW pumps to be considered Operable is adequately addressed in ITS 3.7.2 and the definition of Operability. There is no need for duplicate requirements in a subsystem specification since the definition of Operability suffices. This change is consistent with the STS and is acceptable.

(2) The requirements of CTS 4.9.C.1 for ESW pump Operability and capability testing and ESW automatic valve testing are being relocated to procedures implementing the requirements of the Inservice Testing (IST) Program. Any changes to the plant procedures used to implement the IST Program will be subject to the requirements of 10 CFR 50.59. The requirements for ESW pump Operability and capability testing and ESW automatic valve testing are not required to be in TS to ensure the Operability of the ESW System since these valves are subject to the testing requirements of the IST Program. Implementation of the ASME Section XI IST Program is required by 10 CFR 50.55a. These controls are adequate to ensure that the ESW pumps and valves are demonstrated to be Operable. This change is consistent with the STS and is acceptable.

(3) The maintenance requirement to inspect and clean as necessary to remove excessive silt from the bottom of the "A" (for Unit 2) and "B" (for Unit 3) ESW pump intake structures is being relocated to the appropriate maintenance procedures. Maintenance requirements are being relocated out of TS because they do not directly affect the Operability of the associated systems or components. Any changes to these procedures will be subject to the requirements of 10 CFR 50.59. This change is consistent with the STS and is acceptable.

2.3.7.1.C ITS 3.7.3, Emergency Heat Sink

CTS Section	Title
4.11.B.2	Portable Fire Pump Test
4.11.B.3.a	IST Requirements

(1) The requirement to test the portable fire pump used to provide makeup to the emergency reservoir is being relocated to plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59.

This component is not required to ensure the immediate Operability of the emergency heat sink. This change is consistent with the STS and is acceptable.

(2) The requirements of CTS 4.11.B.3.a for Emergency Cooling Water (ECW) pump Operability and capability testing and ESW booster pump testing are being relocated to procedures implementing the requirements of the Inservice Testing (IST) Program. Any changes to the plant procedures used to implement the IST Program will be subject to the requirements of 10 CFR 50.59. The requirements for ECW pump Operability and capability testing and ESW booster pump testing are not required to be in TS to ensure the Operability of the ECW System since these pumps are subject to the testing requirements of the IST Program. Implementation of the ASME Section XI IST Program is required by 10 CFR 50.55a. In addition, the ECW pump is not credited in the mitigation of design basis accidents or transients. As a result, not performing the ECW pump testing will not affect the plant's capability to mitigate the consequences of any analyzed event. These controls are adequate to ensure that the ECW and ESW booster pumps are demonstrated to be Operable This change is consistent with the STS and is acceptable.

2.3.7.1.D <u>ITS 3.7.4, Main Control Room Emergency Ventilation (MCREV) System</u>

CTS Section	Title
4.11.A.2.d	MCREV Filters "Dry Gas Purge"

(1) CTS 4.11.A.2.d. requires that "a dry gas purge" be provided to the MCREV filters "to ensure the relative humidity in the filter system does not exceed 70% when the system is idle," since moisture could reduce the efficiency of the charcoal filters. This requirement is being relocated to plant operating procedures. The dry gas purge is supplied automatically from the instrument air system using pressure regulators and is not prone to failure. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. This change is consistent with the STS and is acceptable.

2.3.7.1.E <u>ITS 3.7.5, Main Condenser Offgas</u>

CTS Section	Title
3.8.C.7.b and 4.8.C.7.b	Requirements Governing The Operation And Testing of the SJAE Radiation Monitors
4.8.C.7.a	Details of Surveillance Test

(1) The requirements governing the operation and testing of the Steam Jet Air Ejector (SJAE) radiation monitors are being relocated to plant operating procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. The SJAE radiation monitors provide an early indication of a potential fuel element defect that warrants investigation. There are no automatic actions associated with the SJAE

radiation monitor. In general, the STS do not specify indication-only or alarm-only equipment to be Operable to support Operability of a system or component. Control of the availability of indications, monitoring instruments, and alarms, and necessary compensatory activities if these components are not available, are addressed by plant operational procedures and policies. This change is consistent with the STS and is acceptable.

(2) The requirements of CTS 4.8.C.7.d related to the details of performance of the main condenser offgas activity rate surveillance (performed by an isotopic analysis of a representative sample) are being relocated to plant procedures. Any changes to these procedures will be subject to the requirements of 10 CFR 50.59. It is not necessary to include these requirements in the TS to ensure that main condenser offgas activity rate is within limits. SR 3.7.5.1 provides adequate assurance the main condenser offgas activity rate is within limits. This change is consistent with the STS and is acceptable.

2.3.7.1.F ITS 3.7.6, Main Turbine Bypass System

There are no relocated CTS requirements associated with ITS 3.7.6.

2.3.7.1.G ITS 3.7.7, Spent Fuel Storage Pool Water Level

CTS Section	Title
3.10.C.2	Suspend Crane Operations In Spent Fuel Pool
3.10.D	Crane Load Limits Over Spent Fuel Storage Pool

(1) In the event spent fuel water level is not within limits, CTS 3.10.C.2 requires suspension of movement of fuel assemblies and crane operations with loads in the spent fuel pool area after placing fuel assemblies and crane loads in a safe condition. The requirements related to crane operations are being relocated to procedures governing control of heavy loads since the movement of loads other than fuel assemblies is administratively controlled based on heavy loads analyses. The bounding design basis fuel handling accident over the spent fuel storage pool assumes an irradiated fuel assembly is dropped onto an array of irradiated fuel assemblies seated in the spent fuel storage pool (typically bounded by the fuel handling accident over the RPV). The movement of other loads over irradiated fuel assemblies is administratively controlled based on available analysis for an individual load. The references to "crane operations with loads" has therefore been relocated to these administrative controls. This change is consistent with the STS and is acceptable.

The Action of CTS 3.10.C.2 also contains procedural guidance to place fuel assemblies in a safe condition prior to suspending fuel movement which is being relocated to the Bases, consistent with the STS. This procedural guidance is omitted from corresponding Action A of ITS 3.7.7. Any changes to this requirement will be controlled by the Bases Control

Program (ITS 5.5.10). This change is consistent with the STS and is acceptable.

(2) The crane limits in CTS 3.10.D are being relocated to plant procedures. These limits are not process variables which are monitored and controlled by the operator; neither are they components which are part of the primary success path to mitigate a design basis accident. Therefore, the requirements specified in the CTS 3.10.D do not satisfy the criteria in the Final Policy Statement and 10 CFR 50.36 for inclusion in TS and are being relocated to plant procedures. Any changes to these procedures will be subject to the requirements of 10 CFR 50.59. This change is consistent with the STS and is acceptable.

The following requirements that existed in the CTS were relocated by the licensee to licensee-controlled documents. The licensee did not associate them with a specific specification of the ITS.

2.3.7.1.H <u>CTS 3/4.8.G, Mechanical Vacuum Pump</u>

(1) The isolation requirements for the main condenser mechanical vacuum pump are being relocated to the TRM. Changes to the TRM will be subject to the requirements of 10 CFR 50.59. The main condenser mechanical vacuum pump is used for draining down the condenser during startup and for purging the condenser after plant shutdown. This pump discharges to a holdup pipe and through the plant stack. The purpose for isolating the mechanical vacuum pump line is to limit the release of activity from the main condenser. During an accident, fission products could be transported from the reactor through the main steam lines to the condenser. However, the fission product radioactivity would be sensed by the main steam line radiation monitors which initiate isolation and terminate the release. This change is consistent with the STS and is acceptable.

2.3.7.1.I <u>CTS 3/4.11.D, Shock Suppressors (Snubbers) on Safety Related Systems</u>

(1) Snubber inspection requirements will be part of the PBAPS Units 2 and 3 Inservice Inspection (ISI) Program and are being relocated from the CTS to the ISI Program. Changes to the ISI program will be subject to the requirements of 10 CFR 50.59. Requirements for the ISI Program are specified in 10 CFR 50.55a to be performed in accordance with ASME Section XI. Regulations and PBAPS commitments to the NRC contain the necessary programmatic requirements for ISI without repeating them in the ITS. The requirements of CTS 3/4.11.D that all snubbers be operable are requirements that do not impact reactor operation, do not identify a parameter that is an initial condition assumption for a design basis accident or transient, do not identify a significant abnormal degradation of the reactor coolant pressure boundary, and do not form part of the primary success path which functions or actuates to mitigate a design basis accident or transient. Therefore, the requirements for snubbers do not meet the criteria in the Final Policy Statement and 10 CFR 50.36 for inclusion in TS and are being relocated to the ISI

Program. With the removal of Operability requirements from the TS, snubber Operability requirements will be determined in accordance with TS system Operability requirements. This change is consistent with the STS and is acceptable.

2.3.7.1.J CTS 3/4.12, River Level

(1) CTS 3/4.12, "River Level," is being relocated to the TRM. This specification has provisions for high and low river water level. A high river water level is a preliminary indication of flood conditions. Low river water level is caused by an uncontrolled release at the Conowingo Dam which leads to a lower level in the normal heat sink and potential loss of the normal heat sink. Neither the case of the flood or an uncontrolled release is a design basis accident or transient; thus, river water level is not credited in any safety analysis. The river water level TS requirements were put in place to ensure the emergency heat sink was placed in service in a timely manner. This requirement is adequately controlled in plant emergency procedures. This requirement does not meet any of the criteria in the Final Policy Statement and 10 CFR 50.36 for inclusion in TS. Therefore, the river level requirements are being relocated to the TRM. Any changes to the TRM will be subject to the requirements of 10 CFR 50.59. This change is consistent with the STS and is acceptable.

2.3.7.1.K CTS 3/4.13, Miscellaneous Radioactive Materials Sources

(1) CTS 3/4.13, "Miscellaneous Radioactive Materials Sources," is being relocated to the TRM. This requirement ensures that the total body or individual organ irradiation does not exceed allowable limits in the event of ingestion or inhalation of the probable leakage from a source material. This requirement is not credited in any safety analysis and does not meet any of the criteria in the Final Policy Statement and 10 CFR 50.36 for inclusion in TS. Therefore, these requirements are being relocated to the TRM. Changes to the TRM will be subject to the requirements of 10 CFR 50.59. This change is consistent with the STS and is acceptable.

The above relocated requirements relating to plant systems are not required to be in the TS under 10 CFR 50.36, and are not required to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety. Further, the scope of ITS Section 3.7 provides sufficient controls on the safety functions that remain in the TS. In addition, the staff finds that sufficient regulatory controls exist under 10 CFR 50.59 and ITS 5.5.10 for the relocated requirements. Accordingly, the staff has concluded that these requirements may be relocated from the TS to the plant procedures, TRM, ITS Bases, or UFSAR, as applicable.

2.3.7.2 Less Restrictive Technical Changes

Less restrictive requirements than CTS for Units 2 and 3 corresponding to the scope of the requirements of ITS Section 3.7 are described below for each of the specifications in Section 3.7.

2.3.7.2.A ITS 3.7.1, High Pressure Service Water (HPSW) System

(1) This change modifies the Completion Times in CTS 3.5.B.7 for Required Actions when a Required Action and associated Completion Time specified in the TS cannot be met. CTS 3.5.B.7, entered when the requirements of CTS 3.5.B cannot be met, requires that the reactor be placed in Cold Shutdown within 24 hours. ITS 3.7.1, Action C, will require that the reactor be in Mode 3 within 12 hours and Mode 4 within 36 hours whenever a Required Action and associated Completion Time is not met. The change from Cold Shutdown within 24 hours to Mode 3 within 12 hours and Mode 4 within 36 hours will require that the plant be shutdown sooner than the CTS but allows for a more controlled cooldown which reduces thermal stress on components and also reduces the chances for a plant transient which could challenge safety systems. This change is consistent with the STS and is acceptable.

(2) This change adds Actions when four HPSW pumps are inoperable that would allow 8 hours to restore one HPSW subsystem to Operable status. The CTS do not specify any Actions when four HPSW pumps are inoperable; therefore, CTS 3.0.C would have to be entered. This change adds ITS Action B, which specifies Actions for two HPSW subsystems inoperable. The 8 hours provided to restore one HPSW System to Operable status is based on the Completion Times provided for the RHR suppression pool cooling and spray subsystems (subsystems supported by the HPSW System). The Completion Time is also based on the low probability of being in this condition and a design basis accident occurring within the added 8 hour period. This change is consistent with the STS and is acceptable.

(3) This change relaxes the requirement in CTS 3.5.B.2 if one or two of the four HPSW pumps are inoperable. The CTS allow 30 days to restore one or two inoperable HPSW pumps to Operable status, while the ITS allows indefinite operation if one HPSW pump is inoperable or two HPSW pumps (one in each subsystem) are inoperable (i.e., the ITS only requires two HPSW pumps, one in each subsystem, to be Operable). This is justified based on the LOCA analysis assumptions. Allowing indefinite operation with one HPSW pump or two HPSW pumps (one in each subsystem) inoperable is consistent with the PBAPS LOCA analyses in the UFSAR and continues to ensure the single failure criterion is preserved. This change is consistent with the STS and is acceptable.

2.3.7.2.B ITS 3.7.2, Emergency Service Water (ESW) System and Normal Heat Sink

(1) This change modifies the Completion Times in CTS 3.9.C.2 for Required Actions when a Required Action and associated Completion Time specified in the TS cannot be met. CTS 3.9.C.2 requires that the reactor be

placed in Cold Shutdown within 24 hours when the associated Required Actions cannot be met. ITS 3.7.2, Condition B, will require that the reactor be in Mode 3 within 12 hours and Mode 4 within 36 hours whenever a Required Action and associated Completion Time is not met. The change from Cold Shutdown within 24 hours to Mode 3 within 12 hours and Mode 4 within 36 hours will require that the plant be shutdown sooner than the CTS but allows for a more controlled cooldown which reduces thermal stress on components and also reduces the chances for a plant transient which could challenge safety systems. This change is consistent with the STS and is acceptable.

(2) This change relaxes the time in CTS 3.9.C.3 required to bring the plant to Mode 3 when two ESW pumps are inoperable. The time to reach Mode 4, within 36 hours, remains the same. The ITS Completion Time to reach Mode 3 is based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems. The additional time also allows for a more controlled shutdown to Mode 3. This change is consistent with the STS and is acceptable.

2.3.7.2.C <u>ITS 3.7.3 Emergency Heat Sink</u>

(1) This change adds Actions to CTS 3.11.B which would allow operation for 14 days, with one required emergency cooling tower fan inoperable. The 14 day Completion Time for this Condition was determined by comparing the level of degradation associated when one required emergency cooling tower fan is inoperable to the level of degradation associated with the loss of level in CTS 3.11.B. With one required emergency cooling tower fan inoperable, a total loss of function has not occurred. CTS 3.11.B allows a total loss of level in the emergency cooling tower reservoir (a total loss of function) to exist for a period of 7 days. Based on this comparison, the Completion Time for restoring one required emergency cooling tower to Operable status should be greater than 7 days. Other factors taken into consideration in determining the 14 day Completion Time for Condition A were as follows:

(a) the low probability of an event requiring the emergency cooling tower fans (a loss of the Conowingo Pond due to a failure of the Conowingo dam or a flooding event beyond that which the Conowingo dam is designed to mitigate) and

(b) the consequences of a failure to meet the Required Actions and associated Completion Times of ITS 3.7.3 (since the emergency heat sink, which includes the emergency cooling tower fans, is a common system shared between the two units, a dual unit shutdown could be required).

As a result, the 14 day Completion Time for restoring one required emergency cooling tower fan to Operable status is considered to be justified based on the comparison to the PBAPS specific licensing and design basis for the emergency heat sink, the low probability of an event requiring the emergency cooling tower fans and the safety benefit gained by potentially avoiding a dual unit shutdown. This change is acceptable.

(2) This change adds Actions to CTS 3.11.B which would allow operation for 7 days with the emergency heat sink inoperable. ITS 3.7.3, Action B, will add Required Actions for the situation where the emergency heat sink is inoperable for any reason other than the inoperability of one of the required emergency cooling tower fans. ITS 3.7.3, Action B, will require restoration of the emergency heat sink Operability within 7 days whenever the water level in the emergency heat sink reservoir falls below 17 feet, more than one required emergency cooling tower fan is inoperable, or the emergency heat sink is inoperable for any other reason. The Completion Time of 7 days for restoration of emergency heat sink water level to 17 feet is identical to CTS 3.11.B and would allow reactor operation to continue for 7 days with a potentially substantial reduction in emergency heat sink capacity, i.e., no water in the reservoir. The Completion Time of 7 days for restoration when more than one required emergency cooling tower fan is inoperable or when the emergency heat sink is inoperable for any other reason is comparable to CTS 3.11.B in that it would allow reactor operation to continue for 7 days with an equivalent reduction in emergency heat sink capacity. This change is consistent with the intent of the PBAPS current licensing basis and is acceptable.

2.3.7.2.D <u>ITS 3.7.4, Main Control Room Emergency Ventilation (MCREV) System</u>

(1) This change extends the MCREV System automatic initiation SR in CTS 4.11.A.3 from 18 months to 24 months. The current refueling outage, which is what this system functional test was originally based upon, is now 24 months. A review of the operating performance history of this requirement has shown that this SR has not failed due to a failure that is not related to an instrument failure (which would be detected during a Channel Functional Test) or a fan failure [which would be detected during the tests required by the Ventilation Filter Testing Program (VFTP)]. Therefore, extending the Frequency is considered acceptable and is consistent with other similar SRs. This change is consistent with the STS and is acceptable.

2.3.7.2.E <u>ITS 3.7.5, Main Condenser Offgas</u>

There are no less restrictive changes to the CTS associated with ITS 3.7.5.

2.3.7.2.F <u>ITS 3.7.6, Main Turbine Bypass System</u>

There are no less restrictive changes to the CTS associated with ITS 3.7.6.

2.3.7.2.G <u>ITS 3.7.7, Spent Fuel Storage Pool Water Level</u>

(1) This change relaxes the Applicability of the requirement in CTS 4.10.C for maintaining a certain level in the spent fuel storage pool to be applicable only during movement of fuel assemblies in the spent fuel storage pool. The CTS imply the specification is applicable whenever

irradiated fuel is stored in the pool. The fuel handling accident assumes a minimum water level above the irradiated fuel assemblies and that an irradiated fuel assembly is dropped onto an array of irradiated fuel assemblies. This change, while relaxing the current Applicability, maintains the assumptions of the bounding design basis fuel handling accident. This change is consistent with the STS and is acceptable.

(2) This change adds a Note to the requirements in CTS 3.10.C.1 stating that ITS LCO 3.0.3 is not applicable to the requirement to suspend movement of fuel assemblies if the spent fuel pool water level is not within limits. ITS LCO 3.0.3 (CTS 3.0.C) requires the reactor be brought to a non-applicable Mode if the Required Actions cannot be met or no Actions exist for a particular condition. Moving fuel assemblies while in Mode 1, 2, or 3 is independent of reactor operations. Therefore, inability to suspend movement of irradiated fuel assemblies does not necessitate a reactor shutdown. This change is consistent with the STS and is acceptable.

(3) This change relaxes the Frequency of CTS SR 4.10.C to verify spent fuel storage pool water level from daily to once every 7 days. The 7 day Frequency is acceptable, based on operating experience, consideration that the water volume in the spent fuel storage pool is normally stable, and consideration that all water level changes are controlled by plant procedures. This change is consistent with the STS and is acceptable.

The following less restrictive requirements are not associated with a specific specification of the ITS.

2.3.7.2.H <u>CTS 3/4.8, Radioactive Materials</u>

(1) This change affects those sections of TS dealing with the control of radiological effluents, including those sections dealing with gaseous effluents, liquid effluents, solid waste, and environmental monitoring. Associated TS addressing definitions, administrative controls and reporting are also affected. The purpose of these specifications is to ensure compliance with regulatory requirements governing radioactive effluents, including 10 CFR 20.1302, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50.

In accordance with the guidance of Generic Letter 89-01, "Implementation of Programmatic Controls for Radiological Effluent Technical Specifications in the Administrative Controls Section of Technical Specifications and Relocation of Procedural Details of RETS to the Offsite Dose Calculational Manual or the Process Control Program," this change adds new programmatic requirements governing radioactive effluents and radiological environmental monitoring to the Administrative Controls chapter (ITS 5.0) of the ITS. CTS containing procedural details on radioactive effluents, solid radioactive wastes, environmental monitoring, definitions and associated reporting requirements are concurrently being deleted. The procedural details which are to be deleted are being incorporated into the Offsite Dose

Calculation Manual (ODCM) or Process Control Program (PCP) as appropriate.

The changes to the TS are administrative in nature and affect only the format and location of procedural details related to the control of radioactive effluents, solid radioactive waste, and radiological environmental monitoring. The changes do not involve physical modifications to plant equipment or changes in the operation of the plant.

Although the procedural details of the Radiological Effluent Technical Specifications (RETS) are being removed from the TS, this information is being relocated to the ODCM or PCP as appropriate. Additional administrative controls are being added to the TS to ensure compliance with applicable regulatory requirements is maintained. For example, per ITS 5.5.1 future changes to the ODCM will be reviewed to ensure that such changes will "maintain the level of radioactive effluent control required by 10 CFR 20.1302, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50 and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations."

As discussed above, there are no physical changes to the plant or changes in plant operation associated with this change. Therefore, there is no increase in the probability of occurrence or the consequence of an accident or malfunction of equipment important to safety nor is the possibility for an accident or malfunction of a different type than any previously evaluated in the safety analysis report created. The change is administrative in nature and was developed utilizing the NRC guidance in Generic Letter 89-01. New administrative controls are incorporated into the TS which ensure that the relocated procedural detail is controlled in a manner which provides for continued compliance with applicable regulatory requirements. Therefore, there is no degradation of the level of control provided over radioactive effluents, solid radioactive waste, and radiological environmental monitoring and no reduction of the margin of safety as defined in the basis for any TS.

The requirement that releases of radioactive material in effluents will be kept within the limits of 10 CFR 20.106 and as further specified in the TS is duplicative of the general requirements in 10 CFR 20.106 and need not be included in TS. This requirement is not a condition of a design basis accident or a transient analysis that is based upon the integrity of the fission product barrier. Therefore, these requirements do not meet the criteria in the Final Policy Statement and 10 CFR 50.36 for inclusion in TS. This change is consistent with the STS and is acceptable.

The above less restrictive requirements have been reviewed by the staff and have been found to be acceptable, because they do not present a significant safety question in the operation of the plant. The TS requirements that remain are consistent with current licensing practices, operating experience and plant accident and transient analyses, and provide reasonable assurance that the public health and safety will be protected.

2.3.7.3 More Restrictive Technical Changes

The PBAPS ITS Section 3.7, contains a number of requirements that are more restrictive than the CTS. In most cases, these are additional restrictions that are not in the CTS, but are, however, consistent with the STS. Requirements more restrictive than the CTS corresponding to ITS 3.7 are described below.

2.3.7.3.A ITS 3.7.1, High Pressure Service Water (HPSW) System

(1) A Note is being added to ITS Actions A and B which would require the applicable Conditions and Required Actions of ITS 3.4.7 to be entered for an RHR SDC subsystem made inoperable by HPSW System. This note is an exception to ITS LCO 3.0.6 which ensures proper actions are taken for RHR SDC. This Note is an added requirement to cascade to ITS 3.4.7 which does not exist in the CTS and constitutes a more restrictive change. This change is consistent with the STS and is acceptable.

(2) This change will reduce the Completion Time when two HPSW pumps are inoperable (in the same subsystem) from 30 days to 7 days. This accounts for the degraded condition of the HPSW system because an additional failure could result in the HPSW having inadequate heat removal capability or a loss of function. The 7 days is adequate for this reason and due to the redundancy of the HPSW system and the low probability of an event occurring requiring HPSW during this period and is consistent with the Completion Times provided for the RHR System. The reduction of the Completion Time is a more restrictive change. This change is consistent with the STS and is acceptable.

(3) This change will reduce the Completion Time when three HPSW pumps are inoperable from 15 days to 7 days. This accounts for the degraded condition of the HPSW system because an additional failure could result in the HPSW system no longer being capable of performing its intended function. The 7 day period is based on the Completion Times provided for the RHR suppression pool cooling and spray functions which are supported by the HPSW System. The reduction of the Completion Time is a more restrictive change. This change is consistent with the STS and is acceptable.

(4) This change will add a SR to verify each HPSW manual and power operated valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position or can be aligned to the correct position. This SR is required to be performed once per 31 days and provides assurance the proper flow paths will exist for HPSW operation. The addition of SR constitutes a more restrictive change. This change is consistent with the STS and is acceptable.

2.3.7.3.B ITS 3.7.2, Emergency Service Water (ESW) System and Normal Heat Sink

(1) This change will add a requirement for the normal heat sink (Conowingo Pond) to be Operable. This change will also add the appropriate Actions

when the normal heat sink is inoperable. The normal heat sink is required to be Operable to dissipate the heat load of the diesel generator (DG) coolers, and safeguards equipment and room coolers. The CTS do not provide requirements for the normal heat sink. The addition of a specification for the normal heat sink constitutes a more restrictive change to ensure safety analysis assumptions are maintained. This change is consistent with the STS and is acceptable.

(2) This change will add three SRs to verify water level in the pump structure bays (ensures there is adequate pump suction or that the pumps are not flooded), average water temperature of the normal heat sink (ensures that the coolant to the required coolers is consistent with the analysis), and each ESW subsystem actuates on an actual or simulated initiation signal (ensures proper system response when required). The addition of surveillances are additional requirements. Additional requirements constitute a more restrictive change. This change is consistent with the STS and is acceptable.

2.3.7.3.C <u>ITS 3.7.3, Emergency Heat Sink</u>

(1) An additional requirement is being provided for the emergency cooling tower fan surveillance (ITS SR 3.7.3.2). ITS SR 3.7.3.2 will specify that the emergency cooling tower fans be operated for ≥ 15 minutes rather than just "tested" as required by CTS SR 4.11.B.3.b. As such, this change represents an additional restriction on plant operation and is acceptable.

2.3.7.3.D <u>ITS 3.7.4, Main Control Room Emergency Ventilation (MCREV) System</u>

(1) CTS 3.11.A.1, "Main Control Room Emergency Ventilation (MCREV) System," is applicable "at all times when secondary containment integrity is required." ITS 3.7.4 is also applicable whenever secondary containment is required because its applicability statement is identical to the applicability statement for ITS 3.6.4.1, "Secondary Containment." However, ITS 3.6.4.1 adds a requirement that secondary containment must be Operable "during operations with the potential for draining the reactor vessel (OPDRVs)," and the definition of Core Alterations, an operation that requires secondary containment, added normal control rod movement to the definition. Therefore, the change in Applicability from "at all times when secondary containment integrity is required" to listing the specific conditions when secondary containment is required is a more restrictive change. This change is consistent with the STS and is acceptable.

(2) The ITS 3.7.4 includes a new requirement, SR 3.7.4.1, to operate each MCREV subsystem for ≥ 15 minutes to ensure that both subsystems are Operable and that all associated controls are functioning properly. The ITS surveillance also ensures that blockage, fan or motor failure, or excessive vibration will be detected and promptly corrected. This change is consistent with the STS and is acceptable.

(3) The CTS do not require demonstration that operation of one MCREV subsystem with the required flow rate of 3000 CFM +/- 300 CFM will result in a positive pressure in the control room relative to the turbine building. However, the ability of one MCREV subsystem to maintain a positive pressure in the control room relative to the Turbine Building with one MCREV fan operating at 3000 cfm is an assumption in the safety analyses in UFSAR Sections 10.13 and 12.3.4. Therefore, ITS SR 3.7.4.4 will include verification that each MCREV subsystem can maintain a positive pressure of ≥ 0.1 inches of water relative to the turbine building during the flow verification of each MCREV subsystem fan. This change is consistent with the STS and is acceptable.

(4) CTS 3.11.A.2 requires that the reactor be in Hot Shutdown within 12 hours and Cold Shutdown within the following 24 hours if one of the two required MCREV subsystems is inoperable for more than 7 days. However, if the MCREV Operability requirement resulted during the movement of irradiated fuel, Core Alterations or OPDRVs when the reactor is in Modes 4 or 5, neither CTS 3.11.A.2 or CTS 3.0.C would require any action as a result of MCREV being inoperable. ITS 3.7.4 covers the situation described above in ITS Action C. Under ITS Action C, if one of the required MCREV subsystems is inoperable during movement of irradiated fuel, Core Alterations or OPDRVs, the remaining Operable MCREV subsystems must be started and placed in operation to filter Control Room intake air, or movement of irradiated fuel, Core Alterations or OPDRVs must be suspended. Starting the remaining Operable MCREV subsystem ensures that subsystem is Operable, that no failures that would prevent automatic actuation will occur, and that any active failure will be readily detected. Conversely, suspending the activities that have the potential for releasing radioactivity that might require isolation of the control room places the plant in a condition that minimizes risk. This change is consistent with the STS and is acceptable.

(5) The ITS Required Actions of ITS 3.7.4, Conditions C and E, have been modified by a Note stating that ITS LCO 3.0.3 is not applicable when one or two MCREV subsystems are inoperable during the movement of irradiated fuel assemblies, during Core Alterations, and during OPDRVs. This clarification was necessary because defaulting to ITS LCO 3.0.3 would require the reactor to be shutdown but would not require the suspension of the activities that have the potential for releasing radioactivity that might require isolation of the control room. Therefore the Actions of ITS 3.7.4, Conditions C and E, rather than the Actions of ITS LCO 3.0.3, will put the plant in a condition of minimum risk. This is done by either suspending the activities that have the potential for releasing radioactivity that might require isolation of the control room or starting the remaining Operable MCREV subsystem (as applicable) to ensure that subsystem is Operable, that no failures that would prevent automatic actuation will occur, and that any active failure will be readily detected. This change is consistent with the STS and is acceptable.

2.3.7.3.E ITS 3.7.5, Main Condenser Offgas

(1) CTS 3.8.C.7.a and 4.8.C.7.a state the upper limit and SRs for main condenser offgas gamma activity but do not identify when these requirements are applicable. The intended Applicability of these requirements is Mode 1 because, if the requirements cannot be met, the reactor must be placed in a Mode or condition where the requirements are not applicable, which CTS 3.8.C.7.a indicates is Hot Standby (Mode 2). ITS 3.7.5 will have an Applicability of Mode 1 or Modes 2 and 3 with any main steam line not isolated and SJAE in operation. This change is more restrictive because it imposes the requirements for offgas gamma activity whenever steam is being exhausted to the main condenser and the resulting non condensibles are being processed via the Main Condenser Offgas System. In conjunction with this change in Applicability, the Required Actions if the requirements cannot be met are being expanded to include all the options that would place the unit in a Mode or condition in which the LCO does not apply, i.e., isolating the main steam lines or the SJAE or placing the unit in Mode 3 followed by Mode 4. This change is consistent with the STS and is acceptable.

2.3.7.3.F ITS 3.7.6, Main Turbine Bypass System

(1) ITS 3.7.6, "Main Turbine Bypass System," and the associated Conditions, Required Actions, Completion Times and SRs are being added. The ITS will require the Main Turbine Bypass System to be Operable or a MCPR and APLHGR penalty to be applied. This change is an additional restriction on plant operations and helps ensure safety analyses assumptions are maintained. This change is consistent with the STS and is acceptable.

2.3.7.3.G ITS 3.7.7, Spent Fuel Storage Pool Water Level

There are no more restrictive changes to the CTS associated with ITS 3.7.7.

The staff has reviewed these more restrictive requirements and concludes they result in enhancements to the CTS. Therefore, these more restrictive requirements are acceptable.

2.3.7.4 Significant Administrative Changes

Reformatting and renumbering of requirements are in accordance with the STS. As a result, the ITS should be easier to read and, therefore, easier to understand by plant operators as well as other users.

Editorial rewording (either adding or deleting) is generally consistent with the STS. Certain wording preferences or terminology changes appear in the ITS which result in no technical changes (either actual or interpretational) to the TS.

2.3.7.4.A <u>ITS 3.7.1, High Pressure Service Water (HPSW) System</u>

(1) The CTS contain Actions for two and three HPSW pumps inoperable. In the CTS, there are no specific Actions to enter if valves or piping are inoperable which interferes with the suction or discharge flow to two or three HPSW pumps (see Section 2.3.7.2.A of this safety evaluation). However, there is a SR which requires motor-operated valves to be Operable. Therefore, if two or three pumps are not supplying the required flow to the RHR heat exchanger due to any combination of inoperable pumps or valves, or a problem with the piping, the two or three pump inoperable Action would be entered, as applicable.

The ITS will explicitly cover the above cases where one subsystem or two subsystems are inoperable in ITS Actions A and B. Action A is for the case when one subsystem is inoperable, and Action B is for the case when two subsystems are inoperable (this discussion only covers the case when flow from two or three HSPW pumps is degraded; the case for four HPSW pumps inoperable is discussed in Section 2.3.7.2.A of this safety evaluation). Therefore, since there are current actions for any case covered by ITS Action A, this is an administrative change. This change is consistent with the STS and is acceptable.

2.3.7.4.B <u>ITS 3.7.2, Emergency Service Water (ESW) System and Normal Heat Sink</u>

There are no significant administrative changes to the CTS associated with ITS 3.7.2.

2.3.7.4.C <u>ITS 3.7.3, Emergency Heat Sink</u>

(1) The CTS do not provide an explicit Applicability for the emergency heat sink requirements. Since the emergency heat sink is provided as the seismic Class I source of cooling water to the ESW and HPSW Systems when the normal heat sink is unavailable, the Applicability is specified consistent with the ESW and HPSW System Applicabilities (Modes 1, 2, and 3). As such, this change is considered administrative in nature and is acceptable.

(2) Currently, when a required action for the emergency heat sink is not met, CTS 3.0.C applies and a shutdown is required. In ITS 3.7.3, Action C has been added to provide shutdown actions when a Required Action is not met. These shutdown actions are equivalent to those of CTS 3.0.C, as modified by the changes discussed in Section 2.3.0.1 of this safety evaluation. As such, this change is administrative in nature. This change is consistent with the STS and is acceptable.

2.3.7.4.D <u>ITS 3.7.4, Main Control Room Emergency Ventilation (MCREV) System</u>

(1) CTS 3.11.A.4.a.; 3.11.A.4.b.; 4.11.A.1.; and, 4.11.A.2. describe the requirements for the periodic verification of the filter trains associated with the MCREV System. ITS SR 3.7.4.2 will require performing similar testing of the MCREV filter trains; however, specific

technical requirements for this testing will be contained in the program described in ITS 5.5.7, "Ventilation Filter Testing Program (VFTP)". This change in the location of the technical requirements for MCREV system filter testing to ITS 5.5.7 is in accordance with the format of the STS. Any technical changes to the requirements for MCREV system filter testing will be addressed in Section 2.5.0 of this safety evaluation. ITS SR 3.7.4.2 is being added to ITS 3.7.4 to clarify that the tests specified in the VFTP must be completed and acceptable for the MCREV System to be Operable. Moving details for performing required filter testing to ITS 5.5.7 is an administrative change. This change is consistent with the STS and is acceptable.

(2) The technical content of the requirements in CTS 3.11.A.5, 3.11.A.6, 3.11.A.7, 4.11.A.4, 4.11.A.5, and 4.11.A.6 is being moved to ITS 3.3.7.1, "Main Control Room Emergency Ventilation (MCREV) System Instrumentation." These changes are made to be consistent with the format of the STS. Any changes to these requirements will be discussed in Section 2.3.3 of this safety evaluation. This change is consistent with the STS and is acceptable.

2.3.7.4.E <u>ITS 3.7.5, Main Condenser Offgas</u>

There are no significant administrative changes to the CTS associated with ITS 3.7.5.

2.3.7.4.F <u>ITS 3.7.6, Main Turbine Bypass System</u>

There are no significant administrative changes to the CTS associated with ITS 3.7.6.

2.3.7.4.G <u>ITS 3.7.7 Spent Fuel Storage Pool Water Level</u>

(1) The values and units observed and recorded by the operator are being used in the ITS. 232 feet 3 inches plant elevation (used in ITS) is equivalent to 22 feet over the top of irradiated fuel seated in the spent fuel storage pool racks (used in CTS). This is an acceptable administrative change.

The above changes result in the same limits as the current requirements, or they represent enhanced presentation of the CTS intent. Accordingly, the improved TS changes are purely administrative and they are acceptable.

2.3.7.5 <u>Significant Differences Between the ITS and the STS</u>

The following discussions do not relate to any individual specifications in the ITS.

(1) STS 3.7.3, "Diesel Generator (DG) [1B] Standby Service Water (SSW) System" has been deleted from the PBAPS ITS and subsequent specifications have been renumbered accordingly. Because no comparable system exists at PBAPS, this difference is considered acceptable.

(2) STS 3.7.5, "Control Room Air Conditioning (AC) System," has been deleted from the PBAPS ITS. All subsequent specifications have been renumbered accordingly. As stated in PBAPS UFSAR Section 7.19.1, "Effects of Loss of Air Conditioning and Ventilation on Control Room and Equipment Room Equipment," the control room emergency ventilation system without air conditioning is capable of limiting maximum control room temperature to 114°F during a design basis accident with a loss of offsite power based upon design outside ambient temperatures of 95°F dry bulb. This conclusion assumes that the operators take action to reduce thermal loads in the control room. The operator actions required to reduce thermal loads are identified in the Bases for ITS 3.7.4, "Main Control Emergency Ventilation System," and plant procedures. Because main control room air conditioning is not assumed to operate during a design basis accident, PBAPS does not require a TS governing this system. This difference from the STS is consistent with the licensing basis in the CTS, and, therefore, is considered acceptable.

The following discussions relate to significant differences from the STS that affect individual specifications.

2.3.7.5.A <u>ITS 3.7.1, High Pressure Service Water (HPSW) System</u>

(1) The Conditions in STS 3.7.1 have been revised to reflect the PBAPS specific HPSW design and analysis. The design includes two HPSW loops with two pumps per loop. However, the analysis only requires one HPSW pump per loop to be Operable (which includes consideration for a single failure). Also, SR 3.7.1.1 has been revised since the HPSW design does not include automatic valves. The design and safety analysis of the HPSW system is specific to PBAPS, therefore, this change is considered acceptable.

2.3.7.5.B <u>ITS 3.7.2, Emergency Service Water (ESW) System and Normal Heat Sink</u>

(1) Notes 1 and 2 to STS 3.7.2, Required Action A.1 have been deleted. The PBAPS ESW System design does not result in a loss of ESW to the DGs or the RHR shutdown cooling subsystems when one subsystem is inoperable. These Notes are unnecessary and have been deleted. This change is based on the PBAPS specific design and is considered acceptable.

(2) STS 3.7.2 was written with the assumption that there are two service water subsystems, with each subsystem consisting of two pumps. As a result, STS 3.7.2, Action A, allows 30 days for restoration if one service water pump is inoperable; Action B, allows 7 days for restoration if one service water pump in each subsystem is inoperable; and, Action D, allows 72 hours for restoration if one subsystem is inoperable. PBAPS has one ESW pump per subsystem. Therefore, STS 3.7.2, Actions A, B, and C have been deleted, and Action D has been modified at PBAPS to be ITS 3.7.2, Action A, which allows 7 days for restoration if one ESW subsystem is inoperable. Subsequent sections of the specifications and Bases for 3.7.2 have been renumbered to reflect the deletion of Actions A, B, and C. The change from 72 hours to 7

days for restoration of an inoperable ESW subsystem is consistent with the licensing basis in the CTS, and, therefore, is acceptable.

(3) The ESW System and normal heat sink at PBAPS do not use cooling towers. Therefore, the requirements for cooling towers and cooling tower fans in STS 3.7.2, Condition C, and associated SRs 3.7.2.1 and 3.7.2.4, have been deleted. Subsequent Conditions and SRs have been renumbered accordingly. This design feature of the ESW system is specific to PBAPS, therefore, this change is considered acceptable.

(4) STS SR 3.7.2.3 was revised to delete references to automatic valves in the ITS because there are no automatic valves in the ESW flow path at PBAPS. This design feature of the ESW system is specific to PBAPS; therefore, this change is considered acceptable.

2.3.7.5.C <u>ITS 3.7.3, Emergency Heat Sink</u>

(1) A new specification, 3.7.3, "Emergency Heat Sink," was added to establish requirements for the system designed to provide the capacity to cooldown both Unit 2 and Unit 3 following a failure of the Conowingo Dam or flooding and the loss of the normal heat sink. This design feature is specific to PBAPS, therefore, this change is considered acceptable.

2.3.7.5.D <u>ITS 3.7.4, Main Control Room Emergency Ventilation (MCREV) System</u>

There are no significant differences from the STS associated with ITS 3.7.4.

2.3.7.5.E <u>ITS 3.7.5, Main Condenser Offgas</u>

There are no significant differences from the STS associated with ITS 3.7.5.

2.3.7.5.F <u>ITS 3.7.6, Main Turbine Bypass System</u>

There are no significant differences from the STS associated with ITS 3.7.6.

2.3.7.5.G <u>ITS 3.7.7, Spent Fuel Storage Pool Water Level</u>

(1) The Applicability of STS 3.7.8 and Required Action A.1 have been revised in ITS 3.7.7 to encompass the movement of all fuel assemblies, not just irradiated fuel assemblies in the spent fuel storage pool. This change reflects a PBAPS specific analysis and is consistent with the licensing basis in the CTS, and, therefore, is considered acceptable.

These proposed differences from STS Section 3.7 are consistent with PBAPS plant-specific characteristics and existing requirements and commitments, or they provide improvements to the STS requirements. Therefore, they are acceptable.

2.3.8 ELECTRICAL POWER SYSTEMS (ITS SECTION 3.8)

2.3.8.1 Relocat.. Requirements

In accordance with the STS, the licensee proposed relocating portions of the following CTS to other licensee-controlled documents. The listing is broken down by the equivalent specifications in the ITS, with accompanying discussion for the more significant items.

The following relocated provision applies to more than one specification in the CTS.

Procedural Details

These changes relocate items that are procedural in nature (that is, special instructions, logs, measures, etc.) to plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. These changes are administrative in nature and do not impact initiators of analyzed events, or the mitigation of accidents or transient events. For the reasons discussed above and because they are consistent with the STS, these changes are acceptable.

2.3.8.1.A ITS 3.8.1, AC Sources - Operating

CTS Section	Title
4.9.B.8	Conowingo Verification
3.9.B.8	Conowingo Reporting Requirements
3.9.A.1	Independence of Offsite Sources
4.9.A Notes a,b,c,d	Diesel Generator Testing Details
4.9.A.1.2.f	DG Inspection In Accordance With Manufacturer's Recommendations
4.9.A.1.2.i	10-Year Interdependence Test
4.9.A.1.2.1 and Note d	Valid EDG Failures and Accelerated Testing
4.9.A.1.2.g.1	EDG Load Rejection Test Details
Table 3.2.B	480 Vac, 4kV System Design and Testing Details
Table 3.2.B Note 7	Inoperable 480 Vac Load Center Timer
Table 4.2.B	Voltage Relay Functional Tests

(1) The monthly verification of Conowingo Tie-Line Operability in CTS 4.9.B.8 and the NRC notification when the Conowingo Tie-Line is inoperable in CTS 3.9.B.8 are being relocated to the TRM. The Conowingo Tie-Line is an alternate AC source for the PBAPS. Changes to the TRM will be subject to the requirements of 10 CFR 50.59. These requirements are related to station blackout concerns and do not affect the Operability of the qualified offsite circuits or the DGs. However, since PBAPS is crediting the Conowingo Tie-Line in the extension of a DG Completion Time, verification of Conowingo Tie-Line Operability is included in ITS Required Action B.1. Although the STS do not contain requirements for alternate AC sources, this change is consistent with the format of other specifications in the STS which allow the temporary

use of spare or backup equipment or methods while not in compliance with the LCO, and is, therefore, acceptable.

(2) The requirement for the two qualified offsite circuits to be physically independent is being relocated to the ITS Bases. This detail is an attribute of circuit Operability that is adequately controlled in the Bases. This details is not necessary in the TS to ensure Operability of the offsite circuits. The definition of Operability suffices. Changes to the Bases are subject to the requirements of the Bases Control Program (ITS 5.5.10). In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(3) Specific details relating to the operation and testing of the DGs are being relocated to plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. These details include the requirements for warmup, loading and shutdown per manufacturer's instructions for DG startup surveillances, that loads in excess of the specified bounds for special testing under the monitoring of the manufacturer or system engineer do not invalidate the results of the test, that water be removed from the DG day tanks after each DG operation lasting longer than 1 hour, and that performance of a hot restart test does not satisfy the fast start test. The relocated details are either of a equipment protection or preventive maintenance nature or the level of detail is not required to ensure Operability. In addition to the above discussion, these changes are also consistent with the STS and are, therefore, acceptable.

(4) The requirement in CTS 4.9.A.1.2.f to inspect the DGs in accordance with procedures prepared in accordance with manufacturer's recommendations is being relocated to plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. This is a preventive maintenance type requirement. The failure to perform this requirement does not necessarily result in an inoperable DG. This requirement is oriented toward long term DG Operability and does not have an immediate impact on EDG Operability. EDG Operability is verified by the SRs maintained in Specification 3.8.1. As a result, this requirement is not necessary to be included in the TS. This change is consistent with the STS and is acceptable.

(5) CTS SR 4.9.A.1.2.i, which requires performance of the 10-year interdependence test, that is, verification that all four DGs can be started simultaneously in less than or equal to 10 seconds after any modification that could affect their interdependence, is being relocated to plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. Further, after any maintenance or modification that could cause a required SR to be failed, ITS SR 3.0.1 requires the performance of the appropriate SR (in this case, ITS SR 3.8.1.20) to demonstrate the Operability of the affected components. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(6) CTS SR 4.9.A.1.2.1 and associated Note d requirements for accelerated testing of DGs are being relocated to the PBAPS maintenance program for DGs, in accordance with NRC Generic Letter 94-01, "Removal of Accelerated Testing and Special Reporting Requirements for Emergency Diesel Generators." PECO Energy has in place a program that monitors reliability of the DGs. This program satisfies the requirements of Generic Letter 94-01 and is consistent with the provisions of 10 CFR 50.65 "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." This program is based on commitments made in response to Station Blackout, (Letter from G. A. Hunger, Jr., to US NRC, April 24, 1991) and addresses DGs only. PECO Energy has also developed a separate plan to implement 10 CFR 50.65 for plant equipment covered by the maintenance rule, in accordance with the schedule promulgated by 10 CFR 50.56. DGs are included in this plan; however, the plan has not been fully developed. DG availability is being monitored and a modified INPO DG performance indicator is being used to monitor EDG availability performance.

Procedure A-C-72, Revision 0, *Emergency Diesel Generator Reliability Program*, November 23, 1992, implements PECO's commitment to a target DG reliability of 0.975 (Letter from G. A. Hunger, Jr., to US NRC, April 24, 1991). This maintenance program for DGs will meet the requirements of 10 CFR 50.65, *Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants*, when the ITS are implemented. The maintenance program is subject to the requirements of 10 CFR 50.59. Although this relocation is not consistent with the STS, it is in accordance with the current NRC position (Generic Letter 94-01) and is, therefore, acceptable.

(7) The detail of what constitutes the largest single load (RHR pump motor) for CTS SR 4.9.A.1.2.g.1 is being relocated to the ITS Bases. CTS SR 4.9.A.1.2.g.1 requires a periodic test to verify each DG is capable of rejecting a load equal to that of the RHR pump motor. ITS SR 3.8.1.9 requires a load "equal to or greater than the single largest electrical load" to be used in the load rejection test. The detail of what constitutes the largest single load for the test is not necessary to be part of the SR to ensure DG Operability. Changes to the Bases are subject to the requirements of the Bases Control Program (ITS 5.5.10). In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(8) Specific design- and testing-related details, including the trip level settings, the number of channels provided by design, and the details of the component functions, for the 480-Vac emergency load center timers and the 4-kVac bus sequential loading relays are being relocated to plant procedures and design documents. Changes to these procedures and design documents will be subject to the requirements of 10 CFR 50.59. The relocated design and testing details are not necessary to ensure Operability of these components. The verification of the Operability of the emergency load timers is accomplished by ITS SR 3.8.1.18 and the sequential loading relays by ITS SR 3.8.1.11 and SR 3.8.1.19. In

addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(9) CTS Note 7 to Table 3.2.b dictating which TS applies when there is an inoperable 480-Vac load center timer is being relocated to plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. The determination of Operability and the resulting entry into the appropriate Actions is inherent in use of TS. The correct use and application of the PBAPS ITS with regard to actions associated with an inoperable 480 V emergency load center is adequately addressed by the definition of Operability and LCO 3.0.2. As a result, this CTS requirement is not necessary to be included in the TS. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(10) The requirement in CTS Table 4.2.B for an instrument functional test of the 4-kVac emergency power system voltage relays once each operating cycle is being relocated to plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. The relays provide a permissive for the individual load timers associated with each 4-kVac emergency bus. The separate requirement to perform a functional test of these relays is being relocated from the TS, since a successful performance of either ITS SR 3.8.1.11. 3.8.1.12, or 3.8.1.19 constitutes a functional test of these relays. All of these ITS SRs have a Frequency of once per 24 months. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

2.3.8.1.B <u>ITS 3.8.2, AC Sources - Shutdown</u>

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no relocated requirements.

2.3.8.1.C <u>ITS 3.8.3, Diesel Fuel Oil, Lube Oil, and Starting Air</u>

CTS Section	Title
4.9.A.1.2.g.6	Fuel Transfer Test Programs
3.9.B.6.d	Replacement of Unacceptable Diesel Fuel
3.9.B.6.c	Imposed Fuel Oil Sampling
4.9.A.1.2.k	Diesel Fuel Oil Cathodic Protection Testing
4.9.A.1.2.j	Diesel Fuel Oil Tank Cleaning

(1) The requirement in CTS SR 4.9.A.1.2.g.6 to verify that the fuel transfer pump transfers diesel fuel from each storage tank to each DG via the cross connection lines is being relocated to plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. Post-accident electrical loading and fuel consumption is not equally shared among the DGs. Therefore, it may be necessary to transfer post-accident loads between DGs or to transfer fuel oil between storage tanks to achieve 7 days of post-accident operation for all four DGs. Each storage tank contains sufficient fuel to support the operation of the DG

with the heaviest load for greater than 6 days. The requirement to verify the fuel transfer pump transfers fuel from each fuel storage tank to the day tank of each DG via the installed cross connection lines is not necessary to ensure the Operability of the DGs since the capability exists to transfer post-accident loads between the DGs to equalize fuel oil consumption and ensure the DGs are capable of operating for 7 days. The ITS SR 3.8.1.6 requirement to verify the transfer of fuel from the DG fuel oil storage tank to the DG day tank sufficiently verifies the Operability of each DG required fuel transfer system. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(2) The CTS 3.9.B.6.d requirement to replace unacceptable fuel in storage tanks with acceptable fuel is being relocated to plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. The method used to meet ITS 3.8.3 requirements for fuel quality is an operational detail and not an Operability issue. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(3) The requirement in CTS 3.9.B.6.c for fuel oil in the other three storage tanks to be sampled within 24 hours following the determination that fuel oil sampled from any tank failed to meet requirements is being relocated to plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. This is consistent with other changes to this specification that no longer require immediate isolation of a fuel oil storage tank following the failure of a sample to meet requirements. An unexpected high particulate level is most likely the result of poor sample procedures (bottom sampling), contaminated sampling equipment, or errors in laboratory analysis. Particulate levels are trended, normally allowing sufficient time to correct the problem before limits are exceeded. Also, presence of particulates does not mean failure of the fuel oil to burn properly in the diesel engine, since particulate concentration is unlikely to change significantly between surveillance intervals and since proper engine performance will have been demonstrated within 31 days. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(4) The requirement in CTS SR 4.9.a.1.2.k for periodically testing of the fuel oil storage tank cathodic protection rectifiers and system is being relocated to plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. Requirements related to the fuel oil storage tank cathodic protection system do not ensure the Operability of the DG fuel oil storage tanks. As stated in the September 2, 1987 letter from E. J. Bradley (PECO Energy) to T. E. Murley (NRC) and CTS Bases 4.9, these requirements were added to the CTS to centralize licensee commitments related to Regulatory Guide 1.137, Position C.2. The NRC Safety Evaluation Report supporting PBAPS Amendment Nos. 131 and 134, dated May 31, 1988, for Units 2 and 3, respectively, states the requirements in the ITS for the fuel oil storage tank are the same as specified in Regulatory Guide 1.137. The

NRC also stated the change to the associated Bases section (CTS Section 4.9 Bases) was reviewed and found acceptable. These requirements are oriented toward maintaining the long term operability of the DG fuel oil storage tanks and do not have an immediate impact on their Operability. This change is consistent with the STS and is acceptable.

(5) The requirement in CTS 4.9.A.1.2.j to drain, remove sediment, and clean each fuel oil tank is being relocated to plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. This surveillance is a preventive type of SR. Sediment in the tank, or failure to perform this SR, does not necessarily result in an inoperable storage tank as stated in the Bases for STS SR 3.8.3.6. Preventive maintenance SRs generally have been relocated from the TS. Performance of ITS SR 3.8.3.3 (fuel oil testing) and the limits of the Diesel Fuel Oil Testing Program (ITS 5.5.9) help ensure tank sediment is minimized. In addition, another government agency provides regulations for the maintenance of below ground fuel oil tanks. As a result, adequate controls exist to ensure that sediment in the fuel oil tanks is minimized. This change is consistent with an approved change to the STS and is acceptable.

2.3.8.1.D <u>ITS 3.8.4, DC Sources - Operating</u>

CTS Section	Title
3.9.B.5	Effect of an Inoperable Battery on EDGs
3.9.4	DC Subsystem Operability Requirements
4.9.A.2.c	Procedural Details

(1) The statement in CTS 3.9.B.5 that ties the Actions of inoperable batteries with CTS 3.5.F and 3.9.B.3 (ECCS and the DGs) is being relocated to the Safety Function Determination Program (SFDP) and procedures that implement the program. Changes to the procedures governing the SFDP will be subject to the requirements of 10 CFR 50.59. The SFDP required by ITS 5.5.11 directs the licensee to evaluate the impact of the inoperability of systems or components subject to the provisions of ITS LCO 3.0.6 (e.g., 125 Vdc batteries) on overall plant status for the purpose of identifying any loss of function. The SFDP will accomplish the same thing as the CTS requirements. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(2) The statement in CTS LCO 3.9.4 that requires that "four unit 125 V batteries and their charger shall be Operable" has been relocated to the ITS Bases. This detail is not necessary to ensure Operability of the DC subsystems. The definition of Operability suffices. ITS 3.8.4 requires specific "DC electrical power subsystems" to be Operable and lists the DC subsystems required Operable. Changes to the Bases are subject to the requirements of the Bases Control Program (ITS 5.5.10). In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

2.3.8.1.E ITS 3.8.5, DC Sources - Shutdown

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no relocated requirements.

2.3.8.1.F ITS 3.8.6, Battery Cell Parameters

CTS Section	Title
4.9.A.2.b	Procedural Details

There are no relocated CTS requirements associated with ITS 3.8.6 other than those discussed in Section 2.3.8.1 of this safety evaluation.

2.3.8.1.G ITS 3.8.7, Distribution Systems - Operating

CTS Section	Title
3.9.A.3	AC Energization Requirements

(1) The system design details in CTS 3.9.A.3 that state what AC sources and load centers are required for Operable distribution systems has been relocated to the ITS Bases. CTS 3.9.A.3 requires the unit 4-kVac emergency buses and the 480-Vac emergency load centers to be energized when the reactor is critical. This requirement is an attribute of AC distribution system Operability that is not necessary in the TS. The definition of Operability suffices. ITS 3.8.7 requires Unit 2 Division I and Division II AC and DC electrical power distribution subsystems to be Operable. Changes to the Bases are subject to the requirements of the Bases Control Program (ITS 5.5.10). In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

2.3.8.1.H ITS 3.8.8, Distribution Systems - Shutdown

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no relocated requirements.

The above relocated requirements relating to electrical power systems are not required to be in the TS under 10 CFR 50.36, and are not required to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety. Further, the scope of ITS Section 3.8 provides sufficient controls on the safety functions that remain in the TS. In addition, the staff finds that sufficient regulatory controls exist under 10 CFR 50.59 and ITS 5.5.10 for the relocated requirements. Accordingly, the staff has concluded that these requirements may be relocated from the TS to the plant procedures, ITS Bases, or UFSAR, as applicable.

2.3.8.2 Less Restrictive Technical Changes

Less restrictive requirements than CTS for Units 2 and 3 corresponding to the scope of the requirements of ITS Section 3.8 are described below for each of the specifications in Section 3.8.

2.3.8.2.A ITS 3.8.1, AC Sources - Operating

(1) The CTS default to LCO 3.0.C (Cold Shutdown within 36 hours) whenever two or more DGs are inoperable. Under the same Conditions, ITS 3.8.1, Condition F, allows 2 hours to "restore all but one DG" before entry into Condition G (Mode 4 within 36 hours) is required. With two or more DGs inoperable, insufficient standby AC sources are available to power the minimum required ESF functions. Since the offsite electrical power system is the only source of AC power for the majority of ESF equipment at this level of degradation, the risk associated with continued operation for a very short time could be less than that associated with an immediate shutdown. (The immediate shutdown could cause grid instability, which could result in a total loss of AC power.) Since any inadvertent unit generator trip could also result in a total loss of offsite AC power, however, the time allowed for continued operation is severely restricted. The intent here is to avoid the risk associated with an immediate controlled shutdown and to minimize the risk associated with this level of degradation. In addition to the above discussion, this change is also consistent with Regulatory Guide 1.93, "Availability of Electric Power Sources," and the STS, and is, therefore, acceptable.

(2) CTS SR 4.9.A.1.2.a.2 requires verification of the capability of the fuel oil transfer pump to transfer fuel oil from the storage tank to the DG day tank. CTS SR 4.9.A.1.2.1 requires this verification every 31 days or on an accelerated schedule if the DG start success rate falls below the allowable failure rate. ITS SR 3.8.1.6 requires the verification of fuel transfer every 30 days, but does not require accelerated testing of the transfer pump. Accelerated testing of fuel transfer capability is not necessary since the fuel transfer function is routinely tested each time the DGs are operated which minimizes the requirement for a formal surveillance test more frequently than once per 31 days. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(3) CTS SR 4.9.A.1.2.g.1 requires verification of the DG capability to reject a load greater than or equal to that of the RHR pump motor while maintaining voltage within 4160 V ± 410 V and frequency at 60 Hz ± 1.2 Hz. ITS SR 3.8.1.9 retains this requirement; however, consistent with Regulatory Guide 1.9, "Selection, Design, Qualification, Testing and Reliability of Emergency Diesel Generator Units Used as Class 1E Onsite Electrical Power Systems at Nuclear Power Plants," the DG is not required to maintain the voltage and frequency tolerances at all times following the load rejection. The ITS SR will limit the DG output to ≤ 66.75 Hz (the most limiting of the two Regulatory Guide 1.9 upper frequency limits) upon the load rejection and 60± 1.2 Hz within 2.4

seconds (80% of the 3 second interval between RHR pump start and energization of the 480 volt emergency load centers). In addition, an output voltage of $\geq$ 3750 and $\leq$ 4570 volts is required within 1.8 seconds (60% of the same 3 second interval). These voltage and frequency time limits are based on the interval associated with sequencing the next load following the start of the RHR pumps during an undervoltage event on the bus concurrent with a LOCA. Based on Regulatory Guide 1.9 recommendations, these requirements ensure the DG frequency does not exceed predetermined limits and that voltage and frequency stability is sufficient to support proper load sequencing following a rejection of the largest single load. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(4) With one DG inoperable, CTS 4.9.B.3 requires the Operability of the remaining DGs be demonstrated within 24 hours and every 72 hours thereafter. ITS 3.8.1, Required Action B.4.1, also requires that the Operability of the remaining DGs be demonstrated Operable within 24 hours but does not require the repetition of this demonstration. This change grants credit for the normal periodic surveillance once the initial demonstration of Operability is completed. Eliminating the additional testing is acceptable because extensive industry experience has demonstrated that this SR Frequency is sufficient to provide a high degree of assurance that the DG is Operable. Additionally, this change reduces unnecessary challenges and wear to the DGs. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(5) ITS 3.8.1, Conditions A (one offsite circuit inoperable) and D (two offsite circuits inoperable), and Required Actions A.2 and D.1, require that feature(s) supported by inoperable AC source(s) be declared inoperable when the redundant required feature(s) are also inoperable. These requirements are identical to the requirement imposed by CTS 3.0.D, except that CTS 3.0.D requires the equipment be declared inoperable immediately whereas ITS Required Action A.2 allows 24 hours and ITS Required Action D.1 allows 12 hours before the redundant equipment must be declared inoperable. The 24 hour Completion Time when one offsite source is inoperable is acceptable because the redundant counterpart to the inoperable required feature is still Operable although single failure protection may have been lost; the capacity and capability of the remaining AC sources are still available; a reasonable time for repairs is provided for restoration before the unit is subjected to transients associated with shutdown; and, the low probability of a design basis accident occurring during this period. The 12 hour Completion Time when two or more offsite sources are inoperable is acceptable because Regulatory Guide 1.93 allows a Completion Time of 24 hours for two required offsite circuits inoperable. When a concurrent redundant required function is inoperable, a shorter Completion Time of 12 hours is appropriate. A similar requirement in CTS 4.9.B.3 (one DG inoperable) to verify operability of redundant equipment within 2 hours is extended to 4 hours in ITS 3.8.1, Required Action B.3, for similar reasons. The exposure of the plant to the small probability of an event requiring the critical

systems during the increased time is very small and offset by the benefit of avoiding an unnecessary plant transient caused by immediate plant shutdown. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(6) CTS 4.9.B.3 and 4.9.B.4 require that upon the inoperability of one required DG the remaining DGs be start tested to verify Operability. The CTS requires the start tests to be completed even if the inoperable DG is restored. The requirement to start test the remaining DGs after restoring an inoperable DG to Operable status is deleted in the ITS. ITS 3.8.1, Required Action B.4.1, permits, in the event that one required DG becomes inoperable, the determination that the other required DGs are not inoperable due to a common cause (ITS 3.8.1, Required Action B.4.1) in lieu of start testing (Required Action B.4.2). The only intent of the DG start testing is to confirm that no common mode failure has rendered more than one DG inoperable. In many cases this can be determined by means other than the existing requirement for a DG start. If an assessment can determine no common mode failure exists on the remaining Operable DGs, an unnecessary DG start can be avoided. Minimizing DG starts is recommended to avoid unnecessary diesel wear, thereby enhancing overall DG reliability as discussed in Generic Letter 84-15, "Proposed Staff Actions to Improve and Maintain Diesel Generator Reliability." In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(7) With one offsite circuit and one DG inoperable, CTS SR 4.9.B.4 allows 24 hours to determine that the remaining DGs are not inoperable due to a common cause failure or 8 hours to demonstrate the operability of the remaining DGs by start testing each DG. Under the same Conditions, ITS 3.8.1 requires concurrent entry into Condition E (one offsite circuit and one DG inoperable), Condition A (one offsite circuit inoperable), and Condition B (one DG inoperable). Therefore, in ITS 3.8.1, the Required Actions for demonstrating the Operability of the remaining DGs (if a potential common cause failure cannot be eliminated as the cause of the DG inoperability) are the same if one DG is inoperable or if both a DG and an offsite circuit are inoperable. As a result, the time allowed to demonstrate the Operability of the remaining DGs when one DG and one offsite circuit are inoperable is increased from 8 to 24 hours. This change is acceptable because the additional inoperability of an offsite circuit is not indicative of an increased probability that the remaining DGs will fail the demonstration of Operability. Further, under these conditions, with any one 4-kVac emergency bus deenergized, the Note to ITS 3.8.1, Condition E, requires the applicable Required Actions of ITS 3.8.7 be taken. Required Action C.1 of ITS 3.8.7 allows 8 hours to restore the deenergized 4-kVac bus. This change acknowledges that, unless a specific common cause failure is identified, the periodic frequencies specified to demonstrate DG Operability have been shown to be adequate to provide a high degree of assurance that the remaining DGs are Operable. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(8) The requirement in CTS 4.9.A.1.2.m that all DG failures be reported to the NRC in a special report within 30 days is removed from TS per the guidance of Generic Letter 94-01, "Removal of Accelerated Testing and Special Reporting Requirements for Emergency Diesel Generators." The Generic Letter allows DG failure reporting requirements to be removed from TS but licensees must continue to comply with reporting requirements of 10 CFR 50.72 and 50.73 to notify the NRC and report DG failures, as applicable. Also, this change does not impact the safe operation of the plant because the report is submitted after the DG failure has occurred. Therefore, this requirement is removed from the TS consistent with the guidance of Generic Letter 94-01. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(9) CTS SR 4.9.A.1.2.b requires the verification once per 184 days that each DG can be manually synchronized with the offsite circuit and loaded to between 2400 and 2600 kw within 60 seconds. The limitation on the time to reach full DG load from a manual synchronization is deleted in ITS SR 3.8.1.3. In addition, for clarity, Note 1 is added to this SR to specifically allow gradual loading. Manually DG loading should be done in accordance with manufacturer's recommendations to minimize wear on the engine. Additionally, placing a time limitation on the operator to accomplish this loading results in an increased potential for error and subsequent unavailability of the DG. The starting and loading tests required by other ITS surveillances are adequate to confirm the DG's capability to start and assume emergency loads during accident conditions, without the 60 second manual synchronization and loading test. Since CTS SR 4.9.A.1.2.a.3 also requires the DG to be synchronized with the offsite circuit and loaded to between 2400 and 2600 kw each month, the two CTS SRs are combined into ITS SR 3.8.1.3, with a 31-day Frequency. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(10) The voltage and frequency requirements for DG SRs that require a DG start test without automatic loading are changed in the ITS, with the exception of ITS SR 3.8.1.10. These ITS SRs only require meeting the lower voltage and frequency limits within the associated time limits. The steady state maximum and minimum voltage and frequency limits will be verified after the associated time limits. The upper limit is unnecessarily conservative for an unloaded DG. Under an actual loss of offsite power condition, the DG would be immediately loaded once the minimum speed and voltage requirements are met, thereby limiting the overshoot. The requirement to verify steady state frequency and voltage limits have been added to ITS SR 3.8.1.7 and SR 3.8.1.12 to ensure the unloaded DG maintains these limits. The steady state limit does not apply to ITS SR 3.8.1.10 which requires the simultaneous start of all DGs, since it is a test of starting independence (not operating independence). The elimination of the upper voltage and frequency limits is a less restrictive change. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(11) If the sequential loading relays are inoperable or fail the calibration, CTS Note 1 for Table 3.2.B requires the channel be placed in the tripped condition or the reactor be in cold shutdown within 24 hours. The ITS considers Operable relays and timers required support systems for an Operable DG. Therefore, the ITS requires the supported systems (the affected DG) to be declared inoperable if the individual relays/timers fail to meet their SRs or are otherwise determined inoperable. However, if the timers fail so that the loads started by the timers will not operate, plant administrative requirements require declaring the load inoperable. By declaring the supported system inoperable and taking the actions of the supported system, the plant is within the bounds of the TS. The change from requiring an immediate shutdown for inoperable sequential loading relays to entering the appropriate supported system's Actions is considered a less restrictive change. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

2.3.8.2.B ITS 3.8.2, AC Sources - Shutdown

There are no less restrictive changes to the CTS associated with ITS 3.8.2.

2.3.8.2.C ITS 3.8.3, Diesel Fuel Oil, Lube Oil, and Starting Air

(1) CTS 4.9.A.1.2.a.6 requires a DG be declared inoperable whenever its air receiver pressure falls below 225 psig, the pressure sufficient for five successive DG start attempts. ITS 3.8.3, Condition E, allows each DG's air receiver pressure be maintained less than 225 psig and greater than or equal to 150 for 48 hours while reestablishing the pressure necessary for five successive DG start attempts if accumulator capacity remains sufficient for one start attempt. The 48 hour period allowed to complete restoration to the required pressure prior to declaring the DG inoperable is acceptable because the remaining air start capacity is sufficient for one start attempt (consistent with safety analysis assumptions) and because of the low probability of an event during this brief period. Most DG starts are accomplished on the first attempt. The licensee verified, by test, that a DG will start with only 150 psig in the air start receiver. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(2) CTS 3.9.B.6 requires that a fuel storage tank be isolated within 8 hours if the oil in the tank fails to meet the particulate acceptance criterion. However, the affected DG may be supplied from another storage tank for 7 days. If the fuel particulate cannot be restored within limits in 7 days the plant must be shutdown within 24 hours. Under identical conditions, ITS 3.8.3, Condition C, allows 7 days to restore stored fuel within particulate limits and Condition D allows 30 days to restore new fuel properties to within required limits. If the required Completion Times are not met the ITS 3.8.3, Condition F, requires declaring the associated DG inoperable but does not require an immediate plant shutdown. Fuel oil properties, while supporting DG Operability, contain a substantial margin beyond the limits which would be necessary for DG operability. Therefore, it is acceptable to extend

the allowances for restoration for certain levels of degradation During the extended periods for restoration of these parameters in the ITS, the DG would still be capable of performing its intended function. Allowing a DG to be declared inoperable instead of requiring a plant shutdown is a less restrictive change. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(3) CTS SR 4.9.A.1.2.a.1 and SR 4.9.A.1.2.a.6 require verification of DG fuel oil inventory and DG air start pressure on an accelerated frequency in accordance with CTS 4.9.A.1.2.1 if a DG fails to satisfy the criteria for successful starting. ITS SR 3.8.3.1 (fuel oil inventory) and SR 3.8.3.4 (air start pressure) do not require accelerated testing if the DG start success rate falls below the requirements in CTS 4.9.A.1.2.1. Both the CTS and ITS require a 31 day verification for fuel oil inventory and air start pressure. The accelerated testing of fuel oil inventory or starting air pressure is not required because these attributes of DG Operability are unlikely to be the cause of multiple DG starting or running failures without being identified and adequately corrected. These parameters are routinely checked each time the DGs are operated, minimizing the need for a formal surveillance more frequent than once per 31 days. Further, these parameters are monitored by alarms which alert the operators to conditions that fail to meet ITS 3.8.3 requirements in the interim between performance of the SRs. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

2.3.8.2.D <u>ITS 3.8.4, DC Sources - Operating</u>

(1) CTS 4.9.A.2.c requires performance of the battery performance discharge test every second refueling (nominal 48 months and up to 60 months, including the 25% surveillance extension allowed by CTS Section 1.0). ITS SR 3.8.4.8, requires the battery performance discharge test or the modified performance discharge test to be performed once per 60 months. However, ITS SR 3.0.2 applies and allows a 25% extension to the Frequency. As a result, the Frequency may be extended up to 15 months per ITS SR 3.0.2. Decreasing the Frequency does not significantly degrade the reliability of these batteries that results from performing the surveillance at its specified Frequency. This is based on the recognition that the most probable result of any particular surveillance being performed is the verification of conformance with the SRs. The decreased Frequencies constitute a less restrictive change. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(2) CTS require entry into Specification 3.0.C when more than one required battery is unavailable. This specification requires the reactor to be in Mode 3 in 6 hours and Mode 4 in the following 24 hours. The ITS adds Condition D for when the ITS 3.8.4 Required Actions and the associated Completion Times cannot be met for inoperable DC sources. ITS Required Action D.1 requires the plant to shut down to Mode 3 in 12 hours and Mode 4 in the following 24 hours. This change, therefore, allows an

additional 6 hours to shutdown to Mode 3 and Mode 4. This change does not increase the probability of an accident. The shutdown Completion Time is not assumed to be an initiator of any analyzed event. Allowing 6 additional hours to bring the plant to Mode 3 does not significantly increase the consequences of an accident. The chances of an event occurring are the same in the additional 6 hour period as they are in the first 6 hour period. Also, the consequences of an event occurring will be the same for 12 hours as for 6 hours. This time allows for a more controlled cool down which reduces thermal stress and also reduces the chances for a plant transient which could challenge safety systems. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(3) CTS SR 4.9.A.2 requires a performance discharge test on each required battery every second fueling outage. ITS SR 3.8.4.8 includes an allowance to perform a modified performance discharge test in lieu of a performance discharge test. The modified performance discharge test is a simulated duty cycle consisting of just two rates; the one minute rate published for the battery or the largest current load of the duty cycle, followed by the test rate required for the performance test. The ITS SR continues to provide adequate assurance of Operable batteries since the modified performance discharge test represents similar test of battery capacity. The only difference between the two tests is that the modified performance discharge test consists of a one-minute rate during the first minute. The remainder of the test is identical to the performance discharge test. Since the ampere-hours removed by a rated one minute discharge represents a very small portion of the battery capacity, the test rate can be changed to that for the performance test without compromising the results of the performance discharge test. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(4) CTS SR 4.9.A.2.c requires an annual performance discharge test for each battery that shows signs of degradation or has reached 85% of its design service life. ITS SR 3.8.4.8 allows the performance discharge test to be performed every 24 months if the battery capacity is >100% of manufacturer's rating. Although a battery shows signs of degradation and has reached 85% of its expected service life, it still can be within the required capacity to meet Operability requirements. In this event, a Frequency less restrictive than the current 12 month Frequency but more restrictive than the normal 60 month performance test Frequency is justified. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(5) The CTS have no specific requirements on the Operability of the opposite unit batteries. ITS 3.8.4 includes requirements for the opposite unit Division I and II DC subsystems (batteries). The ITS has two separate Conditions (A and B) for the opposite unit DC subsystems. Condition A allows a DC subsystem for the opposite unit to be inoperable for 7 days during the performance of SR 3.8.4.7 (battery capacity) or SR 3.8.4.8 (performance discharge) on an opposite unit battery. The 7-day Completion Time provides time to perform required surveillances without

requiring a dual unit shutdown. The batteries are monitored and retain charge during this testing. The Completion Times also take into account the capacity of the remaining DC sources. Condition B allows 12 hours to restore an inoperable opposite unit DC subsystem to Operable status if the inoperability occurred for reasons other than the performance of SR 3.8.4.7 or SR 3.8.4.8. The 12 hour Completion Time for the DC electrical power subsystem being inoperable is consistent with restoration time provided in ITS 3.8.1, "AC Sources-Operating," for one DG and one offsite circuit inoperable. The Completion Times are only applicable provided a subject unit 4-kVac emergency bus or an opposite unit DC distribution bus is not de-energized as a result of the inoperability. If they are, Notes for Condition A and B require the entry into Conditions and Required Actions of ITS 3.8.7, "Distribution Systems Operating." These changes do not increase the probability of an accident, significantly increase the consequences of an accident, or increase chances of an event occurring during the additional time period. The additional time for a battery capacity or performance discharge test, however, allows time to restore the battery after performance of the SRs, and precludes the need of a dual unit shutdown to perform the test. Based on the above discussion, this change is acceptable.

(6) CTS SR 4.9.A.2.a requires measuring and logging the overall battery voltage every week. ITS SR 3.8.4.1 also requires the verification that the battery terminal voltage is ≥ 123.5 V on float charge every 7 days. However, the ITS add a Note to the Frequency of ITS SR 3.8.4.1. The Note allows not performing the SR if the battery is on equalize charge or was on equalize charge any time during the previous 24 hours. With the battery on equalize charge, meaningful results, as it relates to ensuring the required voltage is met, cannot be obtained because the intent of the SR is to ensure the battery voltage is acceptable while on float charge, not while on equalize charge (a higher voltage). After completion of an equalizing charge, the 1 day allowance provides time to perform the test and to ensure the battery voltage is representative of a float charge. The addition of the Note essentially allows an extension of the normal 7 day Frequency until the time that the float voltage measurement can be obtained. The 14 day Frequency is added to ensure that the battery cannot be placed on equalize all the time, thus subverting the requirement to perform the SR. This ensures the SR is performed at least every 14 days, regardless of how often the battery is placed on equalize. The 14 days is still conservative with respect to the recommendations of IEEE Standard 450, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications" (IEEE-450) Based on the above discussion, this change is acceptable.

2.3.8.2.E <u>ITS 3.8.5, DC Sources - Shutdown</u>

There are no less restrictive changes to the CTS associated with ITS 3.8.5.

2.3.8.2.F ITS LCO 3.8.6, Battery Cell Parameters

(1) CTS SR 4.9.A.2.a includes requirements to verify the battery pilot cell parameters are within limits every 7 days. CTS 3.9.B.5 allows up to 3 days to restore battery parameters to within limits before oefaulting to LCO 3.0.C (cold shutdown). In ITS 3.8.6, "Battery Cell Parameters," Table 3.8.6-1 establishes Category A, B, and C limits for cell electrolyte level, float voltage, and specific gravity. If one or more batteries have cell parameters not within Category A or B limits, ITS 3.8.6, Required Action A.3, allows up to 31-days to restore battery cell parameters to within Category A and B limits. During this period, Required Action A.1 allows 1 hour to verify that the pilot cell(s) meet Category C electrolyte level and float voltage limits, and 24 hours and every 7 days thereafter to verify that battery cell parameters meet Category C limits (Required Action A.2). The ITS Condition requires the immediate declaration that the battery is inoperable if Condition A Required Actions and associated Completion Times are not met, the battery electrolyte temperature is not within limits, or battery cell parameters are not within Category C limits. The Conditions, Required Actions, and Completion Time included in ITS 3.8.6 ensure the batteries have the capability to perform their function during the increased time (31 days) that the ITS allows the batteries to be outside the Category A and B limits. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(2) CTS SR 4.9.A.2.b requires the electrolyte temperature of every fifth cell to be verified every 92 days. ITS SR 3.8.6.3 requires the average temperature of representative cells (10% of the total cells) to be within limits every 92 days. This change essentially reduces the number of cells tested from approximately 11 to approximately 6 for electrolyte temperature (based on a total of 58 cells). This requirement is consistent with the recommendation of IEEE-450, which states that the temperature of electrolyte in representative cells should be determined on a quarterly basis. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(3) CTS SR 4.9.A.2.a requires verifying the pilot cell temperature is within the required limits every 7 days. This requirement is not carried over to the ITS verbatim. ITS SR 3.8.6.1 requires verifying, every 7 days, that the battery parameters (including specific gravity) are within the Category A limits as specified in ITS Table 3.8.6-1. Table 3.8.6-1, footnote (b), requires the correction of specific gravity for temperature. Therefore, the temperature is essentially measured during this surveillance. In addition, a lowering of battery temperature will be apparent in the required specific gravity reading. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(4) Both the CTS SR 4.9.A.2.a and ITS SR 3.8.6.1 require the verification of battery cell parameters every 7 days. The electrolyte level as a required parameter is added in ITS 3.8.6. However, a Frequency Note in ITS SR 3.8.6.1 allows the SR to not be performed if the battery is on

equalize charge or was on equalize charge any time during the previous 4 days. The specific gravity and electrolyte level results are not meaningful while on equalize charge. After completion of an equalize charge, it takes approximately 3 days for the electrolyte level to return to normal (due to elevated temperatures caused by the equalize charge) and be representative of a battery on float charge. The additional day provides time to perform the test and to ensure the battery cell parameters are representative of a float charge. The addition of this Note allows an extension of the normal 7 day Frequency until the time that the parameters can be obtained while on float charge. An additional 14 day Frequency is also added to the SR. The 14 day Frequency ensures that the battery cannot be placed on equalize all the time, thus negating the SR. This ensures the SR is performed at least every 14 days, regardless of how often the battery is placed on equalize. This 14 day requirement is still conservative with respect to the recommendations of IEEE-450. Since the battery has just completed an equalization charge, the pilot cell voltage, specific gravity, and electrolyte level are probably acceptable. For this reason and since the increased times are within recommendations of IEEE-450, these changes are acceptable.

(5) The CTS requirement to measure the specific gravity of the battery cells is modified in ITS Table 3.8.6-1, Footnote (c). The ITS allows the battery float charging current to be used in lieu of specific gravity for up to 180 days following a battery recharge (30 days if a deep discharge has not occurred and 180 days maximum if a deep discharge did occur). The 1980 and later versions of IEEE-450 discuss two methods of determining the state-of-charge of a lead acid battery. The first method, which the CTS require, is specific gravity readings. The second method, which IEEE-450 states is "a more accurate indicator of return to full charge," is a stabilized float charging current. It is more accurate in that, like cell voltage, float charging current quickly responds to the battery's state-of-charge. Specific gravity readings inherently lag the actual state-of-charge of the battery. Battery float charging current provides battery state-of-charge information sufficient to determine, to at least the same degree as specific gravity, battery Operability. The NRC staff has reviewed documentation from the licensee's battery manufacturer which substantiates the above discussion. For these reasons, this change is acceptable.

2.3.8.2.G <u>ITS 3.8.7, Distribution Systems - Operating</u>

(1) CTS 3.9.B.7 requires placing the reactor in cold shutdown within the following 24 hours if the required 480-Vac bus is not re-energized (restored) within the required time. ITS 3.8.7, Condition E, requires the reactor be in cold shutdown (Mode 4) within 36 hours when a required, yet inoperable, AC distribution subsystem is not restored to Operable status within the required Completion Time. The increased time required to achieve cold shutdown results in less thermal stress on components and also reduces the chances for a plant transient which could challenge safety systems. The required time to achieve cold shutdown is in agreement within CTS LCO 3.0.C and ITS LCO 3.0.3. In

addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(2) If one 4-kVac emergency bus or 480-Vac emergency load center is not energized, CTS 3.9.B.7 requires declaring the associated equipment inoperable and taking appropriate systems actions. ITS 3.8.7, Required Action C.1, allows 8 hours to restore an inoperable AC distribution subsystem to Operable status. When in this condition, the unit is more vulnerable to a complete loss of AC power. As such, the CTS requirement to declare associated equipment inoperable potentially decreases safety by diverting the operators attention when their attention should be focused on minimizing the potential for a loss of power to the remaining buses by stabilizing the unit and on restoring power to the affected buses. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

2.3.8.2.H ITS 3.8.8, Distribution Systems - Shutdown

There are no less restrictive changes to the CTS associated with ITS 3.8.8.

The above less restrictive requirements have been reviewed by the staff and have been found to be acceptable, because they do not present a significant safety question in the operation of the plant. The TS requirements that remain are consistent with current licensing practices, operating experience and plant accident and transient analyses, and provide reasonable assurance that the public health and safety will be protected.

2.3.8.3 More Restrictive Technical Changes

2.3.8.3.A ITS 3.8.1, AC Sources - Operating

(1) CTS 3.9.A and 3.9.B require Operable AC sources whenever the reactor is critical, in the Run Mode (Mode 1), or in the Startup Mode (Mode 2). ITS 3.8.1, Applicability, requires the specified AC sources to be Operable in Modes 1, 2, and 3. This is more restrictive than the CTS since all Conditions, Required Actions, and SRs are directly applicable during startup and operation. This change establishes requirements for the Operability of AC sources consistent with the Operability requirements for the functions that these AC sources are required to support including the Emergency Core Cooling Systems and Primary Containment Isolation. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(2) Both CTS 3.9.B.1 and the ITS 3.8.1, Required Action A.3, allow 7 days to restore an inoperable offsite circuit to Operable status. However, ITS Required Action A.3 includes a second Completion Time. A limit of 14 days is allowed for any combination of required Unit 2 AC offsite circuits or DGs to be inoperable during any single contiguous occurrence of failing to meet LCO requirements for Unit 2 AC sources. This restriction is intended to prevent exceeding the assumptions regarding allowed out of service times for an AC source as a result of sequential

inoperabilities of a DG and offsite source. The maximum Completion Time for ITS Required Action A.3 is consistent with the derivation of the maximum Completion Times in the STS. The addition of a maximum Completion Time for not meeting the LCO is a more restrictive change and is acceptable.

(3) Both CTS 3.9.B.3 and ITS 3.8.1, Required Action C.1, allow 7 days to restore an inoperable DG (with the Conowingo tie-line not available) to Operable status. However, ITS Required Action B.5 includes a Completion Time of 14 days. The 14 day requirement limits the time that any combination of required AC offsite circuits or DGs can be inoperable during a continuous failure to meet LCO requirements. This restriction is intended to prevent exceeding the assumptions regarding allowed out of service times for an AC source as a result of sequential inoperabilities of a DG and offsite source. The maximum Completion Time for ITS Required Action B.5 is consistent with the derivation of the maximum Completion Times in the STS. The addition of a maximum Completion Time for not meeting the LCO is a more restrictive change and is acceptable.

(4) Certain equipment needed to meet the Unit 2 accident analysis is powered from the Unit 3 AC electrical power system and visa versa. CTS 3.9 does not include requirements for the opposite unit AC sources needed to be Operable in support of the subject unit operation. ITS 3.8.1.c and d require the opposite unit normal and emergency circuits (sources) to be Operable to power necessary equipment when the subject unit is in Modes 1, 2, or 3. ITS SR 3.8.1.21 and a Note stating that a single test satisfy the SRs of both units are added in the ITS to ensure that the other units AC sources are properly tested and that the proper SRs are applicable for each units AC sources. Similar requirements are included in ITS 3.8.2. These new, more restrictive requirements ensure that all required Unit 2 and Unit 3 AC power is available to equipment necessary to mitigate a design basis accident for each unit.

(5) CTS 3.9.B.2 allows plant operation to continue with two offsite sources inoperable "provided the four DGs and associated emergency buses are Operable, all core and containment cooling systems are operable and reactor power is reduced to 25% of design." No time limits are included in the CTS requirement. Under identical conditions, ITS 3.8.1, Condition D, allows 24 hours to restore all but one required offsite circuit to Operable status or enter Condition G (Mode 3 within 12 hours and Mode 4 within 36 hours). This change is consistent with Regulatory Guide 1.93. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(6) CTS 3.9.B.4 has a Completion Time of 72 hours for the simultaneous inoperability of one DG and one offsite source. ITS 3.8.1, Condition E, and associated Required Actions require that either the inoperable offsite circuit or the inoperable DG be returned to Operable status within 12 hours. The ITS Completion Time is consistent with the recommendations in Regulatory Guide 1.93. The basis for the Regulatory Guide 1.93 recommendation is that individual redundancy is lost in both

the offsite Electrical Power System and the onsite AC Electrical Power System and this configuration is highly susceptible to a single bus or switching failure. The 12 hour Completion Time takes into account the redundancy, capacity, and capability of the remaining AC sources, reasonable time for repairs, and the low probability of a design basis accident occurring during this period. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(7) CTS 3.9.A.2.a requires that the day tank of each Operable DG contain at least 200 gallons of fuel oil, but has no requirement for periodic verification. ITS SR 3.8.1.4 requires verification every 31 days that each DG day tank has at least 250 gallons of fuel oil. SR 3.8.1.4 provides verification that sufficient fuel oil to operate the DG for at least one hour is available at the DG (including margin to account for unusable volume) so that operators will have time to identify and respond to the failure of a fuel oil transfer pump. Additionally, this SR ensures that the fuel oil transfer pump is maintaining the day tank level above the level at which fuel oil is automatically added. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(8) CTS 3.9 does not include any restrictions on when SRs are required to verify the Operability of offsite and onsite AC sources. Since certain tests have the potential to cause perturbations to the Electrical Distribution System that could challenge continued steady state operation and, as a result, plant safety systems, some ITS 3.8.1 SRs are modified by a Note that states these SRs shall not be performed in Mode 1 or 2 (for SR 3.8.1.8) or Modes 1, 2, or 3 (for SRs 3.8.1.11, 3.8.1.16, 3.8.1.18, and 3.8.1.19). The Note ensures the unit most affected by the test is shutdown when the test is performed. Performing these SRs while the unit most affected by the test is shutdown is consistent with current practice; however, the explicit statement of this requirement constitutes a more restrictive change. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(9) Both CTS 4.9.A.1.2.a.3 and ITS SR 3.8.1.2 require a DG start test be performed once every 31 days and as required to prove DG Operability. In addition, the test requirements of both are modified by a Note that allow the use of engine pre-lube and gradual acceleration (slow start) as recommended by the manufacturer. However, ITS SR 3.8.1.2 is modified by an additional Note. Note 3 requires that if the gradual warmup procedure is not used (i.e., fast start), the acceptance criteria for time, voltage and frequency associated with the DG fast start test (ITS SR 3.8.1.7), must be applied to SR 3.8.1.2. This change ensures that any start performed in accordance with the fast start procedure must meet the acceptance criteria for a fast start. As a result, problems with DG starting capability are identified as soon as possible and that DG starting data collected in accordance with Regulatory Guide 1.9 is accurate. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(10) Both CTS 4.9.A.1.2.a.4 and ITS SR 3.8.1.3 require, every 31 days, the synchronizing of each DG with an offsite source and operation at full load for at least 60 minutes. However, ITS SR 3.8.1.3 includes Note 3 which requires that the SR only be conducted on one DG at a time. This requirement is necessary to avoid the potential loss of multiple DGs concurrent with a loss of offsite power. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(11) ITS SR 3.8.1.17 is added to ensure the DG test override feature is functioning properly. This feature is not yet completely installed at PBAPS. Installation is scheduled to be fully completed by December 1995, prior to implementation of the ITS. This more restrictive change is consistent with the STS, and is, therefore, acceptable.

(12) The requirements for ITS SR 3.8.1.9 (largest load rejection), SR 3.8.1.10 (full load rejection), and SR 3.8.1.14 (24-hour load test) correspond to the requirements for CTS SR 4.9.A.1.2.g.1, SR 4.9.A.1.2.g.2, and SR 4.9.A.1.2.g.4 respectively, with the exception that the CTS SRs have no requirements to maintain a specific DG power factor during the tests. ITS SR 3.8.1.9, Note 1, requires that if the test is performed with DG synchronized with the offsite power, the DG power factor should correspond to the actual design basis inductive loading that the DG would experience (< 0.89 lagging). Both ITS SR 3.8.1.10 and SR 3.8.1.14 require performing the test with the DG power factor < 0.89 lagging. However, if grid conditions do not permit the DG to operate at the required power factor, SR 3.8.1.14, Note 2, allows the test to be conducted with the power factor as close as possible to the specified value. These ITS changes make the surveillances more representative of the conditions expected during an accident and also take into account the ability to control power factor during the tests. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(13) CTS SR 4.9.A.1.2.g.5 requires the DG hot restart test to be completed within 5 minutes after completing the 24 hour full load test (SR 4.9.A.1.2.g.4). However, CTS SR 4.9.A.1.2.g.5, Note c, allows the hot restart test to be conducted within 5 minutes after operating the DG for 1 hour or until the DG temperatures have stabilized if the 24 hour test is not satisfactory. ITS SR 3.8.1.15, Note 1, requires the DG operation under full load for at least 2 hours prior to running the hot restart test; a period based on manufacturer recommendations for achieving hot conditions. The only purpose of requiring the hot restart to follow the DG 24 hour test was to ensure that the DG was hot before restart and, since the CTS allowed an option of running the DG for only 1 hour, the ITS requirement can be used without consideration of the success or failure of the 24 hour test. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(14) Both CTS SR 4.9.A.1.2.h.2 and ITS SR 3.8.1.12 require the verification of DG response to an ECCS actuation signal without loss of offsite

power. However, ITS SR 3.8.1.12 also requires verification that permanently connected loads remain energized and emergency loads are energized or auto-connected through individual load timers to the offsite source. The more restrictive ITS requirements verify the capability of the DG and other required plant systems to respond to and ECCS actuation signal without loss of offsite power. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(15) CTS SR 4.9.A.1.2.i and ITS SR 3.8.1.20 require simultaneous starting of all four DGs every 10 years. The CTS SR requires that the DGs "accelerate to at least 855 rpm (57 Hz) in less than or equal to 10 seconds." However, ITS SR 3.8.1.20 requires all four DGs achieve the nominal voltage (4160 V) and frequency (58.8 Hz) within 10 seconds. The more restrictive ITS requirement ensures the DGs are capable of meeting design requirements. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(16) CTS SR 4.9.A.1.2.h.2 requires verification that each DG will start and within 10 seconds attain and maintain a voltage of 4160 ± 410 volts. The ITS SRs requiring verification of voltage limits, and the minimum and maximum limits are changed to ≥ 4160-Vac and ≤ 4400-Vac respectively. The new lower limit, which is higher than the present requirements, is consistent with the minimum steady state voltage analyzed in the PBAPS DG regulation study. The upper limit is consistent with the maximum steady state operating voltage specified for 4000-V motors. This change represents an additional restriction on DG operation. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

2.3.8.3.B <u>ITS 3.8.2, AC Sources - Shutdown</u>

(1) CTS 3.9 does not include requirements for AC electrical power sources when the reactor is not critical. ITS 3.8.2, "AC Sources - Shutdown," requires AC sources necessary to supply electrical power distribution subsystem(s) required by ITS 3.8.8, "Distribution Systems—Shutdown," to be Operable during plant Modes 4 and 5 and during movement of irradiated fuel assemblies in secondary containment. Appropriate Conditions, Required Actions, and SRs are included in the ITS. The new more restrictive ITS requirements ensure that power is available to the distribution subsystems necessary to mitigate a design basis accident during shutdown. With the exception of changes included in Section 2.3.8.5 of this safety evaluation, the ITS requirements are consistent with the STS and are acceptable.

2.3.8.3.C <u>ITS 3.8.3, Diesel Fuel Oil, Lube Oil, and Starting Air</u>

(1) CTS 3.9.A, which governs the DGs and associated support systems (fuel oil storage and transfer, lube oil, and starting air), requires that these systems be Operable or "the reactor shall not be made critical." ITS 3.8.1, "AC Sources—Operating," requires the DGs be Operable at all times in Modes 1, 2, and 3 and ITS 3.8.2, "AC Sources—Shutdown,"

requires the DGs be Operable at all times in Modes 4, 5, and whenever irradiated fuel is moved in the secondary containment. To support this increase in the Applicability of requirements for the DGs, ITS 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," requires DG support systems be Operable "when associated DG is required to be Operable." This change adds additional times and conditions when the DGs and support systems must be Operable and it constitutes a more restrictive change. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(2) CTS 3.9.A.2 establishes the requirements for the minimum cumulative onsite inventory of diesel fuel oil at > 108,000 gallons with > 28,000 gallons per Operable DG. ITS 3.8.3 eliminates the requirement to maintain 108,000 gallons of fuel on site and requires > 31,000 gallons in the storage tank associated with each Operable DG. ITS 3.8.3, Condition A, establishes 31,000 gallons of fuel oil as the minimum required fuel oil necessary to support 7 days of operation at anticipated post-accident loading and establishes 27,500 gallons of fuel oil as the minimum required to support 6 days of DG operation at anticipated post-accident loading. With 4 tanks at 31,000 gallons, the anticipated cumulative post-accident fuel consumption of 108,000 gallons is satisfied with considerable margin. The increase of the minimum fuel oil inventory in each storage tank from 28,000 gallons to 31,000 gallons is intended to increase conservatism and to account for unusable oil in the tank and is, therefore, acceptable.

(3) The ITS 3.8.3, Condition A, requirement to maintain a minimum fuel oil volume in the storage tank associated with each Operable DG eliminates the need for an option (CTS 3.9.B.6) allowing a DG to be considered Operable for 7 days when its fuel transfer pump is aligned to an adjacent storage tank. In addition, the need to maintain a cumulative onsite inventory greater than 108,000 gallons, as required by CTS 3.9.B.6.b, can be eliminated without impacting plant operations because ITS 3.8.3, Conditions C (particulate limits) and D (new oil properties), do not require that a storage tank be isolated within 8 hours if oil quality SRs are not met. Instead, ITS 3.8.3, Conditions C and D, allow either 7 days or 30 days respectively to re-establish fuel oil quality before ITS 3.8.3, Condition F, requires declaring the associated DG not Operable. Since ITS 3.8.3, Conditions C and D, eliminate any requirement for isolating one of the four storage tanks, DG Operability can be tied to the availability of a sufficient amount of oil in a specific storage tank. However, since it will no longer be necessary to isolate a fuel storage tank unexpectedly, the time permitted to restore required fuel inventory for each storage tank is reduced from 72 to 48 hours in ITS 3.8.3, Condition A. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(4) The CTS do not include any requirements for DG lube oil inventory. ITS 3.8.3, Condition B, establishes a requirement for lube oil inventory for each DG. If the lube oil inventory falls below the amount required to support 7 days of continuous DG operation at full load (350 gallons), 48

hours is allowed to re-establish the 7 day inventory if the inventory is sufficient to support 6 days of continuous operation (300 gallons). The new ITS SR 3.8.3.2 verifies the lube oil inventory every 31 days. ITS 3.8.3, Condition F, requires the associated DG be immediately declared inoperable whenever lube oil inventory falls below the 6 day limit or if the 7 day limit cannot be reestablished within 48 hours. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

2.3.8.3.D ITS 3.8.4, DC Sources - Operating

(1) CTS 3.9.A and 3.9.B require batteries to be Operable whenever the reactor is critical, is in the Run Mode (Mode 1), or is in the Startup Mode (Mode 2). ITS 3.8.4, Applicability, requires the DC electrical power subsystems (batteries) be Operable during reactor Modes 1, 2, and 3. The addition of Mode 3 is required because the reactor has enough energy for postulated accidents to occur and mitigation by the ECCS may be required. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(2) CTS 3.9.B.5 allows continued operations for 3 days with one battery inoperable. ITS 3.8.4, Required Action C.1, decreases the time that one DC subsystem (125 V battery) is allowed to be inoperable from 3 days to 2 hours. With one 125 V battery subsystem inoperable the divisional loads supplied by the subsystem have lost their ability to respond to an event. Therefore, it is imperative that the operator's attention focus on stabilizing the unit and minimizing the potential for complete loss of DC power to the affected division. The 2 hour Completion Time reflects a reasonable time to assess unit status as a function of the inoperable DC electrical power subsystem and takes into consideration the redundancy of the PBAPS DC subsystems design. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(3) Certain equipment needed to meet Unit 2 accident analysis is powered from the Unit 3 batteries and vice versa. CTS 3.9 does not include any requirements for the opposite unit batteries to be Operable when the subject unit is Operating. ITS 3.8.4 b. requires the opposite unit Division I and II DC subsystems to be Operable to power necessary equipment when the subject unit is in Modes 1, 2, or 3. To ensure that the required opposite unit DC subsystem is Operable, ITS SR 3.8.4.9 and a Note to the SRs ensure that the opposite unit DC sources are properly tested, and that the proper SRs are applicable for each unit's DC sources. The new more restrictive ITS requirements ensure that all required DC power is available to systems and equipment necessary to mitigate a design basis accident. The addition of requirements for the opposite unit DC subsystems is a more restrictive change and is acceptable.

(4) ITS 3.8.4 includes new DC subsystem (battery) SRs. These new surveillances are:

(a) SR 3.8.4.2 - Verify no visible corrosion at battery terminals and connectors, or verify battery connection resistance is within limits once per 92 days. This surveillance provides an indication of physical damage or abnormal deterioration that could potentially degrade battery performance.

(b) SR 3.8.4.3 - Verify battery cells, cell plates, and racks show no visual indication of physical damage or abnormal deterioration that could potentially degrade battery performance once per 12 months. This surveillance provides an indication of physical damage or abnormal deterioration that could potentially degrade battery performance.

(c) SR 3.8.4.4 - Remove visible corrosion, and verify battery cell-to-cell and terminal connections are coated with anti-corrosion material once per 12 months. This surveillance provides an indication of physical damage or abnormal deterioration that could indicate degraded battery condition.

(d) SR 3.8.4.5 - Verify battery connection resistance is within limits once per 12 months. This surveillance provides an indication of physical damage or abnormal deterioration that could indicate degraded battery condition.

(e) SR 3.8.4.6 - Verify each required battery charger supplies a required number of amperes at the required voltage once per 24 months. This surveillance verifies the largest combined demands of the various steady state loads and the charging capacity to restore the battery from the design minimum charge state to the fully charged state.

The addition of new requirements constitutes a more restrictive change. This change is also consistent with the STS and is, therefore, acceptable.

(5) CTS SR 4.9.A.2.c requires a battery service test and a performance test alternated between refueling outages. ITS SR 3.8.4.7, Note 1, allows the performance test to replace the service test once every 60 months and when the performance test envelops the duty cycle of the battery. The discharge test is a more severe test of battery capability requiring the test current to be greater than or equal to the actual duty cycle of the battery. The addition of more stringent requirements constitutes a more restrictive change. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

2.3.8.3.E ITS 3.8.5, DC Sources - Shutdown

(1) This change adds ITS 3.8.5, "DC Sources-Shutdown." This specification requires that the DC electric power subsystems necessary to support the

DC electrical power distribution subsystem(s) required by ITS 3.8.8 "Distribution Systems—Shutdown," be Operable. In addition to requiring the necessary subject unit DC subsystems to be Operable, ITS 3.8.5 also requires the necessary opposite unit DC subsystems to be Operable to support the DC electrical power distribution subsystem(s) required by ITS 3.8.8, Distribution Systems—Shutdown." ITS 3.8.5 has more restrictive requirements to ensure that all DC sources needed to mitigate a design basis accident are Operable in Modes 4 and 5 and during movement of irradiated fuel assemblies in secondary containment. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

2.3.8.3.F <u>ITS 3.8.6, Battery Cell Parameters</u>

(1) CTS 3.9.A and 3.9.B require battery cell parameters to be within required limits whenever the reactor is critical, in the Run Mode (Mode 1), or the Startup Mode (Mode 2). ITS 3.8.6, Applicability, requires that the battery cell parameters be maintained within limits when associated DC electrical power subsystems are required Operable. This change will, therefore, require the battery parameters to be within limits during Modes 1 through 5 and when moving irradiated fuel in the secondary containment. The addition of Mode 3 is required because the reactor has enough energy for postulated accidents to occur and mitigation by the ECCS may be required. The addition of Modes 4 and 5, and whenever moving irradiated fuel in the secondary containment ensures there is available power to equipment required to mitigate fuel handling accidents, cool the irradiated fuel, and monitoring instruments required to ensure that the unit is maintained in Mode 4 or 5. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(2) CTS 3.9 specifications do not list the acceptance criteria for battery parameters. ITS 3.8.6, Required Action A.1, requires the battery pilot cell electrolyte level and float voltage be verified within Table 3.8.6-1 Category C limits when one or more batteries has one or more cells not within Category A or B limits. In addition, ITS Required Action A.2 includes a new requirement that all battery cells must be verified to be within Category C limits every 7 days until the batteries are returned to Category A and B limits. The ITS Table 3.8.6-1 acceptance criteria for Category A and Category B values and Category C limits for float voltage, electrolyte level, and specific gravity (or charging current) are consistent with IEEE-450. These requirements ensure the batteries have the capability to perform their safety function during the time that the batteries are allowed to be outside the Category A and B limits. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(3) ITS 3.8.6 contains a requirement to the verify the battery cell electrolyte level. This is an addition to the battery parameters required to be verified by CTS SR 4.9.A.2. The more restrictive requirement makes the TS requirements consistent with the guidance in

IEEE-450. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(4) CTS SR 4.9.A.2.b requires the measurement of the battery cell voltage and specific gravity every 3 months. ITS SR 3.8.6.2 requires the verification that the voltage, electrolyte level, and specific gravity (corrected for temperature) of cells are within Category B limits every 3 months. In addition, the ITS SR requires the verification to be completed within 24 hours after battery discharge to < 100 V and once within 24 hours after battery overcharge to > 145 V. The more restrictive changes are consistent with IEEE-450, which recommends the increased level of verification every 3 months and recommends a special verification following a severe battery discharge or overcharge, to ensure no significant degradation of the battery occurs as a consequence of such discharge or overcharge. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(5) CTS 4.9.A.2.b specifies cell voltage measurements read "to nearest 0.1 volt." ITS Table 3.8.6-1 specifies acceptance criteria for the cell voltage of ≥ 2.13 volts for Category A and B limits and > 2.07 volts for Category C limits. As a result, if the acceptance criteria of Table 3.8.6-1 are satisfied, the requirement to measure to the nearest 0.1 volt will be satisfied. This more restrictive change to satisfy the cell voltage requirements of Table 3.8.6-1 requires measuring the cell voltages to the nearest 0.01 volts. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

2.3.8.3.G <u>ITS 3.8.7, Distribution Systems - Operating</u>

(1) CTS 3.9 requires the AC and DC distribution systems to be Operable whenever the reactor is critical or in Modes 1, or 2. ITS 3.8.7, Applicability, requires that necessary AC and DC distribution subsystems be Operable whenever the reactor is in Modes 1, 2, and 3. The addition of Mode 3 is required because the reactor has enough energy for postulated accidents to occur and mitigation by the ECCS may be required. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(2) Certain equipment required by the Unit 2 accident analysis is powered from the Unit 3 AC and DC distribution subsystems and vice versa. The CTS do not include requirements for the opposite unit's AC and DC distribution subsystems when the subject unit is critical. ITS 3.8.7 includes requirements for all AC and DC distribution systems that are required to be Operable when in Modes 1, 2, and 3. ITS 3.8.7, Required Action A.1 and Required Action B.1, limit the time that the required opposite unit's AC and DC distribution subsystems may be inoperable to 7 days and 12 hours respectively. The times are consistent with the current time allowed in the individual system specifications. In addition, since an AC bus could be required to provide power to a required opposite unit battery charger (which can be inoperable for only

12 hours per LCO 3.8.4) a note to LCO 3.8.7, Required Action A.1, requires entry into ITS 3.8.3 when Condition A results in a de-energized opposite unit charger. ITS SR 3.8.7.1, which requires the verification of breaker alignment and indicated power availability on a 7 day Frequency, confirms the required Unit 2 and Unit 3 AC and DC buses are properly aligned. The addition of requirements for the opposite unit's distribution systems in the ITS is consistent with the intent of the STS in that it ensures that all required AC and DC power is available to equipment necessary to mitigate a design basis accident. Therefore, this more restrictive change is acceptable.

(3) The CTS does not include specific requirements for DC distribution systems. CTS 3.9.B.5 allows one 125 V battery system to be inoperable for 3 days. ITS 3.8.7, Required Action D.1, limits the time for an inoperable DC distribution subsystem to 2 hours. This time is consistent with the guidance of Regulatory Guide 1.93. This more restrictive change is also consistent with the STS and is, therefore, acceptable.

(4) ITS SR 3.8.7.1, which requires the verification of breaker alignment and power availability on a 7 day Frequency, confirms that the required Unit 2 and Unit 3 AC and DC buses are properly aligned. There is no such requirement in the CTS. This more restrictive change is also consistent with the STS and is, therefore, acceptable.

(5) ITS 3.8.7, Required Action C.1 and Required Action D.1, includes new limitations not included in the CTS for the total time allowed for required Unit 2 AC and DC distribution subsystems to be continuously inoperable. A second Completion Time of 16 hours from discovery of failure to meet the LCO establishes a maximum time allowed for any combination of required distribution subsystems to be inoperable during a single continuous failure to meet the LCO. This new restriction is intended to prevent exceeding the assumptions regarding allowed out of service times for sources as a result of sequential inoperabilities of a sources. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(6) ITS 3.8.7, Condition F, includes new limitations not included in the CTS for two or more inoperable distribution subsystems. Condition F requires immediate entry into ITS 3.0.3 when two or more inoperable distribution subsystems result in a loss of function. This more restrictive change is also consistent with the STS and is, therefore, acceptable.

2.3.8.3.H <u>ITS 3.8.8, Distribution Systems - Shutdown</u>

(1) CTS 3.9 does not include any requirements for AC and DC distribution systems when the reactor is not critical. The ITS includes Specification 3.8.8, "Distribution Systems - Shutdown." The new specification includes requirements for necessary portions of the Unit 2 and Unit 3 AC and DC Electrical Power Distribution Systems to be Operable to support equipment required to be Operable during plant Modes

4 and 5 and during movement of irradiated fuel assemblies in secondary containment. ITS 3.8.8 includes Conditions, Required Actions, and Completion Times for the required distribution systems. Appropriate SRs are also included in ITS 3.8.8. The more restrictive requirements confirms the systems necessary to mitigate a design basis accident are supplied AC and DC electrical power. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

The staff has reviewed these more restrictive requirements and concludes they result in enhancements to the CTS. Therefore, these more restrictive requirements are acceptable.

2.3.8.4 Significant Administrative Changes

Reformatting and renumbering of requirements are in accordance with the STS. As a result, the ITS should be easier to read and, therefore, easier to understand by plant operators as well as other users.

Editorial rewording (either adding or deleting) is generally consistent with the STS. Certain wording preferences or terminology changes appear in the ITS which result in no technical changes (either actual or interpretational) to the TS. Several types of administrative changes which apply to more than one specification in the CTS are discussed in the following general categories.

2.3.8.4.A ITS 3.8.1, AC Sources - Operating

(1) The Completion Time for an inoperable DG in CTS 3.9.B was increased from 7 days to 14 days based on the availability of the Conowingo Tie-Line in Amendment Nos. 209 and 213, for Units 2 and 3, respectively, dated August 16, 1995. This change also added a reporting requirement and a monthly SR for the Conowingo Tie-Line. This change to the CTS was approved after PECO's submittal of TSCR 93-16. Therefore, this change to the CTS submitted with TSCR 93-16 is considered administrative. This change is consistent with the PBAPS current licensing basis and is, therefore, acceptable.

(2) CTS SRs involving DG starts are modified by a Note stating that the test "shall" be conducted in accordance with manufacturer recommendations regarding engine pre-lube and warmup. ITS SRs involving DG starts have a similar Note indicating the tests "may" be performed in accordance with these manufacturer recommendations. This change acknowledges that pre-lube and warmup are allowed for long term equipment protection and the absence of these actions does not affect the validity of the test in demonstrating DG Operability. This is an administrative change because a test without pre-lube or warmup is a more realistic test so the change constitutes permission to perform a more realistic test. Additionally, since actual or simulated test signals may be used to satisfy these SRs, the change acknowledges that the lack of a pre-lube or warmup does not prevent an actual start signal from being counted as a valid diesel

test. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(3) ITS SRs 3.8.1.11, 3.8.1.12, 3.8.1.13, and 3.8.1.19 are modified by a Note allowing an unplanned event to satisfy the requirements of these SRs. For the unplanned event to replace the SRs, the data collected during the event must be sufficient to satisfy all required acceptance criteria. Since these tests are currently performed using simulated signals, explicit recognition that these tests can also be satisfied using an actual signal is an administrative change because a test without pre-lube or warmup is a more realistic test so the change constitutes permission to perform a more realistic test. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(4) CTS 4.2.B (Table 4.2.B) requires an instrument functional test of the 4-kVac emergency power system voltage relays (SV) once each operating cycle. The separate requirement to functional test these relays is removed from the ITS, since a successful performance of ITS SRs 3.8.1.11, 3.8.1.12, or 3.8.1.19 constitutes a functional test of these relays. The ITS SRs are required to be completed every 24 months. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(5) The CTS indirectly requires actions leading to hot and cold shutdown with three AC sources inoperable. ITS 3.8.1, Condition H, requires immediate entry into ITS 3.0.3 if three or more AC sources are inoperable. Without ITS Condition H the format of the STS would allow multiple Conditions for inoperable AC sources to be simultaneously entered. As a result, three required AC sources could be inoperable, Required Actions taken in accordance with the individual Conditions, and yet ITS 3.0.3 entry would still not be required. To preserve the existing intent for ITS 3.0.3 entry, the ITS includes this new Condition. Since the ITS changes effectively retain the CTS required actions within the ITS, the changes are administrative. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(6) CTS 4.9.1.2.h.1.b verifies the "emergency busses" are energized by the DG within 10 seconds and "the permanent and auto-connected loads" are energized. The like requirement in ITS SR 3.8.1.11 verifies the energization of the "associated 4-kVac emergency bus." The permanent loads with respect to the DGs are the associated 4-kVac emergency buses. As a result, the change to explicitly specify energizing the associated 4-kVac emergency buses instead of permanent loads in the TS is administrative in nature and is acceptable.

2.3.8.4.B <u>ITS 3.8.2, AC Sources - Shutdown</u>

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no administrative changes.

2.3.8.4.C <u>ITS 3.8.3, Diesel Fuel Oil, Lube Oil, and Starting Air</u>

(1) ITS 3.8.3 includes an Actions Note stating that "Separate Condition entry is allowed for each DG." This Note provides more explicit instructions consistent with the intent of the Required Actions for inoperable diesel fuel oil, lube oil, or starting air for each DG. It is intended that each Required Action be applied regardless of it having been applied previously for inoperable diesel fuel oil, lube oil, or starting air functions associated with a different DG. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

(2) CTS SR 4.9.A.2.d includes specific requirements for the testing of new and stored diesel fuel oil. The specific requirements relating to fuel oil quality requirements are moved to ITS 5.5.9. ITS SR 3.8.3.3 requires testing of new and stored diesel fuel oil in accordance with the "Diesel Fuel Oil Testing Program," ITS 5.5.9. Any technical changes to the requirements for testing are addressed in Section 2.5.0 of this safety evaluation. This change in the location of the technical requirements for diesel fuel oil testing is also consistent with the STS and is, therefore, acceptable.

2.3.8.4.D <u>ITS 3.8.4, DC Sources - Operating</u>

(1) ITS 3.8.4, Required Action E.1, requires ITS LCO 3.0.3 to be entered if a loss of function results from two or more DC electrical subsystems being inoperable. This is consistent with the CTS requirements which require entering Specification 3.0.C upon two or more 125 V battery systems being inoperable or if a loss of function occurred. This change is also consistent with the STS and is, therefore, acceptable.

2.3.8.4.E <u>ITS 3.8.5, DC Sources - Shutdown</u>

There are no significant administrative changes to the CTS associated with ITS 3.8.5.

2.3.8.4.F <u>ITS 3.8.6, Battery Cell Parameters</u>

(1) ITS 3.8.6, "Battery Cell Parameters," requires that the battery cell parameters for the station batteries shall be within the limits of Table 3.8.6-1. The addition of this LCO explicitly requires the battery cell parameters to be within required limits, which is an implied rather than explicit requirement in the CTS. This change is administrative in nature, is consistent with the STS and is, therefore, acceptable.

(2) ITS 3.8.6 includes an Actions Note stating that "Separate Condition entry is allowed for each battery." This Note provides direction consistent with the intent of the Required Actions for inoperable battery cell parameters for each battery in the CTS. It is intended that each Required Action be applied regardless of it having been applied previously for inoperable battery cell parameters associated

with a different battery. This change is administrative in nature, is consistent with the STS and is, therefore, acceptable.

(3) ITS 3.8.6, Required Action B.1, requires a battery to be immediately declared inoperable if the Required Actions and Completion Times of Condition A are not met; or there are one or more batteries with average electrolyte temperature of the representative cells not within limits; or there are or one or more batteries with one or more battery cell parameters not within Category C limits. This is consistent with the CTS requirement in which the battery would be declared inoperable and the battery specification (CTS 3.9.B.5) would be followed. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

2.3.8.4.G <u>ITS 3.8.7, Distribution Systems - Operating</u>

There are no significant administrative changes to the CTS associated with ITS 3.8.7.

2.3.8.4.H <u>ITS 3.8.8, Distribution Systems - Shutdown</u>

There are no significant administrative changes to the CTS associated with ITS 3.8.8.

The above changes result in the same limits as the current requirements, or they represent enhanced presentation of the CTS intent. Accordingly, the improved TS changes are purely administrative and they are acceptable.

2.3.8.5 <u>Significant Differences Between the ITS and the STS</u>

The following discussions relate to significant differences from the STS that appear in multiple specifications.

<u>Requirements for the Opposite Unit</u>

Opposite unit Operability requirements have been added to ITS 3.8.1, 3.8.2, 3.8.4, 3.8.5, 3.8.7, and 3.8.8, as necessary to clarify the appropriate requirements. Additional changes have been made to reflect the shared DG design, as well as the shared offsite circuit design. The design is such that the AC sources are shared except for the individual feeder breakers to the 4 kV emergency buses. These changes are proposed to eliminate potential confusion due to the sharing of other systems (e.g., SGT System). The changes will ensure appropriate electrical power systems are available to a given unit, and appropriate Actions applied, irrespective of the operational status of the other unit.

The following discussions relate to significant differences from the STS that affect individual specifications.

2.3.8.5.A ITS 3.8.1, AC Sources - Operating

(1) In Required Action A.2, the STS wording for the Completion Time referring to "division" could be interpreted to mean the Action is not required if more than one 4-kVac emergency bus has no offsite power. The wording of the ITS Completion Time of Required Action A.2 is consistent with the STS except that the reference to "division" has been replaced with "4 kV emergency bus". This accounts for the PBAPS design that has two 4-kVac emergency buses per division. This difference is based on the PBAPS-specific design and is, therefore, acceptable.

(2) Both CTS 3.9.B.1 and the ITS 3.8.1, Required Action A.3, allow 7 days to restore an inoperable offsite circuit to Operable status. In Required Action A.3, 14 days are provided to restore the offsite source to Operable status for the second Completion Time (from discovery of failure to meet the LCO). This permits any combination of required AC offsite circuits or DGs to be inoperable during a single continuous failure to meet the LCO. The maximum Completion Time for the ITS Required Action A.3 is consistent with the derivation of the maximum Completion Times in the STS. Therefore, this difference is acceptable.

(3) This difference increases the Completion Time for an inoperable DG from 72 hours and 6 days from discovery of failure to meet the LCO in the STS to 7 days (ITS Required Action C.1) and 14 days from discovery of failure to me LCO 3.8.1.a or b to restore the inoperable DG to Operable status (ITS Required Action B.5). The ITS also provide requirements to verify correct breaker alignment, required equipment available, and indicated power available for the Conowingo Tie-Line. This difference is consistent with the PBAPS current licensing basis and is acceptable.

(4) The wording in ITS Required Action D.2, "Restore all but one offsite circuit" differs from "Restore one [required] offsite circuit" in STS Required Action C.2. This difference reflects the shared offsite circuit design. The design is such that the AC sources are shared between the two units, except for the individual feeder breakers to the 4 kV emergency buses. If all but one offsite source is restored within 24 hours, operation may continue in accordance with Condition A, consistent with the intent of the STS. This difference is based on the PBAPS-specific design and is, therefore, acceptable.

(5) ITS SR 3.8.1.9, Note 2, is added permitting a single load rejection test to allow demonstrating the capability for both units with a single test. This note is acceptable because the single largest load is the same for both units. The largest single load on the DGs is an RHR pump. Due to the possibility of an RHR pump pumping into a break or two RHR pumps pumping into an intact line, actual load requirements can vary. The value of 1604 kW (nominal 2000 bhp) is the maximum value used in the DG load tabulations and is the same for both units. Since the DGs are common to both units and the largest single load is the same, this difference from the STS is acceptable.

(6) Note 2 for SR 3.8.1.14 allows relief from maintaining the power factor within limits during the 24 hour run of DGs if offsite grid conditions do not allow. However, the power factor must be maintained as close to the limit as practicable. If the offsite electrical power distribution system voltage is high, it may not be possible to raise DG output voltage without creating an overvoltage condition of the emergency bus, or exceeding the DG output voltage limit in the ITS. When this SR is performed, the DG is started in the "test" Mode, meaning that, in the event of a loss of coolant accident or a loss of offsite power, the DG would auto swap back to the "emergency" Mode. As part of the initial test setup, the applicable startup source (the one feeding the 4-kVac emergency bus to be paralleled with the DG) tap changer is placed in "OFF" (from "AUTO") so it will not oppose the action of the DG voltage regulator. Because the startup source tap changer is in "OFF," voltage downstream of the startup source transformer varies as grid voltage varies, including while the 4-kVac emergency bus being paralleled with offsite power and the DG. This ultimately affects the power factor of the DG causing it to occasionally fall outside the power factor limit specified in SR 3.8.1.14. While the power factor can be brought back within limits or maintained close to the limit under these conditions by manually adjusting the voltage regulator, an operator would have to be dedicated 24 hours watching VARS and load (KW). This still would not guarantee the power factor would be maintained within limits. Therefore, to ensure the bus voltage, supplied loads, and DG are not placed in an unsafe condition during the test, the power factor limit should not have to be met if grid voltage or emergency bus loading does not permit the power factor limit to be met when the DG is tied to the grid. When this occurs, the power factor should be maintained as close to the limit as practicable. This difference is based on the specific design and conditions at PBAPS and is, therefore, acceptable.

2.3.8.5.B <u>ITS 3.8.2, AC Sources - Shutdown</u>

(1) STS LCO 3.8.2 does not dictate the required distribution subsystems to be capable of being powered from both a qualified offsite circuit and a DG (i.e., one required distribution subsystem capable of being powered from an offsite circuit and another required distribution subsystem capable of being powered from a DG is allowed). As a result, ITS 3.8.2.d is worded in the singular consistent with this allowance of the STS. However, when the opposite unit is at power this allowance could not be utilized due to the opposite unit's LCO 3.8.1 requirements. This difference is based on the PBAPS-specific design and is, therefore, acceptable.

(2) ITS Condition C is addressing both the requirements LCO 3.8.2.b and LCO 3.8.2.d. The STS assumes a two division onsite power system. Since LCO 3.8.2 requires more than two of the four DGs to be Operable, Condition C addresses multiple DG inoperabilities. This difference is based on the PBAPS-specific design and is, therefore, acceptable.

(3) The ITS 3.8.2 Actions are modified by a Note stating that LCO 3.0.3 is not applicable. ITS 3.0.3 does not specify any action if moving

irradiated fuel assemblies while in Modes 4 or 5. If moving irradiated fuel assemblies while in Modes 1, 2, or 3, the fuel movement is independent of reactor operations. In either case, inability to suspend movement of irradiated fuel assemblies would not be sufficient reason to require a reactor shutdown. Therefore, the Note is added consistent with other places where the Note appears in the ITS (for example, ITS 3.6.4.3, "Standby Gas Treatment System") and is acceptable.

2.3.8.5.C <u>ITS 3.8.3, Diesel Fuel Oil, Lube Oil, and Starting Air</u>

There are no significant differences from the STS associated with ITS 3.8.3.

2.3.8.5.D <u>ITS 3.8.4, DC Sources - Operating</u>

(1) This difference adds Action A, which covers the case when one opposite unit electrical power DC subsystem is inoperable due to performance of SR 3.8.4.7 and SR 3.8.4.8, and Action B, which covers the case for when the opposite unit DC subsystem is inoperable for other reasons. The remaining DC electrical power subsystems have the capacity to support a safe shutdown and to mitigate an accident condition, however, with an inoperable DC electrical power subsystem on the opposite unit when it is shutdown, continued power operation should not exceed 7 days if it is inoperable due to the two SRs, and 12 hours when it is inoperable for other reasons. These Completion Times take into account the capacity and capability of the remaining DC sources and are based on the restoration time allowed for the supported components (DGs and offsite circuits) affected by the inoperable DC source (Action B time) and time to restore the subsystem after performance of required SRs, (Action A time). Without the time allowed by Action A, the SRs could only be done during a dual unit shutdown. In addition, Notes are provided to ensure that if a de-energized bus results from the loss of the DC sources appropriate actions of LCO 3.8.7, will be taken. Since new Actions A and B refer to the opposite unit, the ITS Action C has been modified to use the given unit number.

These Notes were added since the opposite unit batteries also supply control power to the subject unit 4-kVac emergency bus feeder breakers. If control power voltage were to go too low, the potential exists for the associated breakers to open and the applicable Condition and Required Actions of LCO 3.8.7 must be entered. The applicable Condition of LCO 3.8.7 is Condition C, requiring restoration of the DC bus within 8 hours. This construction allows the Required Actions and associated Completion Times (including any required shutdown actions) for the opposite unit subsystems required by the subject unit to all be contained within the subject unit's TS. This difference is based on the PBAPS-specific design and is, therefore, acceptable.

(2) Condition E of ITS 3.8.4 applies to both the subject unit DC subsystems and the opposite unit DC subsystems required to support the subject unit. The Required Action is to enter LCO 3.0.3 immediately. This condition corresponds to a level of degradation in the DC electrical power subsystems that causes a required safety function to be lost (as

determined by the Safety Function Determination Program). In this case no additional time is justified for continued operation and a controlled shutdown must commence. This difference is related to the PBAPS-specific design and is, therefore, acceptable.

(3) After either a battery service test or performance discharge test, the Operable battery chargers can be loaded to 200 amps while recharging the battery. However, in accordance with the Notes to STS SR 3.8.4.7 and SR 3.8.4.8, these tests are not allowed to be performed when the subject unit is in Modes 1, 2 or 3. The licensee stated in Supplement 10 to Technical Specification Change Request 93-16, dated June 7, 1995, that the battery charger surveillance procedure used to satisfy the requirements of SR 3.8.4.6 will ensure that the spare charger is not connected to the battery during the test. The procedure change process and the requirements of 10 CFR 50.59 are adequate to ensure the test is only performed under appropriate conditions. The STS does not acknowledge the possibility of a spare battery charger, as in the case of the Peach Bottom design. This test represents a new requirement and the absence of the Note (which restricts the performance of the test to when the subject unit is not in Modes 1, 2, or 3) is consistent with the current licensing basis. This difference is based on the PBAPS-specific design and is, therefore, acceptable.

(4) STS SR 3.8.4.3 requires a verification be performed once per 12 months that battery cells, cell plates, and racks show no visual indication of physical damage or abnormal deterioration. The Bases for SR 3.8.4.3 in the STS and the PBAPS ITS state that this SR "provides an indication of physical damage or abnormal deterioration <u>that could potentially degrade battery performance</u>". As a result, it is interpreted that physical damage or abnormal deterioration has to be of a type that could potentially degrade battery performance before the SR would fail to be met. The presence of physical damage or deterioration does not necessarily represent a failure of SR 3.8.4.3, provided an evaluation determines that the physical damage or deterioration does not affect the Operability of the battery (its ability to perform its design function). Therefore, for consistency with the Bases for SR 3.8.4.3 in the STS and the PBAPS ITS, SR 3.8.4.3 is revised to read "Verify battery cells, cell plates, and racks show no visual indication of physical damage or abnormal deterioration <u>that could potentially degrade battery performance</u>." This difference is consistent with the intent of the STS and is, therefore, acceptable.

(5) The weekly Frequency for SR 3.8.4.1 has been modified to allow the surveillance to not be performed if the battery is on equalize charge or has been on equalize charge any time during the previous 1 day or 4 days, respectively. With the battery on equalize charge, meaningful results, as it relates to ensuring required limits are met, cannot be obtained, since the intent of the SR is to ensure the overall battery voltage and individual battery cell voltage are acceptable while on float charge, not while on equalize charge. Also, the specific gravity and electrolyte level results are not meaningful (for trending purposes) while on equalize charge. After completion of an equalize charge

(performed following the battery being on float charge), the 1 day allowance for SR 3.8.4.1 provides time to perform the test and to ensure the overall battery voltage is representative of a float charge. In addition, it takes approximately 3 days for the electrolyte level to return to normal (due to elevated temperatures caused by the equalize charge) and be representative of a battery on float charge. This addition of the Note essentially allows an extension of the normal 7 day Frequency until the time that the parameters can be obtained while on float charge. This additional time is considered acceptable since the most probable result of performing this SR will be that the voltage level, and specific gravity are acceptable; the battery has just completed an equalize charge. The 14 day Frequency has been added to ensure that the battery cannot be placed on equalize all the time, thus the SR would never be required. This ensures the SR is performed at least every 14 days, regardless of how often the battery is placed on equalize. This 14 days is still conservative with respect to the recommendations of IEEE-450, 1987, and is acceptable.

2.3.8.5.E ITS 3.8.5, DC Sources - Shutdown

(1) The ITS 3.8.5 Actions are modified by a Note stating that LCO 3.0.3 is not applicable. ITS 3.0.3 does not specify any action if moving irradiated fuel assemblies while in Modes 4 or 5. If moving irradiated fuel assemblies while in Modes 1, 2, or 3, the fuel movement is independent of reactor operations. In either case, inability to suspend movement of irradiated fuel assemblies would not be sufficient reason to require a reactor shutdown. Therefore, the Note is added consistent with other places where the Note appears in the ITS (for example, ITS 3.6.4.3, "Standby Gas Treatment System") and is acceptable.

2.3.8.5.F ITS 3.8.6, Battery Cell Parameters

(1) CTS SR 4.9.A.2.a, STS SR 3.8.6.1, and ITS SR 3.8.6.1 require the verification that the battery pilot cell parameters are within limits every 7 days. However, a Frequency Note in ITS SR 3.8.6.1 allows the SR to not be performed if the battery is on equalize charge or was on equalize charge any time during the previous 4 days. The STS do not contain this allowance.

The specific gravity and electrolyte level results are not meaningful while on equalize charge. After completion of an equalize charge, it takes approximately 3 days for the electrolyte level to return to normal (due to elevated temperatures caused by the equalize charge) and be representative of a battery on float charge. The additional day provides time to perform the test and to ensure the battery cell parameters are representative of a float charge. The addition of this Note allows an extension of the normal 7 day Frequency until the time that the parameters can be obtained while on float charge. An additional 14 day Frequency is also added to the SR. The 14 day Frequency ensures that the battery cannot be placed on equalize all the time, thus negating the SR. This ensures the SR is performed at least every 14 days, regardless of how often the battery is placed on equalize. This 14 day requirement is still conservative with respect to the recommendations of IEEE-450. Since the battery has just completed an equalization charge, the pilot cell voltage, specific gravity, and electrolyte level are probably acceptable. For this reason and since the increased times are within recommendations of IEEE-450, these differences are acceptable.

(2) The requirement to measure specific gravity of the battery cells in STS 3.8.6 has been replaced with a requirement to utilize charging current in lieu of specific gravity for an extended period of time following a battery recharge. The 1980 and later versions of IEEE-450 discuss two methods of determining the state-of-charge of a lead acid battery. The first method, which PBAPS requires in the CTS, is specific gravity readings. The second method, which IEEE-450 states is "a more accurate indicator of return to full charge", is a stabilized float charging current. It is more accurate in that, like cell voltage, float charging current quickly responds to the battery's state-of-charge. Specific gravity readings inherently lag the actual state-of-charge of the battery.

Stratification of electrolyte in Pb-Ca type lead acid battery cells is a commonly known and accepted phenomena. This stratification can result in false "low" readings of electrolyte specific gravity when taken in the top third of the cell compared to the actual "fully mixed" specific gravity of the cell. Stratified electrolyte has been shown to not affect cell performance or life over short periods of time (up to approximately 6 months). PBAPS specific data demonstrates that low specific gravity resulting from stratification has existed in the past for up to 5 months without affecting cell performance. The words in the NUREG have been modified to allow up to 30 days when a deep discharge did not occur and 180 days if a deep discharge did occur, since deep discharges result in more severe stratification.

Stratification effects are most severe during the recharge period following a full discharge. It is common for Pb-Ca type lead acid battery cells to take 90 days and up to 180 days to reach a fully mixed (non-stratified) condition after such a discharge. In addition, the PBAPS battery chargers are limited to a maximum output of 200 amps compared to the battery charger output of 400 amps in other plants that use similar battery cells. This fact can add to the severity and elongation of stratification in the battery cells at PBAPS since the lower charger amps would create less gas on charge; it is the volume of the gassing action on charge that most effectively mixes the electrolyte and eliminates stratification.

After taking the above information into account, it is the PBAPS battery manufacturer's recommendation that the exemption from meeting specific gravity limits at PBAPS be extended from the 7 day period allowed in NUREG-1433 to 180 days as long as pilot cell voltages are within specified values and the float current is at or below 1 amp.

Also, as an added level of assurance that specific gravity limits will be met at the end of the 180 day time period, additional performance monitoring of the battery cells will be conducted as follows:

If specific gravity readings taken at 90 days after the discharge show any cell or cells below the specific gravity limits, then those cells will be read on a monthly basis along with previously selected pilot cells. These readings will be trended. For those cells with three monthly readings that show stabilized or increasing specific gravity values, no additional measures will be taken. However, if the monthly readings of any of the battery cells show a decreasing specific gravity trend, then those individual cells (or as an option the full battery) will be given an equalizing charge and as a result the applicable Conditions and Required Actions of Specification 3.8.6, "Battery Cell Parameters", will be entered.

Float charging current provides battery state-of-charge information sufficient to determine, to at least the same degree as specific gravity, battery Operability. Therefore, PBAPS has substituted float charging current requirements for specific gravity requirements for a time period of up to 180 days following a recharge. For these reasons, this difference is acceptable.

2.3.8.5.G <u>ITS 3.8.7, Distribution Systems - Operating</u>

There are no significant differences from the STS associated with ITS 3.8.7 other than those identified in Section 2.3.8.5 of this safety evaluation.

2.3.8.5.H <u>ITS 3.8.8, Distribution Systems - Shutdown</u>

(1) The ITS 3.8.8 Actions are modified by a Note stating that LCO 3.0.3 is not applicable. ITS 3.0.3 does not specify any action if moving irradiated fuel assemblies while in Modes 4 or 5. If moving irradiated fuel assemblies while in Modes 1, 2, or 3, the fuel movement is independent of reactor operations. In either case, inability to suspend movement of irradiated fuel assemblies would not be sufficient reason to require a reactor shutdown. Therefore, the Note is added consistent with other places where the Note appears in the ITS (for example, ITS 3.6.4.3, "Standby Gas Treatment System") and is acceptable.

These proposed differences from STS Section 3.8 are consistent with PBAPS plant-specific characteristics and existing requirements and commitments, or they provide improvements to the STS requirements. Therefore, they are acceptable.

2.3.9 REFUELING OPERATIONS (SECTION 3.9)

2.3.9.1 Relocated Requirements

In accordance with the STS, the licensee proposed relocating portions of the following CTS to other licensee-controlled documents. The listing is broken down by the equivalent sections in the ITS, with accompanying discussion for the more significant items.

2.3.9.1.A ITS 3.9.1, Refueling Equipment Interlocks

CTS Section	Title
4.10.A.1	Refueling Operations
3.10.A.3	Refueling Operations

(1) CTS 4.10.A.1 governs the surveillance testing of the refueling interlocks. This specification contains the statement, "They shall also be tested following any repair work associated with the interlocks." Any time the Operability of a system or component has been affected by repair, maintenance or replacement of a component, the licensee must perform post-maintenance testing to demonstrate Operability of the system or component. Explicit post-maintenance SRs are being deleted from the TS and are being relocated to maintenance procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. In addition, this change is also consistent with the STS and is, therefore, acceptable.

(2) The hoists load limit switch setpoints associated with refueling equipment interlocks are being relocated to procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. These setpoints are not assumed in the safety analyses; just the interlocks themselves are assumed to function. In addition, the Channel Functional Test requirements of SR 3.9.1.1 are adequate to ensure the interlocks are maintained Operable. In addition, this change is also consistent with the STS and is, therefore, acceptable.

2.3.9.1.B ITS 3.9.2, Refuel Position One-Rod-Out Interlock

CTS Section	Title
4.10.A.1	Refueling Interlocks

(1) CTS 4.10.A.1 governs the surveillance testing of the refueling interlocks. This specification contains the statement: "They shall also be tested following any repair work associated with the interlocks." Any time the Operability of a system or component has been affected by the repair, maintenance, or replacement, the licensee must perform post-maintenance testing to demonstrate Operability of the system or components. Explicit post-maintenance surveillance testing is being deleted from the TS and relocated to maintenance procedures. Changes

to these procedures will be subject to the requirements of 10 CFR 50.59. In addition, this change is also consistent with the STS and is, therefore, acceptable.

2.3.9.1.C <u>ITS 3.9.3, Control Rod Position</u>

There are no relocated CTS requirements associated with ITS 3.9.3.

2.3.9.1.D <u>ITS 3.9.4, Control Rod Position Indication</u>

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no relocated requirements.

2.3.9.1.E <u>ITS 3.9.5, Control Rod OPERABILITY-Refueling</u>

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no relocated requirements.

2.3.9.1.F <u>ITS 3.9.6, Reactor Pressure Vessel (RPV) Water Level</u>

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no relocated requirements.

2.3.9.1.G <u>ITS 3.9.7, Residual Heat Removal (RHR)- High Water Level</u>

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no relocated requirements.

2.3.9.1.H <u>ITS 3.9.8, Residual Heat Removal (RHR) - Low Water Level</u>

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no relocated requirements.

The above relocated requirements relating to refueling operations are not required to be in the TS under 10 CFR 50.36, and are not required to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety. Further, the scope of ITS Section 3.9 provides sufficient controls on the safety functions that remain in the TS. In addition, the staff finds that sufficient regulatory controls exist under 10 CFR 50.59 for the relocated requirements. Accordingly, the staff has concluded that these requirements may be relocated from the TS to the plant procedures.

2.3.9.2 <u>Less Restrictive Technical Changes</u>

Less restrictive requirements than CTS for Units 2 and 3 corresponding to the scope of the requirements of ITS Section 3.9 are described below for each of the specifications in Section 3.9.

2.3.9.2.A <u>ITS 3.9.1, Refueling Equipment Interlocks</u>

There are no less restrictive changes to the CTS associated with ITS 3.9.1.

2.3.9.2.B <u>ITS 3.9.2, Refuel Position One-Rod-Out Interlock</u>

(1) This change only requires the one-rod-out Interlock to be operable when control rods are being withdrawn in Mode 5. CTS 3.10.A requires the one-rod-out Interlock to be Operable at times when it was not required. Whereas CTS LCO 3.10.A.1 governs all of the refueling interlocks and is applicable "during core alterations," ITS 3.9.2 governs only the refuel position one-rod-out Interlock and is applicable in "Mode 5 with the reactor mode switch in the refuel position and any control rod withdrawn." This change in the Applicability requires that the one-rod-out interlock be operable only during those situations when the interlock is assumed to operate to prevent inadvertent criticality, i.e., the mode switch in refuel and any control rod withdrawn. This change is less restrictive because it will allow the one-rod-out Interlock to be inoperable in conditions identical to conditions where the CTS would require the one-rod-out Interlock to be Operable. However, the ITS Applicability will result in this interlock being Operable in all cases where it may be required to prevent an inadvertent criticality. This change is consistent with the STS and is acceptable.

(2) CTS 4.10.A.1 requires that the interlocks for the "Refuel" position of the Mode Switch be functionally tested "prior to any core alterations within or over the reactor core." ITS SR 3.9.2.2 modifies this requirement by including a Note which allows deferring the performance of the Channel Functional Test "until one hour after any control rod is withdrawn." This allowance is necessary because the test is performed by entering the applicable condition (i.e., a control rod must be withdrawn from its full-in position) and attempting to withdraw a second control rod. This one hour allowance for performing the Channel Functional Test of the one-rod-out interlock is acceptable because of the demonstrated reliability of this interlock, procedural controls on control rod withdrawals, and visual indications available in the control room to alert the operator that control rods are not fully inserted. In addition, these changes are also consistent with the STS and are, therefore, acceptable.

2.3.9.2.C <u>ITS 3.9.3, Control Rod Position</u>

There are no less restrictive changes to the CTS associated with ITS 3.9.3.

2.3.9.2.D <u>ITS 3.9.4, Control Rod Position Indication</u>

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no less restrictive changes.

2.3.9.2.E ITS 3.9.5, Control Rod OPERABILITY-Refueling

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no less restrictive changes.

2.3.9.2.F ITS 3.9.6, Reactor Pressure Vessel (RPV) Water Level

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no less restrictive changes.

2.3.9.2.G ITS 3.9.7, Residual Heat Removal (RHR)- High Water Level

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no less restrictive changes.

2.3.9.2.H ITS 3.9.8, Residual Heat Removal (RHR) - Low Water Level

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no less restrictive changes.

The above less restrictive requirements have been reviewed by the staff and have been found to be acceptable, because they do not present a significant safety question in the operation of the plant. The TS requirements that remain are consistent with current licensing practices, operating experience and plant accident and transient analyses, and provide reasonable assurance that the public health and safety will be protected.

2.3.9.3 More Restrictive Technical Changes

The PBAPS ITS Section 3.9, contains a number of requirements that are more restrictive than the CTS. In most cases, these are additional restrictions that are not in the CTS, but are, however, consistent with the STS. Requirements more restrictive than the CTS corresponding to ITS 3.9 are described below.

2.3.9.3.A ITS 3.9.1, Refueling Equipment Interlocks

(1) ITS Action A is added to the requirements of CTS 3.10.A. ITS Action A requires the suspension of in-vessel fuel movement associated with the inoperable interlock if one or more required refueling equipment interlocks are inoperable. Currently, no Actions are provided for this condition. The addition of requirements is a more restrictive change. The new action is consistent with the STS and is acceptable.

(2) The requirement to verify SDM is $\geq 0.25\%\ \Delta k/k$ prior to performing control rod or control rod drive maintenance on control cells without removing fuel assemblies is being deleted. The ITS SDM specification (ITS 3.1.1) requires SDM to be maintained $\geq 0.38\%\ \Delta k/k$ and $\geq 0.28\%\ \Delta k/k$ when the highest worth control rod is determined analytically and by testing, respectively, at all times. CTS 4.10.2 deviates from the safety analysis assumptions for SDM and has been deleted. The deletion

of this requirement is a more restrictive change necessary to achieve consistency with safety analysis assumptions. In addition, this change is also consistent with the STS and is, therefore, acceptable.

2.3.9.3.B <u>ITS 3.9.2, Refuel Position One-Rod-Out Interlock</u>

(1) CTS 3.10.A.1 requires that "the reactor mode switch shall be locked in the 'Refuel' position" during core alterations. An additional requirement, ITS SR 3.9.2.1, will require verification every 12 hours that the mode switch remains locked in the "Refuel" position while LCO 3.9.2 is applicable. In addition, this change is also consistent with the STS and is, therefore, acceptable.

(2) ITS Action A was added to the requirements of CTS 3.10.A. This Action requires the suspension of control rod withdrawal and action to be initiated to fully insert all insert able control rods in core cells containing one or more fuel assemblies. Currently, no Actions are provided for this condition. The addition of requirements is a more restrictive change. The new Action is consistent with the STS and is acceptable.

2.3.9.3.C <u>ITS 3.9.3, Control Rod Position</u>

(1) CTS 3.10.A.2 and ITS 3.9.3 both require that all control rods be fully inserted when loading fuel assemblies in the core. ITS SR 3.9.3.1 is a new surveillance that will require verification that all control rods are fully inserted every 12 hours while loading fuel. This change represents an additional restriction on plant operation necessary to ensure that safety analysis assumptions are maintained. In addition, this change is also consistent with the STS and is, therefore, acceptable.

2.3.9.3.D <u>ITS 3.9.4, Control Rod Position Indication</u>

(1) ITS 3.9.4 and the associated Conditions, Required Actions, Completion Times, and SRs are being added. No such requirements exist in the CTS. ITS 3.9.4 will require that the control rod "full-in" position indication for each control rod be Operable when in Mode 5. These additional requirements help ensure the safety analysis assumptions are maintained. In addition, this change is also consistent with the STS and is, therefore, acceptable.

2.3.9.3.E <u>ITS 3.9.5, Control Rod OPERABILITY-Refueling</u>

(1) ITS 3.9.5 and the associated Conditions, Required Actions, Completion Times, and SRs are being added. No such requirements exist in the CTS. ITS 3.9.5 will require that each withdrawn control rod must be Operable when in Mode 5. These additional requirements help ensure the safety analysis assumptions are maintained. In addition, this change is also consistent with the STS and is, therefore, acceptable.

2.3.9.3.F ITS 3.9.6, Reactor Pressure Vessel (RPV) Water Level

(1) ITS 3.9.6 and the associated Conditions, Required Actions, Completion Times, and SRs are being added. No such requirements exist in the CTS. ITS 3.9.6 specifies that RPV water level be ≥ 458 inches above RPV instrument zero. RPV water level is an initial condition design parameter in the analysis of a fuel handling accident in containment. The water level requirements help ensure that the doses at the site boundary will be within limits. These additional requirements help ensure the safety analysis assumptions are maintained. In addition, this change is also consistent with the STS and is, therefore, acceptable.

2.3.9.3.G ITS 3.9.7, Residual Heat Removal (RHR)- High Water Level

(1) ITS 3.9.7 and the associated Conditions, Required Actions, Completion Times, and SRs are being added. No such requirements exist in the CTS. ITS 3.9.7 specifies that one RHR SDC subsystem be Operable and in operation in Mode 5 with water level ≥ 458 inches above RPV instrument zero. In Mode 5, the RHR System is not required to mitigate any events or accidents evaluated in the safety analyses. However, the RHR shutdown cooling subsystem was identified as an important contributor to risk reduction and, therefore, included in the ITS in accordance with Criterion 4 of the Final Policy Statement and 10 CFR 50.36. In addition, this change is also consistent with the STS and is, therefore, acceptable.

2.3.9.3.H ITS 3.9.8, Residual Heat Removal (RHR) - Low Water Level

(1) ITS 3.9.8 and the associated Conditions, Required Actions, Completion Times, and SRs are being added. No such requirements exist in the CTS. ITS 3.9.8 specifies that two RHR SDC subsystems be Operable and one RHR SDC subsystem be in operation in Mode 5 with water level < 458 inches above RPV instrument zero. In Mode 5, the RHR System is not required to mitigate any events or accidents evaluated in the safety analyses. However, the RHR shutdown cooling subsystem was identified as an important contributor to risk reduction and, therefore, included in the ITS in accordance with Criterion 4 of the Final Policy Statement and 10 CFR 50.36. In addition, this change is also consistent with the STS and is, therefore, acceptable.

The staff has reviewed these more restrictive requirements and concludes they result in enhancements to the CTS. Therefore, these more restrictive requirements are acceptable.

2.3.9.4 Significant Administrative Changes

Reformatting and renumbering of requirements are in accordance with the STS. As a result, the ITS should be easier to read and, therefore, easier to understand by plant operators as well as other users.

Editorial rewording (either adding or deleting) is generally consistent with the STS. Certain wording preferences or terminology changes appear in the ITS which result in no technical changes (either actual or interpretational) to the TS.

2.3.9.4.A ITS 3.9.1, Refueling Equipment Interlocks and ITS, 3.9.2 Refuel Position One-Rod-Out Interlock

(1) CTS LCO 3.10.A.1, "Refueling Interlocks," identifies the requirements applicable "during core alterations." However, there are two types of core alterations (See ITS definition for Core Alteration): movement of fuel in the reactor vessel and movement of control rods. Each of the two types of core alterations depends on different refueling interlocks for the prevention of an inadvertent criticality. Therefore, CTS 3.10.A.1 is being broken into two parts: ITS 3.9.1, "Refueling Equipment Interlocks," which covers in-vessel fuel movement only; and LCO 3.9.2, "Refuel Position One-Rod-Out Interlock," which covers control rod withdrawal during Mode 5. This change is considered administrative. In addition, this change is also consistent with the STS and is, therefore, acceptable.

(2) The Applicability of ITS 3.9.1 is "During in-vessel fuel movement with equipment associated with the interlock." The Applicability of ITS 3.9.2 is "Mode 5 with the reactor mode switch in the refuel position and any control rod withdrawn." The Applicability of CTS 3.10.A.1 is "during core alterations," modified by the statement "except as specified in 3.10.A.2, 3.10.A.5, and 3.10.A.6 below" (3.10.A.2 is applicable for Unit 3 only). This exception to the Applicability statement is a cross reference to CTS governing control rod position while loading fuel, minimum proximity of control rods undergoing maintenance, and removal of control rods when the fuel assemblies in the same cell have already been removed. The structure and format of the STS is such that compliance with the specifications does not require the use of cross-references. Therefore, statements that cross reference specifications are being deleted.

Because there are two different types of core alterations, movement of fuel in the reactor vessel and movement of control rods, covered by ITS 3.9.1 and 3.9.2, respectively, the change from during core alterations to the Applicabilities in ITS 3.9.1 and ITS 3.9.2 is considered an administrative change. In addition, this change is also consistent with the STS and is, therefore, acceptable.

2.3.9.4.C ITS 3.9.3, Control Rod Position

There are no significant administrative changes to the CTS associated with ITS 3.9.3.

2.3.9.4.D ITS 3.9.4, Control Rod Position Indication

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no administrative changes.

2.3.9.4.E ITS 3.9.5, Control Rod OPERABILITY-Refueling

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no administrative changes.

2.3.9.4.F ITS 3.9.6, Reactor Pressure Vessel (RPV) Water Level

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no administrative changes.

2.3.9.4.G ITS 3.9.7, Residual Heat Removal (RHR)- High Water Level

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no administrative changes.

2.3.9.4.H ITS 3.9.8, Residual Heat Removal (RHR) - Low Water Level

This is a new specification for which the requirements did not exist in the CTS; therefore, there are no administrative changes.

The above changes result in the same limits as the current requirements, or they represent enhanced presentation of the CTS intent. Accordingly, the improved TS changes are purely administrative and they are acceptable.

2.3.9.5 Significant Differences Between the ITS and the STS

The following discussion does not relate to any individual specification in the ITS.

(1) PBAPS is not adopting bracketed STS 3.9.7. The requirements for maintaining level during movement of control rods and new fuel will be maintained in ITS 3.9.6. This difference is consistent with the PBAPS current licensing basis and is acceptable.

2.3.9.5.A ITS 3.9.1, Refueling Equipment Interlocks

There are no significant differences from the STS associated with ITS 3.9.1.

2.3.9.5.B ITS 3.9.2, Refuel Position One-Rod-Out Interlock

There are no significant differences from the STS associated with ITS 3.9.2.

2.3.9.5.C ITS 3.9.3, Control Rod Position

There are no significant differences from the STS associated with ITS 3.9.3.

2.3.9.5.D ITS 3.9.4, Control Rod Position Indication

There are no significant differences from the STS associated with ITS 3.9.4.

2.3.9.5.E ITS 3.9.5, Control Rod OPERABILITY-Refueling

There are no significant differences from the STS associated with ITS 3.9.5.

2.3.9.5.F ITS 3.9.6, Reactor Pressure Vessel (RPV) Water Level

There are no significant differences from the STS associated with ITS 3.9.6.

2.3.9.5.G ITS 3.9.7, Residual Heat Removal (RHR)- High Water Level

(1) The PBAPS units have some shared common systems. In order to clarify which unit's systems, structures, or components are addressed by the Actions, a unit identifier is being added to the Actions. This difference is based on the PBAPS-specific design and is, therefore, acceptable.

2.3.9.5.H ITS 3.9.8 Residual Heat Removal (RHR) - Low Water Level

(1) The PBAPS units have some shared common systems. In order to clarify which unit's systems, structures, or components are addressed by the Actions, a unit identifier is being added to the Actions. This difference is based on the PBAPS-specific design and is, therefore, acceptable.

These proposed differences from STS Section 3.9 are consistent with PBAPS plant-specific characteristics and existing requirements and commitments, or they provide improvements to the STS requirements. Therefore, they are acceptable.

2.3.10 Special Operations

2.3.10.1 Relocated Requirements

The licensee did not propose to relocate any CTS requirements associate with the provisions of ITS Section 3.10.

2.3.10.2 Less Restrictive Technical Changes

Requirements in ITS Section 3.10 which are less restrictive than related CTS requirements are described below for each of the specifications in Section 3.10.

2.3.10.2.A ITS LCO 3.10.1, Inservice Leak and Hydrostatic Testing Operation

There are no less restrictive changes to the CTS associated with ITS 3.10.1.

2.3.10.2.B <u>ITS LCO 3.10.2, Reactor Mode Switch Interlock Testing</u>

(1) ITS 3.10.2 allows the licensee to place the mode switch in run, startup/hot standby, and refuel positions while the plant is in Modes 3, 4, and 5 and not observe all requirements associated with Mode 1 or 2. The purpose of this Special Operations LCO is to permit operation of the reactor mode switch from one position to another to confirm certain aspects of associated interlocks during periodic tests and calibrations in Modes 3, 4, and 5. This is only permitted provided all control rods remain fully inserted in core cells containing at least one fuel assembly and no core alterations are in progress. The requirements to maintain all control rods fully inserted in core cells containing at least one fuel assembly and to suspend core alterations are equivalent to maintaining the mode switch in shutdown. Control rods are not required to be inserted in core cells containing no fuel because, with one or more core cells in this configuration, the overall Shutdown Margin (SDM) is greater than when all control rods and all fuel assemblies are inserted. In addition, this change is also consistent with the STS and is, therefore, acceptable.

2.3.10.2.C <u>ITS 3.10.3, Single Control Rod Withdrawal - Hot Shutdown and ITS 3.10.4 - "Single Control Rod Withdrawal - Cold Shutdown"</u>

(1) This change adds ITS 3.10.3 and ITS 3.10.4 and the associated Conditions, Required Actions, Completion Times, and SRs. ITS 3.10.3 allows the mode switch to be placed in the refuel position to support withdrawal of a single control rod when the plant is in Mode 3 without requiring the licensee to meet the requirements associated with operation in Mode 2.

ITS 3.10.4 allows withdrawal of a single control rod [and subsequent removal of the control rod drive (CRD)] when the plant is in Mode 4 without requiring the licensee to meet the requirements associated with operation in Mode 2.

Under the CTS, rods are only allowed to be withdrawn while the plant is Mode 5, Refueling. The changes in ITS 3.10.3 and 3.10.4 are acceptable because:

(a) With the reactor mode switch in the refuel position, the analyses for control rod withdrawal during refueling are applicable and bounds the consequences of an accident. The safety analyses demonstrate that the functioning of the refueling interlocks and adequate SDM precludes unacceptable reactivity excursions.

(b) Refueling interlocks restrict the movement of control rods to reinforce operational procedures that prevent the reactor from becoming critical. These interlocks prevent the withdrawal of more than one control rod. Under these conditions, since only one control rod can be withdrawn or removed, the core will always be shutdown even with the highest worth control rod withdrawn or removed if adequate SDM exists.

(c) The control rod scram function provides backup protection to normal refueling procedures and the refueling interlocks, which prevent inadvertent criticality during refueling.

(d) Alternate backup protection can be obtained by ensuring that a five by five array of control rods, centered on the withdrawn or removed control rod, are inserted and incapable of withdrawal.

These requirements, coupled with SDM requirements for the most reactive rod fully withdrawn, are adequate to prevent inadvertent criticality when a single rod is withdrawn for maintenance or testing. In addition, this change is also consistent with the STS and is, therefore, acceptable.

2.3.10.2.D <u>ITS 3.10.5, Single Control Rod Drive (CRD) Removal - Refueling</u>

(1) This change adds ITS 3.10.5 and the associated Conditions, Required Actions, Completion Times, and SRs. These requirements replace CTS 3.10.A.5 which allows the simultaneous withdrawal of two nonadjacent rods for maintenance while shutdown with the reactor mode switch in the refuel position. Although the ITS requirements will allow the withdrawal of one control rod and the subsequent removal of only one CRD, this change is less restrictive because the ITS 3.10.5 allows a single control rod to be withdrawn and the CRD to be removed under more plant conditions and with more options for establishing conditions that will prevent inadvertent criticality than are currently available in CTS 3.10.A.5. This change is acceptable because:

(a) With the reactor mode switch in the refuel position, the analyses for control rod withdrawal during refueling are applicable and will bound the consequences of an accident. The safety analyses demonstrate that the functioning of the refueling interlocks and adequate SDM will preclude unacceptable reactivity excursions. While the refueling interlocks are allowed to be bypassed to remove the CRD, the requirement that all other control rods are inserted, and those in a five by five array be disarmed will preclude any other control rod from being withdrawn. Essentially, this performs the function of the refueling interlocks. In addition, no other Core Alterations will be allowed.

(b) A control rod block is also required to be inserted. This will further ensure no additional control rods are withdrawn.

These requirements, coupled with SDM requirements for the most reactive rod fully withdrawn, are adequate to prevent inadvertent criticality when a single CRD is removed for maintenance or testing. In addition, this change is also consistent with the STS and is, therefore, acceptable.

2.3.10.2.E ITS LCO 3.10.6, Multiple Control Rod Withdrawal - Refueling

(1) CTS 3.10.A.6 allows the withdrawal of multiple control rods and removal of the associated CRDs during refueling if the reactor mode switch is locked in the refuel position and all other refueling interlocks are Operable. These requirements are not included in ITS LCO 3.10.6, Multiple Control Rod Withdrawal-Refueling, which requires that the reactor mode switch to be in either shutdown or refuel position while the "full-in" control rod position signal is bypassed for multiple control rods that are withdrawn or removed.

The change allowing the mode switch to be in shutdown or refuel with associated interlocks is not significant because of two other requirements imposed by both the CTS and the ITS. First, prior to withdrawing more than one control rod, both the CTS and ITS require all four fuel assemblies adjacent to the affected rod to be removed. Since the removal of a control rod in conjunction with all four adjacent fuel assemblies is always a net negative contribution to core reactivity, the removal of the rod and fuel assemblies does not create any potential for a reactivity excursion. In this situation, the refueling interlocks provide no additional protection from a reactivity excursion. Second, both CTS 3.10.A.6 and ITS 3.10.6 allow the licensee to defeat the refueling interlocks for the control rods being withdrawn or removed by bypassing the "full-in" position indication signals for those rods. The refueling interlocks provide protection from a reactivity excursion solely by enforcing requirements that control rods are fully inserted prior to the start of core alterations. With the "full-in" signal for the rod in the cells affected by the core alteration bypassed, the refueling interlocks provide no protection from a reactivity excursion.

When the withdrawal or removal of multiple control rods is made possible by the bypassing of the refueling interlocks, all protection from a reactivity excursion is provided by the following: the design of the control rod which prevents its removal from the core until all four of the adjacent fuel assemblies are removed; the LCO requirements prohibiting the withdrawal of a control rod until all four of the adjacent fuel assemblies are removed; the LCO requirement that all other control rods be fully inserted in cells containing one or more fuel assemblies; and, new surveillances verifying that the ITS LCO requirements are met. Therefore, the allowance in 3.10.6 for the reactor mode switch to be in the shutdown or in refuel position while multiple control rods are withdrawn or removed does not increase the probability of a reactivity excursion or reduce the margin of safety.

CTS 3.10.A.2 and ITS 3.9.3 both stipulate that fuel shall not be loaded into the reactor core unless all control rods are fully inserted. This prevents a reactivity excursion by inadvertent insertion of fuel into a cell that does contain a fully inserted control rod. This requirement is enforced by a refueling interlock which prevents loading fuel unless all rods are fully inserted. However, ITS LCO 3.10.6.c provides an exemption from ITS 3.9.3. The ITS exemption allows fuel to be loaded when multiple control rods are withdrawn or removed as long as the fuel assemblies are being loaded in compliance with an approved quadrant spiral reload sequence. ITS SR 3.10.6.3 requires verification that the reloading is in compliance with this sequence.

Since the interlock that prevents loading fuel when all rods are not fully inserted must be bypassed to remove or withdraw the rods, the presence or absence of this interlock does not prevent the inadvertent insertion of fuel into a cell that does not contain a fully inserted rod. ITS 3.10.6.c required reload sequence identifies and account for cells that do not contain a fully inserted control rod and plant procedural controls ensure that fuel is only inserted in a cell that contains a fully inserted control rod. The procedural controls include multiple review and approval of the reload sequence, and independent verification that a control rod is installed by two qualified individuals prior to the insertion of each fuel bundle.

In addition to the above discussion, these changes are also consistent with the STS and are, therefore, acceptable.

2.3.10.2.F <u>ITS LCO 3.10.7, Control Rod Testing - Operating</u>

This change adds ITS 3.10.7 and the associated Conditions, Required Actions, Completion Times, and SRs. ITS 3.10.7 allows ITS 3.1.6, "Rod Pattern Control," to be suspended to allow performance of SDM demonstrations, control rod scram time testing, control rod friction testing, and the Startup Test Program. ITS 3.10.7 allows the suspension provided either one of the following conditions exist: (1) the banked position withdrawal sequence (BPWS) requirements of SR 3.3.2.1.8 are changed to require the control rod sequence to conform to the specified test sequence; or (2) the RWM is bypassed, the requirements of LCO 3.3.2.1, Function 2 are suspended, and conformance to the approved control rod sequence for the specified test is verified by a second licensed operator or other qualified technical staff member. Either ITS LCO 3.10.7 requirement effectively limits the potential amount and rate of reactivity increase that could occur during a control rod drop accident (CRDA).

Special CRDA analyses are required to demonstrate that the special sequences do not result in unacceptable consequences, should a CRDA occur during the testing. These analyses, performed in accordance with an NRC approved methodology, are dependent on the specific test being performed. In addition, this change is also consistent with the STS and is, therefore, acceptable.

2.3.10.2.G <u>ITS 3.10.8 - SDM Test - Refueling</u>

This change adds ITS 3.10.8 and the associated Conditions, Required Actions, Completion Times, and SRs. ITS 3.10.8 allows the licensee to change the reactor mode switch position specified in Table 1.1-1 for Mode 5 to include the startup/hot standby position and not observe all requirements associated with Mode 2, to allow SDM testing provided the following requirements are met.

(a) LCO 3.3.1.1, "Reactor Protection System Instrumentation," Mode 2 requirements for Functions 2.a and 2.e of Table 3.3.1.1-1;

(b) LCO 3.3.2.1, "Control Rod Block Instrumentation," Mode 2 requirements for Function 2 of Table 3.3.2.1-1, with the BPWS requirements of SR 3.3.2.1.8 changed to the SDM test sequence, or conformance to the approved control rod sequence for the SDM test verified by a second qualified individual;

(c) Each withdrawn control rod coupled to the associated CRD;

(d) All control rod withdrawals during out of sequence control rod moves made in notch out mode;

(e) No other Core Alterations in progress; and

(f) CRD charging water header pressure ≥ 955 psig.

Placing the reactor mode switch in the startup/hot standby position when the unit is in Mode 5 allows SDM testing to be performed if the RPV head is not on or the head bolts are not fully tensioned. The CRDA analysis assumes that the reactor operator follows a prescribed withdrawal sequence. For the SDM tests which follow the previously prescribed sequence, the current analyses are applicable. If the prescribed sequence will not be followed, a special CRDA analysis is required to be performed in accordance with an NRC approved methodology to demonstrate the SDM test sequence does not result in unacceptable consequences should a CRDA occur during testing. These new analyses must be prescribed to either by changing the RWM sequence or requiring a second qualified individual to verify the sequence. Additional requirements are also specified for the RWM, APRM, and control rod coupling. Also, any out of sequence control rod moves must be made in the notch out mode to limit inserted reactivity and allow adequate monitoring of changes in neutron flux. No other Core Alterations are allowed while in ITS 3.10.8. These additional requirements effectively compensate for the mode switch being in startup/hot standby when the unit is in Mode 5. In addition to the above discussion, this change is also consistent with the STS and is, therefore, acceptable.

The above less restrictive requirements have been reviewed by the staff and have been found to be acceptable, because they do not present a significant safety question in the operation of the plant. The TS requirements that remain are consistent with current licensing practices, operating experience and plant accident and transient analyses, and provide reasonable assurance that the public health and safety will be protected.

2.3.10.3 More Restrictive Technical Changes

The PBAPS ITS Section 3.10 contains a number of requirements that are more restrictive than the CTS. In most cases, these are additional restrictions that are not in the CTS, but are, however, consistent with the STS.

Requirements more restrictive than the CTS corresponding to ITS 3.10 are described below.

2.3.10.3.A <u>ITS 3.10.1, Inservice Leak and Hydrostatic Testing Operation</u>

There are no more restrictive changes to the CTS associated with ITS 3.10.1.

2.3.10.3.B <u>ITS 3.10.2, Reactor Mode Switch Interlock Testing</u>

There are no more restrictive changes to the CTS associated with ITS 3.10.2.

2.3.10.3.C <u>ITS 3.10.3, Single Control Rod Withdrawal - Hot Shutdown</u>

There are no more restrictive changes to the CTS associated with ITS 3.10.3.

2.3.10.3.D <u>ITS 3.10.4, Single Control Rod Withdrawal - Cold Shutdown</u>

There are no more restrictive changes to the CTS associated with ITS 3.10.1.

2.3.10.3.E <u>LCO 3.10.5, Single Control Rod Drive (CRD) Removal - Refueling</u>

(1) The number of control rods allowed to be withdrawn with fuel assemblies not removed from around the control rod has been reduced to one in ITS 3.10.5. The removal of more than one control rod (currently allowed by CTS 3.10 A.5) will be controlled in accordance with ITS 3.10.6. This change is more restrictive on plant operation, is consistent with the STS, and is, therefore, acceptable.

(2) The allowance in CTS 3.10.A.5 to disarm all directional control valves for the remaining control rods, has been deleted. SDM will always have to be met (per ITS 3.10.5.c) and all other control rods must be inserted (per ITS 3.10.5.a). This change is more restrictive on plant operation, is consistent with the STS, and is, therefore, acceptable.

2.3.10.3.F <u>ITS 3.10.6, Multiple Control Rod Withdrawal - Refueling</u>

CTS 3.10.A.6 establishes the conditions required for the withdrawal or removal of multiple control rods during refueling. ITS 3.10.6 replaces CTS 3.10.A.6 and sets requirements for the same activity in the ITS. Both the CTS and the ITS require the prior removal of the four fuel assemblies associated with each control rod or CRD to be removed. In addition ITS 3.10.6.b requires that all other control rods in core cells containing one or more fuel assemblies must be fully inserted. A requirement not included in the CTS. LCO 3.10.6 also includes new SRs (SR 3.10.6.1, SR 3.10.6.2 and SR 3.10.6.3) requiring verification every 24 hours that the essential restrictions associated with the removal of multiple control rods are satisfied. This change is more restrictive on plant operation, is consistent with the STS, and is, therefore, acceptable.

2.3.10.3.G ITS 3.10.7, Control Rod Testing - Operating

There are no more restrictive changes to the CTS associated with ITS 3.10.7.

2.3.10.3.H ITS 3.10.8 - SDM Test - Refueling

There are no more restrictive changes to the CTS associated with ITS 3.10.8.

The staff has reviewed these more restrictive requirements and concludes they result in enhancements to the CTS. Therefore, these more restrictive requirements are acceptable.

2.3.10.4 Significant Administrative Changes

Reformatting and renumbering of requirements are in accordance with the STS. As a result, the ITS should be easier to read and, therefore, easier to understand by plant operators as well as other users.

Editorial rewording (either adding or deleting) is generally consistent with the STS. Certain wording preferences or terminology changes appear in the ITS which result in no technical changes (either actual or interpretational) to the TS. Several types of administrative changes which apply to more than one specification in the CTS are discussed in the following general categories.

2.3.10.4.A ITS 3.10.1, Inservice Leak and Hydrostatic Testing Operation

(1) This change adds ITS 3.10.1 and the associated Conditions, Required Actions, Completion Times, and SRs. ITS 3.10.1 allows the plant to complete leak and hydrostatic testing by allowing the average reactor coolant temperature to be > 212°F in Mode 4 if the Mode 3 requirements for ITS 3.3.6.2, "Secondary Containment Isolation Instrumentation," (Functions 1, 2, 3,and 4), ITS 3.6.4.1, "Secondary Containment," ITS 3.6.4.2, "Secondary Containment Isolation Valves (SCIVs)," and ITS 3.6.4.3, "Standby Gas Treatment (SGT) System," are met. CTS 3.6.A.2, which requires a hydrostatic test, does not require any TS from a different Mode to be applicable during the test. However, CTS 3.7.C requires secondary containment (secondary containment and secondary containment isolation valves), CTS 3.2.D requires secondary containment isolation instrumentation, and CTS 3.7.B requires the SGT System to be Operable if RCS temperature is > 212°F. Therefore, since both the CTS and ITS have consistent requirements, this constitutes an administrative change. In addition, this change is also consistent with the STS and is, therefore, acceptable.

2.3.10.4.B ITS 3.10.2, Reactor Mode Switch Interlock Testing

There are no significant administrative changes to the CTS associated with ITS 3.10.2.

2.3.10.4.C ITS 3.10.3, Single Control Rod Withdrawal - Hot Shutdown

There are no significant administrative changes to the CTS associated with ITS 3.9.10.3.

2.3.10.4.D ITS 3.10.4, Single Control Rod Withdrawal - Cold Shutdown

There are no significant administrative changes to the CTS associated with ITS 3.9.10.4.

2.3.10.4.E ITS 3.10.5, Single Control Rod Drive (CRD) Removal - Refueling

(1) This change deletes CTS 3.10.A.5.d since it duplicates the CTS 3.10.B requirement. CTS 3.10.B (and ITS 3.3.1.2) already requires the SRMs to be Operable during Refueling. Thus, the requirement in CTS 3.10.A.5.d is not necessary, and, therefore, has been deleted. Since there is no overall effect on the requirements in the TS, this change is administrative. In addition, this change is also consistent with the STS and is, therefore, acceptable.

2.3.10.4.F ITS 3.10.6 - Multiple Control Rod Withdrawal - Refueling

CTS 3.10.A.6 sets conditions for the withdrawal or removal of multiple control rods during refueling. This specification is replaced by ITS 3.10.6 which sets requirements for the same activity in the ITS. ITS 3.10.6, Action A, lists actions to be taken if the conditions established for the removal of multiple control rods are not met. These include either taking action to satisfy the LCO Conditions, or suspending withdrawal of control rods, suspending loading fuel assemblies, and inserting all control rods in fuel cells that contain one or more fuel assemblies. The CTS requirement, LCO 3.10.A.6, only provides the Conditions that must be met for the removal of control rods or the conditions for removed control rods to exist. However, the CTS contains the implicit requirement that if conditions are no longer satisfied, immediate action must be initiated to satisfy the conditions, or suspend removal of control rods, suspend loading fuel assemblies, and insert any control rods withdrawn from cells that contain fuel bundles. Therefore, since the actions taken for the conditions for multiple control rod withdrawal are not met are the same, the explicit statement of the Required Actions of ITS 3.10.6, Action A, is an administrative change. In addition, this change is also consistent with the STS and is, therefore, acceptable.

(2) CTS 3.10.A.6 establishes conditions for the withdrawal or removal of multiple control rods during refueling and is being replaced by ITS 3.10.6, containing a statement allowing the suspension of the requirements ITS 3.9.3, "Control Rod Position," ITS 3.9.4, "Control Rod Position Indication," and ITS 3.9.5, "Control Rod Operability-Refueling." The requirements suspended by ITS 3.10.6 cannot be satisfied while removing multiple control rods when operating under either the CTS or the ITS. The difference is the ITS explicitly recognize that these requirements cannot be met. This change is

considered administrative. In addition, this change is also consistent with the STS and is, therefore, acceptable.

2.3.10.4.G ITS 3.10.7, Control Rod Testing - Operating

There are no significant administrative changes to the CTS associated with ITS 3.10.7.

2.3.10.4.H ITS 3.10.8, SDM Test - Refueling

There are no significant administrative changes to the CTS associated with ITS 3.10.8.

The above changes result in the same limits as the current requirements, or they represent enhanced presentation of the CTS intent. Accordingly, the improved TS changes are purely administrative and they are acceptable.

2.3.10.5 Significant Differences Between the ITS and the STS

There are no significant differences between the ITS and the STS associated with ITS Section 3.10.

2.4.0 Design Features (ITS Chapter 4.0)

This ITS section contains the same material as found in the CTS except for those less restrictive and more restrictive specification changes, and relocations, associated with adopting the STS, which if altered in accordance with 10 CFR 50.59, would not result in a significant impact on safety (the criterion of 10 CFR 50.36(c)(4) for including an item in the TS as a design feature).

2.4.0.1 Relocated Requirements

In accordance with the guidance in the STS, the licensee has proposed to relocate all or portions of a number of CTS design features specifications to the UFSAR or other licensee-controlled documents, as follows.

CTS Section	Title
5.1	Site Features
5.3	Reactor Vessel
5.4	Containment
5.6	Seismic Design

The more significant changes resulting from relocated items are as follows:

(1) The site features in CTS 5.1 remain described in UFSAR Section 1.6.1.1.1. The design parameters of the reactor vessel and containment in CTS 5.3 and 5.4 remain detailed in UFSAR Section 3.3 and Appendix K

for the reactor vessel and UFSAR Section 5.0 and Appendix M for the containment. The seismic design requirements in CTS 5.6 remain detailed in UFSAR Sections 2.5.3 and 12.2, and Appendix C. Any changes to these site features, design parameters, or requirements will be subject to the requirements of 10 CFR 50.59. Furthermore, sufficient detail relating to the reactor vessel and containment exists in LCOs to ensure any changes which may affect safety would require prior NRC review and approval. Since the features with a potential to affect safety are sufficiently addressed by LCOs, and other features, if altered in accordance with 10 CFR 50.59, would not result in a significant effect on safety, the criteria in 10 CFR 50.36(c)(4) for inclusion as a Design Feature are not met. Therefore, allowing the removal of these details from TS, with their discussion in the UFSAR, will not impact safe operation of the facility. In addition, the removal of these requirements is consistent with the STS.

(2) The requirement that the spent fuel shall only be stored in the spent fuel pool in a vertical orientation in approved storage racks will be relocated to plant procedures. This requirement is currently in the NRC safety evaluation that supports Amendment Nos. 116 and 120, for Units 2 and 3, respectively, and an NRR Environmental Assessment dated February 19, 1986. The removal of this requirement is consistent with the STS.

The above relocated requirements relating to design features are not required to be in the TS under 10 CFR 50.36(c)(4) or the Act and are not required to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety. In addition, the staff finds that sufficient regulatory controls exist under 10 CFR 50.59. Accordingly, the staff has concluded that these requirements may be relocated from the TS to the UFSAR or to plant procedures, as applicable.

2.4.0.2 Less Restrictive Technical Changes

The licensee, in electing to implement STS Chapter 4.0, proposed the following requirement that is less restrictive than requirements in the CTS.

(1) ITS 4.2.1, "Fuel Assemblies," contains the following new provision, consistent with the STS:

> "A limited number of lead test assemblies that have not completed representative testing may be placed in nonlimiting core regions."

This allowance recognizes a specific kind of special test with lead test assemblies that may be performed. This is intended to avoid confusion regarding whether a TS change is required to conduct the test (for Unit 2) and to preclude needing a TS change when the number of lead test assemblies change (for Unit 3). The requirements of 10 CFR 50.59 regarding conducting special tests remain applicable, and are sufficient to ensure that a limited number of lead test assemblies placed in nonlimiting core regions will not have a significant effect on safety (which is the criteria of 10 CFR 50.36(c)(4) for including as a Design Feature). This change is in conformance with Supplement 1 of Generic Letter 90-02.

This less restrictive provision has been reviewed by the staff and has been found to be acceptable because it does not present a significant safety question in the operation of the plant. The requirements that remain in ITS Chapter 4.0 are consistent with the STS and are sufficient to satisfy 10 CFR 50.36(c)(4).

2.4.0.3 More Restrictive Technical Changes

By electing to implement STS Chapter 4.0, the licensee has adopted a number of requirements that are more restrictive than requirements given in the CTS design features section. These more restrictive requirements are the following:

(1) In ITS 4.2.1, additional information on fuel assembly requirements has been provided, consistent with the STS. Also, two sections were added to this chapter (4.3.2 and 4.3.3) to be consistent with the STS; a section on spent fuel storage pool drainage and a section on spent fuel storage pool capacity. These two sections were added to identify the requirement for the minimum level that can be obtained in the spent fuel pool and to identify the spent fuel capacity of the spent fuel pool. The addition of the fuel assembly requirements of these two sections make the ITS more restrictive by adding requirements that did not previously exist in the TS.

(2) CTS 5.5.A allows new fuel to be stored in the new fuel storage facility, provided the K_{eff} limits are met. However, PBAPS has not determined that these limits can be met if aqueous foam is present. Therefore, the K_{eff} limits for the new fuel storage facility (under any condition, dry or flooded) have been deleted in ITS 4.3 and a new requirement precluding loading fuel in the new fuel storage facility has been added (4.3.1.2).

(3) The CTS do not contain the limitation on fuel storage contained in ITS 4.3.1.1.c. The addition of this requirement imposes additional restrictions and will require a license amendment request and approval to modify the design.

The staff has reviewed these more restrictive requirements and believes they result in an enhancement to the design features specifications in the CTS. Therefore, these more restrictive requirements are acceptable.

2.4.0.4 Significant Administrative Changes

Other than adopting the STS format and wording, the licensee has not proposed other significant administrative changes in the design features chapter.

2.4.0.5 Significant Differences Between the ITS and the STS

In electing to adopt STS Chapter 4.0, the licensee proposed the following difference between the ITS and the STS:

(1) STS 4.3.1.2 allows new fuel to be stored in the new fuel storage facility, provided several conditions are met. However, PBAPS has not determined that the K_{eff} limits can be met if aqueous foam is present. Therefore, the new fuel storage requirements in STS 4.3.1.2 have been deleted and replaced with a new requirement precluding loading fuel in the new fuel storage facility.

These differences from STS Chapter 4.0 are consistent with PBAPS design features and existing requirements and commitments. Therefore, they are acceptable.

2.5.0 ADMINISTRATIVE CONTROLS (ITS CHAPTER 5.0)

The licensee has adopted the STS for Chapter 5.0 with some plant specific differences due to the current licensing basis.

2.5.0.1 Relocated Requirements

A number of existing administrative control provisions, listed and discussed below, are being relocated entirely or in part to licensee-controlled documents.

CTS Section	Title
6.1	Responsibility
6.2.2	Facility Staff
6.4	Training
6.5	Review and Audit
6.6	Reportable Event Action
6.8	Procedures
6.9.1.a	Startup Report
6.9.1.c	Annual Safety Relief Valve Report
6.9.1.e	Report Submittal Details
6.9.2	Unique Reporting Requirements
6.10	Record Retention
6.11	Radiation Protection Program
6.12	Fire Protection Inspections
6.15	Iodine Monitoring
6.18	Major Changes to Radioactive Waste Treatment Systems
4.9.A.1.2.d, 4.9.A.1.2.e	Diesel Fuel Oil Testing Details
3.8.C.6	Explosive Gas Monitoring Requirements

Additional details regarding the relocation of each of these provisions follow.

(1) The Minimum Shift Crew Composition requirements in CTS 6.2.2.a and Table 6.2.1 are being relocated to plant procedures. 10 CFR 50.54(k), (l), and (m) provide the requirements for the shift complement regarding licensed operators. The regulations describe the minimum shift composition for operating Modes, as well as cold shutdown and refueling. Additionally, ITS 5.1.2 and 5.2.2.c specify the conditions when the licensed operator is required to be in the control room. This change is consistent with the STS and is acceptable.

(2) The requirement in CTS 6.2.2.e for an SRO to be present during fuel handling and to supervise all core alternations not be retained in TS. Duplication of the regulation provided in 10 CFR 50.54(m)(2)(iv) is not necessary to ensure safe operation of the facility. The current regulation states,

> "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."

This change is consistent with the STS and is acceptable.

(3) TS need not require an administrative letter be issued to station personnel on an annual basis describing the responsibility of the Shift Supervisor. The organization and responsibilities of each function are adequately described in the UFSAR. As a result, this requirement in CTS 6.1.2 is being relocated to appropriate plant procedures. Plant safety is not compromised by this change. This change is consistent with the STS and is acceptable.

(4) The review and audit functions of the Plant Operations Review Committee and the Nuclear Review Board (CTS 6.5.1 and 6.5.2), reportable event interval review requirements (CTS 6.6.1.b), requirements for procedures that meet ANSI N18.7-1972 (CTS 6.8.1.a), the requirement that procedures covering quality assurance (QA) for environmental monitoring use the guidance in Regulatory Guide 4.1, Revision 1 (CTS 6.8.1.c), and the Fire Protection Inspections (performed under the audit function of the NRB) (CTS 6.12) are being relocated from TS to the QA Program on the basis that they can be adequately addressed there and that there is adequate regulatory authority to do so. Thus, the provisions are not necessary to ensure safe operation of the facility, given the existence of these redundant requirements. This change relies on a QA Program implementing 10 CFR 50.54 and 10 CFR 50, Appendix B, and 10 CFR 50.54(a) to control the requirements. Such an approach results in an equivalent level of regulatory authority while providing for a more appropriate change control process. The level of safety of facility operation is unaffected by the change and NRC and PECO resources associated with

processing license amendments for these administrative control requirements will be optimized.

The on-site review function, composition, alternate membership, meeting frequency, quorum, responsibilities, authority, and records are all covered in equivalent detail in ANSI N18.7-1972. These requirements will also be covered in the QA Program and equivalent change control is provided by 10 CFR 50.54(a).

The off-site review group is also addressed, although with less detail, in ANSI N18.7-1972. The QA Program will include the requirements for the off-site review group. Since the offsite review group provides after-the-fact recommendations to improve activities, this organization is not necessary to ensure safe operation of the facility. Based upon these considerations, duplication of these requirements in the TS is unnecessary.

Audit requirements are specified in the QA Program to satisfy 10 CFR 50, Appendix B, Criterion XVIII. Audit requirements are also covered by ANSI N18.7, ANSI N45.2, 10 CFR 50.54(t), 10 CFR 50.54(p), and 10 CFR 73. Therefore, duplication of the requirements contained in the above documents in the Administrative Controls Chapter of the TS does not enhance the level of safety for the unit. Therefore, the provisions relating to audits are not necessary to ensure safe operation of the facility.

Relocating reportable event interval review requirements, requirements for procedures that meet ANSI N18.7-1972, the requirement that procedures covering QA for environmental monitoring use the guidance in Regulatory Guide 4.1, Revision 1, and the fire protection inspection requirements to the QA Program will ensure these requirements are appropriately maintained. The change control process of 10 CFR 50.54(a) will provide equivalent change control. This change is consistent with the STS and is acceptable.

(5) The requirements on training in CTS 6.4.1 are being deleted from TS on the basis that they are adequately addressed by other Chapter 5.0 administrative controls as well as regulations. ITS Section 5.3, Unit Staff Qualifications, provides adequate requirements to ensure an acceptable, competent operating staff. Each member of the unit staff shall meet or exceed the minimum qualifications of specific Regulatory Guides or ANSI Standards acceptable to the NRC staff. Section 5.3 of the improved TS describes the details of the required qualifications.

Additionally, ITS Section 5.2, Organization, details unit staff requirements. Section 5.2.2.a and 5.2.2.b, and 10 CFR 50.54 describe the minimum shift crew composition and delineates which positions require an RO or SRO license. Training and requalification of those positions are as specified in 10 CFR 55.

Based upon these considerations, duplicating the provisions relating to training is not necessary to ensure operation of the facility in a safe manner and they are being relocated to the UFSAR. Changes to these requirements will be subject to the requirements of 10 CFR 50.59. This change is consistent with the STS and is acceptable.

(6) This change relocates the requirements in CTS 6.9.2 for the Loss of Shutdown Margin Report, the Reactor Vessel Inservice Inspection Report, the Seismic Monitoring Instrumentation Inoperability Report, the Primary Containment Leak Rate Testing Report, the Sealed Source Leakage Report, and information contained in the Bases for Post Accident Sampling to plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. This change is consistent with the STS and is acceptable.

(7) This change relocates the requirements in CTS 6.6.1.a for reportable event action out of TS. These requirements are duplicated in 10 CFR 50.73. These requirements will be relocated to plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. This change is consistent with the STS and is acceptable.

(8) This change relocates the requirements in CTS 6.9.1.e.4 which state where to send NRC Reports, Program Revisions, etc.to plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. These requirements are duplicated in 10 CFR 50.4. This change is consistent with the STS and is acceptable.

(9) This change relocates the requirements in CTS 6.9.2.h.2 for solid waste reporting requirements to the Process Control Program (PCP). The PCP is described in appropriate plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. These items are relocated to the PCP per Generic Letter 89-01, "Implementation of Programmatic Controls for Radiological Effluent Technical Specifications in the Administrative Controls Section of Technical Specifications and Relocation of Procedural Details of RETS to the Offsite Dose Calculational Manual or the Process Control Program." The PCP implements the requirements of 10 CFR Part 20, 10 CFR Part 61, and 10 CFR Part 71. This change is consistent with the STS and is acceptable.

(10) This change relocates the requirements for the Radiation Protection Program (CTS 6.11) and the Iodine Monitoring Program (CTS 6.15) out of TS. The Radiation Protection Program (6.11) requires procedures to be prepared for personnel radiation protection consistent with the requirements of 10 CFR Part 20. These procedures are developed to ensure nuclear plant personnel safety and have no impact on nuclear safety. Additionally, nuclear plant personnel are not 'members of the public.' Thus, the principal operative standard in Section 182a. of the Atomic Energy Act; 'health and safety of the public' does not apply. Based on these considerations, the Radiation Protection Program administrative control is not necessary to ensure operation of the facility in a safe manner and can be relocated from TS to the UFSAR. Any changes to these requirements will be subject to the requirements of 10 CFR 50.59. The requirement to have procedures to implement Part 20

is also contained within 10 CFR 20.1101(b). Periodic review of these procedures is addressed under 10 CFR 20.1101(c).

The Iodine Monitoring Program provides controls to ensure the capability to accurately determine the airborne iodine concentration in vital areas under accident conditions. This program was developed to minimize radiation exposure to plant personnel post-accident and has no impact on nuclear safety. Additionally, nuclear plant personnel are not 'members of the public.' Thus, the principal operative standard in Section 182a. of the Atomic Energy Act; 'health and safety of the public' does not apply. Based on these considerations, the Iodine Monitoring Program administrative control is not necessary to ensure operation of the facility in a safe manner and can be relocated from TS to the UFSAR. Any changes to these requirements will be subject to the requirements of 10 CFR 50.59.

These changes are consistent with the STS and are acceptable.

(11) This change allows the review and approval process and the temporary change process for procedures (CTS 6.5.3, 6.8.2, and 6.8.3) to be relocated to the UFSAR. This change is based on the existence of the following requirements which are these CTS are duplicative of and which ensure operation of the facility in a safe manner. The requirement for procedures is mandated by 10 CFR 50, Appendix B, Criterion II and Criterion V. ANSI N18.7-1972, which is an NRC staff endorsed document used in the development of the QA Program, also contains specific requirements related to procedures.

ANSI N18.7-1972, Section 5.2.2, discusses procedure adherence. This section clearly states that procedures shall be followed, and the requirements for use of procedures shall be prescribed in writing. ANSI N18.7-1972 also discusses temporary changes to procedures, and requires review and approval of procedures to be defined.

ANSI N18.7-1972, Section 5.2.15, describes the review, approval and control of procedures. The section describes the requirements for the licensee's QA Program to provide measures to control and coordinate the approval and issuance of documents, including changes thereto, which prescribe all activities affecting quality. The section further states that each procedure shall be reviewed and approved prior to initial use. The reviews required are also described.

ANSI N45.2-1971, Section 6, also requires the QA Program to describe procedure requirements.

PBAPS will continue to implement the requirements of 10 CFR 50, Appendix B, regarding procedures without duplicating the necessity of procedure requirements in the facility TS. Duplication of the provisions related to procedures is not necessary to ensure safe operation of the facility. This change is consistent with the STS and is acceptable.

(12) The requirement in CTS 6.9.1.a to submit a Startup Report has been relocated from the PBAPS TS. The report is a summary of plant startup and power escalation testing following receipt of the Operating License, increase in licensed power level, installation of nuclear fuel with a different design or manufacturer than the current fuel, and modifications that may have significantly altered the nuclear, thermal, or hydraulic performance of the unit. The report provided a mechanism for NRC to review the appropriateness of licensee activities after-the-fact, but provided no regulatory authority once the report was submitted (i.e., no requirement for Commission approval). The approved 10 CFR 50, Appendix B, QA Program and Startup Test Program provide assurance the listed activities are adequately performed and that appropriate corrective actions, if required, are taken.

Given that the report was required to be provided to the Commission no sooner than 90 days following completion of the respective milestone, report completion and submittal was clearly not necessary to ensure operation of the facility in a safe manner for the interval between completion of the startup testing and submittal of the report. Additionally, given there is no requirement for the Commission to approve the report, then the Startup Report is not necessary to ensure operation of the facility in a safe manner. Based on these considerations, the Startup Report is being removed from TS and relocated to plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. This change is consistent with the STS and is acceptable.

(13) This change relocates the requirements in CTS 6.9.2 and 6.18 for major changes to the Radioactive Waste Treatment Systems, the Radiation Dose Assessment Report, and specific details for the Radiological Environmental Operating Report and the Radioactive Effluent Release Report, as well as the submittal requirements for these reports and programs, to the Offsite Dose Calculations Manual (ODCM). These items are relocated to ODCM per GL 89-01 which allowed RETS to be relocated from TS. The staff concludes that the ODCM provides sufficient control of these provisions and removing them from the CTS is acceptable. This change is consistent with the STS and is acceptable.

(14) The requirements on record retention in CTS 6.10 are being deleted from TS on the basis that they can be adequately addressed by the QA Program (10 CFR 50, Appendix B, Criterion XVII) and because provisions relating to record keeping do not ensure operation of the facility in a safe manner. Facility operations are performed in accordance with approved written procedures. Areas include normal startup, operation and shutdown, abnormal conditions and emergencies, refueling, safety-related maintenance, surveillance and testing, and radiation control. Facility records document appropriate station operations and activities. Retention of these records provides document retrievability for review of compliance with requirements and regulations. Post-compliance review of records does not ensure operation of the facility in a safe manner as activities described in these documents have already been performed. Numerous other regulations such as 10 Part CFR 20, Subpart L, and

10 CFR 50.71 also require the retention of certain records related to operation of the nuclear plant. This change is consistent with the STS and is acceptable.

(15) CTS 6.9.1.c requires that all challenges to the primary coolant system safety and relief valves be reported to the NRC on an annual basis. This requirement is being relocated to plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. The report provides a mechanism for the NRC to obtain information regarding challenges to safety and relief valves after-the-fact, but provides no regulatory authority once the report is submitted (i.e., no requirement for NRC approval). Given that the report is only required to be provided annually to the NRC and is not required to be approved by the NRC, it is clearly not necessary to ensure operation of the facility in a safe manner. This change is consistent with the STS and is acceptable.

(16) CTS 4.9.A.1.2.d and 4.9.A.1.2.e identify the requirements for testing new and stored diesel fuel oil. ITS 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," requires that diesel fuel be tested in accordance with ITS 5.5.9, "Diesel Fuel Oil Testing Program," which lists the diesel fuel oil tests required and the applicable ASTM Standards. Descriptions of test performance and acceptance criteria for the required fuel oil tests that are contained in the ASTM Standards are no longer listed in the TS but have been relocated to the Bases of ITS 3.8.3 and to plant procedures. Any changes to the ITS Bases will be subject to the requirements of the Bases Control Program (ITS 5.5.10). Changes to these procedures will be subject to the requirements of 10 CFR 50.59. Placing these details in the Bases and plant procedures, and the addition of the referenced ASTM Standards of the Diesel Fuel Oil Testing Program in TS, provides assurance they will be maintained. This change is consistent with the STS and is acceptable.

(17) CTS 3.8.C.6 identifies the requirements for monitoring explosive gas downstream of the off-gas recombiners. ITS 5.5.8, "Explosive Gas Monitoring Program," will require that explosive gas concentration limits and a surveillance program for these limits be maintained. However, specific details regarding the explosive gas concentration limits and associated surveillance program are being relocated to plant procedures. Changes to these procedures will be subject to the requirements of 10 CFR 50.59. Placing these details in the plant procedures, and the addition of the Explosive Gas Monitoring Program to TS provides assurance they will be maintained. This change is consistent with the STS and is acceptable.

The types of detailed information and requirements described above, which are being relocated to licensee-controlled documents, are not required to be in the TS under 10 CFR 50.36. Such detailed information and requirements are not required to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety. In addition, sufficient regulatory controls exist under 10 CFR 50.54 and 50.59, and ITS 5.5.1 and 5.5.10. Accordingly, detailed information and requirements, as described above, which are contained in the CTS may be relocated to plant procedures, the ODCM, the UFSAR, or the ITS Bases, as appropriate.

2.5.0.2 Less Restrictive Administrative Requirements

In electing to adopt Chapter 5.0, the licensee has proposed the following relaxations of existing administrative requirements, other than relocations. They are discussed in the order and within the context of the ITS presentation.

(1) This change relaxes the requirement in CTS 6.2.2.d to have an individual qualified in radiation protection procedures to be onsite when fuel is in the reactor. The change will allow the position to be vacant for up to two hours in order to provide for unexpected absence, provided immediate action is taken to fill the required position. This change will not have any impact on plant safety because the presence of a person qualified in radiation protection procedures is not required for the mitigation of any accident. The only impact may be if entries into radiation areas are required to repair equipment. However, this impact will be slight because the allowed outage time of equipment is usually longer than 2 hours, the chance of a problem occurring within the 2 hour period this position is unfilled is small, and the probability that the position will be unfilled (since usually more than one person qualified in radiation protection procedures is located on site) is small. This change is consistent with the STS and is acceptable.

(2) This change relaxes the requirement in CTS 6.9.1.b for submitting the Occupational Exposure Report. The CTS require the report to be submitted by March 1 of each year. This change will allow the report to be submitted by March 31 of each year. Given that the report is still required to be provided to the NRC on or before March 31 and covers the previous calendar year, report completion and submittal is clearly not necessary to ensure operation in a safe manner for the interval between March 1 and March 31. Additionally, there is no requirement for the NRC to approve the report. Therefore, this change has no impact on the safe operation of the plant. This change is consistent with the STS and is acceptable.

(3) The requirements of 10 CFR 50.55a(g) currently require inservice testing of the PBAPS ASME Code Class 1, 2, and 3 pumps and valves. NRC Generic Letter 89-04, "Guidance on Developing Acceptable Inservice Testing Programs," states that if these pumps are within the required action range or the valves exceed the limiting full stroke time value, the associated component must be declared inoperable and the applicable TS Actions entered. IST Program requirements are addressed in the ITS consistent with this philosophy. This change proposes to apply SR 3.0.2 (allowing an extension of 1.25 times the Surveillance interval) and SR 3.0.3 (allowing 24 hours to perform the Surveillance if missed) to the IST frequencies. Currently, the requirements of SR 3.0.2 and SR 3.0.3 are not utilized in the IST Program test frequencies. The change also adds a requirement that the ASME Boiler and Pressure Vessel Code

requirements will not supersede the requirements of any TS. The 25% extension facilitates surveillance scheduling and considers plant operating conditions that may not be suitable for conducting the surveillance (e.g., transient conditions or other ongoing surveillance or maintenance activities). The utilization of the 25% extension does not significantly degrade the reliability that results from performing the surveillance at its specified Frequency. This is based on the recognition that the most probable result of any particular surveillance being performed is the verification of conformance with the requirements. The utilization of the 24 hour delay period allows adequate time to complete a surveillance that has been missed. The basis for this delay period includes consideration of unit conditions, the time required to perform the surveillance, the safety significance of the delay in completing the required surveillances, and the recognition that the most probable result of any particular surveillance being performed is the verification of conformance with the requirements. This change is consistent with the STS and is acceptable.

(4) Generic Letter 82-12, "Nuclear Power Plant Staff Working Hours," provided licensees with an NRC policy statement concerning the factors causing fatigue of operating personnel at nuclear reactors. This policy statement concluded that it was necessary for licensees of operating plants to establish controls to prevent situations where fatigue could reduce the ability of operating personnel to keep the reactor in a safe condition. The controls should focus on shift staffing and the use of overtime that influences fatigue. The objective of the controls is to ensure that, to the extent practical, personnel are not assigned to shift duties while in a fatigued condition that could significantly reduce their mental alertness or their decision making capabilities. These controls apply to the plant staff who perform safety related functions.

Generic Letter 82-16, "NUREG-0737 Technical Specifications," supplemented the policy statement by providing licensees with sample TS that limit the amount of overtime worked by plant staff performing safety related functions.

The current additional restrictions for the shift operators were based on guidance provided in NUREG/CR-4248. However, this guidance was never formally adopted into a revised policy statement.

The guidance provided in Generic Letter 82-12, as supplemented by Generic Letter 82-16, is the current NRC policy regarding overtime work restrictions and has been adopted by many operating reactors. Although this changes relax overtime work restrictions for shift operators, adoption of the guidance of Generic Letters 82-12 and 82-16 will ensure that adequate levels of safety are maintained as demonstrated by the use of this guidance throughout the nuclear industry.

In the case of the remaining individuals who perform safety related functions, overtime restrictions are not relaxed.

Management oversight for all individuals who perform safety related functions, which includes shift operators, will be maintained in that the Plant Manager, or personnel designated in administrative procedures, will continue to monitor the shift overtime. Additionally, individual overtime will be monitored by the Plant Manager, or the appropriate designated personnel, on a monthly basis.

This change relaxes the restrictive working hour limits for shift operators contained in CTS Section 6.20, "Site Staff Working Hour Restrictions," revises the wording in Section 6.20, and deletes its Bases to conform with the guidance of Generic Letters 82-12 and 82-16. This change is consistent with the STS and is acceptable.

(5) This change revises the requirement for the Senior Manager-Operations to hold a Senior Reactor Operator (SRO) license. The change will require the Senior Manager-Operations or an Operations Manager to hold an SRO license. The current PBAPS Operations organization management structure is comprised of the Senior Manager-Operations and two Operations Managers. In order to comply with the requirements specified in ITS 5.2.2.f, one of these individuals will be required to hold an SRO license. This individual will be qualified to fill the Senior Manager-Operations position, have the same management authority over the licensed operators as the Senior Manager-Operations, and be designated in administrative procedures as holding an SRO license. Designating the specific Operations Manager required to hold na SRO license in administrative procedures ensures that there is always an individual holding a current SRO license in one of the Operations management positions. This change is consistent with the STS and is acceptable.

(6) CTS 6.13, which provides high radiation area access control alternatives pursuant to 10 CFR 20.203(c)(2) (revised 10 CFR 20.1601(c)), has been significantly revised as a result of the changes to 10 CFR 20, associated changes to the STS which are currently in progress, (see letter to L. Bush, B. Mann, C. Szabo, and A. Maron from C. Grimes dated July 28, 1995) the guidance provided in Regulatory Guide 8.38 (Control of Access to High and Very High Radiation Areas in Nuclear Power Plants), and current industry technology in controlling access to high radiation areas. This change provides acceptable alternate methods for controlling access to high radiation areas. As a result, this change will not decrease the ability to provide control of exposures from external sources in restricted areas. In addition, this change is also consistent with the changes to the STS which are in progress and is, therefore, acceptable.

The above less restrictive requirements have been reviewed by the staff and have been found to be acceptable, because they do not present a significant safety question in the operation of the plant. The TS requirements that remain are consistent with current licensing practices, operating experience and plant accident and transient analyses, and provide reasonable assurance that the public health and safety will be protected.

2.5.0.3 More Restrictive Administrative Requirements

By electing to implement the STS Chapter 5.0, the licensee has adopted a number of administrative requirements that are more restrictive than administrative requirements given in the CTS. These more restrictive administrative requirements are discussed below in the order and within the context of the ITS presentation.

(1) This change adds a requirement in ITS 5.1.1 for the Plant Manager, or his designee, to approve prior to implementation, each proposed test, experiment or modification to systems or equipment that affect nuclear safety. This change ensures the Plant Manager, or his designee, is aware of all changes with the potential to affect nuclear safety. This change adds additional requirements to TS which constitute a more restrictive change. This change is consistent with the STS and is acceptable.

(2) This change adds the qualifications of the individual who is designated to be responsible for the control room command function in the absence of the Shift Supervisor to ITS 5.1.2. In the CTS, no qualifications are listed for the designated individual. This change will require the designated individual to have an active Senior Reactor Operator (SRO) license in Modes 1, 2, 3, 4, or 5 or an active Reactor Operator (RO) license in Modes 4 or 5. The addition of specific requirements to the TS constitutes a more restrictive change. This change is consistent with the STS and is acceptable.

(3) This change will add requirements to ITS 5.2.2.b to provide the qualifications of personnel in the control room during specific times. The CTS require two licensed operators to be in the control room during reactor startups, scheduled reactor shutdowns, and during recovery from reactor trips. This change will require one of the two licensed operators to have an SRO during Modes 1, 2, and 3. Since this requirement will require one of the licensed operators to have an SRO (whereas currently both could have an RO) this is considered a more restrictive change. This change is consistent with the STS and is acceptable.

(4) This change will list specific duties of the Shift Technical Advisor (STA) in ITS 5.2.2.g. In the CTS no specific duties are listed for the STA; only that the STA meets the requirements of the 1985 NRC Policy Statement on Engineering Expertise on Shift. The ITS will require the STA to meet the requirements of this NRC Policy Statement and will require the STA to provide advisory technical support to the Shift Supervisor in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to safe operation of the unit. This change is consistent with the STS and is acceptable.

(5) This change adds requirements in ITS 5.4.1.b for emergency operating procedures (EOPs) in the TS. The CTS do not specifically require the current form of EOPs (although PBAPS is committed to have them per NUREG-0737 and Generic Letter 82-33). The ITS will require EOPs which

implement the requirements of the NUREG and GL. This change adds new requirements to the TS which constitutes a more restrictive change. This change is consistent with the STS and is acceptable.

(6) This change adds a requirement in ITS 5.4.1.c to establish, implement, and maintain procedures covering QA for effluent monitoring. This change will ensure that adequate QA is maintained when monitoring effluents. This change adds additional requirements to TS which constitutes a more restrictive change. This change is consistent with the STS and is acceptable.

(7) This change adds the requirement in ITS 5.4.1.e that procedures be established, implemented, and maintained for all programs identified in Section 5.5, "Programs and Manuals." This addition is consistent with the requirement for these programs. The addition of requirements in the TS constitutes a more restrictive change. This change is consistent with the STS and is acceptable.

(8) This change adds a requirement in ITS 5.5.5 for a Component Cyclic or Transient Limit Program. This program provides controls to track the cyclic and transient occurrences to ensure that components are maintained within the design limits. The addition of programs to the TS, constitutes a more restrictive change. This change is consistent with the STS and is acceptable.

(9) The SGT System filter delta P limit in CTS 4.7.B.1.a has been decreased from 8 inches water gauge to 3.9 inches water gauge in ITS 5.5.7.d. This ensures that at the maximum allowed filter train flow rate (10500 cfm allowed per SR 3.6.4.1.4), the filter train delta P will be limited such that filter train integrity is not compromised. Since the limit has been decreased, this constitutes a more restrictive change and is acceptable.

(10) This change adds a requirement in ITS 5.5.10 for a Technical Specifications Bases Control Program. This program is provided to specifically delineate the appropriate methods and reviews necessary for a change to the Bases of the ITS. This change is consistent with the STS and is acceptable.

(11) This change adds a requirement in ITS 5.5.11 for the Safety Function Determination Program. This program is included to support implementation of the support system Operability characteristics of the ITS. The addition of new requirements to the TS constitutes a more restrictive change. This change is consistent with the STS and is acceptable.

(12) The CTS utilize the ASTM D4176-82 clear and bright test to provide a qualitative assessment of the acceptability of new diesel fuel oil with regard to water and sediment content. The ASTM clear and bright test is a visual check for evidence of water and particulate contamination performed after drawing a fuel oil sample for field testing. The visual check is accomplished by swirling the sample so a vortex is formed.

Sediment and water will accumulate on the bottom of the container directly beneath the vortex and very fine suspended solids or water will render the product hazy. The ASTM clear and bright test should only be used for fuel oil meeting the color requirements of ASTM D4176-82 (ASTM color of 5 or less). ASTM D4176-82 does not recommend the clear and bright test be performed on fuels darker than ASTM 5 since the presence of free water or particulates could be obscured. The intentional addition of dyes to fuel oil by suppliers (such as to identify sulfur content) makes the fuel oil darker than ASTM 5 and results in the need to use another method for determining water and sediment content of the fuel oil. To address the method for determining the presence of water and sediment in new diesel fuel oil that has been dyed, the requirements of ITS 5.5.9 (Diesel Fuel Oil Testing Program) and the Bases for SR 3.8.3.3 allow the use of the ASTM D975-81 water and sediment by centrifuge test in lieu of the ASTM D4176-82 clear and bright test. The Bases for SR 3.8.3.3 will also be revised to reflect the use of the ASTM water and sediment by centrifuge test when dyes have intentionally been added to new fuel oil.

This change provides an alternate test for verifying the acceptability of new fuel oil with regard to water and sediment content. Excessive water and sediment in diesel fuel oil could have an immediate detrimental impact on diesel engine combustion and as a result diesel generator Operability. The ASTM D975-81 water and sediment by centrifuge test provides a quantitative assessment of water and sediment content. The use of the ASTM water and sediment by centrifuge test ensures that excessive water and sediment content, in new diesel fuel oil that has been dyed, will be detected (and not obscured by the presence of the dye) prior to addition to the storage tanks. The sensitivity of the ASTM water and sediment by centrifuge test for water and sediment is not affected by the presence of dyes in the fuel oil. For fuel oil with dyes, the sensitivity for detection of water and sediment of the ASTM water and sediment by centrifuge test is better than that provided by the ASTM clear and bright test. The ASTM water and sediment by centrifuge test is also the same test performed to quantitatively determine water and sediment content within 31 days following sampling and addition (after the new fuel has been added to the storage tank) in accordance with ITS 5.5.9.b and the Bases for SR 3.8.3.3. Regulatory Guide 1.137, "Fuel Oil Systems for Standby Diesel Generators," also identifies that the water and sediment by centrifuge test provides an acceptable method for ensuring the initial and continuing quality of diesel fuel oil with respect to water and sediment content. Therefore, this alternate test provides adequate assurance, prior to storage tank addition, that the water and sediment content of the new dyed fuel oil will maintain diesel generator Operability. This change is considered to be more restrictive since the ASTM water and sediment by centrifuge test provides a quantitative assessment of water and sediment content rather than the qualitative assessment of water and sediment content provided by the ASTM clear and bright test. In addition, the ASTM water and sediment by centrifuge test takes more time to perform and is more difficult to perform than the ASTM clear and bright test. However, as previously discussed, this change is necessary to ensure the presence of dyes in fuel oil will not affect the capability to detect water and sediment in the fuel oil. This change is based on accepted industry practice and is, therefore, acceptable.

The staff has reviewed these more restrictive administrative requirements and believes they result in an enhancement to the CTS. Therefore, they are acceptable.

2.5.0.4 Significant Administrative Changes

In accordance with the guidance in the STS, the licensee has proposed the following administrative changes to the existing technical specifications (TS) to bring them into conformance with the STS.

(1) This change moves the current Safety Limit Violation requirements from Administrative Controls Chapter (CTS 6.0) to the Safety Limits Chapter (ITS 2.0). Changes to the current requirements are discussed in the Section 3.2.0 of this SE. This change is consistent with the STS and is acceptable.

(2) This change adds a note to the Annual Radiological Environmental Operating Report and the Radioactive Effluent Release Report which allows a single submittal to be made for multiple unit stations. This change is considered administrative since PBAPS currently submits only one Radiological Environmental Operating Report and one Radioactive Effluent Release Report for both units. This change is consistent with the STS and is acceptable.

(3) This change adds a requirement for a special report to be submitted for post accident monitoring instrumentation when Required Actions and associated Completion Times cannot be met or more than one channel is inoperable for specific instrumentation. The report is referenced in Conditions B and F of ITS 3.3.3.1, "Post Accident Monitoring (PAM) Instrumentation." Changes to the current requirements for PAM instrumentation are described in Section 2.3.3 of this SE. Since the addition of the reporting requirement is a direct result of an added Action, this change is considered administrative. This change is consistent with the STS and is acceptable.

(4) This change deletes CTS 6.16.a which requires (by NRC order dated October 24, 1980) that all safety-related electrical equipment meet the Environmental Qualification (EQ) requirements by no later than June 30, 1982. Since the required completion time of the order is passed, this deletion is considered administrative.

(5) This change modifies the ODCM section in the TS to be consistent with Generic Letter 89-01 and the revised 10 CFR Part 20 requirements. This change also provides additional requirements for the Radioactive Effluent Controls Program, the Radiological Environmental Operating Report, and the Radioactive Effluent Release Report. These requirements are also based on Generic Letter 89-01 due to the removal of RETS from

the TS. The detailed discussion of the change is found in Section 2.3.7.2.H of this safety evaluation. This change is consistent with the STS and is acceptable.

(6) CTS 6.16.b contains environmental qualification requirements for safety related electrical equipment. This provision in the TS is duplicative of requirements in 10 CFR 50 which specify environmental and dynamic effects design bases. The current regulations and plant practice adequately address control of plant design and changes to design without needing to single out and specify environmental qualification provisions. Therefore, since Specification 6.16.b requirements are included in plant design by regulation and since the design process is adequately controlled, this change is administrative in nature. This change is consistent with the STS and is acceptable.

(7) ITS 5.5.7, Ventilation Filter Testing Program, specifically identifies prefilters as included in the flow path when performing pressure drop tests across the HEPA and charcoal filters. Although the CTS do not identify the prefilters, inclusion of the filters is consistent with the intent and current practice when testing HEPA and charcoal filters. Therefore, this change is considered administrative. This change is consistent with the STS and is acceptable.

(8) CTS 4.11.A.2.e required a sample of the charcoal filter to be analyzed once per year to ensure halogen removal efficiency of at least 99.5%. This requirement was deleted in Amendment Nos. 202 and 205, for Units 2 and 3, respectively, dated May 30, 1995, and is deleted in ITS 5.5.7. The change to the CTS in Amendment Nos. 202 and 205 was approved after submittal of TSCR 93-16. Therefore, this change to the CTS submitted with TSCR 93-16 is considered administrative. This change is consistent with the PBAPS current licensing basis and is acceptable.

(9) The requirements for the Occupational Exposure Report in CTS 6.9.1.b have been modified to reflect the revised 10 CFR Part 20 requirements which are currently applicable to PBAPS. As a result, the change is considered to be administrative in nature in order to make the wording in CTS 6.9.1.b consistent with the wording of the revised 10 CFR 20. This change is acceptable.

(10) Requirements in CTS 3/4.7.B, Standby Gas Treatment System, and 4.11.A, Main Control Room Emergency Ventilation System, regarding testing of HEPA filters and charcoal absorber banks are incorporated into ITS 5.5.7, Ventilation Filter Testing Program. The Ventilation Filter Testing Program specifies testing requirements equivalent to the CTS; however, references to the appropriate sections of Regulatory Guide 1.52 and ASME N510-1989 were added for clarity. This change is administrative, is consistent with the STS, and is acceptable.

(11) The location of the documentation of the onsite and offsite organizations specified in CTS 6.2.1.a has been changed from the QA Program to the UFSAR. This change ensures appropriate controls are provided for changes to the organizations while ensuring consistency

with the current location of this documentation. The organizations are currently described in the UFSAR Section 13 and simply referenced by the QA Program. As such, this change is considered to be administrative in nature. This change is consistent with the STS and is acceptable.

(12) Requirements for the Independent Safety Engineering Group in CTS 6.2.3 and the Nuclear Review Board review and audit functions in CTS 6.5.2.7 and 6.5.2.8 were relocated to the PBAPS Quality Assurance Program Description in Amendment Nos. 208 and 210, for Units 2 and 3, respectively, dated July 25, 1995. This change to the CTS was approved after PECO's submittal of TSCR 93-16. Therefore, this change to the CTS submitted with TSCR 93-16 is considered administrative. This change is consistent with the PBAPS current licensing basis and is acceptable.

The above changes represent an enhanced presentation of the CTS intent, but result in the same limits as the current requirements. Accordingly, these changes are purely administrative and they are acceptable.

2.5.0.5 Significant Differences Between the ITS and the STS

In electing to adopt STS Chapter 5.0, the licensee has proposed the following differences in the ITS presentation from that of the STS.

(1) This difference adds an additional requirement to Section 5.2.2 which requires five non-licensed operators at PBAPS, Units 2 and 3, at all times. This difference is consistent with the current PBAPS licensing basis.

(2) This difference adds, to the Unit Staff requirements for the STA in ITS 5.2.2.g, that the STA position may be filled by an on-shift SRO. During this time, the minimum shift crew composition shall include a minimum of three SROs. However, the requirements still require that the individual filling the STA position meet the qualification specified by the 1985 Commission Policy Statement on Engineering expertise on shift. This difference is consistent with PBAPS Amendment Nos. 191 and 196, for Units 2 and 3, respectively, dated August 2, 1994.

(3) The wording of STS 5.5.3 has been modified to more closely match the wording of CTS 6.19, Postaccident Sampling. The existing wording was approved in the NRC Safety Evaluation for PBAPS Amendment Nos. 113 and 117, for Units 2 and 3, respectively. The wording change helps distinguish between the function of the Post-Accident Sampling System and the function of the main stack and reactor building vent sampling systems.

(4) The requirement of STS 5.5.4.k for the Radioactive Effluent Controls program to include the limitations on venting and purging of the Mark II containment was deleted because PBAPS has a Mark I containment.

(5) This difference deletes program requirements (STS 5.5.8.b and 5.5.8.c) from the Explosive Gas Monitoring Program Section which are not

applicable to PBAPS specific design. There are not any gas storage tanks (other than holdup pipes) and no method to limit curie content in the holdup pipe except reactor isolation and the fuel integrity itself. The PBAPS liquid radwaste tanks that are outdoors are surrounded by dikes and sumps that drain the overflow and leakage to radwaste and are not required to be controlled by TS. This difference is consistent with the current PBAPS licensing basis.

(6) Portions of STS 5.5.1, 5.5.2, 5.5.4, 5.6.1, 5.6.3, and 5.7 have been modified to reflect the revised 10 CFR Part 20 requirements, which are currently applicable to PBAPS. As a result, this difference is considered to appropriate in order to make the ITS consistent with the revised 10 CFR Part 20.

(7) This difference modifies requirements in STS 5.5.2.b for leak testing primary coolant sources outside containment to limit tests to the extent permitted by system design and radiological controls. This difference is consistent with the PBAPS CTS requirements.

(8) This difference from STS 5.5.4.e modifies the requirement to determine cumulative dose from effluents such that only liquid effluents must be considered. This difference is consistent with the PBAPS CTS requirements.

(9) The difference from STS 5.5.4.f specifies that limitations on the functional capability and use of the liquid effluent treatment systems to ensure that appropriate portions of these systems are used to reduce releases of radioactivity when projected doses averaged over one month would exceed 0.12 mrem to the total body or 0.4 mrem to any organ (combined total from the two reactors at the site). Gaseous effluents will be processed through the appropriate gaseous effluent treatment systems as described in the ODCM prior to release. These modifications from the STS requirements are consistent with the PBAPS CTS.

(10) The overtime limit requirements in STS 5.2.2.e have been revised to delete the reference to the length of the work day "[8 or 12] hour day". However, the nominal 40 hour work week requirement will still be maintained. This wording is being deleted in order to provide more flexibility in shift scheduling to allow shifts up to 12 hours. This difference does not change the intent of the guidance of Generic Letter 82-16 with regards to the number of hours worked per week, and will ensure that routine use of heavy overtime will not be used. This difference from the STS is consistent with the PBAPS CTS.

(11) See Section 2.5.0.3(12) of this safety evaluation for a discussion of differences from the CTS and STS 5.5.9, "Diesel Fuel Oil Testing Program" with regard to the "clear and bright" test.

(12) STS 5.5.9.a which specifies new fuel oil requirements has been revised in ITS 5.5.9.a to allow for the verification of limits by the use of comparison to the supplier's certificate as approved in PBAPS Amendment Nos. 173 and 176, for Units 2 and 3, respectively, dated April 23, 1993.

(13) The High Radiation Area specification in STS 5.5.7 has been significantly changed to be consistent with associated changes to the STS which are currently in progress. These changes are outlined in a letter from C. I. Grimes to the NSSS Owners Group Technical Specification Subcommittee Chairmen dated July, 28, 1995, to reflect the revisions to 10 CFR Part 20. These changes are consistent with the associated changes to the STS and are, therefore, acceptable.

These proposed differences from STS Chapter 5.0 are consistent with PBAPS administrative controls and existing requirements and commitments. Therefore, they are acceptable.

2.6 ENVIRONMENTAL TECHNICAL SPECIFICATIONS (APPENDIX B)

The Appendix B improved Environmental TS contain the same material as found in the Appendix B CTS except for the administrative changes described below.

2.6.0.1 Significant Administrative Changes

(1) Although the STS in NUREG-1433 do not contain model specifications for Environmental TS, all reformatting and renumbering of the PBAPS Environmental TS is in accordance with the format of the STS. As a result, the Environmental TS should be more readable, and therefore understandable, by plant operators as well as other users. The reformatting, renumbering, and rewording process involves no technical changes to existing Environmental TS. Editorial rewording (either adding or deleting) is made consistent with the format of the STS. These changes are acceptable.

(2) The definitions, abbreviations, and symbols defined in Section 1.0 of the Environmental TS that are no longer used in the specifications are being deleted. References to the deleted definitions, abbreviations, or symbols were deleted from the specifications by previous amendments. These changes are acceptable.

(3) The definition of the term "Environmental Deviation" includes the phrase "unusual event." This term received a specific definition in relationship to the PBAPS Emergency Plan subsequent to its use in the definition of Environmental Deviation. Therefore, use of the word unusual was removed from the definition of Environmental Deviation in order to restore the definition to its original intent and to avoid confusion. This change is acceptable.

(4) The existing Environmental TS (Appendix B) reference the Administrative Controls Section of the TS (Appendix A) for requirements for reviews and audits. The requirements for reviews and audits in Appendix A are being relocated to the QA Program. Therefore, consistent with the change to Section 6.5 of the CTS, Appendix B will reference the QA Program for requirements for reviews and audits. This change is acceptable.

(5) Details related to submission of written reports to the NRC were revised to reflect that submission is made in accordance with 10 CFR 50.4. Since the requirements of 10 CFR 50.4 for submittals have superseded the Appendix B requirements, this change is considered administrative in nature. This change is acceptable.

The above changes result in the same limits as the current requirements, or they represent enhanced presentation of the CTS intent. Accordingly, the improved Environmental TS changes are purely administrative and they are acceptable.

3. STATE CONSULTATION

In accordance with the Commission's regulations, the Pennsylvania State official was notified of the proposed issuance of the amendments. The State official had no comments.

4. ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.21, 51.32, and 51.35, an environmental assessment and finding of no significant impact have been prepared and published in the *Federal Register* on August 15, 1995 (60 FR 42190). Accordingly, based upon the environmental assessment, the staff has determined that the issuance of the amendment will not have a significant effect on the quality of the human environment.

5. CONCLUSION

The PBAPS Units 2 and 3 ITS provide clearer, more readily understandable requirements to ensure safe operation of the plant. The staff finds that they satisfy the guidance in the Final Policy Statement with regard to the content of TS, and conform to the model in the STS with appropriate modifications for plant-specific considerations. The staff also finds that the PBAPS Units 2 and 3 ITS conform to Section 182a. of the Atomic Energy Act and 10 CFR 50.36, and other applicable standards. On this basis, the staff concludes that the PBAPS Units 2 and 3 ITS are acceptable.

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

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Date: AUG 3 0 1995

Table 1: Relocated Requirements (page 1 of 17)

ITS	CTS	Description	Location	Change Controls
2.0	1.1.A	Details that establish when MCPR safety limit is violated.	Procedures	10CFR50.59
2.0	6.7.1.d	Requirement to notify the NRB within 24 hours of a SL violation and submit an LER to the NRB.	Procedures	10CFR50.59
3.1.1	4.3.A.1	Details of method used to verify the SDM with the highest worth control rod.	Procedures	10CFR50.59
3.1.2	4.3.D	Details of method used to perform and the purposes of the reactivity anomalies surveillance.	Bases	Bases Control Program (5.5.10)
3.1.3	3.3.A.2.b; 3.3.B.1	Details for disarming CRDs.	Bases	Bases Control Program (5.5.10)
3.1.3	3.3.B.2; 4.3.B.2	Requirement to have the control rod drive housing support in place for control rod operability.	Procedures	10CFR50.59
3.1.7	4.4.A.1	Requirement to verify the proper operation and setpoint of the SLC System relief valves.	Procedures	10CFR50.59
3.1.7	4.4.A.2; 4.4.A.3	Details of the method of performing and an explanation of the surveillance test to verify flow through the SLC System from the pump into the RPV.	Procedures	10CFR50.59
3.1.7	4.4.B.4	Requirement to verify enrichment calculation results after an addition to the SLC tank by analysis within 30 days of the addition.	Procedures	10CFR50.59
3.1.7	4.4.B.3	Details of testing the SLC pump loop (pumping solution to the test tank).	Procedures	10CFR50.59
3.1.8	4.7.D.2.b	Requirement for post-maintenance testing of the SDV Vent and Drain Valve.	Procedures	10CFR50.59
3.1.8	4.7.D.2.a	Requirement to record daily the position of at least one other valve in each line having an inoperable SDV Vent and drain Valve.	Procedures	10CFR50.59
3.1.8	Table 3.7.1	Details relating to the design and operation of the SDV Vent and Drain Valves.	Bases	Bases Control Program (5.5.10)

ITS	CTS	Description	Location	Change Controls
3.2.1	3.5.I	Requirement regarding which limit to select from the COLR when limits are determined using hand calculation.	Procedures	10CFR50.59
3.2.2	4.5.K.2	Requirement for determining Tau (average scram time to the 20% insertion position) and the acceptance criteria.	Procedures	10CFR50.59
3.3.1.1	2.1.A.1; Table 3.1.1 Note 12	Terms (S; W; and delta W) and definitions for the setting of the APRM flow biased simulated thermal power equation.	UFSAR	10CFR50.59
3.3.1.1	Figure 1.1-1	APRM Flow Biased Scram Relationship to Normal Operating Conditions Figure.	Procedures	10CFR50.59
3.3.1.1	3.1.A; 4.1.A	Response time testing surveillance acceptance criteria.	UFSAR	10CFR50.59
3.3.1.1	Table 4.1-1 Item 1	Details of the performance of the Channel Functional Test for the Mode Switch in Shutdown.	Procedures	10CFR50.59
3.3.1.1	Table 3.1.1 Note 11	Requirement that an APRM will be considered Operable if there are at least 2 LPRM inputs per level and at least 14 LPRM inputs of the normal complement.	Bases	Bases Control Program (5.5.10)
3.3.1.1	Table 3.1.1	Number of Instrument Channels Provided by Design Column.	Bases	Bases Control Program (5.5.10)
3.3.1.1	Table 3.1.1 Note 6	Details of the MSIV Closure Function design which permits closure of any two lines without a scram being initiated.	UFSAR	10CFR50.59
3.3.1.1	Table 3.1.1 Note 5 & 10	Details when the IRMs and APRM Downscale are automatically bypassed.	Procedures	10CFR50.59
3.3.1.1	Table 4.1.1 Note 6	Discussions/specifics (e.g.; what's required to be tested for each Function; equipment required for the test; how to perform the test; etc.) concerning Surveillance Tests and the Group Column both tables.	UFSAR	10CFR50.59
3.3.1.1	Table 4.1.1 Notes 2, 4, & 5; Table 4.1.2 Notes 1, 2, 3, & 5	Discussions/specifics (e.g.; what's required to be tested for each Function; equipment required for the test; how to perform the test; etc.) concerning Surveillance Tests and the Group Column both tables.	Procedures	10CFR50.59

ITS	CTS	Description	Location	Change Controls
3.3.1.1	Table 4.1.1 Note 3	Requirement that functional tests shall be performed on part of the system that is not required to be operable or are tripped prior to returning the system to operable status.	Procedures	10CFR50.59
3.3.1.1	Table 4.1.1	RPS Channel Test Switch; Requirement that a functional test be performed after channel maintenance.	Procedures	10CFR50.59
3.3.1.1	Table 3.1.1	Trip Level Settings for the various Functions.	Procedures	10CFR50.59
3.3.1.1	3.1.A.1 Note 2	System operational details (when not to place in trip)	Bases	Bases Control Program (5.5.10)
3.3.1.2	3.10.B.3.a	Requirement that SRMs be inserted to the normal operating level during core alterations.	Procedures	10CFR50.59
3.3.1.2	3.10.B.3.b	Requirement that the SRM minimum count rate during Core alterations must be achieved with all rods fully inserted in the core.	Procedures	10CFR50.59
3.3.2.1	2.1.B; 3.2.C; Table 3.2.C Notes 1-6, 8-10, & 15; Table 4.2.C Note 2	Safety Limits; LCOs; and SR Requirements for Rod Block functions associated with the APRMs; IRMs; SRMs and Scram discharge volume Level.	TRM	10CFR50.59
3.3.2.1	Table 3.2.C	Number of Instrument Channels Provided by Design.	Bases	Bases Control Program (5.5.10)
3.3.2.1	Table 4.2.C; Notes 4 & 6	Details regarding the performance of Rod Block Monitor Surveillance Tests.	Procedures	10CFR50.59
3.3.2.1	4.3.B.3.b.1.a; 4.3.B.3.b.1.b; 4.3.B.3.b.1.c	Details related to the performance of the Rod Worth Minimizer Channel Functional Test.	Procedures	10CFR50.59
3.3.2.1	Table 4.2.C Items 5 & 6	Requirement for an Instrument Check of the RBM once per day.	Procedures	10CFR50.59
3.3.3.1	Table 3.2.F; Table 4.2.F	Requirements for the following PAM Instrumentation: Rx Water Level (NR) ; Drywell P; Drywell T; Suppression Chamber Water Level (NR) ; CR Position; Neutron Monitoring; SRV Position Indication; Main Stack High Range Rad Monitor; and Rx Bldg Roof Vent High Range Rad Monitor.	TRM	10CFR50.59

Table 1: Relocated Requirements (page 4 of 17)

ITS	CTS	Description	Location	Change Controls
3.3.3.1	Table 3.2.F	Details of System Operability requirements and description of the instruments.	UFSAR	10CFR50.59
3.3.3.1	Table 4.2.F; Note ** & ***; 4.7.A.6.c	Details of the performance of surveillances.	Procedures	10CFR50.59
3.3.3.1	4.7.A.6.c	Requirement that the atmospheric analyzing system be functionally tested one per operating cycle when the CAD system is tested.	Procedures	10CFR50.59
3.3.3.2	3.11.C.1; 4.11.C.1	Requirement that the Emergency Shutdown Control Panels be secured at all times and that this status be verified once per week by visual inspection.	Procedures	10CFR50.59
3.3.4.1	3.2.G; 4.2.G; Table 3.2.G; Table 4.2.G	Requirement for the ATWS alternate rod insertion function.	TRM	10CFR50.59
3.3.4.1	3.2.G; Table 4.2.G	Requirement that the ATWS Recirculation Pump Trip Function have manual actuation.	Procedures	10CFR50.59
3.3.4.1	3.2.G	Requirement that specifies the specific ATWS-RPT equipment that needs to be Operable in the Run Mode; specifically the phrase "The automatic actuation logic; and actuation devices of."	Bases	Bases Control Program (5.5.10)
3.3.4.1	Table 3.2.G	Number of Instrument Channels Provided by Design per Trip System.	Bases	Bases Control Program (5.5.10)
3.3.4.1	Table 4.2.G Note 1	Table 4.2.G, Note 1; Requirement that the ATWS-RPT instrument channels are the same ones used by the Core and Containment Cooling Systems.	UFSAR	10CFR50.59
3.3.4.1	Table 4.2.G Note 2	Requirement for a three month Logic System Functional Test on the ATWS-RPT Function and Table 4.2.G; Note 2; Requirement that the recirculation pumps need not be tripped during the Logic System Functional Test.	Procedures	10CFR50.59
3.3.4.1	3.2.G Note 2	System operational details (when not to place in trip).	Bases	Bases Control Program (5.5.10)
3.3.5.1	2.1.I; 2.1.J; Table 3.2.B Note 4	Table 3.2.B; "Indicated Level"; Table 4.2.b; Notes 3 & 4; details such as conversions; specific instructions; etc.	Procedures	10CFR50.59

ITS	CTS	Description	Location	Change Controls
3.3.5.1	Table 3.2.B	Trip Level Setting column.	Procedures	10CFR50.59
3.3.5.1	Table 3.2.B	Remarks Column; Details of specific information about the Functions (e.g.; other Functions required to initiate the system; the role of the Function in initiating the system; etc.)	Bases	Bases Control Program (5.5.10)
3.3.5.1	Table 4.2.B	SR for the ADS relief valves bellows pressure switches.	Procedures	10CFR50.59
3.3.5.1	Table 3.2.B; Table 4.2.B	Requirements for the trip system bus power monitors; the core spray sparger differential pressure monitor; the LPCI cross connect position indication.	TRM	10CFR50.59
3.3.5.1	Table 4.2.B; Note 7	Details about the instruments; specifically the requirement that channels consist of analog transmitters; indicators and electronic trip units.	UFSAR	10CFR50.59
3.3.5.1	Table 4.2.B	LSFT for the area cooling for safeguards systems.	TRM	10CFR50.59
3.3.5.1	Table 3.2.B	Requirement for a LPCI Containment High Pressure Function.	TRM	10CFR50.59
3.3.5.2	2.1.J; Table 3.2.B	Details which are procedural in nature (e.g.; conversions; specific instructions; etc.).	UFSAR	10CFR50.59
3.3.5.2	Table 4.2.B Notes 3 & 4	Details which are procedural in nature (e.g.; conversions; specific instructions; etc.).	Procedures	10CFR50.59
3.3.5.2	Table 3.2.B	Trip Level Settings.	Procedures	10CFR50.59
3.3.5.2	Table 3.2.B; Table 4.2.B Note 7	Details about instruments; specifically; requirements that channels consists of analog transmitters; indicators and electronic trip units.	UFSAR	10CFR50.59
3.3.5.2	Table 3.2.B	Requirements for the RCIC Trip System bus power monitor.	TRM	10CFR50.59
3.3.6.1	Table 3.2.B; Table 4.2.B Item 4	Requirement for a Reactor Low Pressure Function.	TRM	10CFR50.59
3.3.6.1	Table 3.2.A; Table 3.2.B; Table 3.2.D	Requirement for Number of Instrument Channels Provided By Design.	Bases	Bases Control Program (5.5.10)

ITS	CTS	Description	Location	Change Controls
3.3.6.1	Table 3.2.D	Details relating to the design; plant operations; and maintenance of the PCI Instrumentation.	TRM	10CFR50.59
3.3.6.1	Table 4.1.2 Note 3; Tables 4.2.A, B, & D Notes 3, & 4	Details relating to the design; plant operations; and maintenance of the PCI Instrumentation.	Procedures	10CFR50.59
3.3.6.1	Table 3.2.A Note 6; Table 3.2.B Notes 2 & 3	Details relating to the design; plant operations; and maintenance of the PCI Instrumentation.	Bases	Bases Control Program (5.5.10)
3.3.6.1	2.1.C; 2.1.K; Table 3.2.A Notes 3, 4, & 8; Table 3.2.B Note 4; Tables 4.2.A, B, & D Note 7	Details relating to the design; plant operations; and maintenance of the PCI Instrumentation.	UFSAR	10CFR50.59
3.3.6.1	Table 3.2.B	Setpoints for the HPCI and RCIC isolation on the steam line low pressure function.	Procedures	10CFR50.59
3.3.6.1	Table 3.2.A; Table 3.2.B; Table 3.2.D	Trip Level Settings.	Procedures	10CFR50.59
3.3.6.1	Table 3.2.A Note 9	Compensatory actions associated with recovery of a loss of ventilation in the MSL tunnel.	Bases	Bases Control Program (5.5.10)
3.3.6.1	3.2.A.1 Note 2; 3.2.D.1.1 Note 2	System operational details (when not to plant in trip)	Bases	Bases Control Program (5.5.10)
3.3.6.1	3.2.A.2 Note 3; Table 3.2.A Item 11; Table 4.2.A Item 7	Requirements for Reactor Cleanup System High Temperature Function.	TRM	10CFR50.59
3.3.6.2	Table 3.2.D	Trip Level Settings.	Procedures	10CFR50.59
3.3.6.2	Table 3.2.D; Table 4.2.A Note 4; 4.2.D Note 4	Details relating to design and operation and items which are procedural in nature (e.g.; specific instructions; etc.).	Procedures	10CFR50.59
3.3.6.2	3.2.D.1 Note 2	System operational details (when not to place in trip)	Bases	Bases Control Program (5.5.10)

ITS	CTS	Description	Location	Change Controls
3.3.7.1	Table 3.D.2	Trip level settings.	Procedures	10CFR50.59
3.3.7.1	Table 3.2.D; 3.11.A.5; 3.11.A.5.b	Details about the instrument (number of channels provided by design; etc).	Bases	Bases Control Program (5.5.10)
3.3.7.1	Table 3.2.D; 3.11.A.5.a; 3.11.A.6; 4.11.A.4; 4.11.A.6	Requirements for trip functions of the MCREV initiation instrumentation not associated with Control room air intake radiation--high channels.	TRM	10CFR50.59
3.3.7.1	4.11.A.5	Items which are procedural in nature (e.g., conversions, specific instructions, etc.).	Procedures	10CFR50.59
3.3.8.1	Table 3.2.B	Details which are procedural in nature; specifically; instructions on where to test (voltage and time) the relays.	Procedures	10CFR50.59
3.3.8.1	Table 3.2.B	Trip Level Settings.	Procedures	10CFR50.59
3.3.8.1	Table 3.2.B; Table 4.2.B	Details on the instruments (e.g.; specific functions they perform; etc.).	UFSAR	10CFR50.59
3.3.8.1	Table 3.2.B	Trip Level Setting for the 4kV Emergency Bus Undervoltage Relay.	Procedures	10CFR50.59
3.3.8.2	3.1.D.1	Details of what constitutes a trip train (an electric power monitoring assembly).	Bases	Bases Control Program (5.5.10)
3.3.8.2	4.1.D.1; 4.1.D.2	Maximum setpoint for the undervoltage and underfrequency relays and minimum setpoint for the overvoltage and underfrequency time delay relays.	Procedures	10CFR50.59
CTS 3/4.15	3/4.15	Seismic Monitoring Instrumentation.	TRM	10CFR50.59
3.4.1	3.6.F.1	Requirement that following one-pump operation; the discharge valve of the low speed pump may not be opened unless the speed of the faster pump is less than 50% of its rated speed.	Procedures	10CFR50.59
3.4.1	4.6.F.1	Requirement to obtain baseline APRM and LPRM neutron flux noise data.	Procedures	10CFR50.59
3.4.1	3.6.F.4; 3.6.F.5.b	Requirements to "immediately initiate action."	Bases	Bases Control Program (5.5.10)

ITS	CTS	Description	Location	Change Controls
3.4.1	3.6.F.5.b	Details regarding the determination of LPRM neutron flux noise levels (which LPRMs to use and their location).	Bases	Bases Control Program (5.5.10)
CTS 3.6.G	3/4.6.G	Requirement for Structural Integrity.	TRM	10CFR50.59
3.4.2	3.6.E.2; 3.6.E.3; 3.6.E.4	Details on the Jet Pumps related to systems (e.g. indicated core flow is the sum of the flow indication from each of the 20 jet pumps).	Procedures	10CFR50.59
3.4.2	4.6.E.3	Requirement to obtain baseline data required to evaluate jet pump Operability each operating cycle.	Procedures	10CFR50.59
3.4.3	4.6.D.2	Requirement to disassemble and inspect one SRV every 24 months.	Procedures	10CFR50.59
3.4.3	4.6.D.3	Requirements for the Relief Valve Bellows Instrumentation.	Procedures	10CFR50.59
3.4.3	4.6.D.4	Instructions on how to verify that the relief valve is manually opened.	Bases	Bases Control Program (5.5.10)
3.4.3	4.6.D.3	Requirement to perform an inspection for leakage of the accumulators and air piping for the Specific once per operating cycle.	Procedures	10CFR50.59
3.4.5	4.6.C.1	Requirement that RCS leakage shall be determined by the primary containment drywell sump collection and flow monitoring system.	Procedures	10CFR50.59
3.4.5	4.6.C.2	Requirement that the Drywell atmosphere radioactivity levels be monitored and recorded at least once per day.	Procedures	10CFR50.59
3.4.6	3.6.B.1; 4.6.B.1; Table I	Requirements for reactor coolant and offgas system samples sampling during startup; following significant power level changes; and following significant changes in offgas radiation levels.	Procedures	10CFR50.59
3.4.9	4.6.A.1	Requirements for when the RCS temperature surveillance for heatup and cooldowns may be discontinued (until the difference between any 2 readings taken over a 45 minute period is less than 5 degrees F).	Procedures	10CFR50.59
3.4.9	4.6.A.1.a; 4.6.A.1.b	Specific RCS locations (bottom head drain and recirculation loops A and B) for monitoring temperature during heatup and cooldowns.	Procedures	10CFR50.59
3.4.9	4.6.A.1	Details of the Reactor vessel test specimen location and details regarding the sample program.	UFSAR	10CFR50.59

ITS	CTS	Description	Location	Change Controls
CTS 3.6.B.2	3/4.6.B.2	Requirement for controls for reactor water quality including: chloride concentration; conductivity; and pH.	TRM	10CFR50.59
3.5.1	3.5.A.1.a; 3.5.A.1.b; 3.5.A.3.a; 3.5.A.3.b; 3.5.A.6	Details of what constitutes a core spray and LPCI subsystem and their minimum requirements for an Operable flow path.	Bases	Bases Control Program (5.5.10)
3.5.1	4.5.A.1.e	Requirement for daily checks and quarterly calibration of the Core Spray header Delta P Instrumentation.	TRM	10CFR50.59
3.5.1	4.5.G.1	Details of the method to be employed to ensure that the HPCI and RCIC discharge pump discharge lines are full of water.	Bases	Bases Control Program (5.5.10)
3.5.1	4.5.G.2	Requirement that the level switches that monitor the LPCI and CS lines to ensure these lines are filled with water are functionally tested every operating cycle.	Procedures	10CFR50.59
3.5.1	3.5.H; 4.5.H	Requirements for an Engineered Safeguards Compartments cooling and ventilation.	TRM	10CFR50.59
3.5.1	4.6.D.4	Requirement that each relief valve be operated manually once per operating cycle and the details of the performance of this surveillance.	Bases	Bases Control Program (5.5.10)
3.5.2	3.5.F.1.a; 3.5.F.1.b	Definition of what constitutes a subsystem and description of minimum requirements for an Operable flow path.	Bases	Bases Control Program (5.5.10)
3.5.3	4.5.D Note *	Requirement to include automatic restart on low water level signal during a simulated automatic actuation test once per cycle.	Bases	Bases Control Program (5.5.10)
3.5.3	4.5.D.1.f	Requirement to verify automatic transfer from CST to suppression pool on low CST water level once per cycle.	Bases	Bases Control Program (5.5.10)
3.5.3	4.5.G.1	Requirement to ensure that the piping is full from the discharge valve to the injection valve by venting the RCIC from the high point.	Bases	Bases Control Program (5.5.10)
3.5.3	3.5.H; 4.5.H	Requirement for testing the compartment coolers.	TRM	10CFR50.59
3.6.1.1	4.7.A.2.b; 4.7.A.2.d; 4.7.A.2.f; 4.7.A.4.c	Procedural type details that are not addressed in 10 CFR 50 Appendix J and specific values for parameters (P_a; P_t; and L_a).	Procedures	10CFR50.59

ITS	CTS	Description	Location	Change Controls
3.6.1.1	4.7.A.2.f; Table 3.7.2; Table 3.7.3; Table 3.7.4; Table Notes 2, 3, & 9-22	List of containment penetrations.	UFSAR	10CFR50.59
3.6.1.1	4.7.A.2.g	Requirement for a Continuous Leak Rate Monitor.	Procedures	10CFR50.59
3.6.1.1	4.7.A.2.h; 4.7.A.4.c	Requirement to perform visual inspections of the suppression chamber interior and the drywell-to-suppression chamber vacuum breakers.	Procedures	10CFR50.59
3.6.1.2	4.7.A.2.f; Table 3.7.2 Note 8	The value of P_a.	Bases	Bases Control Program (5.5.10)
3.6.1.2	Table 3.7.2 Note 1	One hour minimum test duration for valves and penetrations.	Procedures	10CFR50.59
3.6.1.3	Table 3.7.1	List of PCIVs.	UFSAR	10CFR50.59
3.6.1.3	4.7.D.2.b	Requirement specifying the PCIVs be demonstrated Operable prior to being returned to service after maintenance on or replacement of the valve; actuator; control or power circuit by performance of a cycling test; and verification of isolation time.	Procedures	10CFR50.59
3.6.1.3	4.7.D.1.b.1	Details of surveillance specifying that all normally open power operated isolation valves (except for the MSIVs) shall be fully closed and reopened.	Procedures	10CFR50.59
3.6.1.3	4.7.D.1.b.2	Requirement for power to be < 75% to perform MSIV isolation time testing.	Procedures	10CFR50.59
3.6.1.3	4.7.d.1.c	Requirement to exercise the main steam line power-operated isolation valves by partial closure and subsequent opening.	Procedures	10CFR50.59
3.6.1.3	4.7.E.2	Requirement specifying the LLRT for the large containment ventilation isolation valves be compared to the previously measured leak rate to detect excessive valve degradation.	Procedures	10CFR50.59
3.6.1.3	3.7.E.2.b	Requirement specifying the accumulated time a purge or vent flow path exists be limited to 90 hours per calendar year.	Procedures	10CFR50.59
3.6.1.3	3.7.E.2.c	Penetrations and flow path valves identified as being subject to the primary containment purge and exhaust valve specification.	Procedures	10CFR50.59

Table 1: Relocated Requirements (page 11 of 17)

ITS	CTS	Description	Location	Change Controls
3.6.1.3	1.0 Primary Containment Integrity Definition	Details that constitute primary containment integrity with respect to PCIVs.	Bases	Bases Control Program (5.5.10)
3.6.1.6	3.7.A.4.b	Requirement to allow vacuum breakers to be considered closed even if the "not fully seated" indication is present if a leak test confirms the bypass area between the drywell and suppression pool is less than or equivalent to a one-inch diameter hole.	Bases	Bases Control Program (5.5.10)
3.6.2.1	4.7.A.2	Requirement to monitor suppression pool temperature when there is indication of relief valve operation (except when the reactor is being shutdown and torus cooling is being established) or testing which adds heat to the suppression pool.	Procedures	10CFR50.59
3.6.2.3	4.5.B.1.d	Torus cooling MOV testing requirements.	Procedures	10CFR50.59
3.6.2.3	3.6.B.4.a	Details which defines what constitutes an RHR suppression pool cooling subsystem (loop) and description of the minimum requirements for an Operable flow path.	Bases	Bases Control Program (5.5.10)
3.6.2.4	4.5.B.1.f; 3.5.B.5	Requirements for testing Torus Spray MOVs.	Procedures	10CFR50.59
3.6.2.4	4.5.B.1.e; 4.5.B.1.g	Requirements for drywell spray.	TRM	10CFR50.59
3.6.2.4	3.5.B.6.a	Requirements for what constitutes an RHR suppression pool spray subsystem (loop) and the description of the minimum requirements for an Operable flow path.	Bases	Bases Control Program (5.5.10)
3.6.3.1	3.7.A.6.a	Requirement specifying the CAD System must be operable to supply nitrogen to either Unit 2 or Unit 3 containment for atmosphere dilution if required by post-LOCA conditions.	Bases	Bases Control Program (5.5.10)
3.6.3.1	4.7.A.6.a	Requirement for a post-LOCA CAD System Functional Test once per Operating Cycle.	Procedures	10CFR50.59
3.6.3.1	3.7.A.6.d	Post Accident requirement that a 30 psig limit is the maximum containment repressurization allowable using the CAD System and venting via the SGT system to this stack must be initiated at 30 psig following the initial peak pressure at 49.1 psig.	Procedures	10CFR50.59
3.6.3.2	3.7.A.5	Requirement to inert with nitrogen gas.	Procedures	10CFR50.59

Table 1: Relocateo Requirements (page 12 of 17)

ITS	CTS	Description	Location	Change Controls
3.6.3.2	4.7.A.5	Requirement to record the containment oxygen concentration.	Procedures	10CFR50.59
3.6.4.1	4.7.C.1.c	Requirement to perform the secondary containment capability test with the SGT system subsystem prior to refueling.	Procedures	10CFR50.59
3.6.4.1	4.7.C.1.d	Requirement to operate the SGT System after a secondary containment violation is determined and has been isolated to check if it can maintain the proper vacuum.	Procedures	10CFR50.59
3.6.4.1	3.7.C.1.d	Requirement that secondary containment be maintained if the fuel cask is being moved in the reactor building.	Procedures	10CFR50.59
3.6.4.1	3.7.C.1.c	Details/requirements of the Design.	Bases	Bases Control Program (5.5.10)
3.6.4.2	3.7.C.1.d	Requirement that secondary containment be maintained if the fuel cask is being moved in the reactor building.	Procedures	10CFR50.59
3.6.4.3	3.7.B.1; 3.7.E.2.d; 3.7.E.2.e	Requirement that both SGT trains shall be Operable when venting or purging the primary containment and that only one of the two SGT trains shall be used at a time for primary containment purge/vent operations.	Procedures	10CFR50.59
3.6.4.3	3.7.B.1; 3.7.B.3	Details of what constitutes an Operable SGT subsystem.	Bases	Bases Control Program (5.5.10)
3.6.4.3	4.7.B.2.e	Requirement to maintain a dry gas purge through the SGT filters to maintain relative humidity below 70% during idle periods.	Procedures	10CFR50.59
3.7.1	4.5.B.1	Inservice testing requirements for the HPSW pumps.	Procedures	10CFR50.59
3.7.2	3.9.C.4; 4.9.C.2	Requirement that the ESW fans be Operable in order for the ESW pumps to be Operable.	TRM	10CFR50.59
3.7.2	4.9.C.1	Inservice Testing Requirement for the ESW System.	Procedures	10CFR50.59
3.7.2	4.9.C.4	Requirement to inspect and clean as necessary to remove excessive silt from the bottom of the "A" (for Unit 2) and "B" (for Unit 3) ESW Pump intake structure.	Procedures	10CFR50.59

Table 1: Relocated Requirements (page 13 of 17)

ITS	CTS	Description	Location	Change Controls
3.7.3	4.11.B.2	Requirement to test the portable fire pump used to provide makeup to the emergency reservoir.	Procedures	10CFR50.59
3.7.3	4.11.B.3.a	Inservice Testing Requirement for the ECW pump and ESW Booster Pumps.	Procedures	10CFR50.59
3.7.4	4.11.A.2.d	Requirements that a dry gas purge provided to the MCREV filters to ensure the relative humidity in the filter system does not exceed 70% when the system is idle since moisture could reduce the efficiency of the charcoal filters.	Procedures	10CFR50.59
3.7.5	3.8.C.7.b; 4.8.C.7.b	Requirements governing the testing of the Steam Jet Air Ejector radiation monitors.	TRM	10CFR50.59
3.7.5	4.8.C.7.a	Details of the performance of the surveillance (radioactive release rate of the noble gases from the steam jet air ejector discharge).	Bases	Bases Control Program (5.5.10)
3.7.7	3.10.C.2	Requirement to suspend crane operation with loads in the spent fuel storage pool area after placing the fuel assemblies and crane load in a safe condition when level in the spent fuel pool is not within limit.	Procedures	10CFR50.59
3.7.7	3.10.D	Crane limits.	Procedures	10CFR50.59
CTS 3/4.8	3/4.8.G	Mechanical Vacuum Pump Specification.	TRM	10CFR50.59
CTS 3/4.11.D	3/4.11.D	Snubber inspection requirements.	TRM	10CFR50.59
CTS 3/4.12	3/4.12	Requirement for River Level.	TRM	10CFR50.59
CTS 3/4.13	3/4.13	Requirement for Miscellaneous Radioactive Materials Sources.	TRM	10CFR50.59
3.8.1	4.9.A.1.2	Details relating to the operation and testing of the DG.	Procedures	10CFR50.59
3.8.1	Table 3.2.B	Details related to the design of the 480 V load center timers and the 4 kV bus sequential loading relays.	UFSAR	10CFR50.59
3.8.1	Table 3.2.B	Details related to the trip settings of the 480 V load center timers and the 4 kV bus sequential loading relays.	Procedures	10CFR50.59

ITS	CTS	Description	Location	Change Controls
3.8.1	4.9.A.1.2.f	Requirement to inspect the DG in accordance with procedures prepared in accordance with manufacturers recommendations.	Procedures	10CFR50.59
3.8.1	3.9.B.8; 4.9.B.8	Requirement for the Conowingo Tie-Line Operability (notification to the NRC and periodic verification) associated with Station Blackout requirements.	TRM	10CFR50.59
3.8.1	3.9.A.1	Details of what constitutes two qualified offsite circuits (physically independent).	Bases	Bases Control Program (5.5.10)
3.8.1	Table 3.2.B Note 7	Requirements dictating which Technical Specification applies when a 480 V load center timer is inoperable.	Procedures	10CFR50.59
3.8.1	Table 4.2.B	Requirement that an instrument functional test of the 4 kV Emergency Power system Voltage Relays.	Procedures	10CFR50.59
3.8.1	4.9.A.1.2.1	Emergency Diesel Generator accelerated testing requirements.	Maint Prog Procedures	10CFR50.59
3.8.1	4.9.A.1.2.g.1	The detail of what constitutes the largest single load (RHR pump motor) for the diesel generator single load rejection test.	Bases	Bases Control Program (5.5.10)
3.8.3	4.9.A.1.2.g.6; 3.9.B.6.d	Details relating to the design; operation; and maintenance of the fuel transfer system; lube oil system; and starting air system.	Procedures	10CFR50.59
3.8.3	4.9.A.1.2.j	The requirement to drain; remove sediment; and clean each fuel oil tank.	Procedures	10CFR50.59
3.8.3	3.9.B.6.c	Requirement that fuel oil in the other three storage tanks be sampled within 24 hours following the determination that fuel oil sampled from any tank failed to meet requirements.	Procedures	10CFR50.59
3.8.3	4.9.A.1.2.k	Requirements to inspect; at least once every two months; the cathodic protection rectifiers and to perform a test every 12 months to determine if the protection is adequate.	Procedures	10CFR50.59
3.8.4	4.9.A.2.a; 4.9.A.2.c; 3.9.B.5	Requirements that are procedural in nature; specifically the requirement that repair work on the batteries are initiated in the most expeditious manner to return the failed component to an operable state.	Procedures	10CFR50.59

Table I: Relocated Requirements (page 15 cf 17)

ITS	CTS	Description	Location	Change Controls
3.8.4	3.9.B.5	Requirements which ties the Actions of the Batteries with the ECCS and the DG System.	Procedures	10CFR50.59
3.8.4	4.9.A.2.c; 3.9.A.4	The number of batteries and chargers required and interpretation of what each 60 months means as it relates to the performance of a discharge test.	Bases	Bases Control Program (5.5.10)
3.8.6	4.9.A.2.a; 4.9.A.2.b	Requirements that are procedural in nature.	Procedures	10CFR50.59
3.8.7	3.9.A.3	Details relating to system design and what Operable means (e.g.; energized) and the AC buses listed.	Bases	Bases Control Program (5.5.10)
3.9.1	4.10.A.1	Requirement that any time the Operability of a system or component has been affected by repair; maintenance or replacement of a component; post-maintenance testing is required to demonstrate Operability of the system or component.	Procedures	10CFR50.59
3.9.1	3.10.A.3; 3.10.A.4	Hoist load setpoints	Procedures	10CFR50.59
3.9.2	4.10.A.1	Requirements that governs the surveillance testing of the refueling interlocks following repair work on the interlocks.	Procedures	10CFR50.59
4.0	5.1; 5.3; 5.4; 5.6; 1.0 Site Boundary Definition	Design requirements for the of the Reactor Vessel; Containment; and Seismic Design and the description of the Site Features.	UFSAR	10CFR50.59
4.0	5.5.C	Requirement that the spent fuel be stored in spent fuel pool only in a vertical orientation in approved storage racks.	Procedures	10CFR50.59
5.0	6.2.2.a; Table 6.2.1	Minimum Shift Crew composition Table.	Procedures	10CFR50.59
5.0	6.2.2.e	Requirement for an SRO to be present during fuel handling and to supervise all core alterations.	Procedures	10CFR50.59
5.0	6.1.2	Requirement for management directive stating who has control room command function responsibility.	Procedures	10CFR50.59

Table 1: Relocated Requirements (page 16 of 17)

ITS	CTS	Description	Location	Change Controls
5.0	6.5.1; 6.5.2; 6.6.1.b; 6.8.1.a; 6.8.1.c; 6.12	Review and Audit Requirements (PORC & Nuclear Review Board); LER review and submittal requirements; Requirement for procedures that meet the requirements of ANSI N18.7-1972; Requirements that procedures covering QA for environmental monitoring use the guidance in R.G. 4.1; Fire protection inspections.	QAP	10CFR50.54(a)
5.0	6.4.1	Requirements that a retraining and replacement training program for the facility staff shall be maintained under the direction of the Superintendent Training and shall meet the requirements of ANSI N18.1 1971 and 10 CFR 55; Appendix A.	UFSAR	10CFR50.59
5.0	6.9.2.a; 6.9.2.b; 6.9.2.c; 6.9.2.d; 6.9.2.f	Requirement for Loss of SDM Report; RV Inservice Inspection Report; Seismic Monit Inst Inop Report; Primary Cont Leak Rate Testing Report; and Sealed Source Leakage Report.	Procedures	10CFR50.59
5.0	6.19	Bases for Post Accident Sampling requirements.	UFSAR	10CFR50.59
5.0	6.6.1.a	Requirements for Reportable Event Action.	Procedures	10CFR50.59
5.0	6.9.1.e.4	Requirement which states where to send NRC Reports; Program Revisions.	Procedures	10CFR50.59
5.0	6.9.2.h.2	Requirements for Solid Waste reporting.	Procedures	10CFR50.59
5.0	6.11; 6.15	Requirements for the Radiation Protection Program and the Iodine Monitoring Program; respectively.	Procedures	10CFR50.59
5.0	6.5.3; 6.8.2; 6.8.3	Requirement for Procedure Review and Approval and for Temporary Procedure Changes.	UFSAR	10CFR50.59
5.0	6.9.1.a	Requirement to submit a Startup Report.	Procedures	10CFR50.59
5.0	6.9.2.e; 6.9.2.g; 6.9.2.h.1; 6.9.2.h.2; 6.9.2.h.3; 6.18	Requirements for major changes to the Rad Waste Treatment Sys; the Rad Dose Asses Report; and specific details for the Rad Env Op Report and the Rad Effluent Rel Report; as well as the submittal requirements for these reports and programs.	ODCM	ODCM (5.5.1.c)
5.0	6.10	Requirements for record retention.	QA Program	10CFR50.54(a)

Table 1: Relocated Requirements (page 17 of 17)

ITS	CTS	Description	Location	Change Controls
5.0	4.9.A.1.2.d; 4.9.A.1.2.e	Requirements for testing new and stored diesel fuel oil (descriptions of test performance and acceptance criteria for the required fuel oil tests that are contained in the ASTM standards).	Bases	Bases Control Program (5.5.10) & Diesel Fuel Oil Test Program (5.5.9)
5.0	3.8.C.6; 4.8.C.6	Requirements for monitoring explosive gas downstream of the Off-Gas Recombiners.	TRM	10CFR50.59
5.0	6.9.1.c	Requirements for reporting challenges to safety and relief valves.	Procedures	10CFR50.59
3/4.8	3/4.8.A; 3/4.8.B; 3/4.8.C.1; 3/4.8.C.2; 3/4.8.C.3; 3/4.8.C.4; 3/4.8.C.5; 3/4.8.C.8; 3/4.8.D; 3/4.8.E	Radioactive Material Controls; Liquid Effluents; Gaseous Effluents; Containment Purging; 40 CFR 190; Radiological Environmental Monitoring	ODCM	ODCM (5.5.1.c)
3/4.8	3/4.8.F	Solid Radioactive Waste	Procedures	10CFR50.59