Normal-Unit 1 Secondary Containment

3.7.C.1.a.(5)	Hatches connecting Zones I and III to Zone II must be closed and sealed.
3.7.C.1.a.(6)	At least one door in each access path connecting Zones I and III to Zone II must be closed.

Modified-Unit 1 Secondary Containment

3.7.C.2.a.(3)	Hatches connecting Zone III to Zone II must be closed and sealed.
3.7.C.2.a.(4)	At least one door in each access path connecting Zone III to Zone II must be closed.
3.7.C.2.a.(5)	All hatches separating Zone III from Zone I must be closed and sealed.
3.7.C.2.a.(6)	At least one door in each access path connecting Zone III with Zone I must be closed.
3.7.C.2.a.(7)	The following SGT system valves are closed: • to Zone I; • to the Unit 1 drywell; and • to the Unit 1 torus.
4.7.C.2.b	•• Perform SR 4.7.C.1.a if normal secondary containment integrity is required; •• Perform SR 4.7.C.2.a if modified secondary containment integrity is required.

These details are being relocated to the SRs and Bases for improved TS 3.6.4.1, and the technical requirements manual (TRM). Secondary containment operability requirements are explicitly required in improved TS SRs 3.6.4.1.1 (to verify all secondary containment equipment hatches are closed and sealed) and 3.6.4.1.2 (to verify each secondary containment access door is closed). The details regarding allowable configurations, including associated SGT and secondary containment isolation valve (SCIV) requirements, are being specified in the TRM. Therefore, this information does not need to be repeated in the LCO. Any change to the information in the Bases will be adequately controlled by the provisions of improved TS 5.5.11. Any changes to the relocated details in the TRM will be adequately controlled by the provisions of 10 CFR 50.59. Because the operability requirement for secondary containment, appropriate to the status of both units, and supporting SRs are being retained in corresponding improved TS 3.6.4.1, and adequate TS or regulatory controls exist for any changes to these relocated details, relocation of these details from the CTS does not impact safety.

(30) Unit 1 CTS SRs 4.7.C.1.a and 4.7.C.2.a (draw down test of normal and modified secondary containment, respectively) contain the following detail of the method of performing these surveillances:

> The test shall be conducted "after isolating the normal (modified) Unit 1 secondary containment and placing the SGT system filter trains in operation."

This procedural detail is being omitted from corresponding improved TS SR 3.6.4.1.3 but will be included in the plant procedure for this test. Any changes to the methods of performing this SR described in this procedure will be adequately controlled by the provisions of 10 CFR 50.59.

(31) Note "*" to both Unit 1 CTSs 3.7.C.1 and 3.7.C.2 describe what constitutes normal and modified secondary containment, respectively, for Unit 1. These descriptions are being relocated to the Bases for improved TS 3.6.4.1, with explicit details being provided in the TRM. Because this information describes what secondary containment comprises, it is more appropriately located in the Bases and the TRM.

The secondary containment boundary in the Unit 1 improved TS typically consists of more than just the current Unit 1 normal or modified secondary containment descriptions. (Paragraph 2.3.6.3.p(1) of this safety evaluation explains why this more restrictive definition of secondary containment for Unit 1 is being adopted in the improved TS.) Given the number of variations of secondary containment boundaries, dependent upon the operational status of both units, the resulting complexity of providing the details of all options in the improved TS 3.6.4.1 would likely increase the difficulty operators would have using this specification, and would be contrary to the improved human-factors objective of the STS. The simplified presentation of improved TS 3.6.4.1 ("The secondary containment shall be OPERABLE.") provides adequate requirements to ensure proper implementation without unwarranted complexity.

Any change to the Bases will be controlled by improved TS 5.5.11. Any changes to the relocated details of the various configurations and associated required alignments of hatches, doors, and valves in the TRM will be adequately controlled by the provisions of 10 CFR 50.59. Because these descriptions are design and operational details, and the operability requirement for secondary containment, appropriate to the status of both units, is being retained in corresponding improved TS 3.6.4.1, and adequate TS or regulatory controls exist for any changes to these descriptions, locating the descriptions of the various secondary containment configurations of the improved TS to the TRM is acceptable.

(32) Unit 1 CTS SR 4.7.C.1.b requires demonstrating the ability of normal Unit 1 secondary containment to maintain a 1/4-inch vacuum

- under calm wind conditions,
- with each SGT system filter train flow rate $\leq$ 4000 cfm, and

- at each refueling outage, prior to refueling.

Corresponding improved TS SR 3.6.4.1.4 does not contain the restrictions on when the test is performed and the condition of the wind, consistent with the STS. These tests can be adequately performed during other than a refueling outage without jeopardizing safe plant operations. The control of the plant conditions appropriate for performing the test is an issue for procedures and scheduling, and has been previously determined to be unnecessary as a TS restriction. As indicated in Generic Letter 91-04, allowing this control is consistent with most other TS SRs that do not dictate plant conditions for the surveillances. Any changes to these procedures will be adequately controlled by the provisions of 10 CFR 50.59.

(33) Unit 2 CTS 3.6.5.2 and its associated ACTION and SR 4.6.5.2 refer to Table 3.6.5.2-1; similarly, Unit 2 CTS 3.9.5.2 and its associated ACTIONS and SR 4.9.5.2.1 refer to Table 3.9.5.2-1. These tables contain two separate lists of secondary containment ventilation system automatic isolation dampers and their isolation times (as appropriate for the existing plant status). These lists are being relocated to the TRM consistent with Generic Letter 91-08. Any changes to this list in the TRM will be adequately controlled by the provisions of 10 CFR 50.59. In addition, due to the relocation, the name of the isolation dampers is being changed to the more generic name, secondary containment isolation valves (SCIVs).

(34) Unit 2 CTS SR 4.6.5.2.c requires cycling each isolation damper, measuring its isolation time and verifying isolation occurs when initiated by a test signal. It also stipulates that these tests be done during Mode 4 or 5. Corresponding improved TS SRs 3.6.4.2.2 and 3.6.4.2.3 do not contain this restriction. Some isolation dampers could be adequately tested during conditions other than these without jeopardizing safe plant operations. The control of the plant conditions appropriate for performing the test is an issue for procedures and scheduling, and is unnecessary as a TS restriction. As indicated in Generic Letter 91-04, allowing this control is consistent with most other SRs that do not dictate plant conditions for the surveillance.

(35) Unit 2 CTS 4.6.6.1.1.a contains details of the methods for performing the monthly 10-hour operational test of each SGT subsystem. These details are being relocated to the Bases of corresponding improved TS SR 3.6.4.3.1 and procedures. These details will be adequately controlled by the provisions of 10 CFR 50.59 and improved TS 5.5.11.

The types of detailed information and requirements described above that are in existing specifications, 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. Further, they do not fall within any of the four criteria in the Final Policy Statement (discussed in Part 1 of this safety evaluation). In addition, the staff finds that sufficient regulatory controls exist under 10 CFR 50.59 and

improved TS 5.5.11, "Bases Control Program." Accordingly, the detailed information and requirements described above, may be removed from the CTS and placed in plant procedures, the FSAR, and the improved TS Bases, as appropriate.

2.3.6.2 Less Restrictive Requirements

The licensee, in electing to implement STS Section 3.6 specifications, proposed a number of requirements that are less restrictive than requirements given in the CTS. These less restrictive requirements are described below for each of the 17 specifications for Unit 1 and the 18 specifications for Unit 2 given in improved TS Section 3.6. The basis for accepting each change which is marked by an asterisk is given in Section 2.0.2.2 of this safety evaluation.

2.3.6.2.a Primary Containment (Improved TS 3.6.1.1)

The definition of primary containment integrity given in the CTS is being replaced with the requirement for primary containment to be operable in improved TS 3.6.1.1. This is being done because of the existing confusion associated with this definition compared to its use in the respective CTS LCO. This change is purely administrative because all CTS requirements for primary containment are retained in improved TS 3.6.1.1 and other specifications for components and systems that support primary containment operability (i.e., air locks, isolation valves, suppression pool, etc.).

(1) Unit 1 CTS 4.7.A.2.a and Unit 2 CTS 3.6.1.2.a.1 specify values for P_a at 59 psid and 57.5 psig, respectively. The value for P_a is being lowered to 53.6 psig for Unit 1 and 48.7 psig for Unit 2. P_a is defined in the CTS as the peak containment internal pressure that is used for 10 CFR Part 50 Appendix J (leakage testing) purposes. The peak containment internal pressure, as related to 10 CFR Part 50, Appendix J, has traditionally been the calculated maximum pressure following a large break, design basis loss-of-coolant accident (LOCA). For HNP Unit 1 and Unit 2, this break also results in the highest final safety analysis report (FSAR) analyzed accident pressures. The current Mark I Containment Long-Term Program analyses regarding the containment temperature and pressure responses following a LOCA are documented in Unit 1 FSAR Section 14.4.3.3.2 and Unit 2 FSAR Section 6.2.1.4. In addition, a more recent analysis, which increased the containment normal operation pressure limit from 0.75 psig to 1.75 psig, is documented in GENE-A00-05873-02 dated April 1994.

The HNP Unit 1 and 2 containment pressure response, due to a postulated design-basis LOCA, was re-evaluated as part of the Mark I Containment Long-Term Program and is documented in NEDO-24570 and NEDO-24569, respectively. The purpose of the Mark I Containment Long-Term Program was to "perform a complete reassessment of the suppression chamber (torus) design..." according to Appendix A of NUREG-0661. As a part of this complete reassessment, the Mark I Containment Long-Term Program included plant unique analyses of the containment LOCA pressure response using the homogeneous equilibrium model (HEM) for vessel blowdown

described in NEDO-21052 and the containment response model described in NEDO-10320. These plant-unique analyses and results were provided to the NRC in Georgia Power Company's letter dated January 26, 1983 (with later supplements) and approved by the NRC in a safety evaluation report dated January 25, 1984. These approved analyses resulted in significantly lower containment peak pressures than submitted in the original FSAR. Subsequent to NRC approval, the HNP Unit 1 and 2 FSARs were updated to reflect the new analyses and their results.

Since the Georgia Power Company Mark I Containment Long-Term Program submittal in 1983, certain parameters used in the model to account for the extended operating domain analyses with reduced feedwater temperature have been revised. This revision has resulted in slightly higher peak containment LOCA analyses pressures than those presented in the 1983 submittal. Through the 10 CFR 50.59 safety evaluation process, the FSAR was updated to reflect these results. The current LOCA analyses, provided in the FSAR section referenced above, result in peak containment internal pressures of 51.6 psig for Unit 1 and 46.7 for Unit 2. As indicated in NEDO-24570 for Unit 1 and NEDO-24569 for Unit 2, the peak containment pressure calculations for a design basis LOCA assumed an initial pressure of 0.75 psig. Also, the peak containment LOCA pressure is higher than the analyzed peak containment pressure for a Main Steam Line Break or small break LOCA inside containment. As indicated in GENE-A00-05873-02, the containment initial pressure was evaluated to be increased to 1.75 psig. The evaluation addressed the following issues:

- Short-term DBA-LOCA containment pressure and temperature
- Long-term DBA-LOCA containment pressure and temperature
- LOCA containment hydrodynamic loads
- Safety\relief valve loads
- Appendix J containment leakage requirements
- Other issues not related to this P_a change.

Based on the result of these evaluations, it was determined by the that P_a should be increased by 2 psig to 53.6 psig for Unit 1 and 48.7 psig for Unit 2.

Therefore, peak containment internal pressure value of 53.6 psig for Unit 1 and 48.7 for Unit 2 forms an acceptable basis for structural integrity as identified in the Bases of the improved TS. This pressure is significantly less than the containment design pressure of 56 psig and the ASME code allowable of 62 psig. Therefore, this change is acceptable.

(2) Unit 1 CTS 3.7.A.8 requires being in Mode 3 within 12 hours and Mode 4 within the following 24 hours if the requirements of Unit 1 CTS 3.7.A

regarding primary containment operability cannot be met. Corresponding ACTION A of improved TS 3.6.1.1 allows 1 hour to restore primary containment to operable status prior to requiring a unit shutdown. This Completion Time is based on engineering judgement of the relative risks associated with: (a) the probability of an event during the 1 hour requiring the primary containment; and (b) the plant transient and potential challenge of safety systems experienced by requiring a unit shutdown. Therefore, this 1-hour Completion Time, which is consistent with Unit 2 CTS and the STS, is acceptable.

2.3.6.2.b <u>Primary Containment Air Lock (Improved TS 3.6.1.2)</u>

(1) Note 1 to the ACTIONS of improved TS 3.6.1.2 is a new allowance for entry through a closed or locked air lock door for the purpose of making repairs. If the outer door is inoperable, then it may be easily accessed for repair. If the inner door is the one that is inoperable, however, then entry will be allowed through the operable outer door, which means there is a short time during which the primary containment boundary is not intact (during access through the outer door).

This allowance has strict administrative controls, which are detailed in the Bases. A dedicated (i.e., not involved with any repair or other maintenance effort) individual will be assigned to ensure (a) the door is opened only for the period of time required to gain entry into or exit from the air lock, and (b) any operable door is re-locked prior to the departure of the dedicated individual.

Repairs are directed toward reestablishing two operable doors in the air lock. Two operable doors closed is clearly the most desirable plant condition for air locks. The existing actions, in some circumstances, allow indefinite operation with only one operable door locked closed. Two operable doors closed is clearly an improvement on safety over one operable door locked closed. By not allowing access to make repairs, the existing actions could result in an inability to establish and maintain this highest level of safety possible (two operable doors closed), without a forced plant shutdown. Furthermore, the overall air lock test must be performed every 6 months. This could eventually result in a plant shutdown because of the inability to properly perform this test as a result of the inability to repair the inoperable door.

Therefore, allowing entry and exit, while temporarily allowing loss of containment integrity, is based on the expected result of restoring two operable doors to the air lock. Restricting this access to make repairs of an inoperable door or air lock ensures this allowance applies only toward meeting this goal. This change is acceptable due to the low probability of an event that could pressurize the primary containment during the short time containment integrity is compromised, and the increased safety attained by completing repairs so that two operable doors can be closed.

(2) Required Actions Note 2 to ACTION A of improved TS 3.6.1.2 is a new allowance for entry through a closed and/or locked operable air lock

door (for reasons other than repairs) for a limited time (i.e., 7 days). Although one operable air lock door locked closed is sufficient to maintain containment integrity function and allow continued operation, entry and exit during operation may be necessary to perform maintenance and inspections as well as allowing access for operational considerations, such as preventive maintenance. Should the air lock become inoperable and access not be allowed, a plant shutdown could be forced in a short time because of failure to attend to these activities. This allowance will have strict administrative controls, which are detailed in the Bases. A dedicated (i.e., not involved with any repair or other maintenance effort) individual will be assigned to ensure (a) the door is opened only for the period of time required to gain entry or exit from the air lock, and (b) the operable door is relocked before the departure of the dedicated individual.

Therefore, allowing the operable door to be opened (temporarily allowing loss of containment integrity) for brief moments during a 7 day period, is acceptable.

(3) ACTION B of improved TS 3.6.1.2 is a relaxation for Unit 2 in that it permits operation to continue with an inoperable air lock interlock mechanism. Provided one operable air lock door in the air lock can be maintained closed, the assumptions of the accident analyses are maintained and operation should be allowed to continue. This closed operable door is also required to be locked to ensure it remains closed. In the event containment access is desired, containment access will be allowed under strict administrative control (ACTION B, Required Actions Note 2). To provide a level of assurance equivalent to the mechanical interlock that at least one operable door will remain closed at all times during entry and exit, the improved TS require an individual dedicated to ensure that two doors are not open simultaneously and one door is relocked prior to leaving. Therefore, this provision, which is consistent with the STS, is acceptable.

(4) ACTION a of Unit 2 CTS 3.6.1.3 requires air lock door verification once each 30 days. The time to perform the periodic verification is being changed to once per 31 days in corresponding ACTIONS A and B of improved TS 3.6.1.2. This Completion Time is consistent with other periodic verifications of specified valve or door position throughout the STS and the CTS for Unit 2. Therefore, this change is acceptable.

(5) Unit 1 CTS 4.7.A.2.e.(2)(e) and Unit 2 CTS SR 4.6.1.3.e require a primary containment airlock verification every 6 months. Corresponding improved TS SR 3.6.1.2.2 only requires this verification to be performed if the air lock doors are to be opened for primary containment entry or exit with the primary containment de-inerted, if not performed within the previous 184 days. Without this change the air lock doors would be required to be opened solely to perform this interlock test. In addition, performing the door seal test would have to be performed within the next 72 hours, creating unnecessary primary containment entries, cycling of the door seals, and requiring manpower for testing. In addition, since the primary containment is inerted, special

precautions would have to be taken to ensure personnel would not suffer oxygen deprivation during the test. All these activities would be generated to test an interlock that is only useful when the air lock is utilized for containment entry or exit. Therefore, this change is acceptable.

(6) ACTION C of improved TS 3.6.1.2 is a new allowance for Unit 1 to permit 24 hours to restore an inoperable air lock before requiring a unit shutdown. An inoperable air lock (e.g., two doors inoperable or leakage not within limits) does not necessarily mean the primary containment cannot perform its function. However, Required Actions have been added to immediately initiate action to evaluate primary containment overall leakage using the current air lock leakage test results. If this evaluation shows the primary containment is inoperable, Note 2 to the ACTIONS would require entering the ACTIONS of improved TS 3.6.1.1 for primary containment (thus, the full 24 hours of this specification could not be used). If however, leakage is within limits, the full 24 hours could be utilized since the accident analysis assumptions are still met. To provide additional protection, one door is required to be verified closed within 1 hour. Therefore, ACTION C, which is consistent with the STS, is acceptable.

2.3.6.2.c <u>Primary Containment Isolation Valves (Improved TS 3.6.1.3)</u>

(1)* Unit 1 CTS 4.7.D.1.a and Unit 2 CTS SR 4.6.3.2 are being modified in corresponding improved TS SR 3.6.1.3.7 to allow the use of an actual as well as a test (or simulated) automatic isolation signal for verifying that each PCIV actuates on an automatic isolation signal. This allows satisfactory automatic PCIV isolations for other than surveillance purposes to be used to fulfill the SRs. Operability is adequately demonstrated in either case since the PCIV itself cannot discriminate between "actual" or "simulated" signals.

(2) A new allowance is being specified in improved TS 3.6.1.3 for intermittently opening, under administrative control, closed primary containment isolation valves, consistent with the STS. The allowance is presented in ACTIONS Note 1, and in Note 2 to SRs 3.6.1.3.2 and 3.6.1.3.3. Opening of primary containment penetrations on an intermittent basis is required for performing surveillances, repairs, routine evolutions, etc. Because such evolutions will be conducted under appropriate administrative controls, this new allowance is acceptable.

(3) Unit 1 CTS 3.7.d.2 does not specify a time within which to isolate a penetration flow path in the event of an inoperable isolation valve. The ACTIONS of improved TS 3.6.1.3 specify the following Completion Times for isolating the affected penetration. For penetrations with two PCIVs, Required Action A.1 allows 8 hours for main steam lines and 4 hours for other penetrations. For penetrations with one PCIV, Required Action C.1 allows 12 hours for excess flow check valve (EFCV) penetrations and 4 hours for other penetrations. The 12-hour Completion

Time for EFCVs is a relaxation of the 4-hour Completion Time of ACTION b of Unit 2 CTS 3.6.3.

During the allowed time, 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, potentially avoiding a plant transient caused by the immediate forced shutdown, is reasonable based on the low probability of an event and does not represent a significant decrease in safety. Therefore, these Completion Times, which are consistent with Unit 2 CTS and the STS, are acceptable.

(4) In the event both valves in a penetration are inoperable, Unit 1 CTS 3.7.D.2 and the ACTIONS of Unit 2 CTS 3.6.3, which require maintaining one isolation valve operable, would not be met and an orderly shutdown to Mode 4 is required to be initiated. ACTION B of improved TS 3.6.1.3 provides 1 hour before commencing a required shutdown. This 1-hour period is consistent with time allowed by the CTS and the STS for conditions when the primary containment is inoperable. The proposed change will provide consistency in actions for these various containment degradations. Therefore, this change is acceptable.

(5) The periodic verification that a penetration with an inoperable valve is isolated to comply with Unit 1 CTS 4.7.D.2 is being changed from a daily verification to a monthly verification in corresponding ACTIONS A and C of improved TS 3.6.1.3. These valves are under administrative controls and are operated in strict accordance with plant procedures. To verify that these valves are still isolated on a daily basis places an undue burden on plant operations with little if any gain in safety, since these valves are rarely found in the unisolated condition, once closed. Therefore, performing this verification every 31 days, which is consistent with the STS, is acceptable. In addition, this verification requirement is new for Unit 2.

(6) Unit 1 CTS 3.7.A.7.a requires all drywell and suppression chamber 18 inch purge supply and exhaust isolation valves to be operable and closed except when required for inerting, de-inerting, or pressure control. The Note for corresponding improved TS SR 3.6.1.3.1 adds two other exceptions - ALARA or air quality considerations for personnel entry and surveillances that require the valves to be open. The valves will be open only short periods of time for these reasons. This is deemed acceptable due to the excess flow isolation dampers, which are designed to prevent damage to the SGT system and are required to be operable by TS. Therefore, these additional exceptions, which are consistent with the STS, are acceptable.

(7) Unit 2 CTS SR 4.6.3.1 requires demonstrating the operability of PCIVs after maintenance, repair, or replacement work on the valve, its actuator, or power or control circuit. Consistent with improved TS SR 3.0.1 and its associated Bases, 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. Therefore, explicit post

maintenance SRs need not be specified in TS and are being omitted from improved TS, consistent with the STS. Therefore, this change is acceptable.

(8) The Frequency of Unit 2 CTS SR 4.6.1.1.a.1, the PCIV position check surveillance for manual isolation valves and blind flanges inside primary containment, is being changed so that this SR is not required to be performed unless the primary containment has been de-inerted. Without this exception to the normal requirement for performing this test, the primary containment would be required to be de-inerted solely to perform this test. The air lock door seal test would also have to be performed within the next 72 hours, requiring unnecessary containment entries, cycling of the door seals, and man-power for testing. All these activities are generated to verify the position of valves secured in position in a very controlled area, an area that cannot be entered without major coordination and planning when inerted (and is almost never entered when inerted). Therefore, this change in Frequency for corresponding improved TS SR 3.6.1.3.3, which is consistent with the STS, is acceptable.

(9) Unit 2 CTS 3.6.1.2.c limits leakage to 11.5 standard cubic feet per hour (scfh) for any one MSIV when tested at 28 psig. The NRC, in Amendment 132 to Unit 2 TS by letter dated March 17, 1994, revised this limit to 100 scfh for any one MSIV. This Amendment also added a limit of 250 scfh on the combined maximum pathway leakage for all four main steam lines, with a stipulation that the leakage acceptance criterion for the first test following discovery of leakage through an MSIV not meeting the 100-scfh limit, shall be ≤ 11.5 scfh for that MSIV; that is, the MSIV exceeding the 100 scfh limit must be repaired so that its leakage is reduced to ≤ 11.5 scfh. This change is presented in Unit 2 improved TS SR 3.6.1.3.11. The Unit 1 MSIV leakage limit of 11.5 scfh is not being changed in corresponding Unit 1 improved TS SR 3.6.1.3.10.

This Amendment also deleted Unit 2 CTS 3/4.6.1.4, "MSIV Leakage Control System."

2.3.6.2.d <u>Drywell Pressure (Improved TS 3.6.1.4)</u>

This is a new specification for Unit 1. See Section 2.3.6.3.d of this safety evaluation.

(1) Unit 2 CTS 3.6.1.6 limits drywell internal pressure to ≤ 0.75 psig, which is the value assumed as the initial pressure in the safety analysis for both units. The improved TS specify a new limit of ≤ 1.75 psig. The staff's evaluation of this change is given in paragraph 2.3.6.2.a(1) of this safety evaluation.

2.3.6.2.e <u>Drywell Air Temperature (Improved TS 3.6.1.5)</u>

This is a new specification for Unit 1. See Section 2.3.6.3.e of this safety evaluation. There are no less restrictive changes to Unit 2 CTS requirements on drywell air temperature.

2.3.6.2.f Low-Low Set Valves (Improved TS 3.6.1.6)

(1)* Unit 1 CTS SR 4.6.H.2.b and Unit 2 CTS SR 4.4.2.2.b require simulated automatic operation. The phrase "actual or," in reference to the automatic initiation signal, is being included in corresponding improved TS SR 3.6.1.6.2. for verifying that each safety/relief valve (S/RV) actuates on a low-low set function automatic initiation signal. This allows satisfactory automatic initiations for other than surveillance purposes to be used to fulfill SRs. Operability is adequately demonstrated in either case since the valve itself cannot discriminate between "actual" or "simulated" signals.

2.3.6.2.g Reactor Building-to-Suppression Chamber Vacuum Breakers (Improved TS 3.6.1.7)

(1) Unit 1 CTS 3.7.A.3 and Unit 2 CTS 3.6.4.2 specify the value of the opening setpoint of the reactor building-to-suppression chamber vacuum breakers as $\leq$ 0.5 psid. This value is being omitted from the LCO statement but is being retained in improved TS SR 3.6.1.7.3. Because this setpoint relates to the operability of the vacuum breakers, this change does not reduce the existing requirement. Therefore, this change, which is consistent with the STS, is acceptable.

(2) Improved TS SR 3.6.1.7.3 relaxes the Frequency of the reactor building-to-suppression chamber vacuum relief valve setpoint verification from every 3 months as required by Unit 1 CTS SR 4.7.A.3 to every 18 months. Unit 2 CTS SR 4.6.4.2.b.1 currently allows an 18-month Frequency for this SR. This Frequency has been shown to be sufficient to ensure necessary accuracy of this setpoint of the Unit 2 valve. Because the two valves are identical in nature, this change is acceptable. In addition, this new Frequency is consistent with the STS.

(3) If more than one vacuum breaker is inoperable, Unit 1 CTS 3.7.A.8 and ACTION b of Unit 2 CTS 3.6.4.2 require going to Mode 3 within 12 hours and Mode 4 within the following 24 hours (i.e., an immediate shutdown). The improved TS relax this requirement as follows.

ACTION C of improved TS 3.6.1.7 allows 72 hours before requiring a shutdown (ACTION E) provided the two inoperable vacuum breakers are in the same line. If one vacuum breaker will not open, the line is inoperable and cannot perform its relief function, thus the consequences of a second inoperable vacuum breaker in the same line have no more effect than the first inoperable vacuum breaker; that is, the line will not perform its relief function. ACTION A could also be entered concurrently, if one vacuum breaker is open. If the valve is open, it is effectively performing its relief function and has no impact on the line that has two vacuum breakers inoperable for opening.

When both vacuum breakers in one or both lines are open, primary containment leak tightness is not maintained, and the CTS, as described above, require an immediate shutdown. ACTION B allows a one hour restoration time, prior to requiring a unit shutdown. The one-hour

Completion Time for ACTION B is based on engineering judgement of the relative risks associated with -

- the probability of an event requiring the leak tightness of the primary containment during the one hour, and

- the plant transient and potential challenge of safety systems experienced by requiring a plant shutdown.

In addition, ACTION D allows both lines to have all vacuum breakers inoperable for opening for up to one hour without requiring a shutdown. The one hour time limit is consistent with the time provided in improved TS 3.6.1.1 for an inoperable primary containment, which is effectively the status of the plant if one or both vacuum breakers in both lines will not open. The new out-of-service time is based on engineering judgement of the relative risks associated with -

- the probability of an event requiring the vacuum breakers during the one hour, and

- the plant transient and potential challenge of safety systems experienced by requiring a plant shutdown.

Based upon the preceding justifications, the ACTIONS of improved TS 3.6.1.7, which are consistent with the STS, are acceptable.

2.3.6.2.h <u>Suppression Chamber-to-Drywell Vacuum Breakers (Improved TS 3.6.1.8)</u>

(1) Unit 1 CTS 3.7.A.4.c and Unit 2 CTS 3.6.4.1.c specify the value of the opening setpoint of the suppression chamber to drywell vacuum breakers as $\leq$ 0.5 psid. This value is being omitted from the LCO statement but is being retained in improved TS SR 3.6.1.8.3. Because this setpoint relates to the operability of the vacuum breakers, this change does not reduce the existing requirement. Therefore, this change, which is consistent with the STS, is acceptable.

(2) Unit 2 CTS 3.6.4.1 requires all twelve suppression chamber-to-drywell vacuum breakers to be operable and ACTIONS a and b define requirements for up to three inoperable-but-known-to-be-closed vacuum breakers. These requirements are being relaxed in improved TS 3.6.1.8, which reflects the current licensing analysis results. (The corresponding requirements in Unit 1 CTS are less restrictive than the improved TS; see paragraph 2.3.6.3.h(1) of this safety evaluation.)

The vacuum breakers are sized so that only nine vacuum breakers are needed, as shown in Unit 2 FSAR Section 6.2.1. Therefore, the LCO is being changed to require ten vacuum breakers to be operable for opening, to account for a postulated single failure. However, to ensure there is no bypass leakage from the drywell to the suppression chamber, all twelve vacuum breakers must be closed (whether capable of opening or

not); thus, the LCO continues to require all twelve vacuum breakers to be closed.

As described above, current ACTIONS a and b allow up to three vacuum breakers to be inoperable and reactor operations to continue, provided Unit 2 CTS SR 4.6.4.1.a (valve cycle test followed by verification of closed position) is performed on the operable vacuum breakers within 2 hours and every 15 days thereafter. With the revised operability for opening requirement, there is no longer a need for the extra periodic performance of this surveillance on the other operable vacuum breakers. Removal of this surveillance Frequency is also based on taking credit for normal periodic surveillances as a demonstration of operability and availability of the remaining vacuum breakers.

The regular surveillance Frequency requirements specified to demonstrate operability of the vacuum breakers have been shown to be adequate to ensure their operability. As stated in NRC Generic Letter 87-09, "It is overly conservative to assume that systems or components are inoperable when a surveillance requirement has not been performed. The opposite is in fact the case; the vast majority of surveillances demonstrate the systems or components in fact are operable." Therefore, reliance on the specified surveillance intervals does not result in a reduced level of confidence concerning equipment availability. Also, the STS incorporate the philosophy of system operability based on satisfactory performance of monthly, quarterly, refueling interval, post maintenance, or other specified performance tests without requiring additional testing when another system is inoperable (except for diesel generator testing in certain situations). Therefore, the improved TS ACTIONS account for only ten required vacuum breakers being operable for opening.

ACTION C requires shutting the unit down if one of the ten required vacuum breakers is inoperable for opening for more than 72 hours, or if one of the twelve is not closed for more than 2 hours. Thus, this is the proper ACTION when three vacuum breakers are inoperable for opening.

Because the improved TS adequately accounts for a single failure and continues to require all vacuum breakers to be closed, the extra performance of the cycle test is unnecessary, as described above, and the shutdown requirement for three inoperable vacuum breakers is being retained, albeit in a revised presentation, these changes, which are consistent with the STS, are acceptable.

(3) The Unit 2 CTS SR 4.6.4.1.a requirement to cycle the vacuum breakers after an S/RV lift is being revised from within 2 hours after the lift to within 12 hours after the lift in corresponding improved TS SR 3.6.1.8.2. The operability of a vacuum breaker is not affected by an S/RV lift. Torus modifications were completed in the early 1980 to install new T-quenchers to ensure that all steam is condensed in the suppression pool and does not increase the humidity in the suppression chamber air space (increased humidity was postulated to affect the operability of the vacuum breakers). In addition, a review of the vacuum breaker failure rate during the surveillances performed after an

S/RV lift shows that the rate is essentially the same as the failure rate during the routine 31-day surveillance. Therefore, extending the performance of this functional test following an S/RV discharge from 2 to 12 hours is not safety significant. In addition, this change is recommended by item 8.4 of Enclosure 1 to Generic Letter 93-05, "Line-Item Technical Specifications Improvements To Reduce Surveillance Requirements For Testing During Power Operation." For these reasons, this Frequency, which is also consistent with the STS, is acceptable.

2.3.6.2.i <u>Suppression Pool Average Temperature (Improved TS 3.6.2.1)</u>

(1) Unit 1 CTS 3.7.A.1 requires the following limits on suppression pool average temperature whenever irradiated fuel is in the reactor vessel, and the nuclear system is pressurized above atmospheric pressure or work is being done which has the potential to drain the vessel, except while performing low-power physics testing at power levels not to exceed 5 Mwt:

3.7.A.1.c	≤ 100°F when no testing that adds heat to the suppression pool is being performed
3.7.A.1.d	≤ 105°F when testing is being performed

Unit 2 CTS 3.6.2.1.b requires the following limits on suppression pool average temperature in Modes 1 and 2:

3.6.2.1.b	≤ 100°F when no testing that adds heat to the suppression pool is being performed
3.6.2.1.b.1	≤ 105°F when testing is being performed
3.6.2.1.b.2	≤ 120°F with the main steam line isolation valves closed following a scram

Corresponding improved TS 3.6.2.1 retains the first and second of these limits but changes the associated Applicability to just when power is greater than 1% RTP (equivalent to ≤ 25/40 divisions of full scale on Range 7 of the IRMs). This is consistent with the safety analysis, GE Report EAS-19-0388, "Elimination of the Suppression Pool Temperature Limit for HNP Units 1 and 2," March 1988. Therefore, this change is acceptable.

Unit 1 CTS ACTION 3.7.A.1.c and ACTIONS b and c of Unit 2 CTS 3.6.2.1 require shutting down if the suppression pool average temperature is not restored to ≤ 100°F within 24 hours. Unit 1 CTS do not specify the Mode to shut down to; Unit 2 CTS specify going to Mode 3 within 12 hours and Mode 4 within the following 24 hours. Corresponding ACTIONS A and B of improved TS 3.6.2.1 retain the 24-hour time limit to bring temperature to ≤ 100°F, but only require reducing reactor power to ≤ 1% RTP (equivalent to ≤ 25/40 divisions of full scale on Range 7 of the IRMs) in 12 hours. This change is consistent with the change in Applicability described above; therefore, it is acceptable.

When power is less than 1% RTP (i.e., in Mode 2 or 3), improved TS LCO 3.6.2.1.c specifies a limit of ≤ 110°F, regardless of testing activities. (See paragraph 2.3.6.3.i(2) of this safety evaluation for discussion concerning this more restrictive change.)

(2) Unit 1 CTS 4.7.A.1.d and Unit 2 CTS 4.6.2.1.f require an external visual inspection of the suppression chamber following S/RV lift resulting in an average suppression pool temperature ≥ 160°F when reactor coolant system pressure is > 200 psig. This surveillance is being deleted in accordance with NEDO-30832, "Elimination of Limit on BWR Suppression Pool Temperature for SRV Discharge with Quenchers," December, 1984. There are no undue loads on the suppression pool or its components through T-quenchers at elevated pressures and temperatures. Both units have T-quenchers installed so there is no need to perform this visual examination. Therefore, this change, which is consistent with the STS, is acceptable.

2.3.6.2.j <u>Suppression Pool Water Level (Improved TS 3.6.2.2)</u>

(1) The required action when suppression pool water level is outside limits, specified by Unit 1 CTS 3.7.A.8, allows no time to restore level before requiring a unit shutdown; ACTION a of Unit 2 CTS 3.5.4 and ACTION a of Unit 2 CTS 3.6.2.1 allow one hour for this condition. Corresponding ACTION A of improved TS 3.6.2.2 allows 2 hours to restore level. An unanticipated change in suppression pool level would require addressing the cause and aligning the appropriate system to raise or lower the pool level. These activities may require longer than one hour to accomplish. The 2-hour Completion Time is based on engineering judgement of the relative risks associated with: (a) the safety significance of the system; (b) the probability of an event requiring the safety function of the system; and (c) the relative risks associated with the plant transient and potential challenge of safety systems experienced by requiring a plant shutdown. During the development of the STS, a two-hour restoration allowance was determined to be appropriate taking these factors into consideration. Therefore, this change is acceptable.

2.3.6.2.k <u>Residual Heat Removal (RHR) Suppression Pool Cooling (Improved TS 3.6.2.3)</u>

This specification is a new requirement for Unit 1. See Section 2.3.6.3.k of this safety evaluation. Improved TS 3.6.2.3 does not contain any requirements that are less-restrictive than requirements given in the Unit 2 CTS for RHR suppression pool cooling.

2.3.6.2.l <u>Residual Heat Removal (RHR) Suppression Pool Spray (Improved TS 3.6.2.4)</u>

This specification is a new requirement for both units. See Section 2.3.6.3.l of this safety evaluation.

2.3.6.2.m Containment Atmosphere Dilution System (Unit 1) and Hydrogen Recombiners (Unit 2) (Improved TS 3.6.3.1)

The requirements in improved TS 3.6.3.1 are not the same for both units because Unit 1 has a containment atmosphere dilution system and Unit 2 has hydrogen recombiners. Therefore, less restrictive changes for this improved TS are discussed separately; Unit 1 - paragraphs (1) and (2); Unit 2 - paragraphs (3) and (4).

Unit 1 - Containment Atmosphere Dilution (CAD) System

(1) ACTION A of Unit 1 improved TS 3.6.3.1 is a new allowance for continuing operation for 30 days when one of the two CAD subsystems is inoperable. This is reasonable because the remaining subsystem is still capable of performing the CAD function, and the entire system is currently allowed to be inoperable for up to 7 days by Unit 1 CTS 3.7.A.6.a (corresponding to improved TS ACTION B). Thus, a 30-day outage when the system is still capable of performing its safety functions is appropriate. Therefore, this change, which is consistent with the STS, is acceptable.

(2) Unit 1 CTS SR 4.7.A.6.b, "Seven-Day Nitrogen Supply," requires recording the liquid nitrogen storage tank level twice weekly. Corresponding Unit 1 improved TS SR 3.6.3.1.1 relaxes this Frequency to 31 days, similar to other SRs on tank contents (e.g., diesel fuel oil). In addition to being used in the CAD system, the nitrogen tank supplies nitrogen to the drywell for normal inerting and is used for drywell pneumatics. Addition of nitrogen to the drywell is a manual evolution that is monitored and controlled. Drywell pneumatics operate several valves in the drywell that are not used often during power operations (i.e., inboard MSIVs, SRVs, testable check valves on core spray and RHR, etc.). The use of the nitrogen tank for drywell pneumatics will not adversely affect the availability of nitrogen for use in the CAD system since the tank is equipped with level alarms to indicate a low level condition and the need for refill. Therefore, the 31-day Frequency, which is consistent with the STS, is acceptable.

Unit 2 - Primary Containment Hydrogen Recombiners

(3) ACTION b of Unit 2 CTS 3.6.6.2 requires a shutdown to Mode 3 within 12 hours if both hydrogen recombiners are inoperable. Corresponding ACTION B of Unit 2 improved TS 3.6.3.1 allows seven days to return one hydrogen recombiner to operability before requiring a shutdown (ACTION C), provided the hydrogen control function is verified within 1 hour, and every 12 hours thereafter, to be maintained.

The nitrogen inerting and purge systems are also designed to control hydrogen in a post-LOCA environment. However, without the hydrogen recombiners, redundancy for the hydrogen control function would be reduced. Therefore, a period of seven days is allowed to restore at least one of the recombiners to operable status before requiring a shutdown, provided the hydrogen control function is maintained. This 7-day allowance may prevent an unnecessary shutdown and the increased

potential for transients associated with each shutdown. Because of the additional methods available for performing the hydrogen control function, Unit 2 improved TS ACTION B, which is consistent with the STS, is acceptable.

(4) Unit 2 CTS 4.6.6.2.a, which requires a reduced temperature functional test of the hydrogen recombiners, is being omitted from Unit 2 improved TS 3.6.3.1. Unit 2 CTS require two functional tests of the hydrogen recombiners, one at the normal operating temperatures for the recombiners every 18 months and a second at reduced temperatures every six months. This second test, which is less severe, is being eliminated as recommended in NUREG 1366. That recommendation and the Unit 2 improved TS are based on the redundancy provided for the hydrogen control function, the system's high reliability, and the delayed nature of the requirements for the system. Since performance of the functional test (being retained as improved TS SR 3.6.3.1.1) usually confirms its operability, the deletion of the redundant functional test does not have a significant impact on safety. Therefore, this change, which is consistent with the STS, is acceptable.

2.3.6.2.n <u>Primary Containment Oxygen Concentration (Improved TS 3.6.3.2)</u>

(1) No time is allowed by Unit 1 CTS 3.7.A.8 or the ACTION of Unit 2 CTS 3.6.6.4 prior to requiring a plant shutdown (to Mode 3 within 12 hours and Mode 4 within the following 24 hours for Unit 1 and to Mode 2 within 8 hours for Unit 2), when oxygen concentration is not within limits. ACTION A of improved TS 3.6.3.2 allows operation to continue for 24 hours, and if oxygen concentration is not restored to within limits, ACTION B only requires a power reduction to ≤ 15% RTP within 8 hours.

A period of 24 hours is a reasonable amount of time to restore oxygen concentration to within limits. During this time, the CAD system for Unit 1 and the hydrogen recombiners for Unit 2 are normally still operable and provide a means to control hydrogen. This new allowance may prevent unnecessary shutdowns and the increased potential for transients associated with each shutdown.

Only requiring a power reduction to ≤ 15% RTP within 8 hours is consistent with the existing Unit 2 requirement which results in exiting the specified Applicability of improved TS 3.6.3.2. Going to a Mode in which the specification no longer applies is the appropriate action if the associated LCO is not satisfied. Therefore, ACTION B is acceptable.

On the preceding basis, we find the ACTIONS of improved TS 3.6.3.2, which are consistent with the STS, are acceptable.

(2) Unit 1 CTS 3.7.A.5.b requires the primary containment to be inerted within 24 hours after entering Mode 1 (approximately 5% RTP) during plant startup. The Applicability of improved TS 3.6.3.2 allows 24 hours after exceeding 15% RTP to inert the containment. This change provides some added time to inert the drywell and is consistent with Unit 2 CTS and the STS. Because the time allowed without an inerted drywell is

still relatively short and hydrogen generation at 15% RTP is small compared to higher power levels, this change is acceptable.

(3) Unit 1 CTS SR 4.7.A.5 requires daily verification of primary containment oxygen concentration when the containment is inerted. Corresponding improved TS SR 3.6.3.2.1 requires verification every 7 days when the primary containment is inerted. The primary containment leak rate is established for each operating cycle and any changes during normal operation usually occur very slowly. Other changes to primary containment integrity, such as PCIV operability problems, are indicated by other means to the plant operator and appropriate action requirements are contained in other specifications in the improved TS. Thus, this change in Frequency, which is consistent with the STS, is acceptable.

2.3.6.2.o <u>Drywell Cooling System Fans (Unit 2 only) (Improved TS 3.6.3.3)</u>

This specification only applies to Unit 2 because the Unit 1 safety analysis does not assume the operation of any hydrogen mixing system and this system is not contained in existing Unit 1 CTS. Therefore, the licensee has elected not to include new requirements for this system in the improved TS for Unit 1.

(1) The Note for ACTION A (one required drywell cooling system fan inoperable) of Unit 2 improved TS 3.6.3.3 states that "LCO 3.0.4 is not applicable." This is a new allowance not contained in corresponding ACTION a of Unit 2 CTS 3.6.6.3. An operable drywell cooling system fan remains available in this condition, and natural circulation, which has been shown to be sufficient to mix the drywell atmosphere, is still available. (The improved TS Bases discuss the capability of natural circulation to accomplish the hydrogen mixing function.)

In addition, the drywell cooling system fan does not negatively impact normal operation of the plant in any way, and hence, would not provide any additional initiators for plant transients during startup or Mode changes. Since (a) probability studies have determined a 30 day allowed out-of-service time for one division of hydrogen control function equipment is acceptable; (b) redundant equipment in this system is available; (c) the other method is available to perform the function; and (d) there is no impact on normal plant operations from the unavailability of this specific equipment, this change has no significant impact on safety. Therefore, this allowance, which is consistent with the STS, is acceptable.

ACTION A also relaxes the time allowed to restore an inoperable drywell system cooling fan to operability from the 7 days allowed by corresponding ACTION a of Unit 2 CTS 3.6.6.3, to 30 days. One drywell cooling system fan will remain operable during this time, thus mechanical mixing is still maintained. In addition, an analysis (described in the Bases) has shown that hydrogen mixing can be adequately accomplished via natural circulation. Thus, during this time, a redundant method is available. This time is also consistent with the time provided for the hydrogen recombiners, another system

associated with the hydrogen control function. During the review and preparation of the STS, these considerations resulted in the engineering judgement that a 30-day limit on plant operation with just one hydrogen mixing subsystem is acceptable.

(2) ACTION B (both required fans inoperable) of Unit 2 improved TS 3.6.3.3 allows 7 days to restore one of the two required drywell cooling system fans to operability before requiring a shutdown. Corresponding ACTION b of Unit 2 CTS 3.6.6.3 requires a shutdown to Mode 3 within 12 hours. An analysis (described in the Bases) has demonstrated that natural circulation can control hydrogen in a post-LOCA environment. However, with both fans inoperable, redundancy for the hydrogen mixing function would be reduced. Therefore, a period of seven days allows attempts to restore at least one drywell cooling system fan to operable status before requiring a shutdown. This 7-day allowance may prevent an unnecessary shutdown and the increased potential for transients associated with each shutdown. This 7-day Completion Time is reasonable because the hydrogen mixing function is maintained via natural circulation and because of the low probability of the occurrence of a LOCA that would generate hydrogen in amounts capable of exceeding the flammability limit. Therefore, this relaxation is acceptable.

2.3.6.2.p <u>Secondary Containment (Improved 3.6.4.1)</u>

As part of its application to adopt the STS, the licensee has proposed changes to the operability and surveillance requirements for secondary containment and for the standby gas treatment (SGT) system. Significant changes to the proposal were submitted in Revision G of the licensee's application. These changes resulted from a recent discovery of a single failure vulnerability. The postulated single failure is failure of one of the Unit 2 divisional electric power buses during a Unit 2 LOCA with both units operating. The loss of the bus causes failure of one SGT train to start in each unit leaving only the remaining two SGT trains to serve both Reactor Buildings and the Refueling Floor. Under the current licensing basis, three SGT trains are considered necessary to drawdown both reactor buildings and the common refueling floor (i.e, the secondary containment configuration during operation of both units) within the required time interval.

Corrective actions for this vulnerability include:

- A modification of the engineered safety features (ESF) actuation instrumentation that results in actuation of all four SGT trains in the event of either a LOCA signal in either unit or a high radiation signal at a secondary containment vent exhaust monitor; (this design change has been implemented);

- TS Changes that would provide a flexible secondary containment zonal configuration that is adjusted to reflect current refueling floor activities and unit operating status; and

- Changes to the LCO and SRs for the SGT system that reflect the recently

verified capabilities of SGT trains to serve the refueling floor and the reactor building of the other unit when certain hatches and dampers are open.

Through testing and analysis, the licensee concluded that the existing SGT subsystem operability requirements for Unit 1 should be increased somewhat and that the requirements for Unit 2 could be relaxed, depending upon variations in the size of the secondary containment boundary. In view of the design change and the testing and analysis for the SGT system, the licensee reevaluated its improved TS proposal for secondary containment and the SGT system. Consequently, in recognition of the actual capabilities of the SGT system and the resulting similarity that could be achieved between the units for the improved TS requirements for these systems, the licensee revised its proposal. In addition, the revised proposal allows greater flexibility for performing maintenance on SGT subsystems when less than four are required to be operable.

As discussed in this section and also in Section 2.3.6.2.r of this safety evaluation, the proposed specifications for secondary containment and SGT are consistent with the objectives of the STS, are technically correct, and therefore, are acceptable.

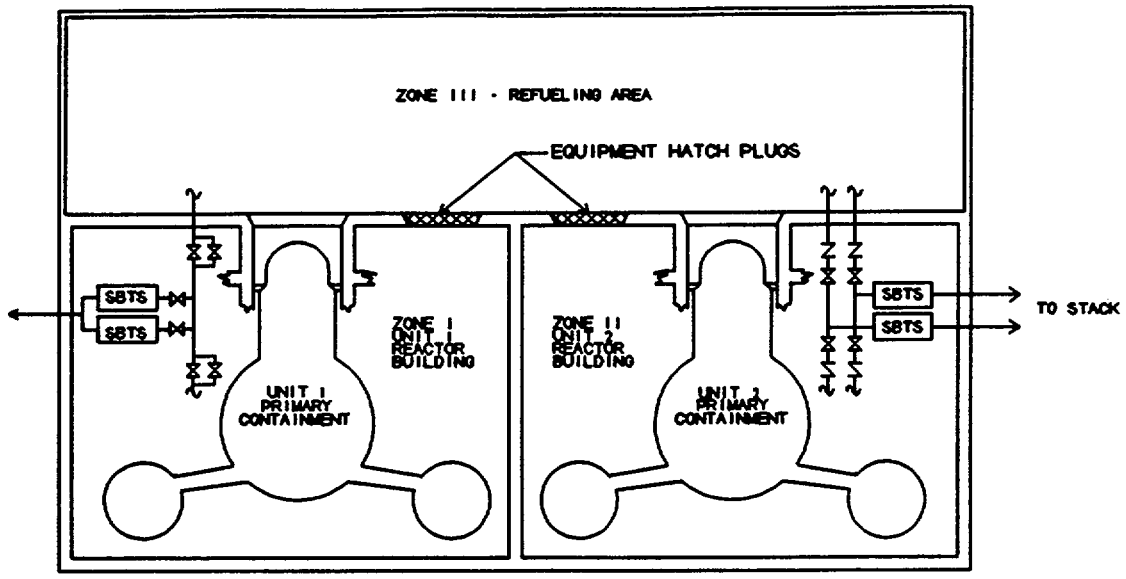
The secondary containments for the two units at HNP can contain one or more of three separable zones, i.e., the Unit 1 reactor building zone (Zone I), the Unit 2 reactor building zone (Zone II), and the common refueling floor zone (Zone III). CTS requirements refer to various combinations of these three zones as:

- Hatch Unit 1 "normal" secondary containment (Zones I and III);
- Hatch Unit 1 "modified" secondary containment (Zone III only); and
- Hatch Unit 1 and Hatch Unit 2 secondary containment (Here the Hatch Unit 1 secondary containment may be either "normal" or "modified"; i.e., either Zones I, II, and III, or Zones II and III are included).

These Zones are illustrated in Figure 2.3.6-1 below. The figure depicts the secondary containment and SGT configuration. It can be seen that each SGT subsystem is capable of drawing on any zone if penetration closure devices (e.g., hatch plugs, dampers, drain valves, doors) are properly positioned.

In order to simplify the requirements of this improved TS and to achieve consistency for this and related improved TS for both units, the licensee has proposed to eliminate the unit specific designators of "Unit 1" and "Unit 2" when referring to secondary containment. This change in terminology will not alter these zones or the requirements regarding maintaining an appropriate secondary containment boundary when necessary.

The improved TS for both units will simply refer to the requirement for secondary containment to be operable. "Secondary containment" is being defined in the Bases for improved TS 3.6.4.1 as those zone(s) that can be



PLANT HATCH - SECONDARY CONTAINMENT SYSTEM

Figure 2.3.6-1

postulated to contain fission products from accidents required to be considered for the condition of each unit, and furthermore, must contain zones not isolated from the SGT subsystems being credited for meeting improved TS 3.6.4.3, "SGT System." Allowed configurations and associated SGT subsystem requirements are being detailed outside the TS in the Technical Requirements Manual, which is referenced by the Bases. This safety evaluation describes these configurations and SGT subsystem requirements in Sections 2.3.6.2.r and 2.3.6.3.r. This change does not alter current secondary containment boundary requirements, but only the associated terminology. Thus, this change is purely administrative.

The proposed allowable plant secondary containment boundary configurations and SGT subsystem operability and action requirements will reflect the fact that, given proper positioning of penetration closures --

- any two operating SGT subsystems (except for the two Unit 1 subsystems) can drawdown all three zones,
- any two operating subsystems can drawdown the refueling floor and one reactor building, and
- any single operating SGT train can drawdown the refueling floor or its associated reactor building.

The determination of which zones are required to be included in the secondary containment boundary is based on the following constraints:

- If a unit is in Modes 1, 2, or 3, the associated reactor building and the refueling floor must be included in secondary containment. (The refueling floor is included because of the potential drywell head leakage path.)

- If a unit is in Mode 4 conducting OPDRVs, the associated reactor building must be included in secondary containment. In addition, if the unit's reactor building is not isolated from the refueling floor, then the refueling floor must also be included in secondary containment.

- If a unit is in Mode 5 conducting OPDRVs, the associated reactor building and the refueling floor must be included in secondary containment.

- If a unit is in Mode 5 conducting CORE ALTERATIONS, the refueling floor must be included in secondary containment.

- If movement of irradiated fuel is taking place on the refueling floor, the refueling floor must be included in secondary containment.

Operable SGT system capacity must be such that, assuming a single active failure, the SGT system can drawdown a 0.25 inches of water negative pressure in the required secondary containment zones in ≤ 120 seconds. Before operation with a particular allowed combination of zones and SGT subsystems, the capability of the included SGT subsystems to drawdown the included zones assuming a single active failure (i.e., one less SGT subsystem than required by the secondary containment configuration) must have been demonstrated within the previous 18 months on a STAGGERED TEST BASIS for all permitted combinations of the SGT subsystems included. Prior to initial operation in a particular configuration, the ability of all permitted combinations of SGT subsystems to drawdown the included zones (as just described) must have been demonstrated within the previous 18 months.

These considerations when combined with the available SGT subsystems and the status of the penetration closures between the three zones determine the required secondary containment configuration. The permitted secondary containment configurations are summarized and discussed in detail in Section 2.3.6.2.r of this safety evaluation.

It is in the context of the preceding discussion that less restrictive technical changes to existing requirements for secondary containment are addressed in the following. More restrictive technical changes are addressed in Section 2.3.6.3.p of this safety evaluation.

(1) After a Hatch-Unit 1 secondary containment integrity violation (it is inoperable) is determined, Unit 1 CTS SR 4.7.C.3 requires

- isolating the affected zones,
- immediately operating the SGT system, and
- conducting a vacuum test of the remainder of secondary containment to demonstrate operability has been restored.

In this condition, Unit 1 CTS 3.7.C.3.a requires restoring secondary containment integrity within 4 hours. While this Completion Time is being retained in corresponding ACTION A of improved TS 3.6.4.1, the other actions listed above are being omitted.

In the context of the CTS for Unit 1, these actions are superfluous. There are no rooms in Zones I and III that can be "isolated." Thus, this action can only mean isolating Zone I from Zone III. If either Zone is isolated, CTS require taking the reactor subcritical to comply with Unit 1 CTS 3/4.7.C.2.

ACTION A of improved TS 3.6.4.1 allows 4 hours to make secondary containment operable, but does not specifically require any SRs to be performed during this time. If any SR(s) need to be performed to restore operability, improved TS SR 3.0.1 and the improved TS definition of operable would require they be satisfied within the 4-hour Completion Time in order to avoid a unit shutdown. (This might be the case if the ability of the SGT system to draw a vacuum were affected.) If the secondary containment were made inoperable by the inadvertent opening of both doors at an access point, for example, it is clear that shutting the doors would complete the ACTION and no SRs would need to be performed to restore operability of secondary containment.

Because the existing requirements listed above are superfluous and the requirements of improved TS are sufficient to ensure the appropriate measures to restore secondary containment operability are taken, this change, which is consistent with the STS, is acceptable.

(2) Improved TS SR 3.6.4.1.3 and SR 3.6.4.1.4 test the leak-tightness of the secondary containment boundary. Since the boundary typically consists of more than just the current Hatch-Unit 2 secondary containment (Zone II) (as required by corresponding Unit 2 CTS SRs 4.6.5.1.1.c.1 and 2), the test will be required on the secondary containment boundary appropriate for the operational status of both units. (This more restrictive change is described in paragraph 2.3.6.3.p(1) of this safety evaluation.) The additional zones comprising the secondary containment will have additional SGT subsystems required to draw down to the required vacuum. (Sections 2.3.6.2.r and 2.3.6.3.r of this safety evaluation describe the changes in requirements for the SGT system in improved TS 3.6.4.3 for both units.)

The number of SGT subsystems required to be operable will vary depending on the specific zones included in the secondary containment boundary for the given operating status of both units, and configuration of hatches and doors. To account for this, a Note is being included with these two improved TS SRs indicating that the required number of SGT subsystems necessary to perform the leak-tight test of the secondary containment is dependent on the secondary containment configuration. Since the number is configuration dependent, the licensee has proposed to place these details in the technical requirements manual (TRM). This is consistent with placing the details of the required number of SGT subsystems in the TRM, as discussed in Section 2.3.6.2.r of this safety evaluation

regarding less restrictive changes to the CTS for the SGT system. Because this Note is based on changes in the SGT system operability requirements, we find the Note acceptable based on the reasons supporting the acceptance of the changes to the CTS incorporated in improved TS 3.6.4.3 for both units in Sections 2.3.6.2.r and 2.3.6.3.r of this safety evaluation.

(3) Unit 2 CTS 3.6.5.1 requires the Hatch-Unit 1 secondary containment to be operable (integrity to be maintained) when Unit 2 is in Modes 1, 2, 3, or when performing inservice hydrostatic leak testing with the reactor coolant temperature above 212 degrees F.

Unit 2 CTS 3.9.5.1 requires Hatch-Unit 1 secondary containment to be operable anytime Unit 2 is in Mode 5 and when irradiated fuel or the spent fuel shipping cask is being handled in the Hatch-Unit 1 secondary containment (normal or modified).

Corresponding improved TS 3.6.4.1 requires secondary containment operability during Modes 1, 2, and 3, and during

- movement of irradiated fuel assemblies in the secondary containment,
- CORE ALTERATIONS,
- operations with a potential for draining the reactor vessel (OPDRVs),

not all the time while in Mode 5. (The Applicability condition regarding leak testing is retained in improved TS Section 3.10.)

Core alterations and movement of irradiated fuel are the only operations that are postulated to result in a fission product release requiring the secondary containment. This assertion is supported by the fact that CTS ACTIONS only require these operations suspended (i.e., it does not require further actions to restore SCIVs to operability after the operations are suspended). The Applicability requirement of "during OPDRVs" is more restrictive and is discussed in paragraph 2.3.6.3.p(3) of this safety evaluation.

The Unit 2 CTS requirement for secondary containment when moving the spent fuel shipping cask in Unit 1 secondary containment is being omitted from improved TS. See paragraph 2.3.6.1.b(28) of this safety evaluation for additional discussion of this relocation.

Because the new Applicability for secondary containment requirements is consistent with the conditions during which this LCO is needed to satisfy the assumptions of the HNP safety analysis, it is acceptable.

(4) Unit 2 CTS SR 4.9.5.1 requires the Hatch-Unit 1 secondary containment (normal or modified) integrity be demonstrated (per Hatch-Unit 1 TS) within 24 hours prior to and at least once per seven days during Hatch-Unit 2 CORE ALTERATIONS. This Frequency requirement is being omitted from the SRs of corresponding improved TS 3.6.4.1. The normal periodic Frequency for the Unit 1 secondary containment SRs provides adequate

assurance of secondary containment operability. If a SR has not been met within the normal specified interval, the secondary containment is considered inoperable, and the ACTIONS of improved TS 3.6.4.1 preclude performance of Unit 2 CORE ALTERATIONS in such a case. Additionally, plant operational experience has shown the normal periodic Frequency to be adequate for maintaining operability. Therefore, omission of these additional Frequency requirements, which is consistent with the STS, is acceptable.

2.3.6.2.q <u>Secondary Containment Isolation Valves (SCIVs) (Improved TS 3.6.4.2)</u>

(1) Unit 1 CTS 3.7.C.3.a allows 4 hours to restore secondary containment integrity. If the inoperability of secondary containment is caused by one inoperable SCIV in one or more penetration flow paths, ACTION A of improved TS 3.6.4.2 allows up to 8 hours, which is consistent with Unit 2 CTS 3.6.5.2 ACTION b. This longer Completion Time is based on there being another operable valve in the penetration which can isolate the penetration if needed. Thus, the leak tightness of the secondary containment is maintained. ACTION A allows operation in this Condition provided the penetration is isolated, and this isolation is verified every 31 days. Because the secondary containment remains capable of performing its intended function when ACTION A is met and the isolation function can still be accomplished by the remaining operable valve in the interim time of up to 8 hours, ACTION A, which is consistent with the STS, is acceptable.

If two SCIVs in a penetration are inoperable, ACTION B requires isolating the penetration within 4 hours by closing at least one SCIV or by use of a blind flange. Because ACTION B is actually a different presentation of but consistent with the existing Unit 1 requirement, it is acceptable for Unit 1.

The ACTIONS of Unit 2 CTS 3.6.5.2 do not specify an ACTION in the event both valves in a secondary containment penetration are inoperable. Thus, an immediate shutdown according to Unit 2 CTS LCO 3.0.3 would be required. As discussed above, ACTION B allows four hours to isolate the penetration. This four hour period is consistent with the existing time allowed for conditions when the secondary containment is inoperable by the ACTION of Unit 2 CTS 3.6.5.1. The proposed change will provide consistency for these various secondary containment degradations. Therefore, ACTION B is acceptable for Unit 2 also.

Unit 2 CTS 3.6.5.2 ACTION b and 3.9.5.2 ACTION a.2 both specify use of a closed damper to isolate a penetration with an inoperable secondary containment ventilation system automatic isolation damper. Corresponding Required Actions A.1 and B.1 of improved TS 3.6.4.2 do not use the term damper, but contain dampers in the term "valve." In addition these ACTIONS list all the possible acceptable isolation devices that may be used to satisfy the need to isolate the affected penetration. This ensures the penetration is acceptably isolated in order for plant operation to continue. Because this clarification of

existing intent does not adversely affect safe operation, it is acceptable.

(2) Three Notes are being included with the ACTIONS of improved TS 3.6.4.2 that are new allowances not in CTS.

Note 1 allows intermittently opening closed secondary containment isolation valves under administrative control. Opening of secondary containment penetrations on an intermittent basis is required for performing SRs, repairs, and routine evolutions. Because the time the penetration is unisolated will be of short duration and will be done under administrative controls to ensure it can be isolated promptly if necessary, Note 1 is acceptable.

Note 2 states that separate Condition entry is allowed for each penetration flow path. Because an inoperable SCIV can only impact its associated penetration flow path, we find this explicit instruction for proper application of the ACTIONS for TS compliance is acceptable. In addition, this Note is consistent with improved TS Section 1.3, "Completion Times."

Note 3 requires entering the applicable ACTIONS associated with LCOs for systems made inoperable by inoperable SCIVs. It is necessary to understand the effect of inoperable isolation valves on other systems and take appropriate specified actions. If a system is determined to be inoperable due to inoperable isolation valves, the affected system's LCO ACTIONS must be entered. Because of the provisions of improved TS LCO 3.0.6, without this note, taking these actions would not be required unless a loss of function for an affected system were involved. This clarification is consistent with the intent and interpretation of Unit 1 CTS and is, therefore, considered an administrative presentation preference. Therefore, Note 3 is acceptable.

(3) Unit 2 CTS SR 4.6.5.2.a, which only deals with isolation dampers, is being deleted, because these dampers are being redesignated as SCIVs. Thus, their testing will be retained as part of improved TS SR 3.6.4.2.2. This SR will still cycle the dampers every 92 days. In addition, it will measure the stroke time, presently only required once each cycle. Because this change is actually a different presentation of the existing SR, improved TS SR 3.6.4.2.2 is acceptable.

(4) Unit 2 CTS SR 4.6.5.2.b requires cycling an isolation damper and verifying its isolation time prior to returning it to service after maintenance, repair, or replacement work on the damper or its associated support equipment. This specific SR Frequency is being omitted from corresponding improved TS SR 3.6.4.2.2, because it is not necessary. Anytime the operability of a system or component has been affected, appropriate testing is required to demonstrate the system has been restored to operable status. Therefore, explicit post maintenance test requirements are not included in the improved TS, consistent with the STS. Therefore, this change is acceptable.

(5) The Applicability of Unit 2 CTS 3.9.5.2 requires SCIVs to be operable anytime the reactor is in Mode 5 and also during movement of irradiated fuel. Corresponding improved TS 3.6.4.6 requires operability only during CORE ALTERATIONS and OPDRVs, not all the time while in Mode 5. (The movement of irradiated fuel is unchanged.) CORE ALTERATIONS, OPDRVs, and movement of irradiated fuel are the only operations that are postulated to result in a fission product release requiring the secondary containment in Mode 5. This is the reason why the CTS ACTIONS only require these operations suspended (i.e., it does not require further actions to restore SCIVs to operability after the operations are suspended). For this reason and because this Applicability is consistent with that of improved TS 3.6.4.1, "Secondary Containment," this change is acceptable.

(6)* Unit 2 CTS SRs 4.6.5.2.c.2 and 4.9.5.2.1.a.2 require using a test signal when verifying that each SCIV isolates on a secondary containment isolation signal. Corresponding improved TS SR 3.6.4.2.3 allows a simulated (test) signal or actual signal. This allows satisfactory automatic SCIV isolations for other than surveillance purposes to be used to fulfill the surveillance requirements. Operability is adequately demonstrated in either case since the SCIV itself cannot discriminate between "actual" or "simulated" signals.

2.3.6.2.r <u>Standby Gas Treatment (SGT) System (Improved TS 3.6.4.3)</u>

The required number of operable SGT subsystems is proposed to be dependent on the configuration of the secondary containment. Unit 1 CTS 3.7.B.1 currently requires both Unit 1 and one Unit 2 SGT subsystems, and Unit 2 CTSs 3.6.6.1 and 3.9.5.3 currently require all four SGT subsystems. The secondary containment boundary is being redefined as any combination of one, two, or three zones, based on unit status and activities being conducted on the common refueling floor. These zones are defined as follows:

- Zone I - Unit 1 reactor building
- Zone II - Unit 2 reactor building
- Zone III - common refueling floor

In order to facilitate understanding of the following discussion of less-restrictive changes to CTS for the SGT system, Table 2.3.6-1 is provided outlining the various secondary containment configurations and associated acceptable combinations of operable SGT subsystems (Zones I, II, and III, and subsystems 1A, 1B, 2A, and 2B) and allowed unit status. These configurations and the specific access doors and system valves between the zones are being detailed in the Technical Requirements Manual as discussed below.

Table 2.3.6-1

Summary of Secondary Containment Configurations in the Improved TS

Zones Included (Improved TS 3.6.4.1)	Unit	Plug Position	Allowed Unit Status	Current TS Required SGT Subsystems		Required SGT Subsystems (Improved TS 3.6.4.3)
				CTS	Number	
I,II,III (1)**	U1	IN/OUT	α	3.7.B.1.a	three*	four
	U2	IN/OUT	α	3.9.5.3 3.6.6.1	four	
I,III (2)	U1	IN	α	3.7.B.1.a	three*	three U1 - two U2 - one
	U2	IN	β or δ	3.9.5.3	four	
I,III (3)	U1	OUT	α	3.7.B.1.a	three*	Any three
	U2	IN	β or δ	3.9.5.3	four	
II,III (4)	U1	IN	β or δ	3.7.B.1.a	three*	three U1 - one U2 - two
	U2	IN/OUT	α	3.9.5.3 3.6.6.1	four	
III*** (5)	U1	IN	β or δ	3.7.B.1.a	three*	Any two
	U2	IN	β or δ	3.9.5.3	four	
I (6)	U1	IN	λ	N/A	None	U1 - two
	U2	IN/OUT	β	N/A	None	
II (6)	U1	IN/OUT	β	N/A	None	U2 - two
	U2	IN	λ	N/A	None	

* Two Unit 1 and one Unit 2 SGT subsystems
** Denotes the paragraph number below where configuration discussed
*** If both units are in β, secondary containment is not required to be operable.

α Any Mode or other condition in the Applicability of improved TS 3.6.4.1 except for both units simultaneously in λ (Modes 1, 2, 3, δ, λ, γ)
β Modes 4, 5, or defueled and not doing λ, γ, or δ
γ Conducting OPDRVs in Mode 5
λ Conducting OPDRVs in Mode 4 with the reactor building isolated
δ Handling irradiated fuel in secondary containment (in any Mode), and/or during CORE ALTERATIONS (in Mode 5)

The column labeled "Plug Position" refers to the refueling-floor-to-reactor-building equipment access hole plug for each unit; i.e., whether the plug is in or out. When out, the reactor building and refueling floor air spaces are connected. In order to isolate a reactor building from Zone III, the associated plug must be installed. (Interconnecting doors and valves in systems penetrating the zone boundary must also be closed.) Other than the current Unit-1 distinction between normal secondary

containment (the plug is out) and modified secondary containment (the plug is installed), the CTS do not specify the position of the plug for Unit 2, which has in the past normally been installed.

The required secondary containment boundary is determined by the configuration associated with the plant status as noted in the table. From this determination, the minimum number, and in some cases, the specific combination of SGT subsystems is determined. A Zone or Zones not included in the boundary of a particular configuration must be isolated from the included Zone(s) as specified by the SRs of improved TS 3.6.4.1.

The proposed presentation of SGT requirements in improved TS 3.6.4.3 does not explicitly detail the minimum number of operable SGT subsystems. Rather it states, "The Unit 1 and Unit 2 SGT subsystems required to support LCO 3.6.4.1, 'Secondary Containment,' shall be OPERABLE." The Bases for improved TS 3.6.4.3 provides an outline of the various configurations and number of required SGT subsystems, with reference to the Technical Requirements Manual (TRM) for complete details. Given the number of variations of secondary containment boundaries, dependent upon the operational status of the both units, the resulting complexity of providing the details of all options in improved TS 3.6.4.1 would likely increase the difficulty operators would have using this specification, and would be contrary to the improved human-factors objective of the STS. The simplified presentation of improved TS 3.6.4.1 ("The secondary containment shall be OPERABLE.") provides adequate requirements to ensure proper implementation without unwarranted complexity.

In order to satisfy the secondary containment operability requirements, the associated drawdown tests, which require the SGT system be operable, must be satisfied. Therefore, locating the details of SGT system operability requirements associated with each secondary containment configuration (which is determined by unit operational status) in the TRM does not, of itself, reduce existing requirements. In addition, any changes to these details will be adequately controlled by the provisions of 10 CFR 50.59 because they are being placed in the TRM. Because this arrangement facilitates operator use of the improved TS and any changes to related details will be adequately controlled, this presentation of the SGT system requirements is acceptable.

Changes to the CTS for both units are described below (sections (1) through (6)) for each secondary containment configuration listed in the table. For clarity, some of the more restrictive changes are discussed with the less restrictive changes.

(1) <u>Configuration I, II, III; Plug Position: In or Out</u>

The number of operable SGT subsystems required by Unit 2 CTS are unchanged for this configuration. Unit 1 CTS, which do not address a secondary containment boundary that contains Zone II, require only three SGT subsystems. Therefore, requiring four subsystems is more restrictive for Unit 1. In addition, because this configuration contains Zone II, this is a new requirement for Unit 1. Adding a fourth

subsystem is necessary in order to ensure, assuming a single failure, the SGT system can draw down and maintain a vacuum with this configuration including all three zones.

With the addition of the fourth SGT subsystem, a new 30-day Completion Time to restore one Unit 1 SGT subsystem (if the Unit 1 plug is out) to operable status is being included in ACTION A of improved TS 3.6.4.3. Unit 1 CTS place no restriction on operation with just three subsystems. However, Unit 2 CTS currently allow just 7 days for this condition; therefore, this is a relaxation for Unit 2.

In evaluating the minimum SGT subsystem requirements in support of this configuration, the 30-day Completion Time is justified because recently completed tests and analysis have shown that any <u>two</u> of the remaining three subsystems can perform the drawdown function with the Unit 1 plug out. Thus, with one Unit 1 subsystem inoperable, the SGT system can endure a single failure and still perform its function. For this reason, ACTION A is acceptable.

(2) <u>Configuration I, III; Plug Position: In</u>

This configuration corresponds to the current definition of normal-Unit 1 secondary containment. Therefore, the existing Unit 1 requirement for two Unit 1 and one Unit 2 SGT subsystems remains unchanged. (Note that with the Unit 1 plug installed, the Unit 2 SGT subsystems cannot draw from the Unit 1 reactor building, Zone I.) Because this requirement for Unit 1 is retained, but with a different presentation, it is actually an administrative change, Therefore, we find the SGT system requirements for this configuration are acceptable for Unit 1.

With Unit 2 in Mode 5 and handling irradiated fuel or performing CORE ALTERATIONS, only Zones I and III may be required. Unit 2 CTS require all four subsystems in this configuration. Thus, requiring only three SGT subsystems is a relaxation for Unit 2. It is acceptable because with two Unit 1 and one Unit 2 SGT subsystems operable, a failure of any one subsystem would still leave two operable, which is sufficient to perform the drawdown function for Zones I and III. Therefore, this relaxation is acceptable.

(3) <u>Configuration I, III; Plug Position: Unit 1 - Out; Unit 2 - In</u>

With Unit 2 in Mode 5 and handling irradiated fuel or performing CORE ALTERATIONS, only Zones I and III may be required (i.e., the current requirement for normal-Unit 1 secondary containment). This configuration is that which is required by Unit 1 while Unit 1 is operating; and Unit 1 CTS require only three SGT subsystems to be operable, but both Unit 1 subsystems must be included.

While the Unit 1 CTS specify that two of the three subsystems be Unit 1 subsystems, recent analysis by the licensee has shown that two Unit 2 subsystems can adequately perform the required secondary containment draw down function, provided the Unit 1 plug is out. Therefore, any

three subsystems can provide the required support for secondary containment operability in the event of a single failure. Therefore, the requirement for any three SGT subsystems in this configuration (the Unit 1 Plug is out) is acceptable.

This configuration involves the same relaxation for Unit 2 discussed previously in paragraph (2). As discussed before, requiring three subsystems satisfies the single failure criterion because any two subsystems can adequately perform the drawdown function on Zones I and III. In this configuration, however, with the Unit 1 plug removed, two Unit 2 subsystems can perform this function. Therefore, the SGT system requirements for this configuration are acceptable.

(4) Configuration II, III; Plug Position: Unit 1 - In; Unit 2 - In or Out

The current definition of modified-Unit 1 secondary containment only contains Zone III (Unit 1 shutdown with Zone I isolated from Zone III such that these volumes do not communicate - both the Unit 1 and Unit 2 plugs are in.) This configuration is more restrictive in that it also contains Zone II. In effect, this is a new requirement for Unit 1; in this configuration, one Unit 1 and two Unit 2 SGT subsystems are required to be operable.

With Unit 2 operating, and Unit 1 shutdown with Zone I isolated from Zone III, Zones II and III become the secondary containment. This specific configuration, with two Unit 2 SGT subsystems, was previously reviewed by the NRC in an SER dated March 10, 1993 for Unit 2 amendment 124 and found satisfactory.

In this configuration, the following combinations of two SGT subsystems can adequately perform the required secondary containment drawdown function.

- Two Unit 2 subsystems (2A, 2B)
- One subsystem from each unit. (1A, 2A), (1A, 2B), (1B, 2A), (1B, 2B)

This has been verified by the licensee in recently completed testing and analyses that have shown that one Unit 2 and one Unit 1 subsystem can also adequately perform the required secondary containment drawdown function. (Note that two Unit 1 subsystems have not been shown to be adequate.) Based on this, and to accommodate a single failure, three subsystems (two Unit 2 and one Unit 1) are adequate to support secondary containment operability in this configuration, which is a relaxation of the current Unit 2 requirement for four subsystems. Therefore, the SGT requirements for this configuration is acceptable.

(5) Configuration III; Plug Position: In

With both units shutdown, with refueling floor activities requiring secondary containment operability (CORE ALTERATIONS or handling irradiated fuel), Zone I and II can be isolated from Zone III. In this

configuration, only Zone III would need to be drawn down and maintained at a negative pressure. Recently completed testing and analysis by the licensee have shown that any single SGT subsystem can perform the necessary function. Therefore, the requirement for any two SGT subsystems in this configuration is acceptable.

(6) Configuration I; Plug Position: Unit 1 - In; Unit 2 - In or Out
or
Configuration II; Plug Position: Unit 1 - In or Out; Unit 2 - In

Both of these configurations are unlikely because one unit must be in Mode 4 or less with no shutdown activities listed in the Applicability of improved TS 3.6.4.1 taking place while the other unit is in Mode 4 conducting OPDRVs with its reactor building isolated from Zone III. Whichever unit is conducting OPDRVs requires that unit's reactor building; thus secondary containment would consist of just one zone. The improved TS require both SGT subsystems for that unit in this situation in order to meet the single failure criterion. Because the CTS for both units do not address either of these configurations, and do not require SGT subsystems to be operable during OPDRVs, the improved TS requirements for these configurations are more restrictive on plant operation, and are, therefore, acceptable.

In the very unlikely event of both units conducting OPDRVs at the same time, with Zone III isolated from both Zones I and II, then all four SGT subsystems would be required to be operable. If Zone III were not isolated from one or both reactor buildings when conducting OPDRVs simultaneously in both units, then Configuration I, II, III would apply. Because these represent requirements beyond those of CTS, we find them acceptable.

The analyses performed in support of the above configurations and minimum SGT subsystems also confirmed no significant impact on probabilities or consequences of an accident, and no reduction in any margin of safety.

Based on the preceding evaluations, the staff concludes that the above proposed changes to SGT system and secondary containment operability specifications are consistent with the requirements originally established for the purpose of ensuring that secondary containment exfiltration under DBA conditions is bounded by the accident analysis assumptions. The proposed changes would thus not adversely impact the fission product control capability of the secondary containment system. Accordingly, the proposed changes are acceptable.

In the remainder of this section of the safety evaluation, those less restrictive changes to CTS requirements for the SGT system not resulting from the revisions to the secondary containment definition are described.

(7) Unit 1 CTS 3.7.B.1.a requires a test on the other required SGT subsystems when one subsystem is inoperable. Improved TS 3.6.4.3 omits this requirement. Demonstrating operability of the redundant subsystem was originally prescribed because there was a lack of plant operating

history and a lack of sufficient equipment failure data. However, plant operating experience has demonstrated that testing of the redundant subsystems when one subsystem is inoperable is not necessary to provide adequate assurance of system operability.

The periodic Frequencies specified to demonstrate operability of the remaining components have been shown to be adequate to ensure equipment operability. As stated in NRC Generic Letter 87-09, "It is overly conservative to assume that systems or components are inoperable when a surveillance requirement has not been performed. The opposite is in fact the case; the vast majority of surveillances demonstrate the systems or components in fact are operable." Therefore, reliance on the specified surveillance intervals does not result in a reduced level of confidence concerning the equipment availability. Also, the original General Electric Standard TS, NUREG 0123, and, more specifically, all the TS approved for recently licensed BWRs accept the philosophy of system operability based on satisfactory performance of monthly, quarterly, refueling interval, post maintenance or other specified performance tests without requiring additional testing when another system is inoperable (except for diesel generator testing, which is being retained under certain circumstances - see paragraph 2.3.8.2.a(13) of this safety evaluation).

On the preceding basis, this change, which is consistent with the STS, is acceptable.

(8) Unit 1 CTS 3.7.B.1 requires terminating fuel handling within 4 hours if an inoperable Unit 1 SGT subsystem is not restored to operability within 7 days. ACTION a.1 of Unit 2 CTS 3.9.5.3 (which requires both Unit 2 and one Unit 1 SGT subsystems) requires terminating fuel handling if one required SGT system (Unit 1 or Unit 2) is not restored to operable status within 30 days.

If the required SGT subsystem remains inoperable longer than the specified Completion Times of corresponding ACTIONS A or B (30 and 7 days respectively) of improved TS 3.6.4.3, ACTION D allows the option of continuing operation (irradiated fuel handling, CORE ALTERATIONS, and OPDRVS) if the remaining operable subsystems of SGT are placed in operation. The remaining subsystems are sufficient for any required postulated accident, as previously discussed assuming no additional single failure. In addition, the risk of failure of the two or three (depending on secondary containment configuration) remaining subsystems to perform their intended function is significantly reduced if they are running. Should additional subsystems subsequently fail, then ACTION F requires immediately suspending these operations. Because the risk of a SGT subsystem failure is significantly reduced when it is in operation, this allowance, which is consistent with the STS, is acceptable.

(9) Unit 1 CTS 3.7.B.1 requires a reactor shutdown and termination of fuel handling if the one required Unit 2 SGT subsystem is inoperable (Configuration I, III). ACTION B of improved TS 3.6.4.3 allows up to 7

days in this condition before requiring a Unit 1 shutdown or suspension of fuel handling.

This is consistent with the 7 days currently allowed for an inoperable Unit 1 SGT subsystem. With two operable subsystems (two from Unit 1, or one from each unit), the safety analysis assumptions are met, provided no single active failure occurs.

Therefore, because 7 days is considered acceptable for one of the two cases (an inoperable Unit 1 subsystem), it is considered acceptable for the other case (an inoperable Unit 2 subsystem). Therefore, ACTION B is acceptable.

(10)* Unit 2 CTS 4.6.6.1.1.d.2, the 18-monthly verification that the SGT system starts on the various actuation signals, requires a test signal for the surveillance. Corresponding improved TS SR 3.6.4.3.3 allows a test or actual signal. This allows satisfactory automatic system initiations for other than surveillance purposes to be used to fulfill the surveillance requirements. Operability is adequately demonstrated in either case since the subsystem itself cannot discriminate between "actual" or "simulated" signals.

(11) The ACTIONS of Unit 2 improved TS 3.6.4.3 contain the following Note that allows inspection of the Unit 1 hardened vent rupture disk while Unit 1 is in Mode 4 or 5 or defueled and Unit 2 is operating:

> "When two Unit 1 SGT subsystems are placed in an inoperable status solely for inspection of the Unit 1 hardened vent rupture disk, entry into associated Conditions and Required Actions may be delayed for up to 24 hours, provided both Unit 2 SGT subsystems are OPERABLE."

Unit 2 CTS do not allow this. Because this inspection will cause both the Unit 1 SGT subsystems to be inoperable when all three Zones are included in the secondary containment boundary, ACTION E of improved TS 3.6.4.3 would require shutting down Unit 2 in accordance with improved TS LCO 3.0.3. Therefore, to avoid a dual unit shutdown in this secondary containment configuration, the allowance to delay entry into the Unit 2 improved TS ACTIONS is needed; however it is only allowed if both Unit 2 SGT subsystems are operable. This Note is acceptable for the following reasons:

- The hardened vent inspection is only required to be performed every 5 years.

- As discussed previously, two Unit 2 SGT subsystems are capable of performing the drawdown function for three zones. See the discussion of paragraph 2.3.6.2.r(1) above.

- The Unit 1 plug is out which allows the Unit 2 SGT subsystems to draw from Zone I.

- If only Zones II and III are included in the secondary containment boundary during the inspection, the Note is not needed because ACTION B provides 7 days to restore just one of the Unit 1 SGT subsystems to operable status.

The 24-hour allowance provides sufficient time to perform the inspection while also providing a sufficient restriction to avoid an undue risk to public health and safety, based on operating experience and the low likelihood of an event requiring the drawdown function, concurrent with a single failure, during this period. Therefore, this Note is acceptable.

(12) The Applicability and ACTIONS a.1 and b.1 of Unit 2 CTS 3.9.5.3 require SGT operability when moving the spent fuel shipping cask in Unit 1 secondary containment. This requirement is being omitted from the improved TS. If the spent fuel shipping cask has an irradiated fuel assembly in it, then the LCO would apply because of the "movement of irradiated fuel assemblies" condition of the Applicability. Thus, for this case, the Applicability of the Unit 2 CTS for the spent fuel shipping cask is redundant.

For the case when the spent fuel shipping cask is empty, the Applicability is being relocated to procedures. The licensing basis analysis is a dropped irradiated fuel assembly on other irradiated fuel assemblies, not a dropped piece of equipment (e.g., spent fuel shipping cask). The current HNP heavy loads analysis covers all loads considered heavy, which contains components much heavier than a spent fuel shipping cask. These loads will be handled under plant control as allowed by the Final Policy Statement. Handling of a spent fuel shipping cask will be controlled in the same manner as other heavy loads which are not spent fuel assemblies. See Section 2.3.9.1.a of this safety evaluation for a discussion of the basis for relocating CTS requirements related to movement of heavy loads. Because the current Applicability condition is redundant and the new Applicability retains the necessary requirement, this change is acceptable.

(13) The Applicability of Unit 2 CTS 3.9.5.3 requires all four SGT subsystems to be operable anytime Unit 2 is in Mode 5 and also when moving irradiated fuel in secondary containment. The Applicability of corresponding improved TS 3.6.4.3 requires a varying number of operable SGT subsystems (dependent upon secondary containment configuration) only during CORE ALTERATIONS or OPDRVs (with Unit 2 in Mode 5), not all the time while Unit 2 is in Mode 5. (The movement of irradiated fuel Applicability requirement is unchanged.) CORE ALTERATIONS, OPDRVs, and movement of irradiated fuel are the only operations that are postulated to result in a fission product release requiring the secondary containment. This assertion is supported by the fact that Unit 2 CTS ACTIONS only require these operations to be suspended (i.e., it does not require further actions to restore SGT to operability after the operations are suspended). Because the necessary Applicability requirements and associated ACTIONS are being retained, this change 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 Requirements

By electing to implement the STS Section 3.6 specifications, the licensee has adopted a number of requirements that are more restrictive than requirements given in the CTS. These more restrictive requirements are described below for each of the 17 specifications for Unit 1 and the 18 specifications for Unit 2 in improved TS Section 3.6.

2.3.6.3.a Primary Containment (Improved TS 3.6.1.1)

See Sections 2.3.6.2.a and 2.3.6.4.a of this safety evaluation regarding the deletion of the definition of primary containment integrity.

(1) Unit 1 CTS SR 4.7.A.4.d and Unit 2 CTS SR 4.6.4.1.c.3, the differential pressure leak test of each suppression chamber - drywell vacuum breaker, are required to be performed at the end of each refueling outage and every 18 months, respectively. Corresponding improved TS SR 3.6.1.1.2 contains an additional Frequency of 9 months under certain conditions specified in an associated Note. If this test fails two consecutive times, then it must be performed every nine months (versus the current 18 months) until the test passes two consecutive times.

(2) In the improved TS presentation of primary containment requirements (refer to the beginning comment above), leakage rates discovered outside limits and structural integrity not within the Appendix J limits will result in declaring the primary containment inoperable. The ACTIONS of improved TS 3.6.1.1 for this condition require commencing a shutdown to a cold condition (Mode 4) if the leakage is not corrected within one hour. Based on this limitation to continued operation, improved TS LCO 3.0.4 will not allow a reactor startup to commence with containment leakages outside limits.

The ACTION of corresponding Unit 2 CTS 3.6.1.2 (Primary Containment Leakage) only restricts heating up reactor coolant above 212° F with leakage out of limits. This existing action would allow a startup and control rod withdrawal from cold conditions (e.g., < 212°F). Should leakages above limits be discovered while operating, the existing ACTION is non-specific as to the appropriate action to take. The improved TS ACTIONS provide the appropriate operational restriction, which is consistent with Unit 2 CTS LCO 3.0.3.

Therefore, the improved TS presentation and associated ACTIONS for containment leakage rate beyond limits and structural integrity not within limits will result in establishing and maintaining the reactor in a cold shutdown, all-rods-in, condition until the leakage or structural

integrity is corrected, resulting in increased safety to the allowances of the existing ACTION.

2.3.6.3.b Primary Containment Air Lock (Improved TS 3.6.1.2)

(1) The Unit 1 CTS requirements for the primary containment air lock are located in the primary containment requirements as part of Primary Containment Integrity, Unit 1 CTS 3.7.A.2. The current definition of Primary Containment Integrity, Unit 1 CTS 1.0T, requires only one air lock door to be closed and sealed (i.e., the seal mechanism intact and sealing the door). No actions are required if one door is inoperable provided the other door is operable, since primary containment integrity only requires the one door. Improved TS 3.6.1.2 requires the entire air lock to be OPERABLE, which contains both doors, as well as the interlock mechanism and the leak-tightness of the barrel. ACTIONS A and B ensure that if one door is inoperable, the other door is closed, locked and periodically verified to be closed and locked. If the interlock mechanism is inoperable, ACTION C allows opening a door provided a dedicated individual controls the access. Notes are added to allow the locked closed verification to be performed administratively if the door is in a limited access area. ACTIONS A and B are not applicable, however, if the entire air lock is inoperable (as stated in Note 1 to both ACTIONS A and B). To ensure that the primary containment LCO will be entered if air lock leakage results in exceeding overall primary containment leakage, Note 2 to the ACTIONS is also included. Overall, these ACTIONS provide additional restrictions to Unit 1 operation.

2.3.6.3.c Primary Containment Isolation Valves (PCIVs) (Improved 3.6.1.3)

(1) Unit 1 CTS 3.7.D.1 requires all PCIVs to be operable in Mode 1 (reactor power operation). Unit 2 CTS 3.6.3 requires PCIVs to be operable in Modes 1, 2, and 3. The Applicability of corresponding improved TS 3.6.1.3 contains Modes 1, 2, and 3 as well as when associated instrumentation is required to be operable per improved TS 3.3.6.1 (which adds a Modes 4 and 5 requirement to the RHR shutdown cooling system isolation valves). ACTION F is consequently included for Modes 4 and 5 operation when these valves cannot be isolated (since the unit is already in MODEs 4 or 5, the CTS actions provide no appropriate compensatory measures). This change is an additional restriction on plant operation.

(2) Unit 1 CTS 4.7.D.1.b requires testing the reactor coolant system instrument line excess flow check valves (EVCVs) for proper operation each operating cycle. In addition to checking the EFCVs for proper operation, corresponding improved TS SR 3.6.1.3.7 checks to ensure that flow is restricted to within limits. These limits are located in the plant procedures for this test. This is an additional restriction on plant operation.

(3) Unit 1 CTS 3.7.D.3 requires shutting down to Mode 4 within 24 hours if the PCIV LCO and associated ACTIONS cannot be met. The Applicability of the Unit 1 CTS for PCIVs (See paragraph (1) above) is "during reactor

power operation", which is effectively Mode 1. Thus, if a valve is inoperable, once reactor power operation is exited, the CTS do not require the valves to be operable, thus a shutdown to Mode 4 is not required. Power operation only must be exited, and up to 24 hours is allowed to do this. With the change in Applicability described previously, the unit is now required to be placed in Mode 3 within 12 hours and Mode 4 within 36 hours by improved TS ACTION E. As such, this change is more restrictive on Unit 1 operation.

(4) ACTION D of improved TS 3.6.1.3 is a new requirement for Unit 1. It provides actions to be taken when one or more penetration flow paths have leakage not within limits. This is an additional restriction on plant operation.

The ACTION of Unit 2 CTS 3.6.1.2, Primary Containment Leakage, corresponds to improved TS ACTION D. However, the existing ACTION only restricts heating up reactor coolant above 212°F. Thus, it would allow a startup and control rod withdrawal from cold conditions (e.g., < 212°F). Should leakages above limits be discovered while operating, this ACTION is not specific as to the appropriate action to take. ACTION D provides the appropriate operational restriction, which is consistent in limitation and time provided by the ACTION of the CTS for PCIVs, Unit 2 CTS 3.6.3. That is, 4 hours to restore leakage for each affected penetration flow path to within the limit.

If leakage is discovered while shutdown, ACTION D does not allow continued operation, similar to the current requirement. However, in the event of MSIV leakage outside limits, existing ACTIONS would allow continued operation if the valves were closed, but only if overall primary containment leakage were within limits. This is consistent with the accident analysis. Therefore the improved TS presentation and associated ACTIONS for containment leakage rate beyond limits will result in establishing and maintaining the reactor in a cold shutdown, all-rods-in, condition until the leakage is corrected; resulting in increased safety compared to the allowances of the existing ACTION.

(5) Improved TS SRs 3.6.1.3.2 and 3.6.1.3.3 ensure PCIVs are in their proper position or state. SR 3.6.1.3.4 verifies the continuity of the traversing in-core probe (TIP) shear valve squibs every 31 days. SR 3.6.1.9 ensures the TIP squib valves will actuate if required by testing them every 18 months on a STAGGERED TEST BASIS. All four of these SRs are new requirements for Unit 1; the last two are new for Unit 2 also. These new SRs are additional restrictions on plant operation.

(6) The allowance of Unit 1 CTS 3.7.A.7.c to only require the excess flow dampers to be operable when the 18-inch purge valves are open, is being deleted. Improved TS 3.6.1.3 requires the dampers to be operable at all times in Modes 1, 2 and 3. This is an additional restriction on Unit 1 operation.

(7) The 2-year Frequency of Unit 1 CTS SR 4.7.A.7.c, the cycle test of each 18-inch excess flow isolation damper, is being increased to 18 months in

corresponding improved TS SR 3.6.1.3.11 to be consistent with the normal operating cycle length. This is an additional restriction on Unit 1 operation.

2.3.6.3.d Drywell Pressure (Improved 3.6.1.4)

(1) This specification is a new requirement for Unit 1. It requires drywell pressure to be ≤ 1.75 psig. This is required since accident analyses assume this pressure at the start of an accident. Appropriate ACTIONS and SRs are also included, consistent with the STS.

2.3.6.3.e Drywell Air Temperature (Improved TS 3.6.1.5)

(1) This specification is a new requirement for Unit 1. It requires drywell air temperature to be ≤ 135°F because accident analyses assume this temperature at the start of an accident. Appropriate ACTIONS and Surveillance Requirements are also included, consistent with the STS.

2.3.6.3.f Low-Low Set (LLS) Valves (Improved TS 3.6.1.6)

(1) Unit 1 CTS 3.6.H.2 Applicability does not contain Mode 3 (Hot Shutdown). Corresponding improved TS 3.6.1.6 Applicability contains Mode 3, as well as Modes 1 and 2.

(2) A new SR for Unit 1 is being included in the improved TS. SR 3.6.1.6.1 ensures the LLS valve opens when manually actuated. This ensures the mechanical and solenoid positions of the LLS valve are operable.

2.3.6.3.g Reactor Building-to-Suppression Chamber Vacuum Breakers (Improved TS 3.6.1.7)

(1) The time allowed to restore a vacuum breaker that will not open, to operable status, is being reduced from the 7 days specified by Unit 1 CTS 3.7.A.3.b and ACTION a of Unit 2 CTS 3.6.4.2 to 72 hours specified by ACTION C of improved TS 3.6.1.7, consistent with the STS.

(2) Improved TS 3.6.1.7 contains new requirements if the vacuum breakers are not closed. ACTION A and SR 3.6.1.7.1 are new for both units and ACTION B is new for Unit 2 only. Currently, no specific actions are provided if a vacuum breaker is open.

Improved TS ACTION A limits the time one breaker in a line is allowed to be open to 72 hours, consistent with the STS.

If both vacuum breakers in one line were open, primary containment would be declared inoperable and the appropriate ACTIONS of the associated LCO taken. Improved TS ACTION B allows 1 hour to shut one vacuum breaker if two are open in a single line. This ACTION is more restrictive in the sense that the ACTIONS require shutting the vacuum breaker, but could be considered less restrictive because if not shut, the required unit shutdown could be delayed by one hour. This 1 hour Completion Time is

consistent with that of ACTION A (primary containment inoperable) of improved TS 3.6.1.1. Therefore, ACTION B is acceptable.

These ACTIONS are to be taken on a "per line basis," since a vacuum breaker can be open in both lines while still maintaining the leak tightness of the primary containment. The ACTIONS Note provides this allowance.

Improved TS SR 3.6.1.7.1 requires verifying each vacuum breaker is closed (except when they are open for performance of surveillances and when they are open performing their intended function) every 14 days, which is a new requirement.

2.3.6.3.h Suppression Chamber-to-Drywell Vacuum Breakers (Improved TS 3.6.1.8)

(1) Unit 1 CTS 3.7.A.4.a and ACTION c of Unit 2 CTS 3.6.4.1 allow three vacuum breakers to be inoperable and reactor operation to continue indefinitely if certain conditions are met. Improved TS 3.6.1.8 only allows two of the twelve vacuum breakers to be inoperable for indefinite operation. In the event three vacuum breakers become inoperable (i.e., only nine of the required ten vacuum breakers are inoperable), ACTION A requires restoring a breaker to operable status within 72 hours. Currently, up to four vacuum breakers are allowed to be inoperable for 72 hours for Unit 2.

(2) Improved TS SR 3.6.1.8.1 is a new requirement for both units to verify the vacuum breakers are closed every 14 days. This new SR ensures the "closed" requirement of the LCO statement is being met.

(3) Unit 1 CTS 3.7.A.4.b.(2) allows 24 hours to close an open vacuum breaker. Corresponding ACTION B of improved TS 3.6.1.8 reduces this time to two hours in order to minimize the bypass leakage between the drywell and suppression chamber.

(4) Unit 1 CTS SR 4.7.A.4.a requires checking the operability of the vacuum breakers monthly. Corresponding improved TS SR 3.6.1.8.2 contains an additional Frequency for this functional test: "Within 12 hours after any discharge of steam to the suppression chamber from the S/RVs."

2.3.6.3.i Suppression Pool Average Temperature (Improved TS 3.6.2.1)

(1) Unit 1 CTS 3.7.A.1.f and Unit 2 CTS 3.6.2.1.b.2, ACTION e, and SR 4.6.2.1.e all address situations where the MSIVs are closed. Corresponding ACTION E of improved TS 3.6.2.1 omits this condition such that the action is taken regardless of the position of the MSIVs. In addition, improved TS LCO 3.6.2.1.c requires pool average temperature to be $\leq$ 110°F when all operable IRM channels are $\leq$ 25/40 divisions of full scale on Range 7 and is a new requirement.

(2) Action d of Unit 2 CTS 3.6.2.1, to place the mode switch in the shutdown position, applies when suppression pool temperature is > 110°F when in

Modes 1 or 2 and > 1% RTP. This is being changed in improved TS 3.6.2.1.c and associated ACTION D to require that the temperature shall be ≤ 110°F when power is ≤ 25/40 division of full scale on IRM Range 7 (which is equivalent to ≤ 1% RTP).

This change results in the 110°F and 120°F limit (CTS ACTION d, noted above, and Unit 2 CTS 3.6.2.1.b.2, respectively) being applied in Mode 3, which is not currently required. Thus, when temperature exceeds 110°F, not only is a scram required, but also the unit must be placed in Mode 4 within 36 hours.

In addition, the CTS Applicability for the 120°F requirement is effectively Mode 3, but the CTS ACTION e, for when temperature exceeds 120°F, only requires a depressurization to 200 psig, which is still Mode 3. In the corresponding improved TS ACTION E, when temperature exceeds 120°F, not only is the reactor vessel required to be depressurized to < 200 psig, but also the unit must be placed in Mode 4 within 36 hours. This new requirement (to be in Mode 4) is an additional restriction on plant operation.

(3) ACTION A of improved TS 3.6.2.1 is a new requirement for Unit 1. It requires verifying the suppression pool temperature is less than 110°F once per hour when the temperature is greater than 100°F.

(4) Unit 1 CTS 3.7.A.1.e requires a reactor scram when suppression pool temperature exceeds 110°F. Corresponding ACTION D of improved TS 3.6.2.1 additionally requires a cooldown to Mode 4 within 36 hours and temperature monitoring once every 30 minutes to verify suppression pool temperature is equal to or less than 120°F.

Unit 1 CTS 3.7.A.1.f requires the reactor to be depressurized to less than 200 psig at normal cooldown rates if suppression pool temperature exceeds 120°F. Corresponding ACTION E requires the depressurization to be completed to 200 psig within 12 hours and the plant to be in Mode 4 within 36 hours.

2.3.6.3.j <u>Suppression Pool Water Level (Improved TS 3.6.2.2)</u>

Improved TS 3.6.2.2 contains no requirements that are more restrictive than requirements given in the CTS for the suppression pool water level.

2.3.6.3.k <u>Residual Heat Removal (RHR) Suppression Pool Cooling (Improved TS 3.6.2.3)</u>

(1) ACTION a of Unit 2 CTS 3.6.2.2 states the provisions of specification 3.0.4 are not applicable. Corresponding ACTION A of improved TS 3.6.2.3 omits this allowance; thus, entering Mode 2 or 3 from Mode 4, Mode 2 from 3, and Mode 1 from 2, with one RHR suppression pool cooling subsystem inoperable is no longer permitted for Unit 2 (and also for Unit 1 since Unit 1 CTS do not contain a specification for this function).

(2) Improved TS 3.6.2.3 is a new requirement for Unit 1 and requires two RHR suppression pool cooling subsystems to be operable. While it appears that Unit 1 CTS 3.5.B requires containment cooling (based solely on the Title for Unit 1 CTS 3.5.B), no specific requirements, ACTIONS or SRs exist. The existing specification deals with LPCI and one SR deals with drywell and suppression pool spray headers. The RHR suppression pool cooling system is being added since it is assumed in the accident analysis. Appropriate ACTIONS and SRs are also included.

2.3.6.3.l <u>Residual Heat Removal (RHR) Suppression Pool Spray (Improved TS 3.6.2.4)</u>

(1) A new specification, consistent with the STS, is being included in the improved TS for both units requiring two RHR suppression pool spray subsystems to be operable. While it appears Unit 1 CTS 3.5.B requires containment cooling (based solely on the title for Unit 1 CTS 3.5.B), no specific requirements or actions exist. The entire specification deals with LPCI and one surveillance requirement deals with drywell and suppression pool spray headers. The RHR suppression pool spray system is being added since it is assumed in the accident analysis. Appropriate ACTIONS and SRs are also included.

2.3.6.3.m <u>Containment Atmosphere Dilution System (Unit 1) and Hydrogen Recombiners (Unit 2) (Improved TS 3.6.3.1)</u>

The requirements for improved TS 3.6.3.1 are not the same for both units because Unit 1 has a containment atmosphere dilution system and Unit 2 has Hydrogen Recombiners. Therefore, more restrictive changes for this improved TS are discussed separately.

<u>Unit 1 - Containment Atmosphere Dilution (CAD) System</u>

(1) The Applicability of Unit 1 CTS 3.7.A.6.A and B is Mode 1 only. The Applicability of corresponding improved TS 3.6.3.1 contains Mode 2 as well as Mode 1. The CTS require that the reactor be taken out of power operation if specified conditions cannot be met. Corresponding improved TS Action C requires taking Unit 1 to Mode 3 within 12 hours, since this is the Mode where the specification is not applicable.

(2) Improved TS SR 3.6.3.1.2, to ensure the CAD system valves are in the correct position or can be aligned to the correct position, is a new requirement for Unit 1.

<u>Unit 2 - Primary Containment Hydrogen Recombiners</u>

Improved TS 3.6.3.1 for Unit 2 contains no requirements that are more restrictive than requirements given in the Unit 2 CTS for the hydrogen recombiners.

2.3.6.3.n Primary Containment Oxygen Concentration (Improved TS 3.6.3.2)

(1) Unit 1 CTS 3.7.A.5.b allows de-inerting of the drywell to commence 24 hours prior to starting a reactor shutdown. Applicability condition b of corresponding improved TS 3.6.3.2 restricts the start of de-inertion of the drywell to no sooner than 24 hours prior to reducing reactor power to < 15% RTP for the next scheduled reactor shutdown.

(2) Unit 1 CTS 3.7.A.8 allows up to 12 hours for the unit to be taken out of power operation if oxygen is not within limits. Corresponding ACTION B of improved TS 3.6.3.2 reduces this time to 8 hours and explicitly states the appropriate condition in which the unit must be placed (≤ 15% RTP).

(3) Unit 2 CTS 3.6.6.4 Applicability conditions a and b require primary containment oxygen concentration to be within limits within 72 hours of RTP greater than 15% on startup and 72 hours before RTP is less than 15% on shutdown. The Applicability of corresponding improved TS 3.6.3.2 reduces this time to 24 hours.

2.3.6.3.o Drywell Cooling System Fans (Unit 2 only) (Improved TS 3.6.3.3)

Improved TS 3.6.3.3 for Unit 2 contains no requirements that are more restrictive than requirements given in the Unit 2 CTS for the drywell cooling system fans.

2.3.6.3.p Secondary Containment (Improved TS 3.6.4.1)

See the introductory discussions in Sections 2.3.6.2.p and 2.3.6.2.r of this safety evaluation for an overview of the improved TS presentation of requirements for the secondary containment and the SGT system.

(1) Unit 1 CTS SRs 4.7.C.1.a and b are both being split into two separate SRs - improved TS SRs 3.6.4.1.3 and 3.6.4.1.4. The reorganized tests will ensure the ability of the secondary containment to maintain 1/4 inch vacuum. However, in addition to existing requirements, SR 3.6.4.1.3 will verify the vacuum is attained in ≤ 120 seconds, and SR 3.6.4.1.4 will verify that the required SGT subsystem(s) (with a flow of ≤ 4000 cfm per subsystem) maintain the vacuum for one hour, consistent with Unit 2 CTS and STS. (The required SGT subsystems for each test are based upon the configuration of secondary containment; see Sections 2.3.6.2.p and 2.3.6.2.r of this safety evaluation for additional explanation of this arrangement.)

Because the Hatch-Unit 1 secondary containment (Zones I and III) is being included in the improved TS term "secondary containment," which is common to both units (up to Zones I, II, and III), the improved TS SRs for Unit 1 are being included in the Unit 2 specification for secondary containment, improved TS 3.6.4.1. These SRs will test the various configurations of the secondary containment boundary as well as the

entire boundary (Zones I, II and III) in a combined test, rather than existing Unit 2 SR 4.6.5.1.2 which only tests Zone II isolated from Zones I and III.

Improved TS SRs 3.6.4.1.1 (verifying secondary containment equipment hatches are closed and sealed every 31 days) and SR 3.6.4.1.2 (verifying secondary containment access doors are closed every 31 days) are new SRs for Zones I and III for both units. (They are included in Unit 2 CTS SR 4.6.5.1.1.a for Zone II.)

These new requirements are additional restrictions on plant operation.

(2) The analysis for secondary containment drawdown assumes two SGT subsystems are required for two secondary containment zones (Zone I or II and Zone III), and three SGT subsystems for all three zones. Therefore, improved TS SR 3.6.4.1.3 which verifies this drawdown capability specifies the "required" number of operating SGT subsystems and the flow rate of $\leq$ 4000 cfm.

The "required" number of SGT subsystems depends on the secondary containment configuration, with the explicit details provided in the Notes to SRs 3.6.4.1.3 and 3.6.4.1.4 for both units.

To ensure all appropriate combinations of three and two SGT subsystems will be periodically tested, the Frequency of each of these two SRs is on a STAGGERED TEST BASIS. This is an additional restriction on plant operation, because the CTS do not specifically require rotating through all combinations of SGT subsystems when performing these tests.

(3) The Applicability of existing Unit 1 and Unit 2 operability requirements for secondary containment is being changed to contain the condition of "during operations with a potential for draining the reactor vessel (OPDRVs)" in improved TS 3.6.4.1. Secondary containment is now required to be operable during OPDRVs to provide mitigation if an inadvertent vessel draindown occurs. An appropriate required action has also been added (Required Action C.3) to initiate action to suspend OPDRVs if secondary containment is inoperable during OPDRVs. These are additional restrictions on Unit 1 and 2 operation.

(4) Unit 1 CTSs 3/4.7.C.1 and 3/4.7.C.2 for normal and modified Hatch-Unit 1 secondary containment are being replaced by improved TS 3.6.4.1 which requires up to all three Zones of secondary containment to be operable, not just Zones I and III as presently required.

Any reliance on the Unit 2 SGT system to satisfy requirements of Zones I and III of secondary containment necessarily requires including Zone II as part of the secondary containment boundary. This is because of the design of the Unit 2 SGT system which is subject to a single failure that results in Unit 2 SGT system suction always from <u>both</u> Zones II and III. (If Zone II and its SGT system suction are isolated with Unit 2 shutdown, the single failure of concern is not possible.)

Therefore, in order to ensure the secondary containment (Zones I, II, and III) is drawn down to a negative pressure in the required amount of time assuming a worst case single failure, all four SGT subsystems are required to be operable during Modes 1, 2, and 3, handling irradiated fuel in Zone III, and CORE ALTERATIONS or OPDRVs unless Zone I is isolated. Including Zone II in the secondary containment boundary results in additional restrictions on Unit 1 operation. (See Sections 2.3.6.2.p and 2.3.6.2.r of this safety evaluation for a description of the various secondary containment boundaries and associated permissible combinations of SGT subsystems.)

(5) The ACTION of Unit 2 CTS 3.9.5.1 allows four hours to restore Unit 1 secondary containment (Zone II) during Mode 5 before terminating the specified activities. Corresponding ACTION C of improved TS 3.6.4.1 requires immediate termination of these and other activities. With secondary containment inoperable, the applicable conditions must be immediately suspended. This change is more restrictive on Unit 2 operation in Modes 4 and 5 when these activities are taking place.

(6) Unit 2 CTS SR 4.6.5.1.1.a.2 requires only one door in each access to Zone II be closed. Unit 1 CTS 3.7.C.1 and 2 have the same requirement for Zones I and III. Improved TS SR 3.6.4.1.2 requires both doors in each access to up to all three Zones to be closed, except during entry and exit, and then only one door in that access is required to be closed.

2.3.6.3.q <u>Secondary Containment Isolation Valves (SCIVs) (Improved TS 3.6.4.2)</u>

(1) The Applicability of the CTS for SCIVs is being increased in improved TS 3.6.4.2 to require SCIVs to be operable during OPDRVs in order to provide mitigation of the consequences if an inadvertent vessel draindown event occurs. Required Action D.3, to immediately initiate action to suspend OPDRVs if an (the) inoperable SCIV(s) is (are) not restored to operable status within the specified Completion Time, is also being added, consistent with the STS.

(2) The three SRs in improved TS 3.6.4.2 are new for Unit 1 and are being included to ensure SCIV operability consistent with the STS.

SR 3.6.4.2.1, which is also new for Unit 2, requires verifying every 31 days that each SCIV and blind flange that is required to be closed is closed. These passive isolation devices have not previously been included in the verification of closure except through the ability of the SGT system to develop and maintain a vacuum in secondary containment.

SR 3.6.4.2.2, which is also a change for Unit 2, requires verifying every 92 days that each SCIV isolates within the required time. Corresponding Unit 2 CTS SR 4.6.5.2.c only requires this test every 18 months.

SR 3.6.4.2.3 verifies that each SCIV actuates to its isolation position on an accident signal every 18 months.

(3) Improved TS 3.6.4.2, Required Action A.2 is an additional requirement to periodically verify that an isolated penetration remains isolated. This verification will ensure that if the penetration were inadvertently re-opened, it would be identified. Since no periodic reverification of isolation is required by Unit 2 CTS, this change is more restrictive. This Required Action is also modified by a Note which allows isolation devices in high radiation areas to be verified by use of administrative means.

(4) ACTION c of Unit 2 CTS 3.6.5.2 allows an inoperable damper (SCIV) for seven days under certain conditions. The improved TS do not allow this seven days; with a valve inoperable, the penetration must be isolated within 8 hours.

2.3.6.3.r <u>Standby Gas Treatment (SGT) System (Improved TS 3.6.4.3)</u>

See the introductory discussions in Sections 2.3.6.2.p and r of this safety evaluation for an overview of the improved TS presentation of requirements for secondary containment and the SGT system.

(1) Unit 1 CTS 3.7.B.1.a and Unit 2 CTS 3.9.5.3 do not require SGT system operability during OPDRVs. The Applicability of improved TS 3.6.4.3 contains this condition (which can occur in Modes 4 and 5) in order to provide accident consequence mitigation if an inadvertent vessel draindown event occurs. Appropriate Required Actions to secure from OPDRVs if the required number of SGT subsystems are not operable are also being included (Required Actions D.2.3 and F.3). Required Actions are also being added (Required Actions D.2.2 and F.2) to suspend CORE ALTERATIONS, consistent with the Applicability of secondary containment (and the SGT system). These are additional restrictions on plant operation.

(2) Unit 1 CTS 3.7.B.1.a requires shutting down to Mode 4 within 36 hours if one inoperable Unit 1 SGT subsystem is not made operable within 7 days. Required Action B.1 of improved TS 3.6.4.3 adds an intermediate requirement to be in Mode 3 within 12 hours, which is consistent with the STS and Unit 2 CTS for one inoperable SGT subsystem.

(3) The time to suspend fuel handling has been changed from four hours as specified in Unit 1 CTS 3.7.B.1.a to immediately in ACTION D of improved TS 3.6.4.3 in the event an inoperable required SGT subsystem is not made operable within the specified time.

(4) Unit 1 CTS 3.7.B.1.b.(1) through (5) allow Unit 1 reactor operation to continue for 12 hours under several restrictions when both Unit 2 SGT subsystems are inoperable because the surveillance of the Unit 2 primary containment excess flow isolation dampers is being performed. The ACTIONS of improved TS 3.6.4.3 do not contain these allowances because the secondary containment configuration in this situation only requires

two Unit 1 SGT subsystems and one Unit 2 SGT subsystem (Configuration I,III with both plugs in; see Table 2.3.6-1 of this safety evaluation.) Improved TS ACTION B allows Unit 1 reactor operation for seven days with both Unit 2 SGT subsystems inoperable. Therefore, the 12-hour allowance, including the associated restrictions, is not needed in order to provide time to perform this Unit 2 SR while Unit 1 is operating.

(5) Unit 1 CTS SR 4.7.B.2.d requires running each SGT subsystem for a total of 10 hours each month. Corresponding improved TS SR 3.6.4.3.1 more restrictively requires running each subsystem for ≥ 10 <u>continuous</u> hours every 31 days.

(6) The secondary containment boundary in Unit 1 and Unit 2 improved TS can contain one, two, or three Zones, depending upon plant status and refueling floor activities. Unit 1 CTS only require Zones I and III; Unit 2 CTS can require all three Zones. Unit 1 improved TS are more restrictive regarding the Zones in the secondary containment boundary. See paragraphs 2.3.6.2.r(1) and (4) of this safety evaluation for additional discussion of this change.

(7) The Unit 1 SGT subsystem SRs are being explicitly specified in Unit 2 improved TS 3.6.4.3 instead of providing a cross reference to Unit 1 specifications as currently done in Unit 2 CTS SR 4.6.6.1.2. In addition, the SRs of each unit for the required SGT subsystems apply regardless of the unit the SGT subsystem is associated with. This is not required by Unit 1 CTS and is, therefore, more restrictive.

(8) ACTION a of Unit 2 CTS 3.9.5.3 allows 30 days to restore an inoperable SGT subsystem. ACTION B of improved TS 3.6.4.3 allows seven days provided -

- only three subsystems are required, or
- the inoperable subsystem is from Unit 2 when four subsystems are required.

This Completion Time is more restrictive for Unit 2.

The staff has reviewed these more restrictive requirements and believes they result in an enhancement to the existing TS. Therefore, these more restrictive requirements are acceptable.

2.3.6.4 <u>Significant Administrative Changes</u>

In accordance with the guidance in the Final Policy Statement, the licensee has proposed the following administrative changes to the CTS to bring them into conformance with the improved TS.

These administrative changes to containment system requirements are described for each of the 17 Unit 1 specifications and 18 Unit 2 specifications in improved TS Section 3.6 for clarity.

2.3.6.4.a Primary Containment (Improved TS 3.6.1.1)

(1) The definition of primary containment integrity is not used in the improved TS. It is replaced with the requirement for primary containment to be operable. See Section 2.3.6.2.a of this safety evaluation for elaboration.

(2) Unit 2 CTS SR 4.6.1.1.a.2, to verify every 31 days that all equipment hatches are closed and sealed, is being deleted since it is redundant to existing Type B leakage tests SRs which are being retained in the improved TS. These hatches are not opened while in Modes 1, 2, and 3. They are normally only opened in Modes 4 and 5, and if opened, a Type B test would be required to ensure their leak tightness after being closed. As such, this change is administrative.

(3) Primary containment leakage rate requirements (10 CFR Part 50 Appendix J, Type A, B and C tests) are being presented as a supporting surveillance for primary containment operability in improved TS SR 3.6.1.1.1, instead of being presented as a separate specification for primary containment leakage as done in Unit 1 CTS 4.7.A.2 and Unit 2 CTS 3.6.1.2.

Unit 2 CTS 3/4.6.1.5, Primary Containment Structural Integrity, is also being presented as a supporting SR for primary containment operability in SR 3.6.1.1.1.

Existing TS contain details which are found in 10 CFR 50 Appendix J:

- limit for combined Type B and C leakage (0.6 L_a);
- limit for measured Type A leakage (0.75 L_a);
- the description of the test method, and
- visual inspection prior to each Type A containment leakage rate test.

These regulations require licensee compliance, cannot be revised by the licensee, and are addressed by direct reference in the TS. Therefore, the details of the regulations within the TS are repetitious and unnecessary. Thus, they are only found a single time in improved TS, in SR 3.6.1.1.1. Also, the limits in Appendix J are $< 0.6\ L_a$ and $< 0.75\ L_a$, not the CTS limits $\leq 0.6\ L_a$ and $\leq 0.75\ L_a$. Thus, the limit is reflected in accordance with Appendix J requirements.

Therefore, retaining the requirement to meet the requirements of 10 CFR Part 50 Appendix J, as modified by approved exemptions, and eliminating the Appendix J details that are found in CTS, is considered a presentation preference, which is administrative.

(4) Note "*" for both Unit 1 CTS 4.7.A.2 and Unit 2 CTS SR 4.6.1.2.d is an NRC-approved interpretation for when a 10 CFR 50.73 written report is required following local leak rate test (LLRT) failures. This interpretation is discussed in the NRC safety evaluation for Unit 1

Amendment 149 and Unit 2 Amendment 86. This information is not directly related to a TS requirement (i.e., TS do not require a written report; 10 CFR 50.73 governs the report). This information is more appropriate in plant-specific documents. Thus, this Note is being omitted from improved TS 3.6.1.1. Therefore, because this Note is duplicative of the regulation, its omission is considered administrative.

2.3.6.4.b Primary Containment Air Lock (Improved TS 3.6.1.2)

(1) Unit 1 CTS 4.7.A.2.e.(2) and Unit 2 TS SR 4.6.1.3 contain the details for air lock leakage surveillances which are also found in 10 CFR Part 50 Appendix J. Reciting the details of the regulations within the TS is 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. The only requirement is that the overall leakage rate ($0.05L_a$) and the door leakage rate ($0.01L_a$) and test pressure/time be in TS. These are being retained in improved TS SR 3.6.1.2.1.a and b.

Therefore, retaining the requirement to meet the requirements of 10 CFR 50 Appendix J, as modified by approved exemptions, and eliminating the technical specification details that are also found in Appendix J, is considered a presentation preference, which is an administrative change.

In addition, improved TS contain three Notes to facilitate use and understanding of the intent of improved TS 3.6.1.2:

- Note 1 for SR 3.6.1.2.1 states, "An inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test." Since the inoperability is known to be only affecting one door, the barrel and the other operable door are providing a sufficient containment barrier. Even though the overall test could not be satisfied (improved TS SR 3.0.1 would normally require this to result in declaring the LCO not met - possibly requiring proposed ACTION C to be entered), the Note clarifies the intent that the previous test should not be considered "not met."

- Note 2 for SR 3.6.1.2.1 ensures that after testing the air lock for leakage, the results are evaluated against acceptance criteria of SR 3.6.1.1.1 in accordance with Appendix J, as modified by approved exemptions.

- ACTIONS Note 2 requires entering the ACTIONS of LCO 3.6.1.1 when air lock leakage results in exceeding overall primary containment leakage rate acceptance criteria of Appendix J.

These clarifications are consistent with the intent and interpretation of the existing TS and also with the STS, and are therefore considered administrative presentation preferences.

(2) ACTION a of Unit 2 CTS 3.6.1.3 allows plant operation to continue with an inoperable air lock door provided the operable door is locked, until the next required overall airlock leakage test. The requirement for performing the overall air lock leakage test is a requirement of 10 CFR Part 50 Appendix J. This requirement is contained in improved TS SR 3.6.1.2.1. ACTION a also contains an exception to LCO 3.0.4.

It is possible that the test would not be able to be performed with an inoperable air lock door, and a plant shutdown would be required due to the inability to perform the required surveillance. However, this restriction on continued operation need not be specified as an ACTION (as is the case in existing ACTION a) - it exists inherently as a result of the required Appendix J testing. If the ACTIONS do not reference this surveillance restriction (consistent with the STS), the exception to LCO 3.0.4 applicability is not necessary.

Since no change in operational requirements or intent is made, eliminating a specific restriction on continued operation, and the corresponding exception to LCO 3.0.4, is considered an administrative presentation preference for Unit 2.

(3) The word "maintain" in Unit 2 CTS 3.6.1.3, ACTIONS a and b has been changed to "verify", in improved TS ACTION A, and a 1-hour Completion Time that is consistent with the ACTIONS of improved TS 3.6.1.1 for primary containment, is specified for performing the verification because it is expected that the door will be closed.

2.3.6.4.c <u>Primary Containment Isolation Valves (PCIVs) (Improved TS 3.6.1.3)</u>

(1) Improved TS ACTIONS Note 2 ("Separate Condition entry is allowed for each penetration flow path)" for this LCO provides explicit instructions for proper application of the ACTIONS for TS compliance. In conjunction with the proposed Specification 1.3, "Completion Times," this Note provides direction consistent with the intent of the existing ACTIONS for inoperable isolation valves, and is therefore an administrative change.

(2) Improved TS ACTIONS Notes 3 and 4 facilitate the use and understanding of the intent of the requirements in the ACTIONS of this specification. Note 3 requires entering the ACTIONS for any system made inoperable by inoperable PCIVs. Note 4 clarifies that these "systems" include the primary containment with respect to leakage criteria. With the proposed improved TS LCO 3.0.6, this intent would not necessarily apply. These clarifications are consistent with the intent and interpretation of the CTS (Unit 1 CTS 3.7.D.2 and Unit 2 CTS 3.6.3 ACTIONS) and are therefore considered administrative.

(3) The current single ACTION of Unit 1 CTS 3.7.D.2 for "any isolation valve" is being divided into three ACTIONS in improved TS 3.6.1.3:

- ACTION A for one valve inoperable in a penetration that has two valves;

- ACTION B for two valves inoperable in a penetration that has two valves; and
- ACTION C for one valve inoperable in a penetration that has only one valve.

See Sections 2.3.6.2.c and 2.3.6.3.c for discussions of technical changes to this existing specification. Because this change provides a clearer presentation of the existing requirements, this change is considered administrative.

(4) Unit 1 CTS 3.7.A.7 and Unit 2 CTS 3/4.6.6.5.1 repeat most of the requirements, provisions and actions for purge valves and excess flow dampers in a specification separate from all other primary containment isolation valves (Unit 1 CTS 3.7.D and Unit 2 CTS 3/4.6.3). The improved TS incorporate these requirements and associated restoration times into the PCIV specification (improved TS 3.6.1.3). This is a change in the presentation of requirements for PCIVs, and therefore, is administrative.

(5) The Frequency "at least once per operating cycle" in Unit 1 CTS SR 4.7.A.7.h (main steam line isolation valve leak test) is being replaced with "In accordance with 10 CFR 50, Appendix J, as modified by approved exemptions," in improved TS SR 3.6.1.3.9. The Appendix J Frequency requirements are consistent with TS requirements. Because this Frequency change is a different presentation of the existing Frequency, it is considered administrative.

(6) Improved TS 3.6.1.3 applies to each PCIV, except reactor building-to-suppression chamber vacuum breakers. Improved TS 3.6.1.8 covers these vacuum breakers and thus, they do not need to be considered in improved TS 3.6.1.3. Since the requirement is still maintained, this change in presentation is considered administrative.

(7) Allowances for intermittently opening four closed isolation valves under administrative control are presented in Unit 2 CTS in footnote b to Table 3.6.3-1. The allowance of existing footnote b is presented in improved TS 3.6.1.3, ACTIONS Note 1 and Note 2 to SR 3.6.1.3.2 and SR 3.6.1.3.3. This presentation difference is an administrative change.

(8) The ACTION of Unit 2 CTS 3.4.7 (one MSIV inoperable) allows plant operation to continue provided at least one MSIV is maintained operable in each affected main steam line that is open (and isolated in 8 hours). ACTION A of improved TS 3.6.1.3 applies if the affected penetration has two valves, and only one is inoperable. This ensures maintaining "at least one isolation valve operable." Thus, this is a presentation difference, and therefore an administrative change.

ACTION C is provided for containment penetrations designed with only one isolation valve. Because the system boundary is considered an adequate barrier, the penetration is not considered "open" when the single isolation valve is open. This presentation of existing intent is considered administrative.

2.3.6.4.d Drywell Pressure (Improved TS 3.6.1.4)

(1) Unit 2 CTS 3.6.1.6, Note "*" limits drywell internal pressure except for two situations. These allowances are being omitted from improved TS. The first allowance (when performing Unit 2 CTS SR 4.6.4.1.b - test of suppression chamber-to-drywell vacuum breaker after it was opened to verify it has closed) is not needed since this SR is being relocated as discussed in paragraph 2.3.6.1.b(14) of this safety evaluation. The second allowance (Special Startup Test authorized by Amendment 2) is no longer needed because the test is completed. Because these omissions do not reduce existing requirements, they are considered administrative changes.

2.3.6.4.e Drywell Air Temperature (Improved TS 3.6.1.5)

There are no significant administrative changes to the CTS regarding drywell air temperature.

2.3.6.4.f Low-Low Set (LLS) Valves Improved TS 3.6.1.6)

(1) Unit 1 CTS 3.6.H.2 and Unit 2 CTS 3.4.2.2 and associated ACTIONS a and b specify requirements for the "relief valve function" of the S/RVs. This function terminology is being omitted from the improved TS because it is not used in the HNP design. These words were adopted from the old GE STS for consistency, but only "LLS," "ADS" and "Safety" functions of S/RVs are used and exist at HNP. Removal of this term is therefore considered an administrative change.

(2) Unit 1 CTS 3/4.6.H.2 and associated Notes and Unit 2 CTS 3.4.2.2, associated ACTION c, SR 4.4.2.2, and Notes contain technical details and requirements related to LLS instrumentation (lift setpoints, SRs, and ACTIONS). These requirements are being placed in improved TS 3.3.6.3. Any technical changes to these requirements are addressed in Sections 2.3.3.2.m and 2.3.3.3.m of this safety evaluation. This change involves a presentation difference of existing requirements, and is therefore administrative.

(3) The definition of logic system functional test (LSFT) is modified to not contain the actuated device (See paragraph 2.1.1.a(9) of this safety evaluation for additional discussion.) The actuated device is being included as part of the system functional test. In instances where the existing TS do not contain a corresponding "system functional test," which would test the actuated device, the improved TS add one. SR 3.6.1.6.1 is one such added system functional test. (The simulated automatic operation surveillance of Unit 2 CTS SR 4.4.2.2.b does not require valve actuation since it is a "simulated" test).

Since the relief valve solenoid is the point where the logic and the mechanical portion of the "function" overlap, the solenoid can be tested as part of the instrumentation logic, without actuating the valve. (This is done by performing instrumentation SR 3.3.6.3.6 in conjunction with SR 3.6.1.6.2.) Separately, the valve can be shown to function by

actuating with the solenoid (via the manual control switch in SR 3.6.1.6.1). Overall, this presentation change is considered administrative.

2.3.6.4.g Reactor Building-To-Suppression Chamber Vacuum Breakers (Improved TS 3.6.1.7)

(1) Unit 1 CTS 3.A.3.a and Unit 2 CTS 3.6.4.2 are being retained as improved TS 3.6.1.7, but the associated Bases clarify that an operable vacuum breaker means (a) operable for opening and (b) that it is closed except when performing its intended function. While this is not explicit in the CTS or CTS Bases, if the vacuum breakers were not closed such that an entire line were open, then primary containment would be inoperable and the ACTIONS for primary containment being inoperable would apply. This clarification (via the Bases) is a presentation preference, and is therefore administrative.

(2) The ACTIONS Note ("Separate Condition entry is allowed for each line") provides explicit instructions for proper application of the ACTIONS for TS compliance. In conjunction with the improved TS Section 1.3, "Completion Times", this Note provides direction consistent with the intent of the improved TS ACTIONS. Therefore, this is an administrative change. See paragraph 2.3.6.2.g(4) regarding the acceptability of the ACTIONS for improved TS 3.6.1.7.

2.3.6.4.h Suppression Chamber-to-Drywell Vacuum Breakers (Improved TS 3.6.1.8)

(1) The requirement of ACTION d of Unit 2 CTS 3.6.4.1 to perform SR 4.6.4.1.b (test to verify closure of the vacuum breaker) is being modified to just require closing the open vacuum breaker within two hours in corresponding ACTION B of improved TS 3.6.1.8 (as discussed in paragraph 2.3.6.2.h(6) of this safety evaluation). Once the vacuum breaker is closed, ACTION d also requires performing this SR every 72 hours thereafter. This additional performance requirement is actually not required because once the vacuum breaker is verified closed, the existing LCO (as well as the improved TS LCO) would be met. Improved TS LCO 3.0.2 does not require performance of ACTIONS once the LCO is met. Therefore, deleting this Frequency is an administrative change.

2.3.6.4.i Suppression Pool Average Temperature (Improved TS 3.6.2.1)

(1) Unit 1 CTS 3/4.7.A.1 and Unit 2 CTS 3/4.6.2.1 specify requirements on both level and average temperature of the suppression pool. The improved TS, consistent with the STS, provide separate LCOs for these two parameters. This is a presentation difference only and therefore, an administrative change.

(2) Unit 1 CTS 4.7.A.1.a requires measuring the suppression chamber air temperature daily. This check is being omitted from the improved TS because there is no limit on air temperature specified in the CTS. Thus, if the air temperature measurement is not performed, the LCO would

still be satisfied and nothing would be considered inoperable. As such, this omission is an administrative change. It is also consistent with the STS. (Note that there is a new limit on drywell temperature, discussed in Section 2.3.6.3.e of this safety evaluation.)

(3) Unit 1 CTS 3.7.A.1.d is being clarified in corresponding ACTION C of improved TS 3.6.2.1 to explicitly specify that if temperature exceeds 105°F, S/RV testing must be suspended. Because this is implied in the current requirement, this change is considered administrative.

(4) ACTION d of Unit 2 CTS 3.6.2.1 and associated SR 4.6.2.1.d refer to a condition for taking action or performing a SR in terms of > 1 percent rated thermal power (RTP). Power levels as low as 1% are not displayed by any instrument in units of "percent RTP." At 1% power, the SRMs and IRMs are the only on-scale indications, and their indication is in counts per second, and percent-of-scale respectively. As a human factor improvement, the corresponding requirements in improved TS are being presented in the units available to the operator as indicated on the IRMs. Because the requirement is the same, this is considered an administrative change.

(5) Unit 2 CTS SR 4.6.2.1.e requires verifying the suppression chamber is operable at least once per 30 minutes following a scram from Mode 1 or 2 with the MSIVs closed and average pool temperature > 100°F by verifying this temperature is < 120°F. The temperature at which this SR has to be performed is being changed from 100°F to 110°F in corresponding ACTION D of improved TS LCO 3.6.2.1. Current SR 4.6.2.1.d verifies once per hour when thermal power > 1 percent that temperature is < 110°F. Therefore, starting this SR Frequency at 110°F will still ensure that temperatures greater than 120°F are recognized. Also, since this SR is performed when MSIVs are still open (See Section 2.3.6.4.i of this safety evaluation), the temperature increase will be slower. As such, this change is considered administrative.

2.3.6.4.j <u>Suppression Pool Water Level (Improved TS 3.6.2.2)</u>

(1) Unit 1 CTS 3.7.A.1 requires maintaining pool level and temperature within limits except while performing low-power physics tests at atmospheric pressure at power levels not to exceed 5 Mwt. This allowance is being retained in improved TS 3.10.8, "SDM Testing - Refueling." Therefore, this change is considered administrative.

2.3.6.4.k <u>RHR Suppression Pool Cooling (Improved TS 3.6.2.3)</u>

(1) ACTION b of Unit 2 CTS 3.6.2.2 requires going to Mode 4 when both suppression pool cooling loops are inoperable, or if an alternate means of decay heat removal is available, going to Mode 3 but maintaining reactor coolant temperature ≤ 400°F, within 24 hours of reaching Mode 3 (hot shutdown). The ACTIONS of corresponding improved TS 3.6.2.3 do not allow only getting to 400°F. If an ACTION is unable to be completed due to the plant status (in this instance, unable to reach Mode 4 due to inoperable RHR systems) the action remains applicable and the operator

continues making best efforts to comply. This is the intent of the CTS allowance not to reach Mode 4. The improved TS does not explicitly detail this kind of eventuality, but the intent is the same. Thus, this change is considered administrative.

(2) Unit 2 CTS SR 4.6.2.2 requires demonstrating the operability of the suppression pool cooling mode of the RHR system every 31 days by verifying that the system is in the correct valve lineup. Corresponding improved TS SR 3.6.2.3.1 allows verifying that the valves either are in or can be aligned to the correct position.

The required lineup for ECCS operability requires the RHR system to be in a lineup other than that necessary to perform the suppression pool cooling function. In addition, the suppression pool cooling function is manually actuated (requiring repositioning of valves and starting of the RHR pump by the operator). In the CTS, this is recognized and interpreted that "in the correct position" allows the valves to be in a non-accident position provided they can be realigned to the correct position. In the proposed specifications, the words "in the correct position" mean that the valves must be in the accident position, unless they can be automatically aligned on an accident signal. If so, then they can be in the non-accident position. Thus, for the suppression pool cooling mode of the RHR system and other manually actuated systems, the additional words "or can be aligned to the correct position" are being added to clarify that it is permissible for the system's valves to be in the non-accident position and the system still be considered operable. Since this is the current requirement, this change is considered administrative.

2.3.6.4.l <u>RHR Suppression Pool Spray (Improved TS 3.6.2.4)</u>

There are no significant administrative changes to Unit 1 CTS 4.5.B.1.a corresponding to improved TS SR 3.6.2.4.2. This improved TS is a new specification for both units.

2.3.6.4.m <u>Atmosphere Dilution System (Unit 1) and Hydrogen Recombiners (Unit 2) (Improved TS 3.6.3.1)</u>

<u>Containment Atmosphere Dilution (CAD) System (Unit 1)</u>

(1) The technical content of Unit 1 CTS 3/4.7.A.6.c, which specifies requirements for the oxygen and hydrogen analyzer, is being moved to improved TS 3.3.3.1, post-accident monitoring instrumentation. Any technical changes to this requirement are addressed in Sections 2.3.3.2.e and 2.3.3.3.e of this safety evaluation. Therefore, this change is considered administrative.

<u>Primary Containment Hydrogen Recombiners (Unit 2)</u>

There are no significant administrative changes to Unit 2 CTS 3/4.6.6.2 requirements for hydrogen recombiners in corresponding Unit 2 improved TS 3.6.3.1.

2.3.6.4.n Primary Containment Oxygen Concentration (Improved TS 3.6.3.2)

(1) Unit 2 CTS SR 2.6.6.4 requires verifying the primary containment oxygen concentration is within limits within 72 hours after thermal power is ≥ 15% RTP. This requirement is redundant to Unit 2 CTS 4.0.4 and corresponding improved TS SR 3.0.4, which require SRs to be met prior to entering the Applicability of the associated LCO. Therefore, this Frequency is being omitted from corresponding improved TS SR 3.6.3.2.1 as an administrative change.

2.3.6.4.o Drywell Cooling System Fans (Unit 2 only) (Improved TS 3.6.3.3)

There are no significant administrative changes to the requirements of Unit 2 CTS 3/4.6.6.3, "Primary Containment Hydrogen Mixing System," as presented in corresponding improved TS 3.6.3.3.

2.3.6.4.p Secondary Containment (Improved TS 3.6.4.1)

As previously described in Section 2.3.6.2.p and 2.3.6.2.r of this safety evaluation, the presentation of secondary containment and associated requirements in the improved TS is significantly different from that of existing TS for both units. In addition, other significant administrative changes are as follows:

(1) The Unit 1 definition of secondary containment integrity is being deleted from CTS 3.7.C.1.a, 3.7.C.2.a and 3.7.C.3.a and from the Unit 2 CTS 1.0, Definitions. It is being replaced by the requirement of improved TS LCO 3.6.4.1 for secondary containment to 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 improved TS LCOs for the secondary containment, secondary containment isolation valves and standby gas treatment system.

The applicability is also being reworded to be consistent with the improved TS definitions of Modes and to have a positive statement as to when it is applicable. In addition, ACTION C, appropriate for the new Applicability (to suspend CORE ALTERATIONS), is included. Because this change is a presentation difference of existing requirements, it is considered administrative.

2.3.6.4.q Secondary Containment Isolation Valves (SCIVs) (Improved TS 3.6.4.2)

(1) The CTS definition of Secondary Containment Integrity requires all SCIVs to be operable or in their isolation position. Thus, the CTS Secondary Containment Specification encompasses the SCIV requirements. Improved TS 3.6.4.2 provides a separate specification for SCIVs for clarity and requires all SCIVs to be operable, consistent with the CTS and the STS. This presentation difference of existing requirements is considered administrative.

(2) ACTIONS Note 2 of improved TS 3.6.4.2, which allows separate Condition entry for each penetration flow path, is added to provide explicit instructions for proper application of the action requirements for TS compliance. In conjunction with improved TS Section 1.3, "Completion Times," this Note provides direction consistent with the intent of the CTS action requirements for inoperable isolation valves.

Similarly, ACTIONS Note 3 facilitates the use and understanding of the intent to consider the affect of inoperable isolation valves on other systems. If a system is determined to be inoperable due to inoperable isolation valves, the effected systems actions must be entered. With improved TS LCO 3.0.6, this intent would not necessarily apply. This clarification is consistent with the intent and interpretation of the CTS and the STS.

Therefore, these notes are considered administrative changes.

2.3.6.4.r <u>Standby Gas Treatment (SGT) System (Improved TS 3.6.4.3)</u>

(1) Unit 1 CTS 4.7.B.1 and 3/4.7.B.2, and Unit 2 CTS 4.6.6.1.1 contain the technical instructions for testing the SGT components. The technical content of this requirement is being moved to improved TS 5.5.7, "Ventilation Filter Testing Program," in accordance with the format of the STS. Technical changes to these requirements are addressed in paragraph 2.5.0.3(8) of this safety evaluation. New SR 3.6.4.3.2 is being included to clarify that the tests of the Ventilation Filter Testing Program must also be completed and passed for determining operability of the SGT system. Relocating these details within the TS is considered administrative

(2) Unit 1 CTS 4.7.B.1.e (verifying manual operability of the bypass valve for filter cooling) is being deleted since there is no bypass valve in the system. The system has internal orifices for filter cooling.

(3) ACTION E of improved TS 3.6.4.3 directs entry into improved TS LCO 3.0.3 if two or more required SGT subsystems are inoperable in Modes 1, 2, or 3. This avoids confusion as to the proper action if in Modes 1, 2, or 3 and simultaneously handling irradiated fuel, conducting CORE ALTERATIONS, or operations with a potential for draining the vessel. This clarification is considered administrative because it results in the same ACTION as Unit 1 CTS 3.7.B.1.c and ACTION b of Unit 2 CTS 3.6.6.1.

(4) The technical content of Unit 2 CTS SR 4.6.6.1.1.d.2 is being divided into two surveillances in improved TS, consistent with the STS. The majority of the surveillance will be performed in improved TS 3.3.6.2 requirements for damper testing. The actual system functional test will be performed by SR 3.6.4.3.3 (test of system actuation). This ensures the entire system is tested with proper overlap.

The above changes result in the same limits as the current requirements, or they more clearly present the intent of the CTS. Accordingly, these changes are purely administrative and are acceptable.

2.3.6.5 Significant Differences Between the Improved TS and the STS

In electing to adopt STS Section 3.6, the licensee proposed the following differences in the improved TS presentation from that of the STS:

(1) Improved TS do not contain STS 3.6.1.9, "Main Steam Isolation Valve Leakage Control System," because Unit 1 does not have such a system and the requirements for Unit 2 were removed by Amendment 132.

(2) The Note of STS SR 3.6.1.2.2 (airlock interlock verification) is modified to specifically require entry or exit using the primary containment airlock. This difference clarifies the intent of the Note.

(3) Improved TS 3.6.2.3 changes STS ACTION B to allow 8 hours to restore one RHR suppression pool cooling subsystem to operability, if both required RHR suppression pool cooling subsystems are inoperable. The STS do not allow this time prior to initiating a shutdown.

(4) STS SR 3.6.2.4.2 requires that each RHR pump to be flow tested while operating in the suppression pool spray mode every 92 days. The improved TS do not contain this SR because this flow rate cannot be accurately measured with the installed instrumentation. In its place, a new SR is added to verify that each suppression pool spray nozzle is unobstructed every 10 years. This SR is consistent with Unit 1 requirements and can be done with installed equipment.

(5) STS 3.6.2.5, "Drywell-to-Suppression Chamber Differential Pressure," is not included in the improved TS because no specific differential pressure is currently required and this assumption is not part of any licensing basis analysis.

(6) STSs 3.6.3.1, 3.6.3.2, 3.6.3.3, and 3.6.3.4 have been renumbered appropriately for each unit to reflect unit design differences. See paragraph 2.3.6.2.m of this safety evaluation for additional discussion.

(7) STS 3.6.3.2, "Drywell Cooling System Fans," was not adopted in the Unit 1 improved TS because the Unit 1 safety analysis does not assume the operation of a hydrogen mixing system. The current analysis assumes adequate mixing will occur without the use of a mechanical system.

STS 3.6.3.2 was adopted in the Unit 2 improved TS because a specification for drywell cooling system fans is contained in Unit 2 CTS (3/4.6.6.3, "Primary Containment Hydrogen Mixing System"). However, the licensee proposed the following difference from the STS, because the Unit 2 safety analysis also assumes adequate mixing will occur without the use of a mechanical system. In the event both required fans are inoperable, Unit 2 improved TS allow 7 days to restore a fan to operable status (consistent with STS Required Action B.2) but do not condition

this time on the verification by administrative means that the hydrogen control (or mixing) function is maintained (STS Required Action B.1) because the backup means for hydrogen mixing is natural circulation in the drywell. See paragraph 2.3.6.2.o(2) of this safety evaluation.

In addition, STS SR 3.6.3.2.2 is not included in Unit 2 improved TS 3.6.3.3 because HNP has no instrumentation capable of measuring flow of the drywell cooling system fans. Unit 2 CTS do not contain this requirement also because the safety analysis has shown that mechanical mixing is not needed, and no required flow rate is utilized in any safety analysis.

(8) STS SR 3.6.4.1.1 (verify secondary containment vacuum with in limit) is omitted from improved TS 3.6.4.1 because the secondary containment analysis assumes no differential pressure at the start of the accident and this SR is not in CTS.

(9) STS SR 3.6.4.1.4 requires each SGT system to drawdown the secondary containment within prescribed limits. STS SR 3.6.4.1.5 requires maintaining the vacuum with a specified system flow rate for 1 hour. Because of the improved TS presentation of secondary containment and SGT system requirements, corresponding improved TS SR 3.6.4.1.3 requires verifying that the required SGT subsystems will draw down the secondary containment to the specified vacuum within the specified time. Corresponding SR 3.6.4.1.4 has similar wording.

The number of SGT subsystems required is based upon the containment configuration and ongoing plant activities, as described in Section 2.3.6.2.r of this safety evaluation. The improved TS contain a Note with this SR to clarify this point and to require the test be performed with one less subsystem than required by improved TS 3.6.4.3 in support of the secondary containment configuration required by the current plant status.

(10) Improved TS 3.6.4.3, "Standby Gas Treatment System," differs significantly from the STS because of the HNP unique design differences from that assumed in the STS. These differences are acceptable as described in Section 2.3.6.2.r of this safety evaluation and are consistent with the objectives of the STS presentation.

These differences from STS Section 3.6 are consistent with HNP design features and existing requirements and commitments. Therefore, they are acceptable.

2.3.7 Plant Systems (Improved TS Section 3.7)

2.3.7.1 Relocated Requirements

2.3.7.1.a Existing Specifications Entirely Relocated

In accordance with the criteria in the Final Policy Statement, the following current specifications are being entirely relocated to the licensee-controlled documents:

Unit 1 CTS	Unit 2 CTS	Title
3/4.6.L	3/4.7.4	Snubbers
3/4.8		Radioactive Materials
	3/4.7.5	Sealed Source Contamination

(1) Snubbers

Snubber inspection requirements, which are part of the HNP inservice inspection (ISI) program, are being removed from the CTS and placed in the ISI program documents. In accordance with the requirements in 10 CFR 50.55a, ISI must be performed in accordance with ASME Section XI. This regulation and licensee commitments to the NRC for HNP ISI contain the necessary programmatic requirements for ISI without repeating them in the improved TS. Changes to the ISI program are adequately controlled by the provisions of 10 CFR 50.59 and 10 CFR 50.55a. With the removal of explicit operability requirements for snubbers from the CTS, snubber operability requirements will be determined in accordance with the operability requirements in the improved TS for those systems designed with snubbers. These other requirements, and the provisions of the ISI program will ensure that future changes to the CTS snubber requirements in the ISI program documents will be acceptable.

Note that ISI requirements are also given in Unit 2 CTS 4.0.5. The ISI requirements of Unit 2 CTS 4.0.5 are also being relocated to the ISI Program, as discussed in Section 2.3.0.1.b of this safety evaluation.

(2) Radioactive Materials (Unit 1) and Sealed Source Contamination (Unit 2)

The requirements in Unit 1 CTS for miscellaneous radioactive materials sources and in Unit 2 CTS for sealed source contamination do not impact reactor operation, identify a parameter which is an initial condition assumption for a DBA or transient, identify a significant abnormal degradation of the reactor coolant pressure boundary, and do not provide any mitigation of a design basis event. Therefore, these specifications do not satisfy the Final Policy Statement TS screening criteria, and are being relocated to appropriate plant procedures controlled in accordance with 10 CFR 50.59 and 10 CFR Part 20, as applicable.

The above existing requirements relating to snubbers, sealed sources, and radioactive material that are being entirely relocated to licensee-

controlled documents 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, they do not fall within any of the four criteria in the Final Policy Statement (discussed in the Part 1 of this safety evaluation). In addition, the staff finds that sufficient regulatory controls exist under 10 CFR 50.55a and 10 CFR 50.59. Accordingly, that these requirements may be removed from the CTS and placed in ISI program documents and plant procedures, as appropriate.

2.3.7.1.b Existing Specifications Relocated in Part

In accordance with the guidance in the Final Policy Statement, the licensee has proposed to partially relocate the CTS requirements listed below to other licensee-controlled documents; the corresponding improved TS location of the remaining part of each CTS requirement is also listed.

Unit 1 CTS	Improved TS	Description of Relocated Requirements
4.5.C.1.b	3.7.1, 5.5.6	RHRSW Pump Capacity Test Requirements
3.5.I.1	3.7.2	Procedural Detail to Throttle PSW Flow
3.5.I.2	3.7.2	Details of PSW System Design
3.5.I.2, and 4.5.I	SR 3.7.2.1	River Level Monitoring Method Details
4.5.J.1	3.7.2	Standby PSW Pump Low Pressure Auto Start
3.12.A.1.a & b	3.7.4	Independence of MCREC Subsystems
3.15.2.7 and 4.15.2.7.2	SR 3.7.6.1	Details of Determining Noble Gas Gross Gamma Activity Rate for Main Condenser Offgas
4.15.2.7.1	5.5.1	Monitoring Noble Gas Activity at the Main Condenser Air Ejector per the ODCM

Unit 2 CTS	Improved TS	Description of Relocated Requirements
4.7.1.1.b	3.7.1, 5.5.6	RHRSW Pump Capacity Test Requirements
3.7.1.2.a.2	3.7.2	Procedural Detail to Throttle PSW Flow
3.7.1.2.a.2	3.7.2	Details of PSW System Design
3.7.1.2.b	SR 3.7.2.1	River Level Monitoring Method Details
3.7.1.2.d	3.7.3	PSW System Design Detail
4.7.1.2.e.2	3.7.2	Standby PSW Pump Low Pressure Auto Start
3.7.1.2 and ACTION b	See (6) below	PSW System LCO for Modes 4 and 5
4.7.1.2.c	3.7.2	River Bottom Conditions Near Intake Structure
4.7.1.2.d	3.7.2	River Stage Discharge Rating Curve
4.7.1.2.e.1	SR 3.7.2.3	Restriction on testing of PSW automatic valves to isolate non-safety systems to when the plant is shutdown.
4.7.1.2.e.3	SR 3.7.3.2	Restriction on testing of the auto start of the SSW pump upon 1B diesel generator start to when the plant is shutdown.

3.7.2	3.7.4	Independence of MCREC Subsystems
4.7.2.b	SR 3.7.4.1	Details of 15-minute Flow Test Through the HEPA filters and charcoal absorbers
3.11.2.7 and 4.11.2.7.2	SR 3.7.6.1	Details of Determining Noble Gas Gross Gamma Activity Rate for Main Condenser Offgas
4.11.2.7.1	5.5.1	Monitoring Noble Gas Activity at the Main Condenser Air Ejector per the ODCM
3.9.10, ACTION	3.7.8, ACTION A	ACTION to Suspend Movement of Loads Over Spent Fuel Pool; Procedural Guidance

(1) The residual heat removal service water (RHRSW) system pump capacity test requirements of Unit 1 CTS 4.5.C.1.b and Unit 2 CTS 4.7.1.1.b are being relocated to the inservice test (IST) program procedures. The requirement for RHRSW pump operability will still be required by improved TS 3.7.1 and the requirement for the IST program is being retained as improved TS 5.5.6, "Inservice Test Program," both consistent with the STS. Any changes to IST procedures will be adequately controlled by the provisions of 10 CFR 50.59 and 10 CFR 50.55a.

(2) The requirement of Unit 1 CTS 3.5.I.1 and Unit 2 CTS 3.7.1.2.a.2 to throttle plant service water (PSW) flow to ensure it has sufficient net positive suction head (NPSH) is being relocated to the plant procedures. This "equipment protection" requirement is better suited for inclusion in plant procedures than in TS. Operability and testing of the PSW system will still be required by improved TS 3.7.2. Any changes to PSW system operating procedures will be adequately controlled by the provisions of 10 CFR 50.59.

(3) Unit 1 CTS 3.5.I.2 and Unit 2 CTS 3.7.1.2.a.2 contain details relating to PSW system design and purpose. These details are being relocated to the Bases. In addition, PSW system design and operation are described in the FSAR. Any changes to these details will be adequately controlled by the provisions of 10 CFR 50.59 and improved TS 5.5.11, "Bases Control Programs."

(4) Unit 1 CTS 3.5.I.2 and 4.5.I and Unit 2 CTS 3.7.1.2.b contain details regarding the monitoring of river level. These details are being relocated to the Bases of improved TS 3.7.2. The actual pump well water level limit is being retained as part of improved TS SR 3.7.2.1. Any changes to relocated details will be adequately controlled by the provisions of improved TS 5.5.11.

(5) Unit 1 CTS 4.5.J.1 and Unit 2 CTS 4.7.1.2.e.2 require testing of the auto start of the standby PSW pump on low system pressure. This function is not the assumed start signal for the PSW system during an accident, and is provided for plant availability only. The PSW System is normally running and upon an accident signal (if de-energized) will restart following energization of the respective safety-related buses. Because the low-pressure auto start of the standby pump is redundant to the accident start signal, the operability and test requirements for

this function are being relocated to plant procedures, consistent with the STS. Any changes to this relocated test requirement will be adequately controlled by the provisions of 10 CFR 50.59. The accident signal (auto start following a LOCA or LOSP event) is being retained and will continue to be tested in accordance with the surveillance test requirements of improved TS 3.8.1 as part of the Loss of Offsite Power (LOSP) and LOCA/LOSP tests of the associated diesel generator, and also in improved TS SR 3.7.2.3.

(6) Unit 2 CTS 3.7.1.2 specifies operability and remedial action (ACTION b) requirements for the PSW system in Modes 4 and 5. These requirements for non-operating Modes, are being relocated to the Bases of the TS required systems that PSW supports when the plant is in Modes 4 and 5, consistent with the STS. The requirement for the operability of PSW system in these Modes is being retained in improved TS through the definition of operability for the improved TS required supported systems. The staff concludes that this will ensure that the PSW system can perform its required support functions in the non-operating Modes. Any changes to the supported system Bases will be adequately controlled by the provisions of improved TS 5.5.11.

(7) The preventive maintenance type surveillances specified by Unit 2 CTS 4.7.1.2.c and d, for river conditions near the intake structure, are being relocated to plant procedures, consistent with the STS. Generally, the STS mostly include SRs that directly relate to system operability. Because these maintenance-type surveillances do not verify operability of the PSW System, it is more appropriate to include them in plant procedures. Any changes to these requirements will be adequately controlled by the provisions of 10 CFR 50.59.

(8) Unit 2 CTS 4.7.1.2.e.1 restricts performance of the 18-month functional test of PSW automatic valves to isolate non-safety systems to when the plant is shutdown. Similarly, Unit 2 CTS 4.7.1.2.e.3 restricts performance of the 18-month functional testing of the auto start of the standby service water (SSW) pump upon the starting of the 1B DG (swing DG) to when the plant is shutdown. These SRs can be performed under appropriate conditions during plant operation without jeopardizing safety. The staff has previously determined that such conditions need not be contained in TS. It is sufficient to prescribe limiting plant conditions for performing most surveillance tests in plant procedures, where they will be adequately controlled by 10 CFR 50.59. As the staff indicated in Generic Letter 91-04, allowing such conditions to be controlled through procedures is consistent with most other SRs in TS. Therefore, the staff concludes that omission of this condition from corresponding improved TS SRs 3.7.2.3 and 3.7.3.2, and relocating such provisions to plant procedures, is acceptable.

(9) Unit 2 CTS 3.7.1.2.d states the design detail that the SSW system has one pump. This detail is being moved to the Bases of corresponding improved TS 3.7.3. SSW system design and operation are also described in the FSAR. Any changes to this design detail will be adequately controlled by the provisions of 10 CFR 50.59 and improved TS 5.5.11.

(10) Unit 1 CTS 3.12.A.1.a and b and Unit 2 CTS 3.7.2 use the words "independent" MCREC (main control room environmental control) systems; corresponding improved TS 3.7.4, "MCREC System," omits this word. Such design details are being relocated to the Bases. MCREC system design and operation are also described in the FSAR. Any changes to this design detail will be adequately controlled by the provisions of 10 CFR 50.59 and improved TS 5.5.11.

(11) Details of the method for performing Unit 2 CTS surveillance 4.7.2.b (15 minute flow test through the MCREC system HEPA filters and charcoal absorbers) are omitted from corresponding improved TS SR 3.7.4.1 and are being relocated to plant procedures. (These details are not contained in the corresponding Unit 1 CTS 4.12.A.c.) Any changes to these details will be adequately controlled by the provisions of 10 CFR 50.59.

(12) Unit 1 CTS 3.15.2.7 and 4.15.2.7.2 and Unit 2 CTS 3.11.2.7 and 4.11.2.7.2 contain details defining the noble gases involved, methods for performing this surveillance, and methods for determining when a radioactivity rate increase has occurred. These details are being omitted from the requirements of improved TS 3.7.6, "Main Condenser Offgas," and are being relocated to the Bases and plant procedures. The requirement to determine the gross gamma activity rate of noble gases is being retained as improved TS SR 3.7.6.1. Any changes to the procedures for performing this SR will be adequately controlled by the provisions of 10 CFR 50.59.

(13) Unit 1 CTS 4.15.2.7.1 and Unit 2 CTS 4.11.2.7.1 require monitoring noble gases at the main condenser air ejector in accordance with the offsite dose calculation manual (ODCM). This SR is being moved to the ODCM, a licensee-controlled document. The ODCM will be maintained as required by the administrative control provisions of improved TS 5.5.1. The ODCM currently contains requirements for monitoring the main condenser air ejector activity release rate. Changes to the ODCM will be adequately controlled by the provisions of the ODCM control process in improved TS 5.5.1. In addition, the requirement to periodically determine the gross gamma activity rate of noble gases is being retained as improved TS SR 3.7.6.1.

(14) Unit 2 CTS 3/4.9.10, "Water Level - Spent Fuel Storage Pool," is applicable whenever irradiated fuel assemblies are in the spent fuel storage pool (SFSP). The associated action requirement of this current specification requires suspension of "crane operations with loads," in addition to suspension of "all movement of fuel assemblies," in the SFSP area when water level is less than 21 feet above the top of irradiated fuel assemblies seated in the SFSP racks. Part of this action requirement is being relocated to plant procedures and the improved TS Bases, as described below. (Corresponding Unit 1 CTS 3/4.10.D does not contain this action requirement. See paragraph 2.3.7.3(14) of this safety evaluation.)

Related to this relocation are the relaxations of the Applicability and ACTION of Unit 2 CTS 3/4.9.10 in corresponding improved TS 3.7.8, "Spent

Fuel Storage Pool Water Level," consistent with the STS. Improved TS ACTION A only requires suspending movement of irradiated fuel assemblies in the SFSP, which is consistent with the improved TS Applicability, "during movement (not simply storage) of irradiated fuel assemblies in the spent fuel storage pool." These relaxations are acceptable because the limit on the minimum water level in the SFSP is only needed to mitigate the consequences of a SFSP fuel handling accident. The HNP bounding design basis fuel handling accident assumes an irradiated fuel assembly is dropped onto an array of irradiated fuel assemblies previously seated within the reactor pressure vessel (RPV). This accident analysis may be used to infer the consequences of a fuel handling accident in the SFSP because the removal efficiencies of the assumed 10% iodine gap activity released from the rupture of an irradiated fuel assembly in the SFSP and the RPV are about the same (according to the Bases for Unit 2 CTSs 3/4.9.9, "Water Level - Reactor Vessel," and 3/4.9.10, 23 feet of water in the RPV removes 99% and 21 feet of water in the SFSP removes 98.6% of the assumed activity released). Because the licensee's design basis analysis assumes the majority of the damaged fuel rods are in the dropped assembly, the consequences for an event other than a dropped fuel assembly would be significantly reduced.

The Unit 2 CTS more general restriction of suspending SFSP crane operations with loads (other than irradiated fuel assemblies) is being relocated to plant procedures. This is acceptable because the radiological consequences of dropping a load other than an irradiated fuel assembly onto an array of irradiated fuel assemblies seated within the pool racks would be significantly less than the consequences of the bounding design basis fuel handling accident. Thus, this restriction need not be contained in improved TS 3.7.8. The movement of other loads over irradiated fuel assemblies is administratively controlled based on available analysis for the individual load. The load analysis methodology and crane operation which dictate the controls are described in the FSAR and controlled by plant procedures. Any changes to this relocated action requirement and supporting analysis and implementing procedures will be adequately controlled by the provisions of 10 CFR 50.59.

The ACTION of Unit 2 CTS 3/4.9.10 also includes procedural guidance that is being relocated to the improved TS Bases, consistent with the STS. Specifically, the current action requirement specifies suspending movement of fuel assemblies in the SFSP area "after placing the load in a safe condition." This procedural guidance is omitted from corresponding ACTION A of improved TS 3.7.8. Any changes to this guidance will be adequately controlled by the provisions of improved TS 5.5.11.

The types of detailed information and requirements described above, that are in existing specifications, 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. Further, they do not

fall within any of the four criteria in the Final Policy Statement (discussed in Part 1 of this safety evaluation). In addition, the staff finds that sufficient regulatory controls exist under 10 CFR 50.59 and improved TSs 5.5.1, "ODCM," and 5.5.11, "Bases Control Program." Accordingly, detailed information and requirements, as described above, which are contained in existing specifications may be relocated from the CTS to the licensee's plant procedures, the FSAR, or the improved TS Bases, as are appropriate.

2.3.7.2 Less Restrictive Requirements

The licensee, in electing to implement STS Section 3.7 specifications, proposed a number of requirements that are less restrictive than requirements given in CTS. These less restrictive requirements are described below. (Because there are relatively few changes, they are not discussed under separate headings for each of the eight specifications in improved TS in Section 3.7.) The basis for accepting each change which is marked by an asterisk is presented in Section 2.0.2.2 of this safety evaluation.

(1) The requirements of Unit 1 CTS 3.5.C.1.c and Unit 2 3.7.1.1 for operability of the residual heat removal service water system (RHRSW) in Modes 4 and 5 and special conditions (such as when performing a hydrostatic test which is performed in Mode 4) are given in the improved TS through the definition of operability as applied to the RHR system. Requirements for RHR system operability are contained in improved TS 3.4.7, 3.4.8, 3.5.2, 3.6.2.3, and 3.6.2.4. The role of the RHRSW system as a required support system is addressed in the Bases for these sections. This change is acceptable because the definition of operability will provide sufficient assurance that the RHRSW system can perform its required support function in Modes 4 and 5. Requirements for RHRSW in Modes 1, 2, and 3 will still be in improved TS 3.7.1. Therefore, this change is acceptable.

(2) ACTION A of improved TS 3.7.1 corresponds to Unit 1 CTS action statement 3.5.C.2 in the event of one inoperable RHRSW pump. The current Unit 1 requirement is being modified with the Note, "LCO 3.0.4 is not applicable." Corresponding ACTION a.1 of Unit 2 CTS 3.7.1.1 presently contains this provision. ACTION A of improved TS 3.7.1 also contains this provision. This change is acceptable because the remaining three RHRSW pumps satisfy accident analysis assumptions assuming a single failure.

(3) ACTION D of improved TS 3.7.1 is being added in place of the CTS requirement to enter LCO 3.0.3 in the event that both RHRSW subsystems are inoperable for reasons other than one inoperable RHRSW pump in each subsystem. ACTION D allows plant operation to continue for up to 8 hours before requiring a unit shutdown. This provides some time to restore one subsystem, prior to putting the unit in a condition requiring RHR shutdown cooling. In addition, the systems that the RHRSW system supports in Modes 1, 2, and 3 have an 8-hour allowed outage time (improved TSs 3.6.2.3, "RHR Suppression Pool Cooling" and 3.6.2.4, "RHR Spray Systems"). Thus, this change maintains consistency with the

ACTIONS for the systems that the RHRSW system supports. Therefore, this change is acceptable.

(4)* If the action requirements of Unit 1 CTS 3.5.C cannot be met, Unit 1 CTS 3.5.C.4 requires the plant be in cold shutdown (Mode 4) within 24 hours. This time is being extended to 36 hours in ACTION E of improved TS 3.7.1.

(5) ACTIONS A and C of improved TS 3.7.2, "Plant Service Water (PSW) System and Ultimate Heat Sink," contain a Note in the Required Actions column to state that improved TS LCO 3.0.4 is not applicable. This Note is consistent with the corresponding action statements a.1 and a.2 of Unit 2 CTS 3.7.1.2. Unit 1 CTS do not include this provision. This Note allows entry into the applicable Modes for the following Conditions:

- One PSW pump inoperable
- One PSW pump in each PSW subsystem inoperable

With one PSW pump inoperable in each subsystem, the remaining operable pumps (one in each subsystem) are sufficient to meet the accident analysis assumptions, assuming a single failure of an additional pump. This allowance is not included in the STS, but is acceptable because the PSW system of each unit has more capability to function with multiple PSW pump failures than the PSW system which was assumed in the STS.

This LCO 3.0.4 exception is also included in improved TS 3.7.2 ACTION B. This ACTION, which is not included in either the CTS or the STS, corresponds to the Condition of one PSW turbine building isolation valve being inoperable. CTS are ambiguous regarding the operablilty of the associated PSW subsystem whenever one of these valves is inoperable because an action statement is not specified for this Condition. The improved TS resolve this issue by specifying a Completion Time of 30 days in ACTION B for returning one of these valves to operable status. This time is appropriate because, in this Condition and assuming an additional single failure, the PSW system will still be capable of performing its intended function; at least one subsystem with an operable pump will be isolated from turbine building loads. The staff, therefore, concludes that this additional allowed outage time is acceptable.

The probability of a LOCA occurring when the PSW system is in Condition A, B, or C of the ACTIONS of improved TS 3.7.2 is small. Given this and the HNP PSW system capabilities, the staff concludes that the exception to LCO 3.0.4 to permit Mode changes with the plant in one of these Conditions will not have a significant impact on the health and safety of the public, and is acceptable.

(6) ACTION D of improved TS 3.7.2 is being added to existing requirements for the Condition of one inoperable PSW turbine building isolation valve in each PSW subsystem. This ACTION is not contained in CTS, which results in uncertainty regarding what action would be required. ACTION D permits 72 hours to make one of the two valves operable. This

Completion Time is appropriate because, assuming no additional single failures, the PSW system flow to the turbine building loads would be isolated by the remaining operable valve in each PSW subsystem. Therefore, the staff concludes this ACTION is acceptable. (It is noted that this change can be viewed either as more or less restrictive than existing requirements.)

(7)* Unit 1 CTS 3.5.I.2 allows 24 hours to reach Mode 4, cold shutdown, whenever river level is outside specified limits. This time is being extended in improved TS 3.7.2 to 36 hours.

(8)* The phrase "actual or", in reference to the automatic isolation signal, is being added to Unit 2 CTS 4.7.1.2.e.1 as improved TS SR 3.7.2.3, the PSW system 18-month functional test.

(9) Unit 1 CTS 3.5.J.2 requires the DG 1B SSW system to be operable in order to enter applicable Modes in accordance with LCO 3.0.4. However, consistent with Unit 2 CTS and the STS, improved TS 3.7.3, ACTION A, contains an LCO 3.0.4 exception Note. The staff concludes this is acceptable because the Unit 1 PSW System is sufficient to meet the accident analysis assumptions, assuming a single failure of an additional pump. In addition, the NRC has previously determined a unit startup with the SSW system inoperable is acceptable in Unit 2 license Amendment 95. The staff notes that the Unit 2 LCO 3.0.4 exception in ACTION a.4 of Unit 2 CTS 3.7.1.2 on the SSW system was authorized by the NRC. The staff concludes that this change will not have a significant impact on the health and safety of the public, and is, therefore, acceptable.

(10) The Applicability of the CTS for the main control room environmental control (MCREC) system is being changed. The Applicability of Unit 1 CTS 3.12.A.1 is:

- At all times when secondary containment is required. (The conditions in which secondary containment is not required are defined in detail in Unit 1 CTS 3.7.C.)

The Applicability of corresponding Unit CTS 3.7.2 is:

- Modes 1, 2, 3, 5, and when handling irradiated fuel in secondary containment.

The Applicability of corresponding improved TS 3.7.4 more clearly defines the plant conditions in which two MCREC subsystems must be operable, as follows: It states that two MCREC subsystems shall be operable -

- In Modes 1, 2, and 3,
- During movement of irradiated fuel assemblies in the secondary containment,
- During CORE ALTERATIONS,

- During operations with a potential for draining the reactor vessel (OPDRVs).

The Applicability of this specification excludes Mode 5 if no activities which could lead to a need for control room isolation (such as the three listed above) are being conducted. This is acceptable because the probability and consequences of a design basis accident are significantly reduced due to pressure and temperature limitations in Mode 5. However, those activities that are conducted with the plant in Mode 5 that could lead to the necessity for control room isolation are being retained in the Applicability. Therefore, this change is acceptable.

(11) The ACTIONS of CTS in the event that one MCREC system is inoperable during shutdown conditions is being revised in the improved TS. Unit 1 CTS 3.12.A.1.a requires suspending refueling operations if a MCREC subsystem cannot be returned to operable status within 7 days. (Unit 2 CTS do not contain this provision.) As an alternative to suspending this and other activities (see above discussion in paragraph 2.3.7.2.(10) Applicability of improved TS 3.7.4) once the 7 days have passed, ACTION C of improved TS 3.7.4 allows initiating the operable MCREC subsystem and continuing to conduct these activities. This is acceptable because one MCREC subsystem is sufficient to satisfy the assumptions of the accident analysis as described in the FSAR. In addition, when the system is running, the likelihood of it failing to initiate when required is significantly reduced.

(12) Unit 1 CTS 4.12.A.1.b is being revised as improved TS SR 3.7.4.3 to allow a simulated as well as an actual automatic actuation signal to be used to verify automatic actuation of each MCREC subsystem. This allows satisfactory automatic system initiations for other than actual signals to be used to fulfill the SR. Operability is adequately demonstrated in either case since the subsystem itself cannot discriminate between "actual" or "simulated" signals. (Note that this change does not correspond to the general change category discussed in Section 2.0.2.2 of this safety evaluation.)

(13)* Unit 2 CTS 4.7.2.e.3 is being revised as improved TS SR 3.7.4.3 to allow an actual as well as a simulated automatic actuation signal to be used to verify automatic actuation of each MCREC subsystem.

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 <u>More Restrictive Requirements</u>

By electing to implement the STS Section 3.7 specifications, the licensee has adopted a number of requirements that are more restrictive than requirements

given in the CTS. These more restrictive requirements are the following. (Because there are relatively few changes, they are not discussed under separate headings for each of the eight specifications in improved TS Section 3.7.)

(1) The ACTIONS of improved TS 3.7.1, "RHRSW System," omit the existing exception to Unit 2 CTS LCO 3.0.4 (restriction on Mode changes) in Unit 2 CTS 3.7.1, ACTION a.2, when one RHRSW pump is inoperable in each RHRSW subsystem.

(2) The Applicability of the current specification for the RHRSW system is being expanded to include Mode 3, as well as Modes 1 and 2, in corresponding improved TS 3.7.1.

(3) The time allowed to restore an inoperable PSW subsystem (inoperable due to reasons other than one pump or one isolation valve) is being reduced from 7 days, specified in Unit 1 CTS 3.5.J.2.e, to 72 hours, specified in ACTION E of improved TS 3.7.2, "PSW System and Ultimate Heat Sink (UHS)." This time is consistent with the STS and the time allowed to restore a DG which is supported by the PSW system.

(4) ACTION E, corresponding to one PSW subsystem inoperable, of improved TS 3.7.2, contains two Notes, consistent with the STS, require declaring the associated RHR shutdown cooling (SDC) subsystem and the DG inoperable and taking the ACTIONS of the associated improved TS concurrently with the ACTIONS of improved TS 3.7.2. Currently, there is no RHR-SDC system requirement in Mode 3.

(5) Consistent with the STS and Unit 2 CTS 4.7.1.2.b, improved TS SR 3.7.2.2 is being added to Unit 1 TS to check the position of certain PSW system valves every 31 days. A Note is included to clarify that isolation of PSW flow to individual components or systems does not render the supporting PSW system inoperable. The improved TS provision differs from the STS Note by adding "or systems" after "components." However, this is consistent with existing plant practice. This wording change resulted in a staff concern about the creation of system flow imbalances when isolating "systems." The licensee confirmed that isolation of individual loads of the PSW system would not result in a significant system flow imbalance. Therefore, the staff finds the Note acceptable.

(6) Consistent with the STS and Unit 2 CTS 4.7.1.2.b, improved TS SR 3.7.3.1 of improved TS 3.7.3, "DG 1B Standby Service Water System," is being added to Unit 1 CTS to check the position of certain SSW system valves every 31 days.

(7) The Applicability of Unit 1 CTS 3.12.A.1 (corresponding to improved TS 3.7.4) is being revised to include requiring two MCREC subsystems during operations with a potential for draining the reactor vessel (OPDRVs). (The corresponding Applicability for this Unit 2 CTS is being relaxed in the improved TS as described in paragraph 2.3.7.2(10) of this safety evaluation.)

(8) Unit 2 CTS 3.7.2 (MCREC system) is being revised as improved TS 3.7.4 to include action requirements (ACTIONS C and E) when this is not met outside Modes 1, 2, and 3. Unit 2 CTS do not specify action requirements for this condition. In addition, improved TS 3.7.4, Required ACTIONS C.2.2, C.2.3, E.2 and E.3, to suspend CORE ALTERATIONS and OPDRVs, are new for Unit 1.

(9) Unit 1 CTS 3.12.A.1.a is being revised as improved TS 3.7.4, Required Action B.1, to require placing the unit in Mode 3 within 12 hours if the inoperable MCREC subsystem is not restored to operable status within 7 days, in addition to the CTS requirement to reach Mode 4 (cold shutdown) within 36 hours.

Unit 1 CTSs 3.12.A.1.a and 3.12.D specify a Completion Time of 2 hours to suspend irradiated fuel handling operations when an inoperable MCREC subsystem has been inoperable for 7 days. This is being changed to a Completion Time of Immediately for Required Actions C.2.1 and E.1 of improved TS 3.7.4.

(10) A new ACTION is being added to the CTS ACTIONS for the MCREC system. ACTION D of improved TS 3.7.4 directs entry into LCO 3.0.3 if both MCREC subsystems are inoperable in Modes 1, 2, or 3. This change makes it clear what ACTIONS to take in Modes 1, 2, or 3 handling irradiated fuel, conducting CORE ALTERATIONS, or OPDRVs. This ACTION achieves the same result as the CTS action requirement except that it adds a requirement to be in Mode 3 within 12 hours for Unit 1.

(11) Improved TS 3.7.5, "Control Room Air Conditioning (AC) System," is a new specification for both units. Unit 2 CTS SR 4.7.2.a, to verify control room air temperature $\leq$ 105°F, is being replaced by improved TS 3.7.5, which is considered more restrictive on plant operation than CTS requirements.

(12) The Applicability of the CTS for the main condenser offgas system (3.15.2.7 for Unit 1 and 3.11.2.7 for Unit 2) is being changed from "At all times" to

- Mode 1,
- Modes 2 and 3 with any steam line not isolated and steam jet air ejector (SJAE) in operation

In improved TS 3.7.6, "Main Condenser Offgas." While this appears to be less restrictive, the CTS action requirements only require the plant to be placed in Mode 2 if the LCO is not met. This action requirement is being modified to require the plant to exit the Applicability of improved TS 3.7.6.

In the event the gross gamma activity rate of the noble gases is not reduced to within the specified limit in 72 hours, improved TS ACTION B requires isolating all main steam lines or the SJAE in 12 hours as an alternative to going to Mode 4. To perform either of these two isolations the unit would have to be in Mode 2, which is consistent with

current requirements. ACTION B otherwise requires placing the plant in Mode 3 in 12 hours and Mode 4 in 36 hours, which is more restrictive than current requirements.

(13) Improved TS 3.7.7, "Main Turbine Bypass System," is a new specification for both units. It is necessary because this system is assumed to be operable in the analysis of the feedwater controller failure to maximum flow demand as discussed in the FSAR, Section 14.3.2.1 (Unit 1) and Section 15.1.7 (Unit 2).

(14) Unit 1 CTS 3.10.D, for the spent fuel storage pool, does not specify an Applicability or any action requirements. Therefore, in corresponding improved TS 3.7.8, "Spent Fuel Storage Pool Water Level," an Applicability, consistent with the accident analysis, is being included to address a fuel handling accident in the spent fuel storage pool. An ACTION is also being included (ACTION A) to provide proper requirements when the water level does not meet the LCO requirements. ACTION A requires suspending movement of irradiated fuel in the spent fuel pool in order to preclude the occurrence of a fuel handling accident.

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

2.3.7.4 Significant Administrative Changes

In accordance with the guidance in the Final Policy Statement, the licensee has proposed the following administrative changes to the CTS to bring them into conformance with the improved STS.

(1) Requirements for the 1B DG SSW system are presently specified in Unit 1 CTS 3.5.J and Unit 2 CTS 3.7.1.2. The DG SSW system is being placed in a separate specification (improved TS 3.7.3) because it only supports the 1B DG and the 1B DG can also be supplied with cooling water from either of the two Unit 1 PSW subsystems.

(2) Technical details in CTS regarding ventilation filter testing are being relocated from Unit 1 CTS 4.12.A.a and Unit 2 CTS 4.7.2.c to improved TS 5.5.7, "Ventilation Filter Testing Program." Improved TS SR 3.7.4.2 retains the current requirement for filter testing to establish the operability of the MCREC system.

(3) The technical content of Unit 2 CTS 4.7.2.e.3 (functional test of the MCREC system to automatically switch to the pressurization mode of operation upon receipt of an actuation signal) is being divided into two surveillances, consistent with the STS. The majority of the instrumentation testing will be performed under the surveillance requirements of improved TS 3.3.7.1. The actual system functional test portion will be performed as SR 3.7.4.3. This ensures the entire system is tested with proper overlap.

The above changes result in the same limits as the current requirements, or they more clearly present the intent of the CTS. Accordingly, these changes are purely administrative and are acceptable.

2.3.7.5 Significant Differences Between the Improved TS and the STS

In electing to adopt STS Section 3.7 specifications, the licensee proposed the following differences between the improved TS and the STS:

(1) ACTIONS B and D of improved TS 3.7.2 corresponding to inoperable PSW turbine building isolation valves are not in the STS. (See applicable discussions in Section 2.3.7.2 of this safety evaluation.) LCO 3.0.4 exception Notes are included with ACTIONS A, B, and C of improved TS 3.7.2 that are not in STS 3.7.2 ACTIONS. (See applicable discussion in Section 2.3.7.2 of this safety evaluation.)

(2) The Frequency of improved TS SR 3.7.2.1, for verifying the PSW pump suction water level, is consistent with that of Unit 1 CTS 4.5.I and Unit 2 CTS 4.7.1.2, rather than that of corresponding STS SR 3.7.2.2. The CTS Frequency is more appropriate because it is dependent upon the Altamaha River level.

(3) A total flow rate requirement is being contained in improved TS SR 3.7.4.4, the 18-month functional test of the MCREC system. This ensures the system meets the total flow rate design analysis value as well as the outside air flow rate value indicated in STS SR 3.7.4.4.

(4) Improved TS 3.7.5 requirements for the control room air conditioning (AC) system differ from the corresponding requirements of STS 3.7.5 because they reflect the HNP plant-specific analyses. These differences are as follows:

- Three (instead of two) control room AC subsystems are installed and are required to be operable with outside air temperature > 65°F, to meet design basis assumptions as well as the single failure criterion. With air temperature ≤ 65°F, analysis has shown that one subsystem (plus one to meet the single failure criterion) is needed; thus improved TS ACTION A is provided to verify this periodically, with one control room AC subsystem inoperable.

- If ACTION A is not met because the air temperature is not ≤ 65°F, improved TS ACTION B specifies a 30-day Completion Time, which is consistent with the STS.

- ACTION C is provided to allow 30 days to restore one inoperable subsystem, if two are inoperable when air temperature is ≤ 65°F. This is consistent with the intent of the STS, since one subsystem remains and is capable of removing the assumed heat load (assuming no additional single failure).

- STS 3.7.5, ACTIONS D and E (improved TS ACTIONS F and G) are being modified to require entry into LCO 3.0.3 when all three subsystems

are inoperable, which is consistent with the intent of the STS ACTIONS.

(5) The HNP offsite dose analysis does not assume a 30-minute decay time, thus it is omitted from the statement of improved TS LCO 3.7.6 and improved TS SR 3.7.6.1.

These proposed differences from STS Section 3.7 are consistent with HNP design features and existing requirements and commitments. Therefore, they are acceptable.

2.3.8 Electrical Power Systems (Improved TS Section 3.8)

2.3.8.1 Relocated Requirements

2.3.8.1.a Existing Specifications Entirely Relocated

There are no current requirements for Unit 1 within the scope of Section 3.8 of the improved TS that are being entirely relocated. In accordance with the criteria in the Final Policy Statement, the following current specifications for Unit 2 are being relocated to the licensee-controlled TRM:

Unit 2 CTS	Title
3/4.8.2.5	A.C. Circuits Inside Primary Containment
3/4.8.2.6	Primary Containment Penetration Conductor Overcurrent Protective Devices

(1) Circuits Inside Primary Containment

The AC circuits inside primary containment that are the subject of this specification are primarily for lighting, utility outlets and convenience power plugs that are used during plant walkdowns, maintenance, in situ tests and observations during plant shutdown conditions. These circuits are required to be de-energized during plant operation to preclude the possibility of an electrical fault during an accident that could potentially lead to degradation of the primary containment electrical penetration associated with the faulted circuit. However, these circuits do not participate in plant safety actions, and have no impact on plant safety systems. They are properly separated from all Class 1E circuits, and their failure will not degrade any Class 1E circuits. Therefore, the requirements of Unit 2 CTS 3/4.8.2.5, to maintain and verify daily that these circuits are de-energized when the plant is in Modes 1, 2, and 3, do not satisfy the Final Policy Statement TS screening criteria.

(2) Primary Containment Penetration Conductor Overcurrent Protective Devices

The primary containment penetration conductor overcurrent protective devices provide protection for the circuit conductors against damage or failure; however, they are not considered in any design basis accident or transient.

These protective devices are used to automatically open control and power circuits whenever load conditions exceed preset current demands in order to prevent damage to the circuit conductors from overcurrent heating effects. All penetrations are provided with primary and backup electrical protection against short circuits. If the primary protective device were to fail to isolate the faulty circuit, the upper level backup protective device would isolate the circuit and prevent loss of the redundant power source.

These protective devices also ensure the pressure integrity of the containment penetration through which the circuit passes. With failure of the device, it is postulated that the wire insulation would degrade resulting in a containment leak path. However, containment penetration degradation should be identified during containment leak rate tests performed in accordance with Appendix J to of 10 CFR Part 50. In addition, containment leakage is not a process variable and is not considered as part of the primary success path. Therefore, the requirements specified in Unit 2 CTS 3/4.8.2.6 do not satisfy the Final Policy Statement TS screening criteria.

These current specifications for AC circuits inside primary containment and primary containment penetration conductor overcurrent protective devices 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, they do not fall within any of the four criteria in the Final Policy Statement (discussed in the Part 1 of this safety evaluation). In addition, the staff finds that sufficient regulatory controls exist in 10 CFR 50.59. Accordingly, these specifications may be removed from the CTS and placed in the TRM.

2.3.8.1.b Existing Specifications Relocated in Part

In accordance with the guidance in the Final Policy Statement, the licensee has proposed to partially relocate the CTS requirements listed below to licensee-controlled documents. The corresponding improved TS location of the remaining part of each CTS requirement is also listed. (TS tables may be recognized by a "dash.")

Unit 1 CTS	Improved TS	Description of Relocated Requirements
3.9.A.1, 3.9.A.2, & 3.9.A.2.a	3.8.1	AC Electrical Power System Design Details

4.9.A.2.a.3	3.8.1	Diesel Generator (DG) 18-month Inspections Recommended by the Manufacturer
4.9.A.2.a.4 & 4.9.A.2.a.7	SR 3.8.1.7	Name and kW Value of Single Largest Load and the Total kW of All Auto-Connected Loads for Each DG
4.9-1	3.8.1	DG Accelerated Test Schedule
4.9.A.2.e.2	SR 3.8.3.7	Test of Fuel Oil Transfer System Restricted to During Shutdown Conditions
3.9.A.2.b & c, 4.9.A.2.c, & 3.9.A.3	3.8.4	DC Sources Design Details

Unit 2 CTS	Improved TS	Description of Relocated Requirements
4.8.1.1.2.d.1	3.8.1	Diesel Generator (DG) 18-month Inspections Recommended by the Manufacturer
4.8.1.1.2.d.3 & 4.8.1.1.2.d.10	SR 3.8.1.7	Name and kW Value of Single Largest Load and the Total kW of All Auto-Connected Loads for Each DG
4.8.1.1.2-1	3.8.1	DG Accelerated Test Schedule
4.8.1.1.2.a.5	3.8.1	DG Standby Alignment Verification
4.8.1.1.4	3.8.1	DG Failure Reporting
3.8.2.3	3.8.4	DC Sources Design Details
4.8.2.3.2.d.1 & 4.8.2.3.2.d.2	SR 3.8.4.7	Battery Service Test Procedural Details
Figure 3.8.2.3-1	SR 3.8.4.7	"Dummy" Load Profiles for Station Service Batteries 2A and 2B
4.8.2.3.2.d.3	SR 3.8.4.6	Re-Validation of Battery Charger Design
4.8.1.1.3.b.1 & 4.8.2.3.1.b.1	3.8.6 & 3.8.6-1	Quarterly Measure of Cell Voltage Values to Detect Battery Degradation
3.8.2.2	3.8.8	List of AC Distribution Buses

(1) Unit 1 CTS 3.9.A.1, 3.9.A.2, and 3.9.A.2.a contain details of what constitutes operability, system design and purpose. These details are being moved to the Bases for corresponding improved TS 3.8.1, "AC Sources - Operating." Current requirements for the operability and testing of AC Sources (except as discussed in Sections 2.3.8.2.a and 2.3.8.3.a of this safety evaluation) are being retained in improved TS 3.8.1. Any changes to these relocated details will be adequately controlled by the provisions of improved TS 5.5.11, "Bases Control Program."

(2) Unit 1 CTS 4.9.A.2.a.3 and Unit 2 CTS 4.8.1.1.2.d.1 require diesel generator (DG) inspections recommended by the manufacturer at 18-month intervals. This requirement is being relocated to plant procedures, consistent with STS. Procedural controls are sufficient to ensure each DG receives the necessary inspections. Any changes to these requirements will be adequately controlled by the provisions of 10 CFR 50.59.

(3) Unit 1 CTS SRs 4.9.A.2.a.4 and 4.9.A.2.a.7 and Unit 2 CTS SRs 4.8.1.1.2.d.3 and 4.8.1.1.2.d.10 include voltage limits on rejection of

the largest single shutdown (emergency) load and for each DG. They also include the name of this load for each DG. These SRs also require verifying that the auto-connected loads do not exceed the 2000-hour rating of the DG, which is 3100 kW. The value and component name of the single largest load and the load value of the auto-connected loads for each emergency bus are being moved to the Bases for improved TS SR 3.8.1.7. Changes to the Bases will be controlled by improved TS 5.5.11. The kW value of the auto-connected loads will be adequately controlled by the design change process and the provisions of 10 CFR 50.59. Therefore, it is acceptable to omit these load values and the requirement to periodically verify they do not exceed the 3100 kW from the improved TS.

(4) The DG accelerated test schedules specified by Unit 1 CTS Table 4.9-1 and Unit 2 CTS Table 4.8.1.1.2-1, and the DG special reporting requirements of Unit 2 CTS 4.8.1.1.4 are being relocated to licensee procedure number 34-SVR43-009-0S, "Diesel Generator Failure Tracking," without modification. (The test schedules were already in this procedure; the licensee committed to incorporate the reporting requirements into this procedure before implementation of the improved TS.) In Revision D to the submittal, the licensee committed to maintain these existing requirements outside TS until it implements the maintenance rule for the DGs in 1996, at which time it will delete these requirements in accordance with the conditions of Generic Letter 94-01, "Removal of Accelerated Testing and Special Reporting Requirements for Emergency Diesel Generators." In addition, requirements for accelerated testing and reporting diesel generator failures do not satisfy any of the four criteria in the Final Policy Statement. The licensee's commitment to maintain the existing accelerated test schedules (which are more restrictive than the schedule in the STS) in the plant procedure noted above until the licensee implements the maintenance rule for the DGs is consistent with the objectives of the generic letter. Relocating the existing schedules as part of this proposal avoids the additional cost and diversion of licensee and NRC staff resources that would result from submitting and processing an amendment to remove these schedules at a later date. Therefore, the staff concludes that the relocation of the accelerated test schedules and the special reporting requirements for the DGs, is acceptable.

(5) Unit 2 CTS SR 4.8.1.1.2.a.5, to verify DG standby alignment, is unnecessary because proper standby alignment of automatic safety equipment is inherent in the definition of operability. Therefore, this verification requirement is being moved to plant procedures. Also, this requirement is not explicitly included in the STS. Any changes to this requirement will be adequately controlled by the provisions of 10 CFR 50.59.

(6) Unit 1 CTS 4.9.A.2.e.2 requires testing the fuel oil transfer system during shutdown conditions. Because this test can be performed safely while the plant is operating, this restriction is being omitted from corresponding improved TS SR 3.8.3.7. In addition, this is consistent with the guidance of Generic Letter 91-04 and the STS. Such

restrictions on the scheduling of surveillances are more appropriate for inclusion in procedures where they are adequately controlled by 10 CFR 50.59.

(7) Unit 1 CTS 3.9.A.2.b and c, 4.9.A.2.c, and 3.9.A.3 and Unit 2 CTS 3.8.2.3 contain details relating to the design and purpose of the DC electrical power systems. These details are being relocated to the Bases for improved TS 3.8.4, "DC Sources - Operating." Any changes to Bases will be adequately controlled by the provisions of improved TS 5.5.11. Existing operability and testing requirements for the DC sources are being retained in improved TS 3.8.4 (except as described in Sections 2.3.8.2.d and 2.3.8.3.d of this safety evaluation).

(8) Unit 2 CTS SRs 4.8.2.3.2.d.1 and 2 and Figure 3.8.2.3-1, "Dummy" Load Profiles for Station Service Batteries 2A and 2B, include details related to performance of the battery service test. These details, including the load profiles, are being omitted from corresponding improved TS SR 3.8.4.7 and are being relocated to plant procedures and the FSAR. Any changes to these load profiles and procedural details will be adequately controlled by the provisions of 10 CFR 50.59.

(9) Unit 2 CTS SR 4.8.2.3.2.d.3 requires validating the design of the battery chargers each refueling cycle. It demonstrates the capability of the charger by charging the battery, following the battery service test, at a rate of at least 150 amperes while supplying normal loads and, within 24 hours, to 95% capacity. This revalidation is not necessary because the current battery charger capacity test (Unit 2 CTS 4.8.2.3.2.c.3, being retained in corresponding improved TS SR 3.8.4.6) is adequate for establishing the operability of the battery charger. Any changes to this test will be adequately controlled by the provisions of 10 CFR 50.59.

(10) Unit 2 CTS SRs 4.8.1.1.3.b.1 and 4.8.2.3.1.b.1 require verifying every 92 days that the voltage of each connected cell has not decreased more than 0.17 volts from the value observed during the original acceptance test. This explicit requirement, which is a measure of degradation, is being relocated to plant procedures. However, the requirements included in the improved TS provide an equivalent degree of monitoring of degradation. The voltage values of the original acceptance test were specified to be within 2.20 to 2.25 volts per cell. Therefore, the 0.17 volt decrease would correspond to 2.03 to 2.08 volts per cell. The Category B voltage limit of improved TS Table 3.8.6-1, "Battery Cell Parameter Requirements," is 2.13 volts and the Category C limit is 2.07 volts. The improved TS is structured so that the Category B limit is verified every 92 days and the Category C limit is verified when the Category A or B limits are not met (ACTION A of improved TS 3.8.6). Therefore, because the improved TS requirements are equivalent, relocation of the existing specification to plant procedures under the control of 10 CFR 50.59 is acceptable.

(11) The list of AC distribution subsystems (system buses) in Unit 2 CTS LCO 3.8.2.2 is being omitted from the LCO statement of improved TS 3.8.8.

Such details relating to system design are being relocated to the Bases. AC distribution system design and operation are also described in the FSAR. In addition, more subsystems than are currently listed may be required. Changes to the Bases will be adequately controlled by the provisions of improved TS 5.5.11.

These requirements which are being removed from the CTS for electrical power systems, 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. Further, they do not fall within any of the four criteria in the Final Policy Statement (discussed in Part 1 of this safety evaluation). In addition, the staff finds that sufficient regulatory controls exist under 10 CFR 50.59 and improved TS Section 5.5.11, "Bases Control Program." Accordingly, these requirements may be removed from the CTS and placed in the licensee's plant procedures, the FSAR, or the improved TS Bases, as appropriate.

2.3.8.2 Less Restrictive Requirements

The licensee, in electing to implement STS Section 3.8 specifications, proposed a number of requirements that are less restrictive than requirements given in CTS. These less restrictive requirements are described below for each of the eight specifications in improved TS Section 3.8. The basis for accepting each change marked by an asterisk is given in Section 2.0.2.2 of this safety evaluation.

2.3.8.2.a AC Sources - Operating (Improved TS 3.8.1)

(1) Unit 1 CTS SRs 4.9.A.2.a.4 and 4.9.A.2.a.7 and Unit 2 CTS SRs 4.8.1.1.2.d.3 and 4.8.1.1.2.d.10 are being revised as improved TS SR 3.8.1.7. The Bases for this SR state that this load rejection test may be performed either (a) by tripping the actual load while solely supplying the bus, or (b) by tripping the DG output breaker while carrying an equivalent load while in parallel with offsite power or while solely supplying the bus. This is consistent with the existing method specified for performing this test but adds flexibility. Therefore, this change is acceptable.

(2) Unit 1 CTS 4.9.A.2.a.10 requires post-modification testing. Improved TS SR 3.8.1.18 omits this explicit requirement because post-maintenance testing is still required to demonstrate operability of a system or component following repair, maintenance, or replacement. On this basis, this change, which is consistent with STS, is acceptable.

(3) The following current SRs for the DGs are being changed, consistent with STS, to allow prelubrication before starting the DG to avoid unnecessary engine wear:

Unit 1 SRs	Unit 2 SRs	Improved TS SRs
4.9.A.2.a.1	4.8.1.1.2.a.4	SR 3.8.1.2, Note 2
4.9.A.2.a.2	4.8.1.1.2.b	SR 3.8.1.7, Note 1
4.9.A.2.a.10	4.8.1.1.2.e	SR 3.8.1.18, Note

Industry experience has demonstrated that prelubrication does not mask the engine's ability to start under accident conditions without a prelubrication. Not prelubricating does not impair starting the engine, but does result in significant engine wear leading to engine failure. Therefore, this allowance is acceptable.

(4)* The requirement of Unit 1 CTS 4.9.A.2.a.1 and Unit 2 CTS 4.8.1.1.2.a to perform monthly DG-related SRs on a staggered test basis is being deleted.

(5) Unit 1 CTS 4.9.A.2.a.2 and Unit 2 CTS 4.8.1.1.2.b specify a 120-second time limit to load the DG after starting for the standby-start and 60-minute load tests. The intent of this requirement is to demonstrate the capability of the DG to start from standby conditions and load as required. Because this capability is adequately demonstrated by other DG SRs, this redundant requirement is being deleted. Therefore, this change is acceptable.

(6) Unit 1 CTS 4.9.A.2.d.1 and Unit 2 CTS 4.8.1.1.2.a.1 require checking the quantity of fuel oil in the DG day tank on the same Frequency that each DG is tested as specified by Unit 1 CTS Table 4.9-1 and Unit 2 CTS Table 4.8.1.1.2-1. These tables specify DG accelerated test requirements that are being relocated as discussed previously in paragraph 2.3.8.1.b(4) of this safety evaluation. The current Frequency of 31 days is being retained in corresponding improved TS SR 3.8.1.3. Low level alarms are provided to alert operators to any failure of the fuel oil transfer system to maintain the specified level in the day tank between level checks. Therefore, removal of the CTS requirement for checking the level in the DG day tank on an accelerated schedule is acceptable.

(7) Unit 1 CTS 4.9.A.7.b.2 allows performing the hot restart test of a DG within 5 minutes after either the 24-hour normal-load test or 2 hours of operation at a higher load. Improved TS SR 3.8.1.13 specifies performing the test after the 2-hour run only. Removing one of the scenario options of the CTS for performing this test does not make the hot restart test less stringent. Therefore, this change is acceptable.

(8)* The time to reach Mode 4 after failing to complete Unit 1 CTS ACTION 3.9.B (for the condition of failing to meet the ACTIONS of CTS 3.9.A) is being extended from 24 to 36 hours.

(9) Unit 1 CTSs 3.5.G, 3.9.B.1, and 3.9.B.2 allow 7 days to restore an inoperable AC source to operability. If before the 7 days have passed, an additional AC source becomes inoperable and the first inoperable AC source is then restored, the Unit 1 CTS do not permit an extension of

the 7-day Completion Time (by measuring a separate 7-day time from when the second AC source became inoperable).

Unit 2 CTS 3.8.1.1, ACTIONS a and b, allow 3 days to restore an inoperable AC source to operability. If, before the 3 days have passed, an additional AC source becomes inoperable, and the first inoperable AC source is then restored, Unit 2 CTS do not permit an extension of the 3-day Completion Time (by measuring a separate 3-day time from when the second AC source became inoperable).

Improved TS LCO 3.8.1 ACTIONS allow 3 days to restore an inoperable divisional (or unit) DG or offsite circuit to operable status, and 7 days for the 1B (or swing) DG. (Note that this makes the improved TS 3.8.1 Completion Times for both units the same.) In addition, an extension of these times is also permitted. Required Actions A.3 and B.4 of improved TS 3.8.1 permit an extension of this time up to 10 days in order to avoid an undesirable plant-shutdown transient for the situation in which a second AC source becomes inoperable near the end of the Completion Time of another (diverse) inoperable AC Source. For example, near the end of the 3-day Completion Time for an inoperable DG, an offsite circuit could become inoperable. The staff concludes this is acceptable because it allows, for this infrequent situation, avoiding an unnecessary shutdown. Such a Completion Time is also consistent with the STS. The staff understands this provision is not intended to facilitate maintenance and testing of AC Sources during operation in Modes 1, 2, and 3.

(10) With two or more AC sources inoperable, Unit 1 CTS 3.9.B requires going to Mode 4 within 24 hours. This requirement is being relaxed by providing specific Required Actions in improved TS 3.8.1 for the following Conditions: (a) two or more offsite circuits inoperable, (b) one offsite circuit and one DG inoperable, and (c) two or more required DGs (not including the required opposite-unit DG) inoperable. The Completion Times for restoring all but one source - 24, 12, and 2 hours, respectively - are consistent with the STS and the recommendations of Regulatory Guide 1.93. They will allow the operator time to either repair the inoperable sources (thereby possibly avoiding the risk of a shutdown transient) or to prepare for an orderly shutdown. These times also account for the capability of the remaining AC sources and the low probability of a design basis accident (DBA) occurring during these limited periods. Therefore, these changes are acceptable.

(11) Unit 1 CTSs 3.5.A.2, 3.5.B.2.a, 3.5.G, 3.9.B.2, and 4.5.G, and Unit 2 CTS LCO 3.0.5 require verifying the operability of redundant division components when a safety system or component is inoperable. This requirement is being retained in improved TS 3.8.1, Required Actions A.2, B.2, and D.1. Improved TS 3.8.1 also require this verification when one or more offsite circuits are inoperable. Appropriate time limits are also being added for completing this verification; the CTS provide no limits. These new Completion Times for checking the operability of redundant equipment are 24 hours for an offsite circuit, 4 hours for a DG, and 12 hours for two or more offsite circuits,

consistent with the STS. These times will allow the operator sufficient time to evaluate and possibly repair any discovered inoperabilities, thereby avoiding the risks involved with a plant-shutdown transient. These times also account for the capability of the remaining AC Sources and the low probability of a DBA occurring during these periods. Therefore, these changes are acceptable.

Unit 2 CTS LCO 3.0.5 also requires going to Mode 3 within 6 hours and Mode 4 within 36 hours if redundant features are found to be inoperable concurrent with an inoperable AC source. This requirement is being replaced by more appropriate action requirements in the improved TS. As described above, ACTIONS A and B of improved TS LCO 3.8.1 allow 24 hours for an inoperable offsite source and 4 hours for an inoperable DG before declaring the supported required features inoperable if the redundant features are concurrently inoperable. By allowing "features" associated with the inoperable offsite source or DG to be declared inoperable, the appropriate ACTIONS given in the associated improved TS for those features can be taken. While ensuring the appropriate ACTIONS are taken, the risk associated with unnecessary forced shutdowns may be avoided. In addition, this change is consistent with the STS. Therefore, this change is acceptable.

(12) Unit 1 CTS 4.9.B.1 requires start testing all the DGs within 24 hours when one offsite circuit or one startup auxiliary transformer is inoperable. Similarly, Unit 2 CTS 3.8.1.1, ACTIONS a and d, require start testing all DGs within 24 hours when one or two offsite circuits are inoperable. This test requirement is being omitted from improved TS 3.8.1 ACTIONS because the normal DG surveillance schedule provides adequate assurance of the capability of the remaining DGs to perform their intended safety function. Therefore, this change, which is consistent with the STS, is acceptable.

(13) Unit 1 CTS 4.9.B.2 and Unit 2 CTS 3.8.1.1, ACTION b, require load testing the remaining operable DGs within 24 hours when one DG is inoperable. This requirement is being relaxed, consistent with the STS, in ACTION B of improved TS LCO 3.8.1 so that no test is required provided an assessment is completed within 24 hours that determines whether or not a common-mode failure of the DGs exists. If a common failure mode cannot be ruled out, a start test instead of a load test is specified. The start test alone provides adequate assurance that the remaining DGs are not affected by the same mode of failure as the inoperable DG and are still operable. Because the DGs are generally independent and common failure cause will be evaluated, these changes provide an equivalent assurance of the capability of the remaining DGs to perform their intended safety function. Therefore, these changes are acceptable.

Unit 2 CTS 3.8.1.1, ACTIONS c and e, also require load testing the remaining operable DG(s) within 8 hours when one DG and one offsite source (ACTION c) or 2 DGs (ACTION e) are inoperable. This load test requirement is omitted from corresponding ACTIONS E and F of improved TS LCO 3.8.1, consistent with the STS. However, start testing may still

be required under ACTION B as previously discussed. The time to complete the start test may be longer than the current 8 hours in some cases because the Required Action is in a separate Condition with a separate Completion Time. This possibility is acceptable because of the provision to evaluate for common cause failure. If an assessment can determine no common-mode failure exists for the remaining operable DGs, then an unnecessary DG start can be avoided. Avoiding unnecessary DG starts reduces engine wear, thereby enhancing overall DG reliability as discussed in Generic Letter 84-15. Therefore, these changes are acceptable.

(14) Unit 1 CTS 3.5.G requires going to Mode 4 within 24 hours when any component in the RHR system LPCI mode or containment cooling mode is inoperable concurrent with an inoperable Unit 1 or swing DG. This requirement is being relaxed in improved TS LCO 3.8.1, ACTION B, by requiring that the features supported by the inoperable DG be declared inoperable within 4 hours only if redundant features are inoperable. If this were the case, the appropriate ACTIONS (which may include plant shutdown) of the improved TS for the redundant inoperable features will be taken. This change can potentially eliminate the risk associated with unnecessary forced shutdown transients, while maintaining appropriate ACTIONS consistent with the intent of the CTS. Therefore, this change is acceptable.

(15) Unit 2 CTS 3.8.1.1, ACTION e, requires entry into Unit 2 CTS LCO 3.0.3 if more than two DGs are inoperable. This requirement is being modified in improved TS 3.8.1, ACTION F, to allow all three DGs to be inoperable with the same 2-hour restoration time. This is consistent with the guidance in Regulatory Guide 1.93 for the situation of a total loss of onsite AC power sources. This allowance is intended to avoid the risk associated with an immediate controlled shutdown and to minimize the risk associated with operating without an onsite AC power source. In addition, this provision is consistent with the STS. Therefore, this change is acceptable.

(16) Unit 2 CTS 4.8.1.1.2.d.9 requires a "hot restart" test of the DG within 5 minutes of completing a 24-hour load test every 18 months. This "hot restart" test requires starting the DG on a simulated loss of offsite power (auto-start signal) followed by automatic loading with emergency loads, and 5 minutes of running with that load. This SR is being revised consistent with the STS. Corresponding improved TS SR 3.8.1.13 allows the use of any start signal, as done in the monthly test, and does not include loading criteria. The capability of the DG to power loads while "hot" (i.e., the 24 hour run) is demonstrated by other DG SRs. Additionally, the automatic loading is an unnecessary repetition of other SRs which confirm the capability of the DG to accept sequenced loads. Therefore, this change is acceptable.

(17) The 3-day allowed outage time (AOT) for the swing DG specified by Unit 2 CTS LCO 3.8.1.1, ACTION b, is being relaxed to 7 days, which is the time currently allowed by Unit 1 CTS for the same DG. As in the CTS, the 7-day AOT is contingent upon the operability of the remaining unit-

specific DGs (i.e., a full 7-day AOT would not be provided if a DG in addition to the swing DG were inoperable at a given unit).

The 7-day AOT is acceptable when considering the design of the HNP Units 1 and 2 electrical system. At a typical plant with a 72-hour AOT for DGs, the inoperability of one DG results in the loss of standby AC power to approximately one-half of the components supplied by standby AC power. However, at HNP, the inoperability of the swing DG for a particular unit only results in the loss of standby AC power to less than one-third of the components supplied by standby AC power. As a result of increased diversity in design, the HNP units have increased capabilities for coping with design basis accidents when one DG (particularly the swing DG) is inoperable. Additional support for the 7-day AOT is provided in the AOT assumed in the HNP Individual Plant Examination (IPE). The same 7-day AOT was assumed for the swing DG for both Units 1 and 2; no distinction was made between the two units.

The 7-day AOT for the swing DG is needed in order to facilitate more efficient use of utility resources and enhanced flexibility to ensure the high reliability of the swing DG is maintained. It is also needed in order to avoid dual-unit outages. This time is sufficient to perform required maintenance and testing on the swing DG.

Therefore, considering the capabilities of the remaining DGs, the diversity of the HNP Units 1 and 2 electrical system, the impact of the 7-day AOT on swing DG availability, and the need to perform maintenance and surveillances to ensure high reliability of the swing DG, without requiring a dual-unit shutdown, the 7-day AOT is acceptable.

2.3.8.2.b <u>AC Sources - Shutdown (Improved TS 3.8.2)</u>

(1) Unit 1 CTS 3.9.C requires 2 DGs while in Shutdown or Refuel (Mode 3, 4, or 5). This is being changed in improved TS LCO 3.8.2 to require only 1 DG (not including the swing DG), but also one offsite circuit, consistent with Unit 2 CTS. In addition to the CTS requirement for both units, the improved TS require both an opposite-unit DG and an offsite source to supply specified loads. Because it affords an equivalent level of protection to that given in the CTS, and is consistent with the HNP design and the STS, this change is acceptable.

(2) Some of the Unit 2 CTS SRs (as required by Unit 2 CTS 4.8.1.2) involve tests that would require the DG to be paralleled to offsite power. This condition (the only required DG and the only required offsite circuit connected) presents a significant risk of a single fault resulting in a station blackout event. The NRC has recognized this and has approved surveillance exceptions to avoid this condition, but such exceptions have not been consistently applied. In an effort to consistently address this concern and to avoid potentially conflicting requirements in the improved TS, the SRs which would require the DG to be connected to the offsite source are excepted from performance requirements by a Note in corresponding improved TS SR 3.8.2.1, consistent with STS. This allowance does not reduce the requirement for the DG to be capable of

performing its intended function (i.e., to be operable), it only excepts the requirement to demonstrate the operability of the DG during the time that DG is being relied on as the single source of onsite AC power required by improved TS LCO 3.8.2). Therefore, this exception to DG current testing practices while shutdown is acceptable.

2.3.8.2.c Diesel Fuel Oil and Transfer, Lube Oil, and Starting Air (Improved TS 3.8.3)

(1) The improved TS reformat CTS requirements by providing a separate specification with requirements for each of the named parameters. Fuel oil and starting air requirements are currently presented as attributes of compliance with the DG LCO via their presentation as SRs. These parameters, while supporting DG operability, contain substantial margin in addition to the limits that are actually necessary for DG operability. Therefore, for certain levels of degradation in these parameters, restoration time allowances are appropriate. Improved TS 3.8.3 gives such Completion Times in ACTIONS B, D, E, and F):

- ACTION B allows 48 hours to restore fuel oil level in the storage tanks prior to declaring the DG inoperable, provided fuel oil level is sufficient for 6 days supply.

- ACTION D allows 7 days to restore fuel oil total particulates to within limits prior to declaring the DG inoperable.

- ACTION E allows 48 hours to restore starting air pressure prior to declaring the DG inoperable, provided capacity sufficient for a single start remains.

- ACTION F is provided to declare the DG inoperable if previous ACTIONS are not met.

During the allowed time for restoring these parameters to the specified limits, the associated DG would still be capable of performing its intended function. Therefore, the LCO and ACTIONS of improved TS 3.8.1 are acceptable.

(2) The Frequencies of the following CTS SRs are tied to the DG test schedule of Table 4.9-1 for Unit 1 and Table 4.8.1.1.2-1 for Unit 2.

Unit 1	Unit 2	Description of SR
4.9.A.2.a.1	4.8.1.1.2.a.6	verifying air start receiver pressure
4.9.A.2.d	4.8.1.1.2.a.2	verifying fuel oil quantity in fuel storage tanks
4.9.A.2.e	4.8.1.1.2.a.3	testing the capability of the fuel oil transfer pumps

Corresponding improved TS SRs 3.8.3.4, 3.8.3.1, and 3.8.3.5 only retain the 31-day Frequency. The accelerated test schedule is being relocated

to the plant procedure given previously in paragraph 2.3.8.1.b(4) of this safety evaluation. The 31-day Frequency is acceptable because DG failures that result in more frequent DG testing have no impact on the capability of the DG starting air, lube oil, and fuel oil transfer systems to perform their intended functions.

(3)* The staggered test requirements of Unit 2 CTS SRs 4.8.1.1.2.a.1 through 6 for DG support systems and the DG cold start load test are being deleted.

2.3.8.2.d <u>DC Sources - Operating (Improved TS 3.8.4)</u>

(1)* Unit 1 CTS 3.9.B requires going to Mode 4 within 24 hours when the requirements of Unit 1 CTS 3.9.A are not met. ACTION D of improved TS 3.8.4 allows 36 hours to reach Mode 4. In addition, a new, more restrictive requirement to be in Mode 3 (Hot Shutdown) within 12 hours is being added.

(2) The CTS do not directly specify an AOT for the swing DG DC electrical power subsystem. But the supported swing DG has an AOT of 7 days in Unit 1 and 3 days in Unit 2. The 7-day AOT (or Completion Time) is being directly specified in ACTION A of improved TS 3.8.4 following a battery service test or performance discharge test.

This 7-day Completion Time is appropriate because of the design of the DG DC electrical power subsystems for both Units. In particular, the DG DC 1B subsystem (swing DG DC subsystem) provides power to the swing DG and the offsite power circuit breakers on the 4160 V engineered safety features (ESF) buses 1F and 2F (swing 4160 V ESF buses). Circuit breakers powered from DG DC subsystems are designed so that upon a loss of control power, the breakers will fail as is. Control power for ESF loads on the two swing buses is not, however, supplied by the swing DG DC subsystem. The control power for these loads is supplied by the associated divisional DG DC subsystem.

Therefore, failure of the swing DG DC subsystem is nearly equivalent to the swing DG being inoperable. In the event of a loss-of-coolant accident (LOCA) with the swing DG inoperable, ESF loads on the swing bus would be available because the offsite power circuit breakers, although without control power, are still shut, and because breaker control power for the ESF loads is supplied from the other DG DC subsystems. Therefore, because an inoperable swing DG DC subsystem is nearly equivalent to an inoperable swing DG (which has a 7-day Completion Time in the improved TS; see paragraph 2.3.8.2.a(17) of this safety evaluation), the proposed 7-day Completion Time of ACTION A for the swing DG DC subsystem is acceptable.

In addition to ACTION A for the swing DG, the licensee has proposed to include ACTION B to clarify the actions to take when a DG DC source is inoperable. The Completion Time for ACTION B (12 hours) is consistent with the current time given in ACTION c of Unit 2 CTS 3.8.1.1 (assuming both a DG and an offsite circuit are inoperable when the DC DG source is

inoperable; Unit 1 does not specify an explicit action statement for this condition). This Completion Time is also consistent with that of the nearly equivalent Condition of ACTION E of improved TS 3.8.1. Therefore, ACTION B is acceptable.

(3) Unit 2 CTS SR 4.8.2.3.2.c.2 for the station batteries and SR 4.8.1.1.3.c.2 for the DG batteries require verifying each cycle that cell-to-cell and terminal connections of each battery are "clean" and "tight." The first condition is being omitted from corresponding improved TS SR 3.8.4.4 because it is redundant to the retained CTS requirement of ensuring the connections are also "free of corrosion." The second condition is being omitted because it results in applying a torque to the connecting bolts to confirm their tightness. This application of a torque results in unnecessary stress being applied to the bolted connection. If the connection satisfies the resistance requirements of improved TS SR 3.8.4.5 (performed at the same Frequency), it can be assumed to be sufficiently torqued. Therefore, because checking for these conditions is unnecessary, omitting them from improved TS SR 3.8.4.4 is acceptable.

(4) Unit 2 CTS SRs 4.8.2.3.2.c.3 for the station battery chargers and 4.8.1.1.3.c.3 for the DG battery chargers specify the duration of the battery charger capacity test to be at least 4 hours. This is being reduced to 1 hour in corresponding improved TS SR 3.8.4.6 because 1 hour is sufficient to determine charger operability, and any problems normally detected in 4 hours are likely to be detected in 1 hour. In addition, this change is consistent with the battery charger manufacturer recommendations. Therefore, this change is acceptable.

(5) Unit 2 CTS SR 4.8.2.3.2.e for the Unit 2 station batteries requires performing a performance discharge test of each station battery "subsequent to the satisfactory completion of the required battery service test." This requirement is being deleted because there is no reason to perform two discharge tests, one right after the other. One test adequately demonstrates battery operability.

The service test is a test that ensures the battery will perform as required in the accident analysis. The performance discharge test is a design test of the battery. Since the service test demonstrates operability, there is no reason to require a second subsequent test. In addition, a Note is being included in corresponding improved TS SR 3.8.4.7, to allow the 60-month performance discharge test (improved TS SR 3.8.4.8) to be performed in lieu of the service test of SR 3.8.4.7. As stated in the STS Bases discussion of these SRs, this substitution is acceptable because SR 3.8.4.8 represents a more severe test of battery capacity than SR 3.8.4.7. Therefore, deletion of this requirement is acceptable.

2.3.8.2.e <u>DC Sources - Shutdown (Improved TS 3.8.5)</u>

(1) Unit 2 CTS 4.8.2.4.2 requires meeting the SRs listed in CTS 4.8.2.3.2 when the plant is in Mode 4 or 5, and when handing irradiated fuel in

the Unit 1 secondary containment. Two of these SRs (corresponding to improved TS SR 3.8.4.7 and 3.8.4.8) render the battery inoperable when performed. Current requirements are being relaxed by a Note in corresponding improved TS SR 3.8.5.1 so that if the only battery required to be operable is due for testing, the test does not have to be performed since it would render the battery inoperable. This provision is acceptable because it enables avoiding the risk of an event occurring during the test with no operable batteries.

This provision does not reduce the requirement for the battery to be capable of performing its required function, just the requirement to demonstrate that capability while that source of power is being relied on to support meeting the LCO.

2.3.8.2.f <u>Battery Cell Parameters (Improved TS 3.8.6)</u>

(1) Unit 2 CTS contain the requirement to declare the associated battery inoperable whenever a battery cell parameter is outside the specified limit. For this condition, Unit 2 CTS give a 2-hour Completion Time to restore the battery to operable status. This requirement is being relaxed in improved TS 3.8.6, Required Action A.3, which specifies a 31-day Completion Time for restoring battery cell parameters. This Completion Time is considered acceptable because sufficient battery capacity exists to perform the intended function and to allow time to fully restore battery cell parameters to normal limits. This change is consistent with the IEEE Battery Working Group (BWG) recommendations in a letter from B. M. Radimer (IEEE BWG) to S. K. Aggarwal (NRC), dated August 2, 1988. However, this 31-day Completion Time is only permitted as long as the following two compensatory action requirements are met:

- Required Action A.1, to verify that pilot cell electrolyte level and float voltage are within allowable values (Category C limits) within 1 hour when Category A or B parameters are not within limits. This change provides a quick indication of the status of the remainder of the battery cells.

- Required Action A.2, to verify battery cell parameters for all the cells are within Category C limits within 24 hours when Category A or B parameters are not within limits.

The Category C values are the limits at which the battery would be considered immediately inoperable. This change provides assurance the battery is still capable of performing its intended function. If Category C limits are not met, or the Category A and B limits are not restored within 31 days, ACTION B requires the affected battery to be declared inoperable (and the appropriate ACTIONS of improved TS LCOs 3.8.4 or 3.8.5 taken).

A Note is also being included in the ACTIONS to make it clear that the current requirement to allow tracking of Completion Times for battery cell parameters on a per-battery basis is being retained, and to conform to the specified conventions of improved TS Section 1.3, "Completion

Times." This is acceptable because an out-of-specification cell parameter only impacts the operability of the associated battery.

(2) Current Unit 2 requirements to verify proper electrolyte level are being revised by Note (a) of improved TS Table 3.8.6-1, consistent with the STS, which allows a temporary level excursion outside limits due to gas generation during the equalizing charge. This allowance is acceptable based on guidance from Appendix A to IEEE-450.

(3) An allowance to utilize charging current in lieu of specific gravity is being added to current Unit 2 requirements, consistent with STS, following battery recharge for a maximum of 7 days. This allowance is specified in Note (c) of improved TS Table 3.8.6-1. This note includes a requirement to measure the specific gravity of each connected cell before the end of this period. Therefore, this provision will preclude excessive reliance on charging current, while allowing a more accurate indication of return to full charge. In addition, this provision is consistent with IEEE-450 recommendations. Therefore, the use of charging current for a limited time following battery recharge to ensure continued battery operability is acceptable.

(4) Unit 2 CTS SRs 4.8.2.3.2.a.2 and 4.8.1.1.3.a.2 require verifying every 7 days that the pilot cell specific gravity is $\geq$ 1.205. Unit 2 CTS SRs 4.8.2.3.2.b.2 and 4.8.1.1.3.b.2 require verifying every 92 days that the specific gravity of each connected cell is $\geq$ 1.205, and has not decreased more than 0.02 from the value observed during the previous test.

The value of 1.205 is being reduced to 1.200 in improved TS Table 3.8.6-1, Category A limits for each pilot cell (associated with improved TS SR 3.8.6.1) and to 1.195 for Category B limits for each connected cell (associated with improved TS SR 3.8.6.2). The last criterion is being included with Category C limits but is being changed to only require the change in specific gravity for each connected cell to be within 0.02 below the average of all connected cells, not each connected cell.

These changes are consistent with the STS and the batteries used at HNP which have a nominal full charged specific gravity of 1.215. The current specific gravity limit of 1.205 is conservative with respect to the STS guidance which is based upon the recommendations of the IEEE-450 working group recommendations to the NRC. The improved TS limits on specific gravity provide sufficient assurance of continued battery operability, and are, therefore, acceptable.

2.3.8.2.g <u>Distribution System - Operating (Improved TS 3.8.7)</u>

(1)* The time to reach Mode 4, Cold Shutdown, is being extended from 24 hours, as specified in Unit 1 CTS 3.9.B, to 36 hours. However, a new requirement to be in Mode 3 within 12 hours is being added.

(2) ACTION B of improved TS 3.8.7 is being added to current requirements to provide a 12-hour Completion Time for restoring a DG DC bus to operable status. Currently, if a DG DC bus were inoperable, the associated DG and the offsite circuit would be inoperable (due to loss of breaker control power). In the event of an inoperable DG DC bus, the CTS would require an immediate shutdown. The new time, 12 hours, is consistent with the time provided in Regulatory Guide 1.93 and the STS for when a DG and offsite circuit are concurrently inoperable, and is, therefore, acceptable.

2.3.8.2.h Distribution System - Shutdown (Improved TS 3.8.8)

Improved TS 3.8.8 does not contain any requirements that are less restrictive than the requirements given in CTS for electrical power distribution systems while shutdown.

The above less restrictive requirements in improved TS Section 3.8 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 Requirements

By electing to implement the STS Section 3.8 specifications, the licensee has adopted a number of requirements that are more restrictive than requirements given in the CTS. These more restrictive requirements, described below for each of the eight specifications in improved TS Section 3.8, are the following:

2.3.8.3.a AC Sources - Operating (Improved TS 3.8.1)

(1) Certain equipment needed to meet the accident analysis assumptions for each unit is powered from opposite unit AC sources. Currently, the opposite unit AC Sources are required since the definition of operability requires both normal and alternate power supplies to be operable. In the improved TS, the definition of operability only requires one source, since improved TS 3.8.1 provides the proper ACTIONS to take if sources are inoperable. Therefore, the required opposite unit AC Sources are being added to improved TS LCO 3.8.1.

Since the opposite unit sources are now described, the LCO for AC Sources is being modified in the improved TS to explicitly use a unit designator. These changes are administrative only; however, new ACTIONS are also being added corresponding to inoperable required AC sources in the opposite unit (improved TS ACTION A as it applies to an opposite unit offsite circuit, and ACTION C as it applies to an opposite unit DG) to add requirements not required by the CTS).

These new ACTIONS are consistent with the requirements for other required AC sources, with the exception of the restoration time provided

for an opposite unit DG. The time provided is 7 days, which is consistent with the restoration time provided for in the improved TS for the individual components powered from opposite unit sources. In addition, the SRs are also applicable to the opposite unit sources; thus, improved TS SR 3.8.1.19 is being added to ensure that opposite unit sources are adequately tested.

(2) Unit 1 CTS 4.9.A.1.b, corresponding to improved TS SR 3.8.1.6, test of the transfer between normal and alternate offsite sources, is being modified by a Note to restrict this surveillance from being performed in Modes 1 and 2, because it could result in a grid perturbation potentially causing a plant transient. Unit 2 CTS 4.8.1.1.1.b currently provides this restriction. This CTS SR is also being modified by this Note to allow credit to be taken if unplanned events occur that satisfy this SR.

(3) Unit 1 CTS 4.9.A.2.a.5 and 6 and Unit 2 CTS 4.8.1.1.2.d.4 and 9 are being modified by including in corresponding improved TS SRs 3.8.1.8 and 12 an additional limitation of $\leq$ 0.88 on the operating power factor during both the full load rejection test and the 24-hour load test, respectively. This limitation ensures the DG is conservatively tested at as close to accident conditions as reasonable, provided the power factor can be attained.

A Note is included in these improved TS SRs to provide guidance for times when the power factor cannot be attained. Another Note included in improved TS SR 3.8.1.12 provides allowances for the power factor and load to vary outside the specified limits due to momentary transients without invalidating the test.

(4) Unit 1 CTS 4.9.A.7.a and Unit 2 CTS 4.8.1.1.2.d.6, corresponding to improved TS SR 3.8.1.10, the 18-month DG start test on an ECCS signal, is being modified by adding acceptance criteria for voltage limits (upper and lower) and speed/frequency upper limit (the lower limit is included in the existing surveillance). A time requirement of $\leq$ 12 seconds to achieve these limits is also being added, consistent with the accident analysis.

Unit 1 CTS 4.9.A.2.a.10 and Unit 2 CTS 4.8.1.1.2.e, corresponding to improved TS 3.8.1.18, the 10-year DG simultaneous start test, is being modified to include steady state voltage acceptance criteria.

(5) A new SR, improved TS SR 3.8.1.4, is being added for the DG fuel oil day tanks to check for and remove any accumulated water once every 184 days.

(6) A new requirement to be in Mode 3 (Hot Shutdown) within 12 hours when the action requirements of the Unit 1 CTS 3.9.A cannot be met is being included as Required Action G.1 of improved TS 3.8.1, consistent with the STS. (Unit 2 CTS currently include this requirement.)

(7) The restoration time for one offsite circuit or one unit-specific DG (1A or 1C) specified in Unit 1 CTS 3.9.B.1 and 2 is being decreased to 72

hours, consistent with the STS. The swing DG restoration time remains at 7 days.

(8) The tolerance for steady state output voltage, ± 10%, in current DG SRs is being restricted to -10%, +2%. Reducing the allowable overvoltage is based on the acceptable overvoltage limits of equipment on the 600 V buses.

(9) A Required Action is being added (Required Action G.2) to current Unit 2 requirements to require going to Mode 4 within 36 hours if both offsite circuits are not restored to operable status within 24 hours. Currently, going to Mode 3 within 12 hours is all that is required by Unit 2 CTS 3.8.1, ACTION d.

2.3.8.3.b <u>AC Sources - Shutdown (Improved TS 3.8.2)</u>

(1) Unit 1 CTS 3.9.B and 3.9.C do not provide action requirements when a required AC source is inoperable with the plant in Modes 4 and 5. The ACTION of improved TS 3.8.2 ensure that appropriate measures will be taken. Improved TS ACTIONS A and B will either (a) require declaring the affected components inoperable and taking the ACTIONS of the applicable system LCO, or (b) require suspending CORE ALTERATIONS, OPDRVs, and irradiated fuel movement in the secondary containment, and initiating action to restore the inoperable source. In addition, new SRs are being included to ensure the operability of the required AC sources.

(2) Certain equipment needed to meet Unit 2 accident analysis assumptions is powered from Unit 1 AC sources. Currently, the Unit 1 AC sources are required since the Unit 2 definition of operability requires both normal and alternate power supplies to be operable. In the improved TS, the definition of operability only requires one source, since improved TS 3.8.2 provides the proper ACTIONS to take if sources are inoperable. Therefore, the Unit 1 required AC Sources are being included in improved TS LCO 3.8.2.a and b. Since Unit 1 sources are now described, the Unit 1 CTS requirements for Unit 2 sources is being modified to explicitly use the unit designator, for clarity. In addition, because the SRs are also applicable to the Unit 1 sources, improved TS SR 3.8.2.2 is being added to the improved TS to ensure that Unit 1 sources are adequately tested.

(3) Unit 2 CTS LCO 3.8.1.2.a requires one offsite circuit to be operable during shutdown conditions, but is not specific as to which equipment that circuit must be capable of powering. The Bases of improved TS LCO 3.8.2.a explains that the circuit must be capable of supplying power to all equipment required to be operable in the current plant condition. This added restriction (of all equipment required) conservatively ensures the single operable circuit is performing a vital function.

Since the circuit operability requirements in the improved TS require supplying power to all necessary loads, if one or more required load centers, motor control centers, buses, etc. were not capable of being

powered via an offsite circuit, that circuit would be inoperable. In this event, it may not be necessary to suspend all CORE ALTERATIONS, irradiated fuel handling, and OPDRVs. Conservative ACTIONS can be ensured by declaring all required equipment without offsite power inoperable and the taking the associated ACTIONS of the specifications for that equipment.

Therefore, along with the conservative additional requirements placed on the operable circuit, Required Action A.1 is being included with the ACTIONS of improved TS 3.8.2. These additions represent restrictions consistent with implicit assumptions for operation in shutdown conditions (required equipment powered from offsite power as opposed to being powered by a DG) which are not currently imposed through the CTS for Unit 2.

(4) Unit 2 CTS LCO 3.8.1.2.b is not specific regarding what division the required single operable DG must be associated with. Similar to the added restrictions on Unit 2 for an operable offsite circuit, a new requirement is being included in improved TS LCO 3.8.2.b for the operable DG to be associated with one or more systems, subsystems, or components required to be operable by improved TS LCO 3.8.8, "Distribution Systems - Shutdown." By being included in improved TS, this current plant administrative practice is now explicitly required and is, therefore, more restrictive.

(5) The Applicability of Unit 2 CTS LCO 3.8.1.2 is being expanded by requiring operability of the AC Sources during movement of irradiated fuel assemblies in Secondary Containment. This change is necessary because this activity could occur when Unit 2 is defueled, and thus, not in Mode 4 or 5.

(6) Improved TS LCO 3.8.2, Required Actions A.2.4 and B.4 implement a requirement to initiate action to restore the required power sources to operable status. While this action is normally performed because it is a good practice to ensure at least 2 AC Sources, it is not currently required by the action requirements of Unit 2 CTS LCO 3.8.1.2.

2.3.8.3.c <u>Diesel Fuel Oil and Transfer, Lube Oil, and Starting Air (Improved TS 3.8.3)</u>

(1) Improved TS 3.8.3 requires both fuel oil transfer pumps for each fuel oil transfer subsystem to be operable, instead of just one as in the CTS. Requiring both pumps to be operable ensures that a single failure will not result in the inability to meet the design basis requirements of the onsite power sources. An appropriate ACTION is also included (ACTION A) to limit the time one of the two pumps can be inoperable. This is an additional restriction on plant operation. If both pumps for a DG are inoperable, then ACTION F requires declaring the DG inoperable, which is consistent with the CTS.

(2) A new specific requirement on lube oil inventory is being included in improved TS LCO 3.8.3 to ensure a 7-day supply of lube oil is available

to all DGs. An appropriate ACTION (proposed ACTION C) and SR (SR 3.8.3.2) are also being added. These additional requirements are consistent with the STS.

(3) A new SR (SR 3.8.3.6) to check for and remove accumulated water in the DG fuel oil storage tanks is included in improved TS 3.8.3. This added restriction provides assurance that water will not degrade the performance of the diesel engine.

2.3.8.3.d <u>DC Sources - Operating (Improved TS 3.8.4)</u>

(1) The following SRs are being added to Unit 1 current requirements to be consistent with STS for both the station service and DG batteries ("*" denotes difference with the STS Frequency of 12 months.):

- SR 3.8.4.2 verifies that the connection resistance is within limits or that no corrosion at the battery terminals is present every 92 days.
- *SR 3.8.4.3 verifies that the battery cells show no visual indication of physical damage or abnormal deterioration every 18 months.
- *SR 3.8.4.4 removes visible corrosion and coats the connections with anti-corrosion material every 18 months.
- *SR 3.8.4.5 ensures that the connection resistance is within limits every 18 months.
- SR 3.8.4.6 verifies battery charger capability every 18 months.
- SR 3.8.4.8 requires a battery performance discharge test every 60 months.

In this list of SRs, SR 3.8.4.2 and 3.8.4.5 are also new for the Unit 2 station and DG batteries. In addition, SR 3.8.4.7, the 18-month service test, is new for the Unit 2 DG batteries.

A discharge test will be required every 12 months when a battery shows degradation or has reached 85% of expected life with capacity < 100% of manufacturer's rating and every 24 months when a battery has reached 85% of expected life with capacity ≥ 100% of manufacturer's rating. This additional Frequency of SR 3.8.4.8 is a new requirement for the batteries of both units.

(2) Certain equipment needed to meet the accident analysis assumptions is powered from opposite-unit DC subsystems. Currently, certain opposite-unit DG DC subsystems are required since the definition of operability requires the necessary electrical power to be operable. To make the improved TS easier to use, the opposite-unit required subsystems are being included in improved TS 3.8.4 requirements. With the opposite-

unit subsystems being specified, the LCO and ACTIONS are also being modified to explicitly use unit-specific designators, for clarity.

New action requirements related to opposite-unit DC sources are as follows:

- ACTION A limits the out-of-service time of an opposite-unit DG DC subsystem to 7 days. This is consistent with the current time allowed in the supported system specification in the improved TS.

- ACTION E requires entry into LCO 3.0.3 if an inoperable opposite-unit DC subsystem concurrent with an inoperable same-unit DC subsystem results in a loss of function. Currently, an LCO 3.0.3 entry is not required when in this condition.

In addition, the SRs are also applicable to the opposite-unit DC subsystems; thus, SR 3.8.4.9 is being included in improved TS to ensure that those subsystems are adequately tested.

(3) The voltage limit is being raised from the 105-volt value of Unit 1 CTS SR 4.9.A.3.a and the 120-volt value of Unit 2 CTS SRs 4.8.2.3.2.a.4 and 4.8.1.1.3.a.4 to 125 volts in corresponding improved TS SR 3.8.4.1, the weekly verification of battery terminal voltage. In addition, the words "on float charge" are being added. This ensures battery voltage is not being maintained because of excessive charger current.

(4) The time to restore an inoperable Unit 1 station service battery is being reduced from the 7 days of Unit 1 CTS 3/4.9 B.3 to 2 hours in improved TS 3.8.4, consistent with the guidance of Regulatory Guide 1.93, current requirements for Unit 2, and STS. CTS remedial actions that must be satisfied in order to allow 7 days to restore operability (initiating repair and measuring pilot cell voltages and specific gravities) no longer need to be specified because of the short, 2-hour completion time. They are, therefore, omitted from the ACTIONS of improved TS 3.8.4, consistent with the STS.

2.3.8.3.e <u>DC Sources - Shutdown (Improved TS 3.8.5)</u>

(1) Improved TS 3.8.5 is a new specification for Unit 1.

(2) The Applicability of Unit 2 CTS 3.8.1.2 is being increased in corresponding improved TS 3.8.5 to also require operability of the specified DG DC sources during movement of irradiated fuel assemblies in the secondary containment, consistent with the Applicability of the Unit 2 CTS 3.8.2.4 for the DC power systems, and the STS. Although Unit 2 CTS 3.8.1.2 does not directly specify operability of DG DC subsystems, it does specify it indirectly through the definition of operability for the associated required DGs.

(3) Unit 2 CTS LCO 3.8.2.4 requires, as a minimum, one division of the DC power system to be operable during Modes 4 and 5, and when handling irradiated fuel in the Unit 1 secondary containment. However, this CTS

LCO is not specific regarding which loads this single division must be powering. This is being made clear in corresponding improved TS LCO 3.8.5 which specifies that the subsystems necessary to supply DC power to all equipment required to be operable in the current plant condition must be operable. This change ensures that the needed sources of power are operable, even if this results in both divisions being required. Appropriate changes are also being made so that the ACTIONS of improved TS 3.8.5 will account for the possibility of both divisions being required.

Since improved TS 3.8.5 requires supplying power to all necessary loads, if one or more required DC loads are not being supplied with the required DC power, then the DC subsystem is inoperable. In this event, the ACTIONS of improved TS 3.8.5 provide two options. The first option, currently required, to suspend all CORE ALTERATIONS, irradiated fuel handling, and OPDRVs, may not be necessary. (An additional requirement to commence and continue attempts to restore the DC subsystems to operable status is a new action also included with this option). The second option, which is new, to declare inoperable all required equipment without the specified DC power, is also adequate because it requires taking the ACTIONS associated with the LCOs of the affected equipment.

The ACTIONS of improved TS 3.8.5, just described, are also more restrictive for the DG DC subsystems, which are not directly specified by requirements in the Unit 2 CTS in Modes 4 or 5. These ACTIONS, which are consistent with STS, ensure that sufficiently conservative measures will be taken in the event a DG DC subsystem is inoperable.

(4) Unit 2 CTS do not specify performance of any SRs on the DG DC sources while shutdown. Improved TS SR 3.8.5.1 is being included to require the SRs of the operating specification (improved TS 3.8.4) to be met (except improved TS SRs 3.8.4.7 and 3.8.4.8).

(5) Certain equipment needed to meet the accident analysis assumptions is powered from opposite-unit DG DC subsystems. Currently, opposite-unit DG DC subsystems are required through the definition of operability which requires the necessary power supplies to be operable. To make the improved TS easier to use, the opposite-unit required DG DC sources are being included in improved TS 3.8.5, similar to the other required DC sources. Since opposite-unit sources are now described, improved TS 3.8.5 explicitly uses the unit-specific designator. In addition, improved TS SR 3.8.5.2 is being included to ensure that opposite-unit sources are adequately tested in accordance with the appropriate opposite-unit SRs.

2.3.8.3.f <u>Battery Cell Parameters (Improved TS 3.8.6)</u>

(1) Unit 1 CTS do not specify any battery cell parameters that affect the operability of the batteries. The only parameter specified in Unit 1 CTS that is directly tied to battery operability is overall battery

voltage, which is addressed in improved TS 3.8.4. Therefore, the requirements of improved TS Section 3.8.6 are new for Unit 1.

(2) The individual cell voltage limit of 2.0 volts specified in Unit 2 CTS SRs 4.8.2.3.2.a.3, 4.8.2.3.2.b.4, 4.8.1.1.3.a.3, and 4.8.1.1.3.b.1 is being increased to 2.13 volts. This ensures that the overall battery voltage is satisfactory.

(3) Improved TS SR 3.8.6.3, verification of proper electrolyte temperature every 92 days, is being added to Unit 2 CTS requirements, consistent with the STS.

In addition, a new 24-hour Frequency is being added to the existing Unit 2 92-day Frequency cell-parameter check in corresponding improved TS SR 3.8.6.2. This new Frequency requires verifying all the cell parameters within 24 hours following a battery overcharge > 150 volts.

Improved TS SRs 3.8.6.1 and 3.8.6.2 are being added for the DG batteries when in Mode 4 or 5, or when handling irradiated fuel. Currently, these Unit 2 SRs are only required in Modes 1, 2, and 3.

2.3.8.3.g <u>Distribution System - Operating (Improved TS 3.8.7)</u>

(1) A Completion Time of 16 hours from discovery of failure to meet improved TS LCO 3.8.7.a is being added to establish a maximum time allowed to not meet the specified electrical power distribution subsystem operability requirements, excluding opposite-unit required subsystems. This restriction, which is consistent with the STS, is not included in the CTS.

(2) Certain equipment needed to meet the accident analysis assumptions are powered from the opposite-unit AC and DC distribution systems. Currently, the opposite-unit distribution subsystems are required because the definition of operability requires the necessary electrical power for operability. To make the improved TS easier to use, the opposite unit required distribution subsystems are being added to the LCO statement similar to the subsystems currently required. Since opposite unit subsystems are now described, the current LCO and ACTIONS are being modified to explicitly use the unit-specific designator. ACTION A is being included to limit the out of service time of an opposite-unit bus to 7 days. This is consistent with the current time allowed in the individual system specifications for required equipment supported by opposite unit buses.

These changes, alone, are administrative only; however, in conjunction with the new requirements of improved TS 3.8.7, ACTION F, an inoperable opposite-unit bus concurrent with an inoperable unit bus can result in an LCO 3.0.3 entry, provided a loss of function condition is created. Currently, an LCO 3.0.3 entry is not required when in this condition. For example, if an opposite-unit standby gas treatment (SGT) subsystem is inoperable because its supporting bus is inoperable concurrent with another inoperable SGT subsystem, then ACTION F would apply.

(3) The Unit 1 station service DC distribution subsystems, which are governed by the definition of operability for equipment powered by these buses, are being moved to improved TS 3.8.7 for clarity. Thus, ACTION D is being added to limit the out of service time for a station service DC distribution subsystem to 2 hours, consistent with the guidance of Regulatory Guide 1.93, the STS, and Unit 2 CTS 3.8.2.3. Currently, Unit 1 CTS 3.9.B.5 allows 7 days for one bus to be inoperable before requiring a unit shutdown.

(4) The DG DC distribution subsystems, which are currently governed by the definition of operability for AC Sources, are being included in the LCO list of required subsystems in improved TS 3.8.7. Correspondingly, ACTION B is being added to provide a 12-hour Completion Time for restoring one of these subsystems to operability, which is consistent with the improved TS Completion Times of the equipment that these subsystems support.

These changes, alone, are administrative only; however, in conjunction with ACTION F, an inoperable specified opposite-unit DG DC subsystem concurrent with another inoperable specified subsystem can result in requiring an LCO 3.0.3 entry, provided a loss of function condition is created. Currently, this is not required.

(5) Improved TS SR 3.8.7.1 requires verifying proper voltage and breaker alignment every 7 days for the specified AC and DC electrical power distribution subsystems. Because opposite unit subsystems are now being specified in improved TS, this SR is a new requirement for those subsystems. In addition, because the equivalent Unit 1 CTS SR does not apply to the Unit 1 DC subsystems, this SR is also a new requirement for Unit 1 DC subsystems.

(6) Unit 1 CTSs 3.9.B.4 and 3.9.B.5 allow two AC distribution buses to be inoperable for up to 7 days prior to requiring a shutdown. These AOTs can be used if two buses in different divisions are inoperable, even though this may result in a loss of safety function. Therefore, this allowance is being deleted from the improved TS. Improved TS 3.8.7, ACTION F, requires an LCO 3.0.3 entry if two or more subsystems are inoperable that result in a loss of safety function.

(7) The 7-day allowed outage time for AC subsystems specified by Unit 1 CTSs 3.9.B.4 and 3.9.B.5 is being reduced to 8 hours, consistent with the guidance in Regulatory Guide 1.93 and the STS.

2.3.8.3.h <u>Distribution System - Shutdown (Improved TS 3.8.8)</u>

(1) Improved TS 3.8.8 is a new requirement for Unit 1.

(2) Unit 2 CTS 3.8.2.4 only requires one division of DC power (one DC subsystem). CTS 3.8.2.2 requires two 4160 V essential buses and one each of the 600 V essential buses, the 120/208 V essential cabinets, and the 120/208 volt instrument buses. The CTS, however, do not specify which subsystems must be supplying power. In the improved TS,

corresponding LCO 3.8.8 specifies that the electrical power distribution subsystems necessary to supply AC or DC to all equipment required to be operable in the current plant condition must be operable. This ensures that the needed sources of power are operable, even if this results in subsystems in both divisions being required.

(3) The Applicability of the Unit 2 CTS requirements for AC distribution subsystems while shutdown is being changed to include the condition, "during movement of irradiated fuel assemblies in secondary containment." This is necessary because this activity could occur with the Unit 2 reactor defueled which is neither Mode 4 nor 5.

(4) In the event the required distribution subsystems are not operable, the ACTIONS of Unit 2 CTSs 3.8.2.2 and 3.8.2.4 require suspending CORE ALTERATIONS, irradiated fuel handling, and OPDRVs. In the improved TS, ACTIONS are being added to (a) declare required shutdown cooling subsystems inoperable and (b) commence and continue attempts to restore the necessary distribution systems. Alternatively, the improved TS ACTIONS also specify the option of declaring inoperable the individual components supported by the inoperable distribution subsystems. In either case, sufficiently conservative measures will be taken.

(5) Opposite-unit required distribution subsystems are being added to the LCO statement similar to the subsystems currently required. In addition, the ACTIONS and SR 3.8.8.1 also apply to the required opposite-unit subsystems.

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

2.3.8.4 Significant Administrative Changes

In accordance with the guidance in the Final Policy Statement, the licensee has proposed the following administrative changes to the CTS in order to bring them into conformance with the STS:

(1) The details relating to the required level in each DG fuel oil day tank are being moved from the LCO statement to associated SR 3.8.1.3 of the improved TS, consistent with the STS.

(2) A Note, consistent with the STS, is being included with ACTION E of improved TS 3.8.1 to provide specific direction for implementing current practice in the event of one inoperable offsite source concurrent with one inoperable DG. ACTION E requires entering the appropriate Conditions of LCO 3.8.7, "Distribution Systems - Operating," if this event results in no AC power source to one 4160 V ESF bus.

AC sources are considered a support system to the Distribution System. In the event that AC sources are inoperable so that a distribution subsystem were inoperable, improved TS LCO 3.0.6 would allow taking only the ACTIONS of the specification for the AC sources. However, for this

event, these ACTIONS are not sufficiently conservative. Thus the Note is needed to override the allowance of LCO 3.0.6 to ensure appropriate ACTIONS would be taken. These changes together represent an administrative change in the presentation of CTS requirements.

(3) The following Notes are being included in the improved TS for a number of DG SRs to clarify and implement current practices: Notes 1, 3, 5, 6, and 8 to SR 3.8.1.2; and Note 4 to SR 3.8.1.5. ("*" denotes a plant-specific difference from the STS.)

- Note 1 to SR 3.8.1.2 allows SR 3.8.1.5 to satisfy SR 3.8.1.2, consistent with the STS, since it is more restrictive than SR 3.8.1.2.

- Note 3 to SR 3.8.1.2 allows the engine to be warmed up and gradually started, consistent with the STS.

- *Note 5 to SR 3.8.1.2 allows gradual loading.

- *Note 6 to SR 3.8.1.2 allows for starting transients above the upper voltage limit before establishing steady state operation.

- *Note 8 to SR 3.8.1.2 and Note 4 to SR 3.8.1.5 only allow SRs to be performed on one DG at a time.

(4) The optional requirement to perform the DG hot restart test after the 24-hour load test is being deleted. The CTS give two methods for performing this test. Improved TS SR 3.8.1.13 only retains the option of performing the test after a ≥ 2 hour run at ≥ 2565 kW. Because the test is already allowed to be performed in this manner, omitting the other method is considered administrative, and is therefore, acceptable.

(5) Unit 1 CTS 3.9.A.7.c requires operability of the common accident signal logic system, and undervoltage relays and supporting systems. These requirements are being retained through the definition of operability of the DGs as explained in the SR discussion in the Bases for improved TS 3.8.1. They are also being retained in appropriate SRs. Omitting this explicit specification from the improved TS is considered an administrative change, consistent with the STS, and is, therefore, acceptable.

(6) The following changes in presentation of Unit 2 CTS SRs are being made in accordance with the format of the STS:

- The technical contents of Unit 2 CTSs 4.8.1.1.2.a.2, 4.8.1.1.2.a.3, 4.8.1.1.2.a.6, 4.8.1.1.2.c, and 4.8.1.1.2.d.13 are being moved to separate improved TS 3.8.3.

- The technical contents of Unit 2 CTSs 4.3.1.1.3.a.4, 4.3.1.1.3.c, and 4.3.1.1.3.d are being moved to separate improved TSs 3.8.4 and 3.8.5.

- The technical contents of Unit 2 CTS 4.3.1.1.3.a.1, 2, 3, and 4.3.1.1.3.b are being moved to separate improved TS 3.8.6.

(7) The fuel oil and transfer, and starting air requirements of Unit 1 CTSs 3.9.A 2 and 3.9.C and Unit 2 CTSs 3.8.1.1 and 3.8.1.2 are being moved to improved TS 3.8.3. The Applicability of this new specification is "when associated DG is required to be operable." This covers the current Modes 1, 2, 3, 4, and 5 requirements, and is actually more restrictive since the Applicability of the DG specification is being changed (see Section 2.3.8.3.b. of this safety evaluation) to include certain Mode 4 and 5 conditions.

(8) The technical contents of Unit 1 CTS SR 4.9.A.2.d.2 and Unit 2 CTS SR 4.8.1.1.2.c, quarterly sampling and analysis of diesel fuel oil in the storage tanks, is being moved to improved TS 5.5.9, "Diesel Fuel Oil Testing Program," in accordance with the format of the STS. Improved TS SR 3.8.3.3 is being added to make it clear that the tests in the Diesel Fuel Oil Testing Program must be completed and passed in order for the DGs to be considered operable. Thus, because the improved TS presentation maintains current requirements, this change is considered administrative.

(9) Unit 2 CTS 4.8.1.1.3.d requires performing a performance discharge test of each DG battery every 60 months (improved TS SR 3.8.4.8), and stipulates that it be performed "subsequent to the satisfactory completion of the required battery service test." However, the Unit 2 CTS do not, in fact, specify a battery service test for the Unit 2 DG batteries. Therefore, this condition (subsequent to the service test) for performing the performance discharge test for the Unit 2 DG batteries is meaningless. Omitting it from Unit 2 improved TS is thus considered an administrative change to Unit 2 CTS, and is, therefore, acceptable. See paragraph 2.3.8.2.d(5) of this safety evaluation for additional discussion of the service test.

(10) Improved TS 3.8.5 presents the station service and DG battery hardware components (battery and charger) in a single specification for DC power sources. The battery cell parameters and DC distribution buses are also being placed in separate specifications, improved TSs 3.8.6 and 3.8.8, respectively. Currently, these requirements are grouped together in Unit 2 CTSs 3.8.2.4 (station service DC subsystems) and 3.8.1.2 (DG DC subsystems through DG operability definition). This alternative presentation of current requirements is purely administrative.

(11) The ACTIONS of Unit 2 CTSs 3.8.2.4 and 3.8.1.2 contain the phrases "decrease the SHUTDOWN MARGIN" and "positive reactivity changes." These phrases are being omitted from the ACTIONS of corresponding improved TS 3.8.5 because they are redundant to the phrase "Suspend CORE ALTERATIONS," which is being retained in the ACTIONS of improved TS 3.8.5. The only activities that affect shutdown margin or positive reactivity changes are fuel movement in the RPV and control rod movement, both of which are considered CORE ALTERATIONS. So, these

omissions are actually administrative changes. Therefore, they are acceptable.

(12) The Unit 2 CTS for the station service batteries and the Unit 2 CTS for the DG batteries are being combined in improved TS 3.8.6. The battery cell parameter limits of Unit 2 CTS are being combined into one table (improved TS Table 3.8.6-1), which provides the limits for each pilot cell (Category A) and for each connected cell (Category B). Category C limits have also been added. Existing Unit 2 SRs are reworded to verify the appropriate limits (Category A or B) are met.

(13) The current Unit 2 AC and DC distribution specifications are being combined in improved TSs 3.8.7 and 3.8.8. The Unit 1 term "buses" and the Unit 2 term "system buses" are being changed to "subsystems" because the buses are grouped in this manner.

(14) Unit 2 CTS 3/4.8.2.7, "Electric Power Monitoring for Reactor Protection System," is being retained as improved TS 3.3.8.2 in accordance with the format of the STS.

The above changes result in the same limits as the current requirements, or they more clearly present the intent of the CTS. Accordingly, these changes are purely administrative and are acceptable.

2.3.8.5 Significant Differences Between the Improved TS and the STS

In electing to adopt STS Section 3.8, the licensee proposed the following differences between the improved TS and the STS:

(1) The STS specify two different DG start tests, STS SR 3.8.1.2 with a 31-day Frequency and STS SR 3.8.1.7 with a 184-day Frequency. The STS require that one of these tests precede performance of STS SR 3.8.1.3, the DG 60-minute load test (with a Frequency of 31 days).

However, the CTS specify performance of the DG load test following the 184-day start test at a higher loading than the DG load test following the 31-day start test. Therefore, the load tests are being combined with the appropriate start tests, and separate start-test SRs are being omitted from improved TS 3.8.1. The CTS DG 60-minute load tests are thus being retained as improved TS SRs 3.8.1.2 and 3.8.1.5, which include the appropriate DG start-test requirements. This alternative presentation of SRs to reflect current requirements is consistent with the intent of the STS and is, therefore, acceptable.

(2) STS 3.8.1, ACTION C, for the condition of two offsite circuits being inoperable, is being adopted with changes to reflect HNP design differences from that assumed in the STS. Because improved TS 3.8.1 requires three offsite circuits (including a circuit from the opposite unit), corresponding ACTION D of improved TS 3.8.1 applies if two or more required offsite circuits are inoperable. In addition, Required Action D.1 is being revised, as indicated by italics, to state:

Declare required feature(s) *with no offsite power available* inoperable when the redundant required feature(s) are inoperable.

This is consistent with the intent of the STS, but accounts for the case in which two offsite circuits are inoperable and the redundant feature still has offsite power available from yet another source. Therefore this difference is acceptable.

(3) STS 3.8.7 and 3.8.8 for inverters are not included in the improved TS because the HNP design does not utilize inverters to perform the functions associated with these specifications. Inverters, as utilized in the STS, typically require power supplied by DC Sources in order to meet accident analysis assumptions and supply power to many required systems. The only inverters at each HNP unit that require power from DC Sources are the two LPCI inverters, which only provide power to the LPCI subsystems. Therefore, these two inverters are covered by a SR in improved TS 3.5.1, "ECCS - Operating," because they only impact the LPCI subsystems.

(4) STS LCO 3.8.1.c requires that three automatic sequencers be operable. This requirement is not included in the improved TS because the HNP design does not include a separate "sequencer." A timing relay is provided with each component or AC source; its operability is necessary, by the definition of operability, to meet the operability requirements of the LCOs specified for sequenced components and AC sources.

(5) Improved TS 3.8.1 includes additional Notes in improved TS SRs 3.8.1.2 and 3.8.1.5 that are not provided for in the corresponding SRs of the STS. These notes are described above in paragraph 2.3.8.4(3) of this safety evaluation.

(6) STS SR 3.8.1.6, to verify the operability of the fuel oil transfer system for the DGs, is located in improved TS 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," as improved TS SR 3.8.3.5. In addition, improved TS LCO 3.8.3 specifically requires that the fuel oil transfer subsystems for the unit and swing DGs to be operable. Improved TS 3.8.1 includes additional ACTIONS:

- ACTION A allows 30 days to restore an inoperable transfer pump to operable status; the transfer system for each DG has a separate Completion Time.

- ACTION F requires declaring the associated DG inoperable if (among other things):

  - ACTION A cannot be met, or
  - fuel oil transfer subsystem is inoperable for reasons other than a single inoperable transfer pump.

These plant-specific requirements account for the differences in the design of the HNP diesel fuel oil transfer system compared to that

assumed in the STS. At HNP, both transfer pumps for each DG are needed to ensure fuel oil transfer capability in the event of a design basis accident coincident with a single active failure of a transfer pump associated with a DG failure. According to the CTS Bases, the HNP requirement for diesel fuel oil is that five tanks (one per DG) have sufficient fuel oil to supply four DGs running at 3250 kW (rated load) for 7 days. Four tanks do not carry enough fuel oil to power the four remaining DGs (assuming the single failure is a DG) for this length of time. Thus, the transfer capability is required. The power supplies to the transfer pumps are such that the loss of a power supply (a DG) with one pump already inoperable could result in the loss of transfer capability from the tank associated with the inoperable DG and transfer pump.

The 30-day Completion Time for ACTION A is acceptable because (a) most of the additional single active failures of a DG or a transfer pump do not result in a loss of transfer capability from any tank (b) the remaining fuel oil transfer capability, and (c) the low probability of the need for the DG concurrent with a worst case single failure. This fuel oil transfer capability is maintained assuming no additional single failures. ACTION F, to declare the DG inoperable immediately, is appropriate because, in this case, the transfer capability from the associated tank has definitely been lost. Therefore, these HNP-specific requirements are acceptable.

(7) The DG accelerated test requirements of the STS are being removed because of GL 94-01. In the interim, the more-restrictive accelerated test requirements of CTS are being placed in a licensee-controlled procedure, as discussed previously. See paragraph 2.3.8.1.b(4) of this safety evaluation.

(8) The Frequency of 184 days of improved TS SR 3.8.3.6 differs from the Frequency of 31 days of corresponding SR 3.8.3.5 in the STS. CTS do not specify a requirement to check for and remove accumulated water from the diesel fuel oil storage tanks; however, this provision is included in plant procedures at an interval of 184 days. Because this interval has proved to be adequate in the past, this difference is acceptable.

(9) STS SR 3.8.3.6, the 10-year cleaning of the diesel fuel oil storage tanks, is not included in the improved TS because it is not specified in CTS. It is also not included because it is considered to be a preventive maintenance provision that is better prescribed by plant procedures. The licensee reported in a telephone conversation on August 25, 1994, that the storage tanks had last been cleaned in 1987. The licensee also stated that its preventive maintenance program required filtering the tank contents every 3 years and periodically checking the chemistry of samples taken from top, middle, and bottom points on each storage tank. Because current maintenance practices have proved to be adequate, omission of this STS SR from the improved TS is acceptable.

(10) STS SRs 3.8.4.2 and 3.8.4.5 specify actual values for the connection resistance upper limits for inter-cell, inter-rack, inter-tier, and

terminal connections on the station and DG batteries. Because these SRs and the associated resistance values are not included in the CTS for either unit, the licensee is not electing to include resistance values in corresponding improved TS SRs 3.8.4.2. and 3.8.4.5. Satisfying appropriate resistance criteria will continue to be required by plant procedure in order to meet the SRs. Any changes to these criteria will continue to be adequately controlled by the provisions of 10 CFR 50.59. Therefore, this difference is acceptable.

(11) STS SR 3.8.4.6, the 18-month test of the battery charger, includes a Note that prohibits performing the test in Modes 1, 2, or 3. This Note is omitted from corresponding improved TS SR 3.8.4.6 because the HNP design includes a 100% capacity spare battery charger that is maintained and tested to the same standards as the other battery chargers. Because a battery charger may be tested during Modes 1, 2, or 3 without compromising compliance with the LCO operability requirements for the DC electrical power subsystems, omission of this STS Note is acceptable.

STS SR 3.8.5.1 does not require performance of STS SR 3.8.4.6 when the plant is in Mode 4 or 5 and the only battery charger required to be operable is due for testing. This is because testing would render the charger inoperable. However, this Note is not necessary for HNP because of the design feature described above which makes it unlikely that such a situation would ever occur. Thus, this provision is omitted from improved TS SR 3.8.5.1.

(12) Improved TS SRs 3.8.4.7.and 3.8.4.8 differ from the corresponding SRs in the STS by allowing for the substitution of a "modified" performance discharge test for the service test (Note 1 of SR 3.8.4.7) any time the service test is performed, instead of allowing substitution of the performance test only once every 60 months. Substitution of the modified performance discharge test for the service test is acceptable for the following reasons:

- It is a harsher test of the battery's capability in that it envelopes the duty cycle of the service test.
- It may be useful for gathering additional data points for trending capacity as a battery nears its end of life.
- While satisfying the performance test requirements, it satisfies the service test requirements better than the performance test alone.

Design configuration controls verify the continued enveloping of the service test duty cycle by that of the modified performance discharge test. Therefore, this difference is acceptable.

(13) STS 3.8.5 is being modified to provide explicit LCO ACTIONS, and SRs for opposite-unit DG subsystems that are required to support certain opposite unit systems needed to satisfy the accident analyses. See paragraph 2.3.8.3.e(5) of this safety evaluation for additional discussion of corresponding improved TS 3.8.5.

(14) Improved TS 3.8.7, "Distribution Systems - Operating," differs from corresponding STS 3.8.9 by retaining an abbreviated list of electrical power distribution subsystems in the LCO instead of providing a complete list of safety-related subsystems in a table in the Bases to be used in conjunction with the LCO statement. The list in improved TS is consistent with the list in the Unit 2 CTS, and is more extensive than the list in the Unit 1 CTS. For subsystems not listed, the definition of operability would require entry into the LCOs of all specified supported loads were a non-listed subsystem inoperable (i.e., deenergized). Otherwise, LCO 3.0.6 would apply, and the ACTIONS of improved TS 3.8.7, which are consistent with the STS, would be taken. In addition, in such a case, the safety function determination program (improved TS 5.5.10) would require evaluating for a loss of function condition. The staff finds that the licensee's proposal is consistent with the current licensing basis while still retaining ACTION provisions as or more restrictive than the STS except for a few subsystems of minor safety significance. For these subsystems, the staff concludes that appropriate actions would be taken. Therefore, these differences are acceptable.

(15) Improved TS 3.8.7 and 3.8.8 differ from the STS because of the HNP design in which certain equipment needed to meet the accident analyses is powered from the opposite-unit AC and DC distribution systems. See paragraphs 2.3.8.3.g(2) and 2.3.8.3.h(5) of this safety evaluation regarding this more restrictive requirement.

These proposed differences from STS Section 3.8 are consistent with HNP design features and existing requirements and commitments. Therefore, they are acceptable.

2.3.9 Refueling Operations (Improved TS Section 3.9)

2.3.9.1 Relocated Requirements

2.3.9.1.a Existing Specifications Entirely Relocated

In accordance with the criteria in the Final Policy Statement, the following existing specifications are being entirely relocated to the licensee-controlled TRM:

Unit 1 CTS	Title
3/4.10.F	Reactor Building Cranes
3/4.10.G	Spent Fuel Cask Lifting Trunnions and Yoke
3/4.10.H	Time Limitation
3/4.10.I	Crane Travel - Spent Fuel Storage Pool

Unit 2 CTS	Title
3/4.9.4	Decay Time

3/4.9.6	Communications
3/4.9.7	Crane and Hoist Operability
3/4.9.8	Crane Travel - Spent Fuel Storage Pool

(1) Reactor Building Cranes (Unit 1), Spent Fuel Cask Lifting Trunnions and Yoke (Unit 1), and Crane and Hoist Operability (Unit 2)

Refueling platform operability specified in Unit 1 CTS 3/4.10.F and 3/4.10.G and Unit 2 CTS 3/4.9.7 ensures that appropriate controls are in place for handling of radioactive components and core internals. Although interlocks are designed to prevent damage to these components, the interlocks are not relied upon to prevent or mitigate the consequences of a design basis accident. Therefore, the requirements have been relocated to the TRM and will be controlled in accordance with 10 CFR 50.59.

In addition, in relocating the provisions of Unit 1 CTS 3/4.10.F, the requirements for "prior AEC [Atomic Energy Commission] approval for initial lifting of a spent fuel cask" and "Technical Specifications governing spent fuel cask handling will be developed prior to lifting the first spent fuel cask." are being eliminated. Consistent with the STS, the lifting and movement of spent fuel casks is allowed to be governed by plant administrative controls and the provisions of 10 CFR 50.59. These controls are currently in place for the handling of spent fuel casks. Unit 1 FSAR Section 10.20 refers to the Unit 2 FSAR for a description of spent fuel cask handling. The Unit 2 FSAR states the crane utilized for spent fuel cask movement is common to both units and the safe load paths that are consistent with the NUREG 0612 heavy loads analysis are shown in Unit 1 FSAR Figure 10.20-7. Because (a) TS for cask handling were never proposed for Unit 1, (b) the cask handling equipment does not meet the criteria for inclusion in TS, and (c) the design and operation of this equipment is adequately described in the FSAR and controlled by existing plant administrative procedures and the provisions of 10 CFR 50.59, eliminating these provisions of Unit 1 CTS 3/4.10.F is acceptable.

(2) Time Limitation (Unit 1) and Decay Time (Unit 2)

Unit 1 CTS 3/4.10.H and Unit 2 CTS 3/4.9.4 require the reactor to be subcritical for at least 24 hours before refueling operations commence. Prior to moving fuel in the reactor vessel, certain operational steps must be completed. These steps include containment entry, removal of the drywell head, removal of the reactor pressure vessel head, and removal of the reactor vessel internals. In its submittal dated February 25, 1994, the licensee stated the 24 hour duration is always met because of the time required to complete these preliminary steps. Procedural controls for these activities will continue to be maintained in accordance with the provisions of 10 CFR 50.59. Based on this and the time needed to complete the steps prior to moving fuel within the reactor vessel, relocation of this requirement has no impact on plant safety, and is acceptable.

(3) Crane Travel - Spent Fuel Storage Pool (SFSP) (Unit 1 and Unit 2)

The crane travel limits specified in Unit 1 CTS 3/4.10.I and Unit 2 CTS 3/4.9.8 are provided by physical design and administrative controls. Although these specifications support the maximum refueling accident assumptions, the fuel handling crane travel limits are physical design limits and not process variables which are monitored and controlled by the operator. Therefore, the requirements have been relocated to the TRM and will be controlled in accordance with 10 CFR 50.59.

(4) Communications (Unit 2)

Unit 2 CTS 3/4.9.6 requires maintaining direct communication between control room and refueling platform personnel. Specific SRs are included. This capability is necessary to inform refueling personnel of significant plant status changes or changes in core reactivity, and to coordinate activities in both areas, such as inserting a control rod prior to loading a fuel assembly, to ensure safe refueling operations. However, these communications are not credited in any design basis accident or transient response. Removing this specification from the Unit 2 CTS will not degrade the procedural controls, including communications, already in place for safely conducting refueling activities.

The above current specifications 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, they do not fall within any of the four criteria in the Final Policy Statement (discussed in the Part 1 of this safety evaluation). In addition, sufficient regulatory controls exist under 10 CFR 50.59. Accordingly, these specifications may be relocated from the CTS to plant procedures and the TRM.

2.3.9.1.b Existing Specifications Relocated in Part

In accordance with the criteria in the Final Policy Statement, the licensee has proposed to relocate the following parts of existing specifications to other licensee-controlled documents; the corresponding improved TS location of the remaining part of each specification is also noted.

Unit 1 CTS	Improved TS	Description of Relocated Requirements
3/4.10.A.2 and 3/4.10.A.3	3.9.1	Hoist Load Interlock Settings

Unit 2 CTS	Improved TS	Description of Relocated Requirements
3/4.1.3.5	3.9.5	Scram Accumulator Leak Detection Pressure Detectors and Alarms (Indication-only instruments)

3.9.9, ACTION	3.9.6, ACTION A	Procedural Details for Low Water Level Required Action
3.9.12	3.9.7	Definition of an RHR Subsystem

(1) Unit 1 CTS 3/4.10.A.2 and 3/4.10.A.3 hoist load interlock settings are being relocated to plant specific documents. While the interlock is assumed to function for design basis accidents and transients, the actual setpoint is not assumed. Any changes to this setpoint will be adequately controlled by the provisions of 10 CFR 50.59. The existing requirements for the interlock to be operable and verified are retained in improved TS 3.9.1.

(2) Unit 2 CTS 3/4.1.3.5 has operability and surveillance requirements for the scram accumulator leak detection pressure detectors and alarms. These indication-only instruments and alarms do not directly support the operability of the scram accumulators, and are being omitted form improved TS 3.9.5. The STS do not typically require indication-only equipment to be operable to support operability of a system or component. Control of the availability of, and necessary compensatory measures for out of service indication-only equipment are and will continue to be adequately addressed by plant operational procedures and policies.

(3) The ACTION of Unit 2 CTS LCO 3.9.9 requires placing all fuel assemblies and control rods in a safe condition should the water level drop below 23 feet above the top of irradiated fuel assemblies seated in the reactor pressure vessel. Corresponding ACTION A of improved TS 3.9.6 omits this procedural detail which is being relocated to the associated Bases, consistent with the STS. Any changes to this procedural detail will be adequately controlled by the provisions of improved TS 5.5.11 and 10 CFR 50.59.

(4) Unit 2 CTS 3.9.12 describes the minimum RHR requirement for refueling operations to consist of "at least one OPERABLE pump and one OPERABLE heat exchanger." This description of RHR shutdown subsystem operability is being relocated to the Bases for improved TS Sections 3.9.7 and 3.9.8, consistent with the STS. Any changes to this description of an operable RHR shutdown subsystem will be adequately controlled by the provisions of improved TS 5.5.11.

The types of detailed information and requirements described above 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. Further, they do not fall within any of the four criteria set forth in the Final Policy Statement, (discussed in Part 1 of this safety evaluation). In addition, the staff finds that sufficient regulatory controls exist under 10 CFR 50.59 and improved TS 5.5.11, "Bases Control Program." Accordingly, detailed information and requirements described above may be moved from the CTS and placed in plant procedures, the FSAR, or the improved TS Bases, as appropriate.

2.3.9.2 Less Restrictive Requirements

The licensee, in electing to implement STS Section 3.9 specifications, proposed a number of requirements that are less restrictive than requirements given in the CTS. These less restricitve requirements are described below for each of the eight specifications in improved TS Section 3.9. The basis for accepting each change which is marked by an asterisk is given in Section 2.0.2.2 of this safety evaluation.

2.3.9.2.a Refueling Equipment Interlocks (Improved TS 3.9.1)

(1) Unit 1 CTS SR 4.10.A and Unit 2 CTS SR 4.9.1.2.b, refuel position mode switch interlock testing requirements following any repair work associated with the interlock, are being omitted from corresponding improved TS 3.9.1. Any time the operability of a system has been affected by repair or maintenance, appropriate post maintenance testing specified by improved TS SR 3.9.1.1 is required to demonstrate its operability has been restored. Therefore omitting these explicit requirements from the Frequency of SR 3.9.1.1, which is consistent with the STS, is acceptable.

(2) Unit 2 CTS SR 4.9.1.2.a requires demonstration of the mode switch refuel position interlocks within 24 hours prior to the start of CORE ALTERATIONS and with a Frequency of once per 7 days thereafter. Corresponding improved TS SR 3.9.1.1 only requires a channel functional test (CFT) of each refueling equipment interlock input at a Frequency of every 7 days. Improved TS SR 3.0.1 requires SRs to be met in order for the associated LCO to be met; in this case, refueling equipment interlocks must be operable. Commencing in-vessel fuel movement without an operable interlock is prevented by improved TS ACTION A. Therefore, because the presentation of this requirement in improved TS is equivalent to the existing requirement, this change is acceptable.

2.3.9.2.b Refuel Position One-Rod-Out Interlock (Improved TS 3.9.2)

(1) Unit 1 CTS SR 4.10.A.1 and Unit 2 CTS SR 4.9.1.2 have no specific provision to test the one-rod-out interlock before entering the Applicability of the associated CTS LCO. To properly test the one-rod-out interlock, a control rod must be withdrawn. Thus, improved TS SR 3.9.2.2 contains a Note allowing 1 hour to perform the channel functional test (CFT) after a control rod is withdrawn, consistent with the STS. Control rod withdrawals are controlled by procedure. Any control rod not fully inserted is indicated in the control room. Therefore, this 1-hour allowance is acceptable.

(2) Unit 2 CTS 3.9.1, ACTION A, requires the immediate suspension of all CORE ALTERATIONS if the one-rod-out interlock is inoperable. The corresponding improved TS ACTIONS are to immediately suspend all control rod withdrawals and to fully insert all insertable control rods in core cells having one or more fuel assemblies. These actions adequately protect against potential reactivity excursions and compensate for the

inoperable one-rod-out interlock. Therefore, this change, which is consistent with the STS, is acceptable.

(3) Unit 2 CTS SR 4.9.1.1 requires verification that the reactor mode switch is locked in the refuel position within two hours prior to beginning CORE ALTERATIONS, and within 2 hours prior to resuming CORE ALTERATIONS after the mode switch was unlocked, and at least once per 12 hours. Corresponding improved TS SR 3.9.2.1 only requires verifying the reactor mode switch is locked in the refuel position once per 12 hours, consistent with the STS. Improved TS LCO 3.0.1 requires the SRs be met in order to meet the associated LCO. Commencing the withdrawal of a control rod with the required interlock inoperable is prevented by the improved TS ACTIONS. This presentation of the requirements for this interlock are equivalent to existing requirements, and is, therefore, acceptable.

2.3.9.2.c <u>Control Rod Position (Improved TS 3.9.3)</u>

(1) Unit 2 CTS LCO 3.9.3 requires maintaining all control rods fully inserted "in Condition 5, when moving fuel assemblies or startup sources in the core." This is being revised in improved TS LCO 3.9.3 to "when loading fuel assemblies in the core." This matches the STS presentation and affects the associated ACTIONS and SRs. Movement of a startup source is negligible in its reactivity effect and is not assumed in a design basis accident. The design basis accident for control rod removal error during refueling assumes all control rods are inserted during reloading the fuel, not when unloading the core. Should an incorrect fuel assembly be withdrawn, it cannot increase core reactivity. Therefore, only tying this LCO to loading fuel assemblies is acceptable.

(2) Unit 2 CTS SR 4.9.3 requires verifying all control rods are fully inserted before loading fuel, and at least once per 12 hours thereafter, while loading fuel assemblies. Corresponding improved TS SR 3.9.3.1 only requires verifying all control rods are fully inserted once per 12 hours while loading fuel assemblies into the core, consistent with the STS. Improved TS LCO 3.0.1 requires the SRs be met in order to meet the associated LCO. Commencing fuel loading without all rods fully inserted is prevented by improved TS ACTION A. Therefore, this alternate presentation of the all-rods-in requirements while loading fuel is equivalent and, therefore, is acceptable.

2.3.9.2.d <u>Control Rod Position Indication (Improved TS 3.9.4)</u>

(1) Unit 2 CTS 3.1.3.7 requires the operability of all control rod reed switch position indicators. Improved TS LCO 3.9.4 omits the reed switch position indication requirement, requiring instead the full-in position indication of each control rod, consistent with the STS. This addresses whether each control rod is fully inserted. The actual position of the control rod that is not fully inserted is not considered in response to any accident or transient during refueling. The existing SR is changed in a similar manner, from verifying the operability of the reed switch

position indication to verifying each time a control rod is withdrawn from the full-in position, that the full-in position indication indicates not full-in. Based on the adequacy of the full-in indication of each control rod, this change is acceptable.

2.3.9.2.e Control Rod Operability - Refueling (Improved TS 3.9.5)

Improved TS 3.9.5 does not contain any requirements that are less restrictive than requirements given in the CTS for control rods during refueling operations.

2.3.9.2.f Reactor Pressure Vessel (RPV) Water Level (Improved TS 3.9.6)

(1) Unit 2 CTS 3/4.9.9 requires determining that the reactor vessel water level during refueling is at least 23 feet above the top of irradiated fuel assemblies seated in the reactor pressure vessel within 2 hours prior to the start of movement of fuel assemblies or control rods within the reactor pressure vessel, and at least once per 24 hours thereafter. Corresponding improved TS SR 3.9.6 verifies the reactor vessel water level during refueling once per 24 hours. Improved TS LCO 3.0.1 requires the SRs be met in order to meet the associated LCO. Commencing movement of fuel assemblies or handling of control rods within the RPV with RPV water level below 23 feet is prevented by improved TS ACTION A. Therefore, this revised presentation of the RPV water level requirement during refueling, which is consistent with the STS, is acceptable.

2.3.9.2.g Residual Heat Removal (RHR) - High Water Level (Improved TS 3.9.7)

There is a general change in nomenclature from the CTS 'RHR system' to 'RHR shutdown cooling subsystem'. This is an administrative change which reflects the STS wording.

(1) Unit 1 CTS 3.5.B.1.b requires the operability of one RHR loop with two pumps or two loops with one pump per loop. Improved TS LCO 3.9.7, requires one RHR shutdown cooling subsystem (one pump) be operable and in operation for when the reactor pressure vessel (RPV) level is $\geq$ 22 feet, 1/8 inch, above the top of the RPV flange, consistent with the STS. This water height provides a second decay heat removal method while refueling in Mode 5, via heat transfer to the secondary containment atmosphere. Because this water level maintains a backup method of heat removal, this change is acceptable.

(2) Unit 2 CTS 3.9.12 specifies actions to take if the required RHR system is unavailable. Improved TS 3.9.7, Required Action A.1, requires verifying that an alternate method of decay heat removal is available if one of the two required RHR shutdown cooling subsystems is inoperable. This is consistent with the STS and maintains a backup method for decay heat removal. Therefore, this change is acceptable.

2.3.9.2.h Residual Heat Removal (RHR) - Low Water Level (Improved TS 3.9.8)

Improved TS 3.9.8 contains no requirements that are less restrictive than requirements given in the CTS for RHR.

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 Requirements

By electing to implement the STS Section 3.9 specifications, the licensee has adopted a number of requirements that are more restrictive than requirements given in the CTS. These more restrictive requirements are the following (Because these changes are few in number, they are not discussed separately for each specification in improved TS Section 3.9.):

(1) Unit 1 CTS do not require ACTIONS if the Refueling interlocks are inoperable. Improved TS 3.9.1, Required Action A.1, is to suspend in-vessel fuel movement with equipment associated with the inoperable interlock, if one or more required refueling equipment interlocks are inoperable.

(2) Unit 1 CTS do not require ACTIONS if the one-rod-out interlock is inoperable. Improved TS 3.9.2, Required Actions A.1 and A.2, suspend control rod withdrawal and insert all insertable control rods in core cells with fuel assemblies if the one-rod-out interlock is inoperable.

(3) Unit 1 CTS do not require ACTIONS if one or more control rods are not inserted with fuel being loaded. Improved TS 3.9.3, Required Action A.1, suspends loading of fuel if all control rods are not fully inserted.

(4) Unit 1 CTS do not require a surveillance during refueling to verify all control rods are fully inserted. Improved TS SR 3.9.3.1 adds this verification at a Frequency of 12 hours.

(5) Unit 1 CTS do not specify an LCO, ACTIONS, or SRs for the control rod full-in position indication channels for each control rod during refueling. Unit 2 CTS 3.1.3.7 only applies to control rod reed switch position indicators in Condition 5. Improved TS 3.9.4 applies to the control rod full-in position indication channels for each control rod. It requires the operability of each control rod's full-in position indication channel. New ACTIONS are specified should one or more channels be inoperable. A new SR is also required to be performed each time a control rod is withdrawn from the full-in position.

(6) Unit 1 CTS do not require the operability of the control rods during refueling. But Unit 2 CTS 3.1.3.5 requires the operability of the

control rod scram accumulators during refueling. More appropriately, improved TS 3.9.5 just requires the operability of each withdrawn control rod. Included are appropriate ACTIONS in the event of one or more inoperable withdrawn control rods, and a SR to periodically verify the operability of the withdrawn control rod(s) (including verifying adequate accumulator pressure).

(7) Unit 1 CTS do not specify the minimum water level to be maintained during refueling (Mode 5). Improved TS LCO 3.9.6 requires the reactor pressure vessel (RPV) water level to be ≥ 23 feet above the top of irradiated fuel assemblies seated in the RPV. This is consistent with the STS. An appropriate ACTION (in the event the water level decreases below the specified level) and SR (to verify the water level every 24 hours) are also specified. The level is determined by a mark on the wall above the refueling canal.

(8) Unit 2 CTS 3.9.1 only requires one RHR subsystem in Mode 5. Improved TS LCO 3.9.8 requires two subsystems with one in operation, which is more restrictive. Unit 2 CTS 3.9.1, ACTION a, requires suspending actions that increase reactor decay heat load or a positive reactivity change when the required RHR subsystem is inoperable. In addition to and because of the more restrictive improved TS operability requirements, the ACTIONS of corresponding improved TS 3.9.8 are more appropriate and provide some flexibility not given in the CTS.

Improved TS 3.9.8, ACTION A allows low water level operation in Mode 5 to continue, provided the availability of an alternate method of decay heat removal is verified within 1 hour, and every 24 hours thereafter, in the event that one or both required RHR shutdown cooling subsystem(s) are inoperable. This is consistent with the STS and maintains a backup method for decay heat removal. Because ACTION A maintains decay heat removal capability, it is acceptable to continue operation in Mode 5 with low water level. However, if no RHR subsystems are in operation and no alternate decay heat removal method is available, then additional measures beyond those currently specified are required to be taken (ACTIONS B and C).

(9) The Unit 1 CTS do not contain requirements for the residual heat removal (RHR) system that specifically apply during refueling operations, as do the Unit 2 CTS (LCO 3.9.12). Improved TS 3.9.7 and 3.9.8 add new operability requirements for the Unit 1 RHR system during refueling. In addition, these specifications require that one RHR shutdown cooling subsystem is in operation for both units.

(10) In the event that the one required RHR subsystem is inoperable during refueling, ACTION a of Unit 2 CTS 3.9.12 directs the closure of all secondary containment penetrations providing direct access from the secondary containment atmosphere to the outside atmosphere within 4 hours. Unit 1 CTS contain no action requirements for this condition. A more complete set of action requirements are given in the improved TS. ACTION B of improved TSs 3.9.7 and 3.9.8 requires (a) restoring to operable status the number of standby gas treatment (SGT) subsystems

required for secondary containment operability, and (b) restoring isolation capability of the required secondary containment penetration flow paths that are not isolated. These action requirements are consistent with the STS. In addition, improved TS SRs 3.9.7.1 and 3.9.8.1 contain a new requirement, for both units, to verify that one RHR shutdown cooling subsystem is operating every 12 hours.

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

2.3.9.4 Significant Administrative Changes

In accordance with the guidance in the Final Policy Statement, the licensee has proposed the following administrative changes to the CTS to bring them into conformance with the STS:

(1) Unit 1 CTS 3.10.A.1 and Unit 2 CTS 3.9.1 are each divided into two separate specifications in the improved TS; improved TS 3.9.1 for refueling equipment interlocks, and improved TS 3.9.2 for the one-rod-out interlock.

(2) Unit 1 CTS 3.5.B.1.b and Unit 2 CTS 3/4.9.12 are each being split into the two specifications (improved TSs 3.9.7 and 3.9.8), based on the water level above the top of the reactor pressure vessel (RPV) flange. With the water level ≥ 22 feet, 1/8 inches, above the top of the RPV, the mass of the water serves for backup decay heat removal; in this condition, one RHR shutdown cooling subsystem is required to be operable and one in operation. With the water level < 22 feet, 1/8 inches, above the top of the RPV, two RHR shutdown cooling subsystems are required operable and one in operation. In both cases, an operating RHR shutdown cooling (SDC) subsystem can be removed from operation for two hours per eight hour period.

(3) Unit 1 CTS 3.5.B.1.b requires the operability of one RHR loop with two pumps or two loops with one pump per loop. Unit 2 CTS 3.9.12 describes the minimum RHR requirement for refueling operations to consist of "at least one OPERABLE pump and one OPERABLE heat exchanger." Corresponding improved TS 3.9.8 requires two RHR shutdown cooling subsystems to be operable and with one subsystem operating when the reactor pressure vessel (RPV) level is < 22 feet, 1/8 inch, above the top of the RPV flange. Below this water height, heat transfer to the containment atmosphere does not provide an adequate second decay heat removal method while in the Mode 5. The second decay heat removal method is the other required operable RHR shutdown cooling subsystem. Because this revised presentation of the RHR operability requirements is equivalent to existing requirements, it is considered an administrative change.

The above changes result in the same limits as the current requirements, or they more clearly present the intent of the CTS. Accordingly, these changes are purely administrative and are acceptable.

2.3.9.5 Significant Difference Between the Improved TS and the STS

In electing to adopt STS Section 3.9, the licensee proposed the following difference between the improved TS and the STS:

(1) The improved TS combine STSs 3.9.6 and 3.9.7 into the single improved TS 3.9.6. The remaining improved TS Section 3.9 specifications are renumbered correspondingly. The licensee stated in its submittal that water level ≥ 23 feet above the irradiated fuel assemblies seated within the reactor pressure vessel (RPV) ensures the initial condition assumptions are satisfied in fuel handling accident scenarios for either STS 3.9.6 (movement of irradiated fuel within the RPV) or STS 3.9.7 (movement of new fuel assemblies or handling control rods within the RPV). Therefore, the combined specification is suitable.

This proposed difference from STS Section 3.9 is consistent with HNP design features and existing requirements and commitments. Therefore, it is acceptable.

2.3.10 Special Operations (Improved TS Section 3.10)

2.3.10.1 Relocated Requirements

2.3.10.1.a Existing Specifications Entirely Relocated

No special operations specifications in the CTS are being entirely relocated to licensee-controlled documents.

2.3.10.1.b Existing Specifications Relocated in Part

In accordance with the guidance in the Final Policy Statement, the licensee has proposed to relocate a part of the following CTS requirements to licensee-controlled documents.

(1) Before a single control rod can be withdrawn during special operations, improved TS LCO 3.10.5 requires, like the corresponding Unit 1 CTS 3.10.E.1.b.(2) and Unit 2 CTS 3/4.9.11.1.d, a number of precautions including disarming all of the control rods in a five-by-five array centered on the withdrawn control rod. The CTS describe the method for disarming a control rod as "electrically disarming the CRD directional control valves." This procedural detail concerning how to disarm a control rod is being moved to the Bases of improved TS 3.10.5 and plant procedures. Any change in this procedural detail will be adequately controlled by the provisions of improved TS 5.5.11, "Bases Control Program," and 10 CFR 50.59.

The above procedural detail, which is contained in CTS, is not required to be in the TS under 10 CFR 50.36, although the associated special operations specification will remain in the improved TS as is appropriate. Such detailed information is 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, it does not fall within any of the four criteria in the Final Policy Statement (discussed in Part 1 of this safety evaluation). In addition, sufficient regulatory controls exist in 10 CFR 50.59 and improved TS 5.5.11. Accordingly, this procedural detail may be removed from the CTS and placed in plant procedures and the improved TS Bases.

2.3.10.2 Less Restrictive Requirements

The licensee, in electing to implement STS Section 3.10 specifications, proposed a number of less restrictive conditions than are allowed by the CTS. These conditions are described below for each of the eight specifications in improved TS Section 3.10.

2.3.10.2.a Inservice Leak and Hydrostatic Testing Operation (Improved TS 3.10.1)

Improved TS 3.10.1 does not contain any less restrictive technical changes. However, it is noted that the RCS temperature for hydrostatic testing at HNP is > 212°F, rather than the STS value of > 200°F.

2.3.10.2.b Reactor Mode Switch Interlock Testing (Improved TS 3.10.2)

(1) Unit 1 CTS 3.10.E and Unit 2 CTSs 3.9.11.1, 3.9.11.2, and 3.10.5 address changes of the mode switch position during shutdown for reasons other than mode switch interlock testing. Using the same rationale, improved TS 3.10.2 controls testing of the reactor mode switch interlocks, permitting the reactor mode switch to be in a position other than the shutdown position provided certain specified conditions equivalent to shutdown are met. This additional operating allowance is less restrictive. These specified conditions are that all control rods remain fully inserted in the core cells containing one or more fuel assemblies and that no CORE ALTERATIONS are in progress. Thus, no additional positive reactivity insertions are possible under improved TS 3.10.2. Shutdown margin (SDM) remains as defined in improved TS LCO 3.1.1 while conducting special operation activities in accordance with improved TS 3.10.2. On the basis that the shutdown margin is maintained, this change is acceptable.

2.3.10.2.c Single Control Rod Withdrawal - Hot Shutdown (Improved TS 3.10.3)

(1) Unit 1 CTS 3.10.E and Unit 2 CTS 3.10.5 allow the withdrawal of a single control rod only in Mode 4 (cold shutdown). Improved TS 3.10.3 conditionally permits placing the mode switch in the refuel position and withdrawing a single control rod while in Mode 3 (hot shutdown). The specified conditions safely allow the withdrawal of only one rod at a time; all other rods must be fully inserted. These conditions require either meeting RPS and control rod operability requirements or disarming all other control rods in a five-by-five array centered on the rod to be withdrawn (this is an additional method of maintaining the required SDM). These requirements add to the CTS Mode 3 requirements and are

consistent with the STS. Because these additional requirements ensure that the required SDM is maintained, this new allowance to withdraw a single control rod while in Mode 3 does not present a significant safety question in the conduct of special operations. Therefore, this change is acceptable.

2.3.10.2.d Single Control Rod Withdrawal - Cold Shutdown (Improved TS 3.10.4)

Improved TS 3.10.4 does not contain any requirements that are less restrictive than the Mode 4 requirements for single control rod withdrawal given in the CTS.

2.3.10.2.e Single Control Rod Removal - Refueling (Improved TS 3.10.5)

(1) Unit 1 CTS 3.10.E.1.a and Unit 2 CTS 3/4.9.11.1.a require locking the mode switch in the refuel position when removing a control rod from a core cell containing one or more fuel assemblies for the purpose of performing CRD maintenance. Because plant procedures adequately control both the movement of the mode switch from the refuel position and requirements for locking the mode switch in that position, the CTS locking requirement noted above is being deleted. This is acceptable because corresponding improved TS 3.10.5 contains the following compensatory requirements (and appropriate SRs) that ensure the required SDM is maintained and that an inadvertent criticality will not occur:

- All other control rods are fully inserted.
- All other control rods in a five-by-five array centered on the withdrawn control rod are disarmed.
- A control rod block is inserted.
- No other CORE ALTERATIONS are permitted.

(2) The Frequency of Unit 2 CTS SR 4.9.11.1, "Within four hours prior to the start of removal of a control rod and/or the associated control rod drive mechanism," is being changed in corresponding improved TS SRs 3.10.5.1 and 3.10.5.2 to a Frequency of 24 hours. The Frequency of Unit 2 CTS SR 4.9.11.1 also states "at least once per 24 hours thereafter." Since the ACTIONS of improved TS 3.10.5 would not allow entering the Applicability of the LCO without the associated SRs being met, a requirement of improved TS SR 3.0.1 for meeting the LCO, the omission of this Frequency of 4 hours before CRD removal is acceptable.

2.3.10.2.f Multiple Control Rod Withdrawal - Refueling (Improved TS 3.10.6)

(1) Unit 1 CTS 3.10.E.2 and Unit 2 CTS 3.9.11.2.a contain these two statements, respectively: "the Mode Switch is locked in the REFUEL position" and "the reactor mode switch is locked in the refuel position per [Unit 2 CTS] Specification 3.9.1." These statements are being omitted from corresponding improved TS 3.10.6 because the improved TS Table 1.1-1, "MODES," defines the plant operational conditions, or Modes, based in part on the position of the mode switch. These Mode definitions, in combination with the Applicability of each specification in the improved TS, ensure the mode switch is maintained in the correct

position consistent with the current plant conditions. In addition, plant procedures will control movement of the mode switch from the refuel position, consistent with these improved TS requirements. Thus, including specific requirements for the mode switch position in improved TS 3.10.6 is not necessary. Therefore, deletion of the CTS requirements noted above is acceptable.

(2) Unit 2 CTS 4.9.11.2.2 requires a functional test of the one rod out - refuel position interlock (if the function had been bypassed) following replacement of control rods or control rod drive mechanisms. This explicit post-maintenance test requirement is being omitted from the improved TS, but will continue to be governed by in plant maintenance procedures. Restoring this interlock to operable status following CRD maintenance requires satisfying the acceptance criteria of improved TS SR 3.9.2.2 (the one rod out - refuel position interlock functional test). Therefore, this change is acceptable.

(3) The Frequency of the Unit 2 CTS SR 4.9.11.2.1, "Within four hours prior to the start of removal of a control rod and/or the associated control rod drive mechanism," is being changed to a Frequency of 24 hours in improved TS SRs 3.10.6.1 and 3.10.6.2. The Frequency of Unit 2 CTS SR 4.9.11.2.1 also states "at least once per 24 hours thereafter." Omission of this Frequency is acceptable for reasons similar to those previously stated in paragraph 2.3.10.2.e(2) and because the ACTIONS of improved TS 3.10.6 prevent control rod withdrawal with the associated SRs not met.

(4) Unit 1 CTS 3.10.E.2 specifies requirements for the withdrawal of more than two control rods while in refueling. Improved TS LCO 3.10.6.c allows fuel assemblies to be loaded with multiple control rods withdrawn only if loading is in compliance with an approved spiral reload sequence. This less restrictive provision is not in the Unit 1 CTS. This spiral reload sequence will account for withdrawn control rods or removed control rod drives in the reload sequence and will ensure that shutdown margin requirements are not violated. On this basis, this change (which is more restrictive for Unit 2, but consistent with STS), is acceptable.

2.3.10.2.g <u>Control Rod Testing - Operating (Improved TS 3.10.7)</u>

Improved TS 3.10.7 does not contain any requirements that are less restrictive than the requirements for control rod testing given in the CTS.

2.3.10.2.h <u>Shutdown Margin Test - Refueling (Improved TS 3.10.8)</u>

(1) Unit 2 CTS 3.10.3, "Shutdown Margin Demonstrations," permits the mode switch to be placed in the startup position when in Mode 5 in order to withdraw more than one control rod to demonstrate shutdown margin (SDM) provided a number of conditions are satisfied. Unit 1 CTS do not have a corresponding separate specification. This allowance is being placed in improved TS 3.10.8 for both units, provided that specific Mode 2 requirements are satisfied, to allow for SDM testing. These

requirements exceed those required by Unit 2 CTS and are, therefore, more restrictive for Unit 2. The addition of this allowance to Unit 1 requirements, even with the restrictions, is considered less restrictive than the CTS for Unit 1. These six requirements in addition to the Mode 5 requirements are:

- Control rod withdrawal sequence is in accordance with SDM test sequence.
- The SDM test sequence is verified by the rod worth minimizer (RWM) or a second operator or other defined qualified personnel.
- Automatic scram protection is provided as if in Mode 2.
- Each withdrawn control rod remains coupled to its control rod drive, thus minimizing the potential for a multiple control rod drop accident.
- All control rod withdrawals are made in the notch-out mode.
- No other CORE ALTERATIONS are in progress.

Additionally, the control rod drive charging header pressure must be ≥ 940 psig to maintain the scram capability. This change is consistent with the STS. Given these compensatory requirements and associated SRs that demonstrate compliance with the compensatory requirements, this change is acceptable for both units.

(2) Unit 2 CTS SR 4.10.3 requires verification that the following LCO requirements of Unit 2 CTS 3.10.3 are satisfied within 30 minutes prior to performing the SDM test. The first requirement is less restrictive, the second is more restrictive.

- Verify that no other CORE ALTERATIONS are in progress. Improved TS SR 3.10.8.4 requires this verification on a 12-hour interval, instead of a single verification within 30 minutes prior to performing the SDM test. Improved TS LCO 3.10.8 requires meeting the conditions of the SRs before entry into the Applicability of the LCO, and at a Frequency of 12 hours. Thus, the surveillance is completed before entry into the Applicability of the LCO, and continues every 12 hours after the first surveillance. Therefore, this change is acceptable.

- Verify that the rod worth minimizer (RWM) is operable or that a second licensed operator is present to verify compliance with SDM demonstration procedures. The licensee reports that the current RWM SR is a "paper-check," verifying that the Unit 2 CTS SR 4.1.4.1 (RWM operability verification) is current. In contrast, the improved TS require either performing this test (SR 3.10.8.2 and corresponding SR 3.3.2.1.8) or if the RWM is inoperable, verifying correct movement of control rods every time rods are moved (SR 3.10.8.3). This change is more restrictive than the current requirement. Therefore, it is acceptable.

The staff reviewed these less restrictive requirements and found them to be acceptable because they do not present a significant safety question in the conduct of special operations at HNP. The requirements remaining in the TS

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 Requirements

By electing to implement STS Section 3.10 specifications, the licensee has adopted a number of requirements that are more restrictive than requirements given in the CTS. These more restrictive requirements are the following (because these changes are few in number, they are not discussed separately for each specification of improved TS Section 3.10):

(1) Unit 2 CTS 3/4.10.1, "Primary Containment Integrity," and 3/4.10.4, "Recirculation Loops," are being deleted because all low-power physics tests for Unit 2, for which they were provided, are complete. This change eliminates an allowed exemption to the LCOs, making operation more restrictive.

(2) For both units, improved TS 3.10.4 adds the scram discharge volume (SDV) water level - high trip functions to the RPS instrumentation functions required to be operable in order to allow the withdrawal of a single control rod while in Mode 4, cold shutdown.

(3) The Unit 1 CTS 3.10.E.1 allowance to remove two control rods during refueling is being changed in improved TS LCO 3.10.5 to allow only one control rod to be withdrawn and removed from the core. New requirements associated with this change ensure that

- All other control rods are fully inserted.
- Modified SDM requirements are satisfied.
- No other CORE ALTERATIONS are in progress.

A control rod block is inserted to prevent another rod from being withdrawn. Corresponding SRs are also being added. This change is more restrictive on Unit 1 operation.

Corresponding Unit 2 CTS 3/4.9.11.1 is also being made more restrictive by inserting a control rod block, not allowing other CORE ALTERATIONS, and by adding new SRs.

(4) New requirements for both units are contained in improved TS 3.10.6. This specification restricts fuel loading to an approved spiral reload sequence if multiple control rods are removed. SRs verifying this restriction are also added. In addition, improved TS LCO 3.10.6.c, which ensures that all other control rods are fully inserted if they are in a cell containing fuel, is new for Unit 1. Improved TS SR 3.10.6.2, which ensures that all fuel assemblies around the control rod being withdrawn are removed, is also new for Unit 1.

(5) Improved TS 3.10.8 adds a requirement and an associated SR to maintain the CRD charging header pressure at ≥ 940 psig. This requirement and

the associated improved TS SR 3.10.8.6 are new to Unit 2, and ensure the capability to scram the control rods.

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

2.3.10.4 Significant Administrative Changes

In accordance with the guidance in the Final Policy Statement, the licensee has proposed the following administrative change to the CTS for both units to bring them into conformance with the STS:

(1) Improved TS 3.10.7 modifies Unit 1 CTS 3.3.G and Unit 2 CTS 3.1.4.1 to allow the specified test sequence to be programmed into the RWM and uses the RWM to enforce the test program in lieu of bypassing the RWM. Appropriate SRs are added to ensure that the RWM is loaded with the correct sequence. This permits the RWM to be used in lieu of requiring a dedicated plant operator to ensure the test pattern is followed. Since Unit 2 CTS 3.1.4.1 allows programming the RWM with the BPWS rod pattern to ensure proper sequencing, allowing it to be programmed with the test pattern to ensure proper rod withdrawal sequencing is actually an administrative change.

This change results in the same limits as the current requirement and more clearly presents the intent of the CTS. Accordingly, this purely administrative change is acceptable.

2.3.10.5 Significant Difference Between the Improved TS and the STS

In electing to adopt STS Section 3.10, the licensee proposed the following difference between the improved TS and the STS:

(1) STS 3.10.9, "Recirculation Loops - Testing," and 3.10.10, "Training Startups," are not being included in the improved TS because the allowances they contain are not needed at HNP.

This proposed difference from STS Section 3.10 is consistent with HNP design features and existing requirements and commitments. Therefore, it is acceptable.

2.4 Design Features (Improved TS Section 4.0)

This improved TS section contains the same material as found in the CTS except for those less 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

The licensee has proposed to entirely or partially relocate a number of CTS design features specifications to the FSAR or other licensee-controlled documents, as follows.

2.4.0.1.a Existing Specifications Entirely Relocated

The following design feature specifications in the CTS for both units are being entirely relocated to the FSAR where they are also described, as noted below. (FSAR tables may be recognized by a "dash.")

Unit 1 CTS	FSAR Section	Title
5.0.C	4.2-1, 4.2-2	Reactor Vessel
5.0.D.1	5.2-1	Primary Containment
5.0.D.2	5.3.3.1, 12.4.4	Secondary Containment
5.0.D.3	5.2.3.4	Primary Containment Penetrations
5.0.F	12.3.3	Seismic Design

Unit 2 CTS	FSAR Section	Title
5.2	6.2.1	Primary Containment
5.4	5.1, 5.2	Reactor Coolant System
5.5	2.3.3	Meteorological Tower Location

(1) Reactor Coolant System, Containment System, and Seismic Design Details

The CTS "design parameters" of the Unit 1 reactor vessel, primary and secondary containments, and the Unit 1 seismic design requirements are detailed in the Unit 1 FSAR as noted above. Similarly, configurations, design temperatures and pressures, and volumes of the Unit 2 primary containment and the reactor coolant system (RCS) are detailed in the Unit 2 FSAR as noted above. Furthermore, features such as the RCS and containment systems that have a potential to affect safety, are sufficiently addressed by the improved TS LCOs. The design details noted above, if altered in accordance with 10 CFR 50.59, will not result in a significant impact on safety. Thus, these design details do not satisfy the criterion of 10 CFR 50.36(c)(4). Therefore, removing these design details from the CTS, while maintaining them in the FSAR, will not impact safe operation of the facility.

(2) Meteorological Tower Locations

Meteorological tower locations depicted in Unit 2 CTS Figure 3.11-1, "Unrestricted Area Boundary," are also detailed in the Unit 2 FSAR as noted above. Changes to these locations in accordance with 10 CFR 50.59 will not have a significant impact on safety. Therefore, this design information does not satisfy the criterion of 10 CFR 50.36(c)(4) for inclusion in the design features section of the TS. Removing this specification from the Unit 2 CTS, while maintaining the detail in the FSAR, will not impact safe operation of the facility.

These current design features specifications 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. In addition, the staff finds that sufficient regulatory controls exist in 10 CFR 50.59. Accordingly, these requirements may be moved from the CTS and placed in the FSAR.

2.4.0.1.b Existing Specifications Relocated in Part

The licensee has proposed to relocate portions of the following current specifications in the design features section to licensee-controlled documents.

(1) The details of the requirements of Unit 1 CTS 5.0.G and associated Table 5.0.G-1, and Unit 2 CTS 5.7 and associated Table 5.7.1-1, relating to component cyclic and transient limits, are being relocated to Sections 4.2 and 5.2 of the Unit 1 and 2 FSARs, respectively. The requirement to observe these limits is being specified in a new administrative controls program, improved TS 5.5.5, "Component Cyclic or Transient Limit." These changes are consistent with the STS, except that the program is limited to reactor coolant pressure boundary components. This is acceptable because it is consistent with CTS requirements. Improved TS 5.5.5 provides sufficient administrative controls for reactor pressure vessel cyclic and transient occurrences, to ensure that components are maintained within design limits, consistent with the regulations. The combination of this new administrative program specification and the relocation of these existing limits to the FSAR for each unit will provide a level of protection and control equivalent to the current specifications. Any changes to these limits and the details for implementing this program will be adequately controlled by the provisions of 10 CFR 50.59. Therefore, relocation of these details to the FSAR is acceptable.

The details of these current requirements, relating to cyclic and transient 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. In addition, sufficient regulatory controls exist under 10 CFR 50.59 and improved TS 5.5.5. Accordingly, these requirements may be removed from the CTS and placed in the FSAR and improved TS 5.5.5 program documents, as appropriate.

2.4.0.2 Less Restrictive Requirements

The licensee, in electing to implement STS Section 4.0 specifications, proposed the following requirement that is less restrictive than requirements given in the CTS.

(1) Improved TS 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 gives recognition to 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 this test.

The requirements of 10 CFR 50.59 regarding the conduct of 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 impact on safety. This change is in also in conformance with Supplement 1 of Generic Letter 90-02, "Alternative Requirements for Fuel Assemblies in the Design Features Section of Technical Specifications," July 31, 1992.

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 improved TS Section 4.0 are consistent with the STS and are sufficient to satisfy 10 CFR 50.36(c)(4).

2.4.0.3 <u>More Restrictive Requirements</u>

By electing to implement STS Section 4.0 specifications, 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) Unit 1 CTS include a description of the site boundary in Section 1.0, "Definitions." This description along with the additional descriptions of the exclusion area boundary and low population zone are being included in improved TS 4.1.1 and 4.1.2, and Figure 4.1-1, consistent with STS and current TS Section 5.0 for Unit 2. All three areas are included in one Figure because at HNP they coincide with one another.

(2) Additional limitations for both units on fuel storage in the spent and new fuel storage racks, respectively, are being included in improved TS 4.3.1, "Criticality," consistent with STS. The spent (new) fuel storage racks shall be maintained with a "nominal 6.5 (11.5) inch center to center distance between fuel assemblies placed in the storage racks. The different numbers specified correspond to design differences between the spent and new fuel storage racks.

(3) Additional limitations for Unit 1 on drainage and capacity are being included in improved TSs 4.3.2, "Drainage," and 4.3.3, "Capacity," consistent with STS and current TS Section 5.0 for Unit 2.

In addition, the elevation below which draining of the spent fuel storage pool is required to be prevented by design, as specified in Unit 2 CTS 5.6.2, is being corrected to the more conservative value

corresponding to the bottom of the fuel transfer canal. This elevation is the lowest point to which the pool can be inadvertently drained.

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 STS format and wording and moving the programmatic requirement for cyclic and transient limits to improved TS 5.5.5, to bring existing design features specifications into conformance with the STS, the licensee has not proposed other significant administrative changes in the design features section for either unit.

2.4.0.5 Significant Differences Between the Improved TS and the STS

In electing to adopt STS Section 4.0, the licensee proposed the following differences between the improved TS and the STS:

(1) STSs 4.3.1.1.a and 4.3.1.2.a, regarding new and spent fuel storage rack designs relative to k-infinity of the fuel assemblies, are not being adopted in the improved TS because these requirements are not included in the CTS for HNP Units 1 and 2.

(2) STS 4.3.1.2.c, regarding the limitation on k-effective if new fuel racks are moderated by aqueous foam, is not being adopted in the improved TS because the HNP design does not allow aqueous foam to be on the refueling floor area. Thus, this provision is not included in the current licensing basis for HNP.

These differences from STS Section 4.0 are consistent with HNP design features and existing requirements and commitments. Therefore, they are acceptable.

2.5 Administrative Controls (Improved TS Section 5.0)

HNP has proposed to implement Section 5.0 of the STS, with some plant-specific differences. The format of improved TS Section 5.0, which is consistent with that of the STS, is presented in 7 parts:

- Responsibility
- Organization
- Unit Staff Qualifications
- Procedures
- Programs and Manuals
- Reporting Requirements
- High Radiation Area

Unlike the other sections of the CTS for both units, the format and content of the existing administrative controls sections are nearly identical, differing only in details related to minor design differences.

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.

2.5.0.1.a Existing Administrative Control Specifications Entirely Relocated

The following existing administrative control specifications are being entirely relocated to other licensee-controlled documents, consistent with the STS.

Existing TS	Title
6.2.2.e	Senior Reactor Operator Present During CORE ALTERATIONS
6.2.2.f	Fire Team
6.4	Training
6.5	Review and Audit
6.6	Reportable Event Action
6.8.1.d	Security Plan Implementation
6.8.1.e	Emergency Plan Implementation
6.8.2 and 6.8.4	Procedure Review and Approval Process
6.8.3	Procedure Temporary Change Process
6.9	Start-Up Report
6.10	Record Retention
6.11	Radiation Protection Program
6.14	Iodine Monitoring
6.15	Environmental Qualification
6.20	Process Control Program

Additional details regarding the relocation of each of these provisions follow.

(1) Senior Reactor Operator Present During CORE ALTERATIONS

Details contained in CTS 6.2.2.e that require all CORE ALTERATIONS to be supervised by either a licensed Senior Reactor Operator or Senior Reactor Operator Limited to Fuel Handling are being relocated to plant procedures. These CTS requirements are contained in 10 CFR 50.54 (m)(2)(iv) and do not need to be repeated in the improved TS.

(2) Fire Team

Details of fire protection requirements, such as the fire team in CTS 6.2.2.f, are being relocated to plant procedures, the FSAR, and the Fire Hazards Analysis. Fire protection program requirements are specified in Operating License Condition 2.C.(3) and do not need to be placed in the

improved TS. Changes to fire team requirements that are relocated as described will be adequately controlled by the provisions of 10 CFR 50.59 and License Condition 2.C.(3).

The regulations require that the licensee have a fire protection program (10 CFR 50.48), including design features that satisfy Criterion 3 of Appendix A to 10 CFR 50, and a quality assurance (QA) program which ensures appropriate maintenance of such plans (Appendix B to 10 CFR 50). The design features required for fire protection (for example, safe shutdown capability) and the procedures that implement the fire protection program provide reasonable assurance that the occurrence of any fires will not present an undue risk to public health and safety. Other details of the fire prevention and mitigation features and program procedures are not required to avert an immediate threat to the public health and safety, nor do they fall within any of the four criteria for technical specifications. Examples of these details are fire detection instrumentation design, fire suppression system capabilities, fire barrier construction, and the frequency of QA audits of the fire protection program. Although there are aspects of the fire detection and mitigation functions that have been determined to be risk significant, the minimum requirements for those functions are established in the regulations, with which the licensee must comply regardless of whether the requirements are restated in the TS. In addition, the staff finds that sufficient regulatory controls exist under License Condition 2.C.(3), 10 CFR 50.59, and 10 CFR 50.54(a) to assure continued protection of the public health and safety. Accordingly, the staff has concluded that these requirements may be relocated from the CTS to the licensee's FSAR and QA Plan, as appropriate.

(3) Training

The details contained in CTS 6.4.1 on training and replacement training for the unit staff are being relocated to the FSAR. These training provisions are adequately addressed by other improved TS 5.0 provisions and by regulations. Improved TS Section 5.3, "Unit Staff Qualifications," provides requirements to ensure adequate, competent staff in accordance with ANSI N18.1-1971 and Regulatory Guide 1.8, September 1975. Improved TS 5.2 details unit staff requirements. Improved TS 5.2.2.a, 5.2.2.b, and 10 CFR 50.54 state minimum shift crew requirements. Training and requalification for licensed positions are contained in 10 CFR 50.55. Placement of training requirements in the FSAR will ensure that training programs are properly maintained in accordance with HNP commitments and applicable regulations. Any changes to training requirements will be adequately controlled in accordance with the provisions of 10 CFR 50.59 and 10 CFR 50.55.

The details contained in CTS 6.4.2 on Fire Protection Training, as well as details of other Fire Protection requirements, are adequately addressed in the Fire Hazards Analysis. These details need not be repeated in the TS. Any changes to the Fire Hazards Analysis will be adequately controlled by the provisions of 10 CFR 50.59.

(4) Review and Audit

The details of CTS 6.5, "Review and Audit," are being relocated to the FSAR and implementing procedures. The review and audit activities performed by the plant review board (PRB) and safety review board (SRB) are required by ANSI N18.7-1976. Additional audit requirements are contained in 10 CFR 50.54(p); 10 CFR 50.54(t); 10 CFR Part 50, Appendix B, Criterion XVIII; 10 CFR Part 73, and ANSI N45.2-1971. These review and audit activities are addressed in adequate detail in the FSAR and the implementing procedures and do not need to be repeated in the improved TS. Any changes to these review processes as they are described the FSAR and delineated in plant implementing procedures will be adequately controlled by the cited regulations and by the provisions of 10 CFR 50.59.

(5) Reportable Event Action

The licensee proposes that the requirement in CTS 6.6.1.a that the Commission be notified of all reportable events not be retained in the improved TS. 10 CFR 50.73(a)(2) provides requirements for the licensee to submit a Licensee Event Report (LER) for all reportable events specified in 10 CFR 50.73. The reports are required to be submitted within 30 days and will contain the same type of information required by CTS 6.6.1.a. The above requirements are included in the licensee procedures which implement 10 CFR 50.72, 10 CFR 50.73 and the TRM. The staff concludes that these regulatory requirements provide sufficient control of these provisions and removing them from the TS is acceptable.

(6) Security Plan Implementation and Emergency Plan Implementation

The requirements to establish, implement, and maintain procedures related to the emergency plan and security plan are being relocated to their respective plans. Inclusion of these requirements in TS is an unnecessary duplication of existing requirements. Procedures to implement the emergency plan and the security plan are required by 10 CFR 50, Appendix E and 10 CFR 50.54(p). In addition, conformance with 10 CFR Chapter I, which requires these plans, is a license condition. Changes to these plans are governed 10 CFR 50.54(p) for the Security Plan and 10 CFR 50.54(q) for the emergency plan. Relocation of these requirements from TS does not reduce or change the requirements because the TS are redundant to existing requirements. In addition, changes to these plans are adequately governed by existing regulations. The staff, therefore, concludes that these changes are acceptable.

(7) Procedure Review and Approval Process and Temporary Change Process

The details of procedure reviews and approvals, including temporary changes contained in CTSs 6.8.2, 6.8.3, and 6.8.4, are being relocated to the FSAR and implementing procedures. The basis for relocating these requirements are the following regulations and standards that contain these provisions such that duplication in TS is not necessary. The requirements for the establishment, maintenance, and implementation of

procedures related to activities affecting quality are contained in 10 CFR Part 50, Appendix B, Criterion II and Criterion V; ANSI N18.7-1976; and ANSI N45.2-1971. In accordance with these requirements, the FSAR and implementing procedures will contain adequate detail with respect to the administrative control of procedures related to activities affecting quality and nuclear safety. Because changes to the FSAR and implementing procedures for the review and approval of procedure changes will be adequately controlled by the cited regulations and by the provisions of 10 CFR 50.59, relocating these requirements from the CTS is acceptable.

(8) Start-Up Report

The requirements in CTS 6.9.1.1 through 6.9.1.3 to submit a start-up report have been relocated to the TRM. The report was a summary of plant startup and power escalation testing following receipt of the Operating License, an increase in licensed power level, the 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 facility. The report provided a mechanism for the staff to review the appropriateness of licensee activities after-the-fact, but contained no requirement for staff approval. Inasmuch as this report was required to be provided to the staff within 90 days following completion of the respective milestones, all of which have already occurred, the removal of this requirement is acceptable.

(9) Record Retention

The details contained in CTS 6.10, "Record Retention," are being relocated to the FSAR and implementing procedures. The requirement for retention of records related to activities affecting quality is contained in 10 CFR Part 50, Appendix B, Criterion XVII and other sections of 10 CFR Part 50 that are applicable to HNP (i.e., 10 CFR 50.71, 10 CFR Part 73, etc.). These record retention requirements provide a record of certain activities important to plant safety, but the records themselves do not assure safe operation of the facility since review of these records is a post-compliance review. By retaining these requirements in plant procedures and the FSAR, any changes in these record retention requirements will be adequately controlled under the provisions of 10 CFR 50.59 and the cited regulations.

(10) Radiation Protection Program

The details contained in CTS 6.11, "Radiation Protection Program," are being relocated to the FSAR and plant procedures. This relocated program requires procedures to be prepared for personnel radiation protection consistent with 10 CFR Part 20. These procedures are for the protection of nuclear plant personnel and have no impact on nuclear safety or the health and safety of the public. Requirements to have procedures to implement 10 CFR Part 20 are contained in 10 CFR 20.1101(b). Periodic review of these procedures is required by 10 CFR

20.1101(c). Since the CTS are redundant to requirements in the regulations, they need not be included in the improved TS. Changes to Radiation Protection Program procedures as described in the FSAR will be adequately controlled by the cited regulations and 10 CFR 50.59.

(11) Iodine Monitoring

The details contained in CTS 6.14, "Iodine Monitoring," are being relocated to plant procedures. The CTS iodine monitoring program is required by the GPC commitment for HNP regarding NUREG-0737, Item III.D.3.3, as stated in a letter to the NRC from GPC dated December 30, 1980. This program contains controls to ensure the capability to accurately determine the airborne iodine concentration in vital areas under accident conditions. This program is designed to minimize radiation exposure to plant personnel following an accident. The training aspect of the program is accomplished as part of the continual training program for personnel in the cognizant organizations, as well as during the training for those individuals responsible for implementing the radiological emergency planning procedures. Provisions for monitoring and performing maintenance of the sampling and analysis equipment are addressed in chemistry and radiation protection procedures. Any changes to plant procedures that address these programmatic requirements will be adequately controlled by the provisions of 10 CFR 50.59.

(12) Environmental Qualification

The details of CTS 6.15, "Environmental Qualification," are being relocated to plant procedures and plant controlled design change control programs. This CTS provision duplicates requirements in 10 CFR 50, Appendix A, Criterion 4, as implemented by 10 CFR 50.49, which specifies environmental and dynamic effects design bases. Therefore, this provision need not be repeated in the improved TS. Plant procedures and design change control programs that contain the details of this provision will continue to ensure that environmental qualification requirements of the regulations are satisfied whenever changes and modifications are made to systems or equipment as described in the FSAR. Any changes in these relocated environmental qualification provisions will be adequately controlled by the cited regulations and 10 CFR 50.59.

(13) Process Control Program

The details contained in CTS 6.20, "Process Control Program (PCP)," and the definition of "Process Control Program" are being relocated to Quality Assurance programmatic requirements in the FSAR. Changes to the PCP as described in the FSAR will be adequately controlled by the provisions of 10 CFR 50.59 and also by the provisions of 10 CFR Part 54 for changing the QA Plan. The PCP implements the requirements of 10 CFR Part 20, Part 61, and Part 71 and, as such, relocation of the description of the PCP from the improved TS does not affect the safe operation of the facility.

The above existing administrative control specifications, being entirely relocated to licensee-controlled documents, 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. In addition, the staff finds that sufficient regulatory controls exist under Unit 1 License Condition 2.C.(3) and Unit 2 License Condition 2.C.(3)(b) (Fire Protection Program), and the Commission's regulations, as cited above. Accordingly, these requirements may be removed from the CTS and placed in the licensee's fire protection program and Fire Hazards Analysis, the FSAR, plant procedures, the QA programmatic requirements in the FSAR, and the Emergency and Security Plans, as appropriate.

2.5.0.1.b <u>Existing Administrative Control Specifications Relocated In Part</u>

In electing to adopt Section 5.0, the licensee has proposed to relocate parts of the following existing administrative control specifications to other licensee-controlled documents. The improved TS location of that part of each of these specifications being retained is also indicated.

Existing TS	Improved TS	Description of Relocated Requirement
4.9.A.2.d.2 4.8.1.1.2.c*	5.5.9	Diesel Fuel Oil Testing Methods
3.15.1.4 3.11.1.4*	5.5.8 5.5.8	Liquid Holdup Tank Activity Limits
3.15.2.6 3.11.2.6*	5.5.8 5.5.8	Offgas System Hydrogen Concentration Limits
6.2.2.a and 6.2.2-1	5.1.5, 5.2.2.a, 5.2.2.c, and 5.2.2.g	Minimum Shift Composition
6.2.2.h	5.2.2.f	Positions Requiring an Operators License
6.19	5.5.1	Radiological Environmental Monitoring Program

* Denotes Unit 2 Specification Number

(1) Unit 1 CTS SR 4.9.A.2.d.2 and Unit 2 CTS SR 4.8.1.1.2.c for diesel fuel oil testing apply to the fuel in the storage tanks. The general requirement to test fuel oil is being relocated to improved TS 5.5.9, "Diesel Fuel Oil Testing Program," while the details of implementing these requirements are being relocated to the FSAR and plant procedures. This program requires testing in accordance with applicable ASTM Standards. In addition, the following two additional requirements are being included in the improved TS:

- Improved TS 5.5.9.a requires establishing the acceptability of new fuel for use prior to addition to the storage tanks.

- Improved TS 5.5.9.b requires determining the total particulate concentration of the fuel oil (≤ 10 mg/l) every 92 days utilizing ASTM D-2276, Method A-2 or A-3. This test is in addition to the testing requirements in CTS that are being relocated to plant procedures and the FSAR.

Any changes to the relocated provisions will be adequately controlled in accordance with 10 CFR 50.59. The staff concludes that the relocation of these provisions, the addition of the new test requirements, and the improved TS programmatic requirement for diesel fuel oil testing together provide an equivalent level of control over such testing to that provided by existing TS.

(2) Details of the methods for implementing the provisions of Unit 1 CTS 3.15.1.4 and Unit 2 CTS 3.11.1.4 concerning activity limits in radioactive effluent liquid holdup tanks, and Unit 1 CTS 3.15.2.6 and Unit 2 CTS 3.11.2.6 concerning limits on the concentration of hydrogen downstream of the recombiners in the main condenser offgas treatment system (explosive gas mixture) are being relocated to the FSAR and plant procedures. The requirements to have controls over activity levels in the liquid holdup tanks and explosive gas concentrations are being retained in improved TS 5.5.8, "Explosive Gas and Storage Tank Radioactivity Monitoring Program," consistent with the STS and the HNP plant design. Changes to the methods for implementing the requirements of this program will be adequately controlled in accordance with the provisions of 10 CFR 50.59.

(3) Minimum shift crew requirements presently required by CTS 6.6.2.a with details located in Table 6.2.2-1 are being relocated to plant procedures. The minimum shift crew requirements for licensed operators and senior operators are contained in 10 CFR 50.54 (k), (l), and (m) and need not be repeated in improved TS. Minimum shift crew requirements for non-licensed plant equipment operators are transferred from present Table 6.2.2-1 to improved TS 5.2.2.a. In addition, improved TS 5.1.5 contains requirements for the control room command function, improved TS 5.2.2.c contains minimum requirements for licensed Reactor Operators and Senior Operators to be present in the control room, and improved TS 5.2.2.g contains STA requirements. The relocation of the details of the minimum shift crew requirements to plant procedures is acceptable considering the controls provided by regulations, the remaining requirements in the improved TS, and plant procedure change control provisions of 10 CFR 50.59.

(4) CTS 6.2.2.h details operator license requirements for the Manager of Operations, Operations Superintendents, Shift Supervisors, and plant operators. Consistent with the STS, the operator license requirements for these positions, except for the Manager of Operations (improved TS 5.2.2.f), are being relocated to the FSAR and plant procedures. Changes

to these relocated requirements will be adequately controlled by the provisions of 10 CFR 50.59.

(5) The details contained in CTS 6.19, "Radiological Environmental Monitoring Program," are being relocated to the Offsite Dose Calculation Manual (ODCM). This program requires monitoring the radiation and radionuclides in the environs of HNP consistent with the guidance specified in 10 CFR Part 50, Appendix I. This program ensures that radioactive effluents are restricted to levels as low as reasonably achievable, and have no impact on plant nuclear safety. The details and description of the program are already contained in the ODCM, as specified by the CTS and improved TS 5.5.1. The staff concludes that these regulatory requirements and the ODCM provide sufficient control of these provisions and removing them from the CTS 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 improved TSs 5.5.1 and 5.5.8. Accordingly, detailed information and requirements, as described above, which are contained in the CTS may be relocated to plant procedures, the ODCM, or the FSAR, as appropriate.

2.5.0.2 Less Restrictive Administrative Requirements

In electing to adopt Section 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 improved TS presentation. Note that there are no requirements in improved TS Section 5.1, "Responsibility," Section 5.2, "Organization," Section 5.3, "Unit Staff Qualifications," or Section 5.4, "Procedures," that are less restrictive than the administrative requirements in the CTS.

(1) CTS 6.18, corresponding to improved TS 5.5.4, "Radioactive Effluent Control Program," uses the term "operability" when referring to radioactive liquid and gaseous monitoring instrumentation and treatment systems. The improved TS uses the term "functional capability" which is consistent with the STS. This change is necessary because the Radioactive Effluent Controls Program, although required by TS, is located outside the TS in the ODCM. Use of the TS term "operability" can be confusing when used in programs which are not in the TS. The term functional capability means that the component or system is capable of performing its design function. This change is acceptable because the intent of the current requirements for radioactive liquid and gaseous monitoring instrumentation and treatment systems will continue to be satisfied.

(2) CTS 6.9.1.4 requires submission of the annual reports specified in CTS 6.9.1.5 for the previous calendar year prior to March 1 of each year.

The date of submission is being relaxed in the improved TS to March 31 of each year, consistent with the STS. This change provides an additional 30 days to obtain calendar year based analyses results which are needed for submittal of the Occupational Radiation Exposure Report. The staff finds that this additional time for the submission of this report each year is reasonable and that it will not interfere with the staff's routine use of the information provided. Therefore, the staff concludes this additional time is acceptable. The other annual reports specified in CTS 6.9.1.5 are either increased in frequency or are being removed from TS. See the discussion of the report on the lifting of safety/relief valves in paragraph 2.5.0.3(10) below.

CTS 6.9.1.5.c requires annual reporting of the results of specific activity analysis in which the primary coolant exceeded the activity concentration limits of Unit 1 CTS 3.6.F.1 or Unit 2 CTS 3.4.5 (corresponding to improved TS 3.4.6). This reporting requirement is unnecessary since it is generally contained in the LER requirements to report fuel cladding failures that exceed expected values or that are caused by unexpected factors, i.e., being seriously degraded. Since the criteria identified in 10 CFR 50.73 have been identified as the criteria in the area of degraded boundaries that necessitates reporting, any minor differences are negligible with regard to safety. Therefore, because the current reporting requirement is a duplication of the 10 CFR 50.73 reporting requirement, the staff concludes that it is acceptable to remove it from TS.

(3) CTS 6.9.1.5.a uses the word "shall" in the reporting requirement for the Occupational Radiation Exposure Report. This word is being replaced with the word "should" in improved TS 5.6.1, consistent with the STS. The use of the word "should" is acceptable because the intent of the requirement is to try to assign at least 80% of the total whole body dose received from external sources to specific major work functions. The use of the term "should" covers the situation where this provision cannot be literally met.

(4) CTS 6.9.1.6 requires submission of the annual radiological environmental surveillance (or "operating" as termed in the improved TS) report for the previous calendar year before May 1 of each year. The date of submission is being relaxed in improved TS 5.6.2 to May 15 of each year, consistent with the STS. The staff finds this minor extension is acceptable.

(5) CTS 6.9.1.8 requires submission of the Annual Radioactive Effluent Release Report for the previous calendar year before May 1 of each year. However, specifying a submittal date is not necessary since 10 CFR 50.36a contains the annual reporting requirement. Therefore, corresponding improved TS 5.6.3 only references the regulation, consistent with the STS, and not the submittal date. The staff concludes this change is acceptable because the licensee must continue to comply with the reporting requirement of the regulation.

(6) CTS 6.9.2 contains redundant requirements regarding submission of various special reports specified elsewhere in CTS or in existing regulatory and programmatic requirements outside TS. These duplicative requirements are unnecessary and are, therefore, not retained in improved TS, consistent with the STS.

In addition, the term "Special Report" is not used in the improved TS. Instead, the only existing special report that is being retained in the improved TS is specified separately in Section 5.6 of the improved TS. This is the Post Accident Monitoring (PAM) Instrumentation Report (improved TS 5.6.8) currently specified in CTS Table 3.2-11, Item g.1.b for Unit 1 and CTS Table 3.3.6.4-1, Item b)2 for Unit 2. These changes are consistent with the STS.

Reporting requirements specifically listed in CTS Table 6.9.2-1 for Unit 1 that are not being retained are special reports of Primary Containment Leak Rate Tests and Inservice Inspection (ISI) Evaluation. Reporting requirements for these activities are sufficiently specified 10 CFR Part 50, Appendix J, and in ISI programmatic requirements, respectively. Therefore, it is acceptable to omit these redundant provisions from the improved TS.

Finally, the requirement to submit special reports on fire protection equipment specified in CTS 6.9.2 is not being retained in TS because it duplicates the reporting requirements contained in the Fire Hazards Analysis and its Appendix B provisions. This change is acceptable because the Fire Hazards Analysis provides sufficient control over these reporting requirements.

The above changes are also acceptable because the reporting requirements remaining in the improved TS, satisfy 10 CFR 50.36(c)(5).

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 Section 5.0 specifications, the licensee has adopted a number of administrative requirements that are more restrictive than administrative requirements given in the CTS. (Note that improved TS Section 5.3, "Unit Staff Qualifications," contains no requirements that are more restrictive than those in the CTS.) These more restrictive administrative requirements are discussed below in the order and within the context of the improved TS presentation.

(1) Improved TS 5.1.5 is being added to the TS to define responsibility for the control room command function.

(2) Improved TS 5.2.2.b requires a Senior Reactor Operator to be present in the control room while the unit is in Modes 1, 2, or 3, in addition to the currently required one licensed Reactor Operator.

(3) Improved TS 5.2.2.g is added to the TS to specify the function of the Shift Technical Advisor (STA). The STA shall provide advisory technical support to the Shift Supervisor in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit.

(4) Improved TS 5.4.1.b is being added to TS to require maintaining emergency operating procedures (EOPs) as implemented in response to NUREG-0737. Although the EOPs are identified as a necessary procedure type in Regulatory Guide 1.33, the additional procedures and changes made by HNP in response to the guidance provided in NUREG-0737 and Supplement 1 are not currently included in the CTS. This change ensures these commitments, as made in response to Generic Letter 82-33, are maintained and that the guidance and commitments are appropriately considered for any changes to these procedures.

(5) Improved TS 5.4.1.c is being added to TS to require Quality Assurance procedures for effluent and environmental monitoring. These procedures are not listed in Regulatory Guide 1.33 and are added to help ensure that effluent and environmental monitoring functions are properly controlled.

(6) Improved TS 5.4.1.e is being added to TS to require that all programs specified in improved TS Section 5.5 of the improved TS have written procedures. This added requirement will ensure that procedures are implemented and maintained for each of the programs in improved TS Section 5.5.

(7) CTS 6.16 (improved TS 5.5.3), Post Accident Sampling Program, is being changed consistent with the STS to include obtaining and analyzing for radioactive gases other than just iodines.

(8) The test provisions of Unit 1 CTS 4.7.B and Unit 2 CTS 4.6.6.1.1 for the Standby Gas Treatment (SGT) System, and Unit 1 CTS 4.12.A and Unit 2 CTS 4.7.2 for the Main Control Room Environmental Control (MCREC) System are being relocated to improved TS 5.5.7, Ventilation Filter Testing Program (VFTP), consistent with the STS. Included in this relocation are changes to the current provisions in order to make the tests consistent between the units and more effective. In particular, the licensee proposed charcoal testing acceptance criteria and conditions for the monthly surveillance as follows:

SGT System	0.2% maximum Methyl Iodide penetration with the heaters in operation. Test conditions are 30 degrees C and 70% relative humidity.
MCREC System	2.0% maximum Methyl Iodide penetration. Test conditions are 30 degrees C and 95% relative humidity.

These criteria are based upon laboratory test standard ASTM D3803-1989 which is more conservative than test standard RDT-M16-IT upon which the CTS criteria are based.

Additionally, by letter dated September 23, 1994 (forwarding Revision E to the submittal), the licensee provided its calculation to support its proposed laboratory test acceptance criterion of no more than 2% methyl iodide penetration for the MCREC system charcoal absorbers. Based on its review of the calculation, the staff finds that meeting the above laboratory test acceptance criterion and acceptance criteria for other tests given in improved TS 5.5.7, will ensure at least 95% removal efficiency for all chemical forms (i.e., elemental, particulate and organic forms) of iodine by the MCREC system filters. The staff has previously assumed 95% efficiency for the MCREC system filters for removal of all chemical forms of iodine, in its LOCA dose analysis for Unit 2 (safety evaluation dated March 17, 1994, in support of Amendment No. 132 to the Unit 2 operating license).

The staff also finds that the proposed laboratory test acceptance criterion of no more than 0.2% methyl iodide penetration for the SGT system charcoal absorbers, is acceptable. This is because, the above criterion in conjunction with acceptance criteria for other tests given in improved TS 5.5.7, will ensure the efficiency of 99% for SGT filters (assumed by the staff in the safety evaluation previously mentioned) for removal of all chemical forms of iodine. The staff has previously used the 99% efficiency for the SGT filters in its LOCA dose analysis for HNP. Therefore, the improved TS provisions for filter testing are acceptable.

(9) Two new programs are being added in the improved TS consistent with the STS. They are the safety function determination program (SFDP) (improved TS 5.5.10) and the technical specification bases control program (improved TS 5.5.11).

The SFDP is being added to require an evaluation to detect a loss of safety function whenever an LCO for a support system is not satisfied; i.e., upon entry into LCO 3.0.6. The bases control program is provided to specifically delineate the appropriate methods and reviews necessary for a change to the Bases of the improved TS.

(10) CTS 6.9.1.5.b requires submission of an annual report for all challenges to safety/relief valves. The frequency of this report is being increased to monthly in improved TS 5.6.1.4, consistent with the STS.

The staff has reviewed these more restrictive administrative requirements and believes they result in an enhancement to the existing TS. Therefore, they are acceptable.

2.5.0.4 Significant Administrative Changes

In accordance with the guidance in the Final Policy Statement, the licensee has proposed the following administrative changes to the existing technical specifications (TS) to bring them into conformance with the STS.

(1) The requirements for CTS 6.7, "Safety Limit Violation," are being moved to improved TS 2.2. See Section 2.2.0 of this safety evaluation for additional discussion.

(2) Improved TS 5.6, "Reporting Requirements," does not use the current technical specification subtitles of "Routine Reports," "Annual Reports," or "Special Reports." The improved TS names each individual report rather than grouping reports under subtitles. This change does not change reporting requirements and only affects the format of the TS.

The above changes represent an enhanced presentation of the existing TS 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 Improved TS and the STS

In electing to adopt STS Section 5.0, the licensee has proposed the following differences in the improved TS presentation from that of the STS. Specifically, the licensee has chosen to retain current requirements in lieu of adopting the specific provisions of the STS where the STS does not reflect HNP personnel organization and responsibilities or plant-specific design features.

(1) Improved TS 5.1.1, 5.1.2, 5.1.3, and 5.1.4 differ from corresponding STS 5.1.1 in order to retain the existing descriptions of the responsibilities of the plant manager and the assistant plant managers.

(2) Improved TS 5.2.2.e differs from corresponding STS 5.2.2.e. Current positions that may approve deviations from the overtime guidelines are being retained. Also, because the STS requirement to approve deviations from the overtime guidelines in advance is not currently required, it is not being adopted.

(3) Improved TS 5.5.2.b differs from corresponding STS 5.5.2.b. Current provisions of the program to minimize leakage from primary coolant sources outside containment are being retained. In particular, the wording of CTS regarding the system leak test requirements (not to be confused with the integrated primary coolant leak test), are being retained in lieu of the less flexible wording of the STS. The flexibility of CTS is that system leak testing is only required to the extent permitted by system design and radiological considerations.

(4) Improved TS 5.5.4.b differs from corresponding STS 5.5.4.b. The current limitations on the concentrations of radioactive material released in liquid effluents to unrestricted areas are being retained. The basis for these limitations, which are more restrictive than the STS, is

provided in the NRC safety evaluations for Unit 1 Amendment 190 and Unit 2 Amendment 129. Also reflected in the improved TS are the appropriate section numbers of 10 CFR Part 20 as revised.

(5) Improved TS 5.5.4.c differs from corresponding STS 5.5.4.c. STS provisions for monitoring, sampling, and analyzing radioactive liquid and gaseous effluents are being changed so that the improved TS refers to the appropriate section of 10 CFR Part 20 as revised.

(6) Improved TS 5.5.4.g differs from corresponding STS 5.5.4.g. Current provisions regarding the limitations on the dose rate resulting from radioactive material released in gaseous effluents beyond the site boundary are being retained. These current limitations are more restrictive than the limits of 10 CFR Part 20 referred to by the STS.

(7) STS 5.5.4.k, which provides limitations on venting and purging of the Mark II type containment through the SGT System, is not being adopted because HNP has a Mark I containment system design.

(8) Improved TS 5.5.5 differs from corresponding STS 5.5.5. The Component Cyclic or Transient Limit program is being limited to reactor coolant system pressure boundary components, consistent with current requirements.

(9) The STS Frequencies of "every 9 months" and "biennially" are being omitted from improved TS 5.5.6 because they are not contained in the CTS.

(10) Much of the description of the Ventilation Filter Testing Program in STS 5.5.7 is being replaced by new provisions in corresponding improved TS 5.5.7. These new provisions are more appropriate for the HNP design for the SGT System and the MCREC System and are as or more effective than current requirements. See additional discussion of this program in paragraph 2.5.0.3(8) of this safety evaluation.

(11) Improved TS 5.5.9 specifies requirements for testing new diesel fuel oil that are being adopted as part of the improved TS Diesel Fuel Oil Testing Program. However, these new provisions are less restrictive than the new fuel test requirements in corresponding STS 5.5.9. The new provisions are consistent with existing practice at HNP. In addition, the current 92-day Frequency for testing the fuel oil in the storage tanks is being retained in lieu of the 31-day Frequency of the STS.

This program also differs from the STS because it includes a statement that SRs 3.0.2 and 3.0.3 are applicable to the test Frequencies of this program. This is acceptable because this would be the case if these test requirements were located in improved TS 3.8.3. This statement clarifies the applicability of these provisions.

(12) The description of the Occupational Radiation Exposure Report in improved TS 5.6.1 differs from that of corresponding STS 5.6.1. It reflects current requirements by limiting the report to only include

personnel for whom monitoring was required in addition to station and utility personnel. Also, the improved TS reflects the appropriate section of 10 CFR Part 20 as revised.

(13) As discussed in paragraph 2.3.4.5(7) of this safety evaluation, the Reactor Coolant System Pressure and Temperature Limits Report (PTLR) of the STS is not being adopted. CTS limits on RCS pressure and temperature are being retained in improved TS 3.4.9.

These proposed differences from STS Section 5.0 are consistent with HNP design features and existing requirements and commitments. Therefore, they are acceptable.

3. STATE CONSULTATION

In accordance with the Commission's regulations, the Georgia 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 November 30, 1994 (59 *FR* 61349). 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 HNP Units 1 and 2 improved TS 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 HNP Units 1 and 2 improved TS 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 HNP Units 1 and 2 improved TS are acceptable.

The staff concludes that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation of HNP Units 1 and 2 in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: C. Harbuck
M. Razzaque
W. LeFave
J. Colaccino
W. Long
T. Chandrasekaran

Dated: March 3, 1995

TABLE 1

Hatch Nuclear Plant Unit 1
Summary of Relocated Technical Specifications[1]

Existing Unit 1 TS	Title	Relocation Document	Relocation Control
1.1.C	Power Transient	Deleted	N/A
1.2.A.2	Reactor Vessel Steam Dome Pressure - Operating RHR Shutdown Cooling Mode	Deleted	N/A
2.1	Fuel Cladding Integrity		
2.1.A.1.b	Trip Setting APRM Flux (Modes 2, 3, and 5)	Procedures	§50.59
2.1.A.1.c.(1)	Trip Setting APRM Flux (Mode 1) Flow Referenced Simulated Thermal Power Monitor	Procedures	§50.59
2.1.A.2	Trip Setting Reactor Vessel Water Level 3	Procedures	§50.59
2.1.A.4	Trip Setting Turbine Control Valve Fast Closure	Procedures	§50.59
3/4.1	Reactor Protection System		
3.1.A.8	Trip Setting APRM Downscale and 15% Flux	Procedures	§50.59
3.1.A.11	Trip Setting Turbine Control Valve Fast Closure	Procedures	§50.59
3.1.C	RPS Response Time Value	Procedures, & Bases	§50.59 & 5.5.11
3/4.1-1	RPS Design and Operation Details	Procedures, Bases, & FSAR	§50.59 & 5.5.11

[1] Relocated specifications are listed in the existing TS order. Existing specifications relocated in part are denoted by shading followed by descriptions of the requirements being relocated along with the associated relocation document(s) and control(s). Existing specifications relocated in their entirety are not shaded.

Existing Unit 1 TS	Title	Relocation Document	Relocation Control
3/4.2.A	Initiates Isolation Actuation		
3.2-1	Primary Containment Isolation System (PCIS) and Secondary Containment Isolation System (SCIS) Trip Setpoints	Procedures	§50.59
4.2-1 Note e	PCIS Response Time Testing Methods	Procedures & Bases	§50.59 & 5.5.11
4.2-1 Note	PCIS Instrumentation LSFT Method	Procedures & Bases	§50.59 & 5.5.11
3/4.2.A.1	Reactor Vessel Water Level		
3.2-1	PCIS and SCIS Design Details of Level 2 Instruments	Bases & FSAR	§50.59 & 5.5.11
3/4.2.A.3	Drywell Pressure		
3.2-1	PCIS and SCIS Design Details of Drywell Pressure High Instruments	Bases & FSAR	§50.59 & 5.5.11
3/4.2.A.4	Main Steam Line Radiation	Procedures	§50.59
3/4.2.A.8	RWCU Differential Flow	Deleted	N/A
3/4.2.B	Initiates or Controls HPCI		
3/4.2.B.16	HPCI Logic Power Monitor	Procedures	§50.59
3.2-2	HPCI Instrumentation - Design Details	Bases & FSAR	5.5.11 & §50.59
4.2-2 Notes	LSFT Method for HPCI Actuation Instrumentation	Procedures, Bases & FSAR	5.5.11 & §50.59
3/4.2.B.3	HPCI Turbine Overspeed - Mechanical	TRM	§50.59
3/4.2.B.4	HPCI Turbine Exhaust Pressure - High	TRM	§50.59
3/4.2.B.5	HPCI Pump Suction Pressure - Low	TRM	§50.59
3/4.2.C	Initiates or Controls RCIC		
3/4.2.C.13	RCIC Logic Power Failure Monitor	Procedures	§50.59
3.2-3	RCIC Instrumentation Design, Operation & Trip Setpoints	Procedures, Bases & FSAR	§50.59 & 5.5.11
4.2-3 Notes	LSFT Method for RCIC Actuation Instrumentation	Procedures, Bases & FSAR	§50.59 & 5.5.11

Existing Unit 1 TS	Title	Relocation Document	Relocation Control
3/4.2.C.2	RCIC Turbine Overspeed - Electrical and Mechanical	TRM	§50.59
3/4.2.C.3	RCIC Turbine Exhaust Pressure - High	TRM	§50.59
3/4.2.C.4	RCIC Pump Suction Pressure - Low	TRM	§50.59
3/4.2.C.6	RCIC Pump Discharge Flow	TRM	§50.59
3/4.2.D	Initiates or Controls ADS		
3/4.2.D.7	ADS Control Power Failure Monitor	Procedures	§50.59
4.2-4 Notes	LSFT Method for ADS Actuation Instrumentation LPCI	Procedures, Bases & FSAR	§50.59 5.5.11
3/4.2.E	Initiates or Controls the LPCI Mode of RHR		
3.2-5	LPCI Instrumentation - Details	Bases	5.5.11
3/4.2.E.9	RHR Relay Logic Power Monitor	Procedures	§50.59
4.2-5 Notes	LSFT Method for LPCI Actuation Instrumentation	Procedures, Bases & FSAR	§50.59 5.5.11
4.2-5, Note (c)	EOC-RPT Response Time Testing	Procedures Bases	§50.59 5.5.11
3/4.2.E.5	LPCI Cross Connect Valve Open Annunciator	TRM	§50.59
3/4.2.E.8	Valve Selection Times	TRM	§50.59
3/4.2.F	Initiates or Controls Core Spray (CS)		
3/4.2.F.4	CS Sparger Differential Pressure	Procedures	§50.59
3/4.2.F.6	CS Logic Power Failure Monitor	Procedures	§50.59
3.2-6	LPCS Instrumentation - Details	Bases & FSAR	§50.59 & 5.5.11
4.2-6 Notes	LSFT Method for CS Actuation Instrumentation	Procedures, Bases & FSAR	§50.59 & 5.5.11
3/4.2.G.1	Source Range Monitors	TRM	§50.59
3/4.2.G.2	Intermediate Range Monitors	TRM	§50.59
3/4.2.G.3	Average Power Range Monitor	TRM	§50.59

Existing Unit 1 TS	Title	Relocation Document	Relocation Control
3/4.2.G.4	Rod Block Monitor		
3.2-7 4.2-7, Note c	RBM Design and Operation Details RBM Functional Test Method	Procedures, Bases & FSAR	§50.59 & 5.5.11
3/4.2.G.5	Scram Discharge Volume	TRM	§50.59
3/4.2.H	Limits Radioactive Release		
4.2-8 Note f	Radiation Monitor LSFT Method Details	Procedures & Bases	§50.59 & 5.5.11
3/4.2.H.1	Off-Gas Post Treatment Radiation Monitors	TRM	§50.59
3/4.2.H.2	Refueling Floor Exhaust Vent Radiation Monitors		
3.2-8 3.2-8	Trip Setpoint (PCIS & SCIS) Design Details	Procedures Bases & FSAR	§50.59 §50.59 & 5.5.11
3/4.2.H.3	Reactor Building Exhaust Vent Radiation Monitors		
3.2-8 3.2-8	Trip Setpoint (PCIS & SCIS) Design Details	Procedures Bases & FSAR	§50.59 §50.59 & 5.5.11
3/4.2.H.5	Main Steam Line Radiation Monitor	Procedures	§50.59
3/4.2.J	Monitors Leakage into the Drywell		
3/4.2.J.1	Drywell Equipment Drain Sump Flow Integrator	Procedures	§50.59
3.2-10	Setpoints For RCS Leakage Monitors: 3.2.J.3 Particulate 3.2.J.4 Scintillation 3.2.J.5 Noble Gas	Procedures	§50.59
3/4.2.K	Provides Surveillance Information		
3.2-11, Notes d & e	Post Accident Monitoring (PAM) Design and Operational Details	Procedures, Bases & FSAR	§50.59 5.5.11
3.2-11, Notes c.1 & g.1	Alternate PAM Methods	Procedures	§50.59

Existing Unit 1 TS	Title	Relocation Document	Relocation Control
3/4.2.N	Arms Low Set S/RV System		
3.2-14	Low Low Set (LLS) Instrumentation Trip Settings	Procedures	§50.59
3/4.3.A	Core Reactivity Margin		
4.3.A	Shutdown Margin Evaluation	Procedures & Bases	§50.59 & 5.5.11
3/4.3.C	Control Rod Drive System		
3.3.C.1 4.3.C.1.a 4.3.C.2.b	Disarming Control Rod Drive Control Rod Coupling Verification CR Scram Time Test Sample Size	Procedures & Bases	§50.59 & 5.5.11
3/4.3.C.3	Control Rod Drive Housing Support System	Procedures	§50.59
3/4.3.E	Rod Worth Inventory Determination		
4.3.E	Rod Worth Inventory Details	Procedures & Bases	§50.59 & 5.5.11
3/4.3.G.1	Rod Worth Minimizer Operability		
4.3.G.1.a(1) & 4.3.G.1.a(2)	RWM Functional Test Method	Procedures, Bases & FSAR	§50.59 5.5.11
3/4.4	Standby Liquid Control (SLC) System		
4.4.A.2.a	SLC Relief Valve Inservice Test	IST Program	§50.59 & §50.55a(f)
4.4.A.1 & 4.4.A.2.c	SLC Flow Test Into Reactor Vessel	Procedures	§50.59
3/4.4.C.1 & 3/4.4.C.2 3/4.4.C.3	Sodium Pentaborate Solution	Procedures, Bases, FSAR	§50.59 & 5.5.11
3/4.5.B	Residual Heat Removal (RHR) System (LPCI and Containment Cooling Mode)		
4.5.B.1.a	Details of Methods to Verify Suppression Pool Spray Headers and Nozzles are Unobstructed	Procedures	§50.59
3.5.B.1.d	LPCI cross-tie valve annunciator	Procedures	§50.59
3.5.B.2.b	LPCI System Design Details	Bases & FSAR	§50.59 & 5.5.11

Existing Unit 1 TS	Title	Relocation Document	Relocation Control
3/4.5.C	Residual Heat Removal Service Water (RHRSW) System		
4.5.C.1.b	RHRSW Pump Capacity Test Requirements	IST Program Procedures	5.5.6 & §50.59
3/4.5.E	Reactor Core Isolation Cooling (RCIC) System		
3.5.E.1.a & b 4.5.E.1.a & b	RCIC System Design Details RCIC SR Performance Details	Bases & FSAR Procedures & Bases	§50.59 & 5.5.11
3/4.5.F	Automatic Depressurization System (ADS)		
4.5.F.1.b	ADS valve accumulator leak test	Procedures	§50.59
3/4.5.H	Maintenance of Filled Discharge Pipes		
3.5.H	RCIC System Design Details	Bases & FSAR	§50.59 & 5.5.11
4.5.H.3	Details of HPCI and RCIC SR performance	Procedures & Bases	§50.59 & 5.5.11
4.5.H.4	ECCS "keep filled" pressure instrumentation	Procedures	§50.59
3/4.5.I	Minimum River Level		
3.5.I.1	Procedural Detail to Throttle Plant Service Water Flow	Procedures	§50.59
3.5.I.2	Details of PSW System Design	Bases & FSAR	5.5.11 & §50.59
3.5.I.2, & 4.5.I	River Level Monitoring Method Details	Bases	5.5.11
3/4.5.J	Plant Service Water System		
4.5.J.1	Standby PSW Pump Low Pressure Auto Start Test	Procedures	§50.59
3/4.5.K	Equipment Area Coolers (Serving CS, RCIC, HPCI, & RHR Pump Rooms)	TRM	§50.59

Existing Unit 1 TS	Title	Relocation Document	Relocation Control
3/4.6.F.1	Radioactivity		
4.6.F.1.b	Xenon & Krypton offgas isotopic analysis	Procedures	§50.59
3/4.6.F.2	Conductivity and Chloride	Procedures TRM	§50.59
3/4.6.G	Reactor Coolant Leakage		
4.6.G	Procedural details for RCS Leakage SR	Procedures & Bases	§50.59
4.6.G	RCS Leakage Radiation Monitor Records	Procedures	§50.59
3/4.6.G.2	Leakage Detection Systems		
3.6.G.2.a	Drywell Equipment Drain Sump Flow Integrator	Procedures & Bases	§50.59 & 5.5.11
3/4.6.H.1	Relief/Safety Valves (S/RVs)		
3.6.H.1.b & c	Details of actions for suspected open S/RV	Procedures & Bases	§50.59 & 5.5.11
3.6.H.1.d	Inoperable S/RV Tailpipe Pressure Switch ACTION Details	Procedures & Bases	§50.59 & 5.5.11
4.6.H.1.b	S/RV lift test method details	Procedures & Bases	§50.59 & 5.5.11
4.6.H.1.c	Leak inspection of S/RV accumulators	Procedures	§50.59
4.6.H.1.d	S/RV disassembly and inspection (maintenance)	Procedures	§50.59
3/4.6.H.2	Relief/Safety Valves Low Low Set (LLS) Function		
3.6.H.2, Note *	Details of Conditions for Setting the LLS Lift Setting Pressure Allowable Values	Procedures & Bases	§50.59 & 5.5.11
3/4.6.I	Jet Pumps		
3/4.6.I	Evaluation of suspected inoperable jet pump(s)	Procedures	§50.59
4.6.I	Jet pump test performance details	Procedures	§50.59

Existing Unit 1 TS	Title	Relocation Document	Relocation Control
3/4.6.J	Recirculation System		
3.6.J.5	Procedural precaution for two-loop operation	Procedures	§50.59
3.6.K	Structural Integrity	Inservice Inspection (ISI) Program	§50.59 §50.55a
4.6.K	Structural Integrity		
4.6.K.1 4.6.K.2 4.6.K.4	ISI Performance Required by §50.55a(g) ISI Additional to Other SRs ISI Guidance (GL 88-01)	ISI Program	§50.59 §50.55a
3/4.6.L	Snubbers	ISI Program TRM	§50.55a §50.59
3/4.7.A	Primary Containment		
3.7-1 3.7-2 3.7-3	List of PCIVs Testable Penetrations with Double O-Ring Seals Testable Penetrations with Bellows	TRM TRM TRM	§50.59 §50.59 §50.59
3/4.7.A.1	Pressure Suppression Chamber		
4.7.A.1.a	Method for Determining Average Suppression Pool Temperature	Procedures & Bases	§50.59 & 5.5.11
3/4.7.A.2	Primary Containment Integrity		
4.7.A.2.a 4.7.A.2.e 4.7.A.2.i	Values of P_a, L_t and P_t Type B Tests of Penetrations with Seals and Bellows Primary Containment Continuous Leak Rate Monitor (Indication-only Instrumentation)	Bases TRM Procedures	5.5.11 §50.59 §50.59
3/4.7.A.4	Pressure Suppression Chamber to Drywell Vacuum Breakers		
4.7.A.4.a	Suppression Chamber to Drywell Vacuum Breakers Visual Inspection	Procedures	§50.59
3.7.A.4.b	Position Indication of the Suppression Chamber to Drywell Vacuum Breakers (Indication-only Instrumentation)	Procedures	§50.59

Existing Unit 1 TS	Title	Relocation Document	Relocation Control
3/4.7.A.6	Containment Atmosphere Dilution (CAD) System		
4.7.A.6.a	CAD System Functional Test	Procedures	§50.59
3.7.A.6.d	Post-LOCA Repressurization Limit Actions	Emergency Operating Procedures	§50.59
3/4.7.A.7	Primary Containment Purge System		
4.7.A.7.c	Details of Methods for Visually Inspecting the Purge System Excess Flow Isolation Dampers	Procedures	§50.59
3/4.7.C	Secondary Containment		
3.7.C.1.a.(4)	Fuel Cask Movement	Procedures	§50.59
3.7.C.1.a.(5) 3.7.C.1.a.(6)	Details Comprising the Operability of Normal Secondary Containment	Bases & TRM	5.5.11 & §50.59
3.7.C.1 Note *	Defines Normal Secondary Containment	TRM	§50.59
4.7.C.1.a	Details for Performing Draw Down Test of Normal Secondary Containment	Procedures	§50.59
4.7.C.1.b	Restrictions on Normal Secondary Containment 1-hour Vacuum Test	Procedures	§50.59
3.7.C.2.a.(3) - 3.7.C.2.a.(7), 3.7.C.2.c, & 4.7.C.2.b	Details Comprising the Operability of Modified Secondary Containment	Bases & TRM	5.5.11 & §50.59
3.7.C.2 Note *	Defines Modified Secondary Containment	TRM	§50.59
4.7.C.2.a	Details for Performing Draw Down Test of Modified Secondary Containment	Procedures	§50.59
3/4.7.D	Primary Containment Isolation Valves		
4.7.D.1.c & e	Quarterly cycling of normally open PCIVs and Weekly Cycling of MSIVs	IST Program Procedures	5.5.6, §50.55a, & §50.59

Existing Unit 1 TS	Title	Relocation Document	Relocation Control
3/4.8.A	Miscellaneous Radioactive Material Sources	Procedures TRM	§50.59
3/4.9.A.1	Offsite Power Sources		
3.9.A.1	AC Electrical Power System Design Details	Bases	5.5.11
3/4.9.A.2	Standby Ac Power Supply; (Diesel Generators 1A, 1B, and 1C)		
3.9.A.2, & 3.9.A.2.a	AC Electrical Power System Design Details	Bases	5.5.11
3.9.A.2.a.3	Diesel Generator (DG) 18-month Inspections Recommended by the Manufacturer	Procedures	§50.59
4.9.A.2.a.4 & 4.9.A.2.a.7	Name and kW Value of Single Largest Load and the Total kW of All Auto-Connected Loads for Each DG	Bases	5.5.11
3.9.A.2.b & 3/4.9.A.2.c	DC Sources Design Details	Bases	5.5.11
4.9-1	DG Accelerated Test Schedule (See paragraph 2.3.8.1.b(4) of this safety evaluation.)	TRM	§50.59
4.9.A.2.d.2	Diesel Fuel Oil Testing Methods	Procedures	5.5.9 & §50.59
4.9.A.2.e.2	Test of Fuel Oil Transfer System Restricted to During Shutdown Conditions	Procedures	§50.59
3/4.9.A.3.	125/250 Volt DC Emergency Power System (Plant Batteries 1A and 1B)		
3.9.A.3	DC Sources Design Details	Bases	5.5.11
3/4.9.A.6	Emergency 250 Volt DC to 600 Volt AC Inverters		
4.9.A.6.b	LPCI Inverter load test	Procedures	§50.59
3/4.10.A	Refueling Interlocks		
3/4.10.A.2 & 3/4.10.A.3	Hoist Load Interlock Settings	Procedures	§50.59

Existing Unit 1 TS	Title	Relocation Document	Relocation Control
3/4.10.C	Core Monitoring During Core Alterations		
3.10.C	SRM Position During Core Alterations	Procedures, Bases, & FSAR	§50.59 5.5.11
3/4.10.E	Control Rod Drive Maintenance		
3.10.E.1.b.(2)	Details for Disarming a Control Rod Drive	Procedures & Bases	§50.59 & 5.5.11
3/4.10.F	Reactor Building Cranes	Procedures TRM	§50.59
3/4.10.G	Spent Fuel Cask Lifting Trunnions and Yoke	Procedures TRM	§50.59
3/4.10.H	Time Limitation	Procedures TRM	§50.59
3/4.10.I	Crane Travel - Spent Fuel Storage Pool	Procedures TRM	§50.59
3/4.11.A	Average Planar Linear Heat Generation Rate (APLHGR)		
3.11.A	Method to Restore APLHGR Within Limit	Bases	5.5.11
3/4.11.B	Linear Heat Generation Rate (LHGR)	Deleted	N/A
3/4.11.C	Minimum Critical Power Ratio (MCPR)		
3.11.C	Method to Restore MCPR Within Limits	Bases	5.5.11
4.11.C.2.a	Method of determining τ	Bases & Procedures	5.5.11 & §50.59
3/4.12	Main Control Room Environmental Control (MCREC) System		
3.12.A.1.a & b	Independence of MCREC Subsystems	Bases & FSAR	5.5.11 & §50.59
3/4.14.1	Radioactive Liquid Effluent Instrumentation	Relocated in Amendment No. 190 to the ODCM	5.5.1
3/4.14.2	Explosive Gas Monitoring Instrumentation	TRM	§50.59

Existing Unit 1 TS	Title	Relocation Document	Relocation Control
3/4.15.1.1 3/4.15.1.2 3/4.15.1.3	Liquid Effluents; Concentration; Dose; Liquid Waste Treatment	Relocated in Amendment No. 190 to the ODCM	5.5.1
3/4.15.1.4	Liquid Holdup Tanks		
3.15.1.4	Liquid Holdup Tank Activity Limits	Procedures & FSAR	§50.59
3/4.15.2.1 3/4.15.2.2 3/4.15.2.3 3/4.15.2.4 3/4.15.2.5	Gaseous Effluents; Dose Rate; Dose, Noble Gases; Dose, Radioiodines and Particulates; Gaseous Waste Treatment Dose	Relocated in Amendment No. 190 to the ODCM	5.5.1
3/4.15.2.6	Explosive Gas Mixture		
3.15.2.6	Offgas System Hydrogen Concentration Limits	Procedures & FSAR	§50.59
3/4.15.2.7	Main Condenser		
3.15.2.7 & 4.15.2.7.2	Details of Determining Noble Gas Gross Gamma Activity Rate for Main Condenser Offgas	Procedures & Bases	§50.59 & 5.5.11
4.15.2.7.1	Monitoring Noble Gas Activity at the Main Condenser Air Ejector per the Offsite Dose Calculation Manual (ODCM)	ODCM	5.5.1
3/4.15.3	Solid Radioactive Waste	Relocated in Amendment No. 190 to the ODCM	5.5.1
5.0.C	Reactor Vessel	FSAR	§50.59
5.0.D.1	Primary Containment	FSAR	§50.59
5.0.D.2	Secondary Containment	FSAR	§50.59
5.0.D.3	Primary Containment Penetrations	FSAR	§50.59
5.0.F	Seismic Design	FSAR	§50.59

Existing Unit 1 TS	Title	Relocation Document	Relocation Control
5.0.G	Component Cyclic or Transient Limits		
5.0.G-1	Reactor Pressure Vessel Limits	FSAR	5.5.5 & §50.59
6.2.2	Unit Staff		
6.2.2.a & 6.2.2-1	Minimum Shift Composition	Procedures	§50.59 & §50.54(a)
6.2.2.h	Positions Requiring an Operators License	Procedures & FSAR	§50.59
6.2.2.e	Senior Reactor Operator Present During CORE ALTERATIONS	Procedures	§50.59 & §50.54(m)
6.2.2.f	Fire Team	FSAR, Plant Procedures & Fire Hazards Analysis	§50.59
6.4	Training	FSAR, Plant Procedures & Fire Hazards Analysis	§50.59 & §55
6.5	Review and Audit	FSAR & Procedures	§50.59, §50.54(p), §50.54(t), & §50.73
6.6	Reportable Event Action	Procedures	§50.59 & §50.73
6.8.1.d	Security Plan Implementation	Security Plan	§50.54(p), §50.59, §73.55, & §73.56
6.8.1.e	Emergency Plan Implementation	Emergency Plan	§50.54(q), §50.54(t), & §50.59
6.8.2 & 6.8.4	Procedure Review and Approval Process	FSAR & Procedures	§50.59 & §50.54(a)
6.8.3	Procedure Temporary Change Process	FSAR & Procedures	§50.59 & §50.54(a)

Existing Unit 1 TS	Title	Relocation Document	Relocation Control
6.10	Record Retention	FSAR & Procedures	§50.59 & §50.54(a) §20, & §71
6.11	Radiation Protection Program	FSAR & Plant Procedures	§50.59 §20
6.14	Iodine Monitoring	Procedures	§50.59
6.15	Environmental Qualification	Procedures & Design Change Control Program	§50.59
6.19	Radiological Environmental Monitoring Program		
6.19.2) 6.19.3)	Land Use Census Interlaboratory Comparison Program	ODCM	5.5.1 & §50.59
6.20	Process Control Program	Quality Assurance Programmatic Requirements in the FSAR	§20 §50.54 §50.59 §61 §71

TABLE 2

Hatch Nuclear Plant Unit 2
Summary of Relocated Technical Specifications[1]

Existing Unit 2 TS	Title	Relocation Document	Relocation Control
2.1	Safety Limits		
2.1.4 ACTION	Details for restoring reactor vessel water level	Emergency Operating Procedures	§50.59
2.2	Limiting Safety System Settings		
2.2.1	Reactor Protection System (RPS) Design Details (Requirement for RPS Instrumentation Trip Settings to be Set Consistent with Values in Table 2.2.1-1)	Bases & FSAR	5.5.11 & §50.59
2.2.1-1	RPS Instrumentation Master Parts List Numbers	Procedures	§50.59
4.0.5	ASME Code Class 1, 2, 3 Components		
4.0.5.a 4.0.5.b 4.0.5.d 4.0.5.f	ISI Performance Required by §50.55a(g) ISI Frequency Definitions ISI Additional to Other SRs ISI Guidance (Generic Letter 88-01)	Inservice Inspection (ISI) Program	§50.59 §50.55a
3/4.1.2	Reactivity Anomalies		
3.1.2, ACTION a	Reactivity Anomaly Evaluation Details	Bases & Procedures	5.5.11 & §50.59
3/4.1.3.1	Control Rod (CR) Operability		
3.1.3.1, ACTION b.2	Method for Disarming Control Rod Drive	Bases & Procedures	5.5.11 & §50.59

[1] Relocated specifications are listed in the existing TS order. Existing specifications relocated in part are denoted by shading followed by descriptions of the requirements being relocated along with the associated relocation document(s) and control(s). Existing specifications relocated in their entirety are not shaded.

Existing Unit 2 TS	Title	Relocation Document	Relocation Control
3/4.1.3.2	Control Rod Maximum Scram Insertion Times		
4.1.3.2.c	CR Scram Time Test Sample Size	Bases & Procedures	5.5.11 & §50.59
3/4.1.3.5	Control Rod Scram Accumulators		
3.1.3.5, ACTION c & 4.1.3.5	Control Rod Scram Accumulator Leak Detection Pressure Detectors and Alarms and Accumulator Instrument Test & Calibration (Indication-only Instrumentation)	Plant Procedures	§50.59
3/4.1.3.6	Control Rod Drive Coupling		
3.1.3.6, ACTION a.1 ACTION a.2	Re-coupling a Control Rod (CR) Declare Uncoupled CR Inoperable	Procedures	§50.59
3/4.1.3.7	Control Rod Position Indication		
3.1.3.7, ACTIONS a.1 & a.2	Alternate CR Position Determination	Procedures	§50.59
3/4.1.3.8	Control Rod Drive Housing Support	Procedures	§50.59
3/4.1.4.1	Rod Worth Minimizer (RWM)		
4.1.4.1.a.1 & 4.1.4.1.a.2	RWM Functional Test Method Details	Bases & Procedures	5.5.11 & §50.59
3/4.1.5	Standby Liquid Control (SLC) System		
3.1.5 & 4.1.5.a.3	SLC System Design Information	Procedures, Bases & FSAR	§50.59 & 5.5.11
4.1.5.c.1	SLC System Flow Test Into Reactor Vessel	Procedures & Bases	§50.59 & 5.5.11
4.1.5.c.3	SLC System Relief Valve Inservice Test	IST Program Procedures	5.5.6, §50.55a, & §50.59
4.1.5.c.4 & 5	SLC System SR Procedural Details	Procedures	§50.59
3/4.2.1	Average Planar Linear Heat Generation Rate (APLHGR)		
3.2.1	Method to Restore APLHGR Within Limit	Bases	5.5.11

Existing Unit 2 TS	Title	Relocation Document	Relocation Control
3/4.2.3	Minimum Critical Power Ratio (MCPR)		
3.2.3 ACTIONS	Method to Restore MCPR Within Limits	Bases	5.5.11
4.2.3.1.a & b	Method of determining τ	Procedures & Bases	§50.59 & 5.5.11
3/4.2.4	Linear Heat Generation Rate	Deleted	N/A
3/4.3.1	Reactor Protection System (RPS) Instrumentation		
3.3.1	RPS Design and Operational Details	Bases & FSAR	5.5.11 & §50.59
3.3.1-2	RPS Response Times	Procedures, Bases & FSAR	5.5.11 & §50.59
3.3.1-1	RPS Master Parts List (MPL) Nos.	Procedures	§50.59
3.3.1-1	Turbine Trip System Design Detail	Bases & FSAR	5.5.11 & §50.59
3.3.1.1.a & Note b	RPS Shorting Links Removal Procedure	Procedures	§50.59
3/4.3.2	Isolation Actuation Instrumentation		
3.3.2, ACTION a	References Primary and Secondary Containment Isolation System (PCIS and SCIS) Trip Setpoints	Procedures	§50.59
3.3.2, ACTION a	References PCIS Response Times	Procedures	§50.59
3.3.2.1.c.3	Response Time for MSL Isolation on MSL Flow - High	Procedures	§50.59
3.3.2.1.c.4	Response Time for MSL Isolation on Reactor Vessel Water Low Low Low (Level 1)	Procedures	§50.59
4.3.2.2	PCIS & SCIS Instrumentation LSFT Method Details	Procedures, Bases & FSAR	§50.59 & 5.5.11

continued

Existing Unit 2 TS	Title	Relocation Document	Relocation Control
4.3.2.2.a Note (a)	Reactor Building Exhaust Radiation - High Instrument Alignment Method	Procedures, Bases & FSAR	§50.59 & 5.5.11
3/4.3.2.4.j	HPCI PCIS Logic Power Monitor	Procedures	§50.59
3/4.3.2.5.i	RCIC PCIS Logic Power Monitor	Procedures	§50.59
3.3.2-1	PCIS Instrumentation MPL Numbers	Procedures	§50.59
3.3.2-1, Notes a, g, i, & j	PCIS Instrumentation Design Details & PCIS Valve Groups	Bases & FSAR	§50.59 & 5.5.11
3.3.2-1 & Note *	SCIS Instrumentation Design Details & SCIS Valve Groups; Standby Gas Treament System Actuation Design	Bases & FSAR	§50.59 & 5.5.11
3.3.2-2	PCIS and SCIS Instrumentation Setpoints	Procedures	§50.59
3.3.2-3, Notes * & #	PCIS Response Time Test Method	Procedures, Bases & FSAR	§50.59 & 5.5.11
3/4.2.1.c	Main Steam Line Radiation - High	Procedures	§50.59
3/4.3.3	Emergency Core Cooling System (ECCS) Actuation Instrumentation		
3.3.3	ECCS (CS, LPCI, HPCI, ADS, & LLS) Response Time Requirement	Procedures & Bases	§50.59 & 5.5.11
3.3.3-1	ECCS Actuation Instrumentation MPL Numbers	Procedures	§50.59
3.3.3-1, Note (b)	HPCI Suction Valve Design Detail	Bases & FSAR	§50.59 & 5.5.11
3/4.3.3-1:		Procedures	§50.59
3/4.3.3.1.d	CS Logic Power Monitor		
3/4.3.3.2.g & 3.3.3.1.g, Note (a)	LPCI Logic Power Monitor & Alarm		
3/4.3.3.3.e & 3.3.3.1.e, Note (a)	HPCI Logic Power Monitor & Alarm		
3/4.3.3.4.h	ADS Control Power Monitor		

continued

Existing Unit 2 TS	Title	Relocation Document	Relocation Control
3.3.3-2	ECCS Actuation Trip Setpoints	Procedures	§50.59
4.3.3.3 & 3.3.3-3	ECCS Response Time Test Methods & Response Times	Procedures, Bases & FSAR	§50.59 & 5.5.11
4.3.3.2	ECCS Actuation Instrumentation LSFT Method	Procedures & Bases	§50.59 & 5.5.11
3/4.3.4	Reactor Core Isolation Cooling System Actuation Instrumentation		
3.3.4	Reference to RCIC Trip Setpoints	Procedures	§50.59
3.3.4-1	RCIC Instrumentation MPL Numbers	Procedures	§50.59
3.3.4-1	RCIC Instrumentation Design & Operational Details	Procedures, Bases & FSAR	§50.59 & 5.5.11
4.3.4.2	RCIC Instrumentation LSFT Method	Procedures & Bases	§50.59 & 5.5.11
3.3.4-2	RCIC Trip Setpoints	Procedures	§50.59
3/4.3.5.1	Average Power Range Monitor Control Rod Block (CRB)	TRM	§50.59
3/4.3.5.2	Rod Block Monitor (RBM)		
3.3.5-1	RBM Master Parts List Numbers	Procedures	§50.59
3.3.5-2	RBM Trip Setpoints	Procedures	§50.59
3.3.5-2	RBM Design Details	Bases & FSAR	5.5.11 & §50.59
3/4.3.5.3	Source Range Monitor CRB	TRM	§50.59
3/4.3.5.4	Intermediate Range Monitor CRB	TRM	§50.59
3/4.3.5.5	Scram Discharge Volume CRB	TRM	§50.59
3/4.3.6.1.1	Off-Gas Post Treatment Monitors	TRM	§50.59
3/4.3.6.1.2	Control Room Intake Radiation Monitors		
3.3.6.1-1	MPL Numbers for Radiation Monitors	Procedures	§50.59
3/4.3.6.2	Seismic Monitoring Instrumentation	TRM	§50.59

Existing Unit 2 TS	Title	Relocation Document	Relocation Control
3/4.3.6.3	Remote Shutdown Monitoring Instrumentation		
3/4.3.6.3-1	Remote Shutdown System Design & Operation	Procedures, Bases & FSAR	§50.59 & 5.5.11
3/4.3.6.4	Post-Accident Monitoring (PAM) Instrumentation		
3.3.6.4-1	PAM Master Parts List Numbers	Procedures	§50.59
3.3.6.4-1, Note b	Alternate PAM Methods	Procedures, Bases & FSAR	§50.59 & 5.5.11
3.3.6.4-1, Note *	PAM Drywell H_2O_2 Analyzers Design	Procedures, Bases & FSAR	§50.59 & 5.5.11
3/4.3.6.5	Source Range Monitors (SRMs)		
4.3.6.5.c	SRM Count Rate	Procedures, Bases & FSAR	§50.59 & 5.5.11
3/4.3.6.6	Traversing Incore Probe System	TRM	§50.59
3/4.3.6.7.1	Reactor Vessel Water Level - Low Low Low (Level 1)	TRM	§50.59
3/4.3.6.7.2	Drywell Pressure - High	TRM	§50.59
3/4.3.6.7.4	Main Steam Line Flow - High	TRM	§50.59
3/4.3.6.7.5	Refueling Floor Area Radiation - High	TRM	§50.59
3/4.3.6.10	Explosive Gas Monitoring Instrumentation	TRM	§50.59
3/4.3.7	Turbine Overspeed Protection System	TRM	§50.59
3/4.3.9.2	End-of-Cycle Recirculation Pump Trip System Instrumentation		
3.3.9.2-3, Note (a)	EOC-RPT Response Times & Testing	Bases & Procedures	5.5.11 & §50.59

Existing Unit 2 TS	Title	Relocation Document	Relocation Control
3/4.4.1.2	Jet Pumps		
3.4.1.2, ACTION b	Evaluation of suspected inoperable jet pump(s)	Procedures	§50.59
4.4.1.2	Evaluation of inoperable jet pump(s)	Procedures	§50.59
4.4.1.2	Jet pump test performance details	Procedures	§50.59
3/4.4.2.1	Safety/Relief Valves (S/RVs)		
3.4.2.1, Note *	Conditions for verifying S/RV lift setpoints	Bases	5.5.11
3.4.2.1, ACTIONS b & c	Details of actions for suspected open S/RV	Emergency Operating Procedures	§50.59
ACTION d	Inoperable S/RV Tailpipe PressureSwitch ACTION Details	Procedures & Bases	§50.59 & 5.5.11
3/4.4.2.2	S/RV Low-Low Set (LLS) Function		
3.4.2.2, Note *	Details of Conditions for Setting the LLS Lift Setting Pressure Allowable Values	Procedures & Bases	§50.59 & 5.5.11
3/4.4.3.1	Leakage Detection System		
3.4.3.1.b & ACTION b	Drywell Equipment Sump Level Monitoring System Design Details	Bases & FSAR	§50.59 & 5.5.11
3/4.4.3.2	Operational Leakage		
4.4.3.2.a & b	SR Method Details and Design Details for RCS Leakage Monitoring System	Bases & FSAR	§50.59 & 5.5.11
3/4.4.4	Chemistry	TRM	§50.59
3/4.4.5	Specific Activity		
4.4.5.5	Xenon & Krypton Offgas Isotopic Analysis	Procedures	§50.59
3/4.4.8	Structural Integrity	ISI Program	§50.55a

Existing Unit 2 TS	Title	Relocation Document	Relocation Control
3/4.5.1	High Pressure Coolant Injection (HPCI) System		
3.5.1.a & b	HPCI Design Details	Bases & FSAR	5.5.11 & §50.59
4.5.1.c.1 & 3	HPCI SR Procedural Details	Procedures & Bases	§50.59 & 5.5.11
3/4.5.2	Automatic Depressurization System (ADS)		
4.5.2.a & b	ADS SR Procedural Details	Procedures & Bases	§50.59 & 5.5.11
4.5.2.c	ADS Valve Accumulator Leak Test	Procedures	§50.59
3/4.5.3.1	Core Spray (CS) System		
3.5.3.1, 3.5.3.1.a, & 3.5.3.1.b	CS System Design Details	Bases & FSAR	§50.59 & 5.5.11
3.5.3.1, ACTION a.3	CS Header Differential Pressure Instrumentation (Indication Only)	Procedures	§50.59
4.5.3.1.c.1 & 4.5.3.1.d	CS SR Procedural Details	Procedures & Bases	§50.59 & 5.5.11
3/4.5.3.2	Low Pressure Coolant Injection (LPCI) System		
3.5.3.2.a & b	LPCI Design Details	Bases & FSAR	§50.59 & 5.5.11
4.5.3.2.c	LPCI SR Procedural Details	Procedures & Bases	§50.59 & 5.5.11
3/4.5.4	Suppression Chamber		
3.5.4	Suppression Pool Volume Limit in Gallons	Bases	5.5.11
3.5.4.a.2 & b	Requirement for Locking Mode Switch in "Shutdown"	Procedures	§50.59
3.5.4 & ACTIONS c, d, & e & 4.5.4.1.b	Suppression Pool Level Instrumentation Alarm, Setpoint, and Indication (Indication Only Instrumentation)	Procedures	§50.59
3.5.4.a.3 & b.1	Core Spray System Design Details	Bases & FSAR	5.5.11 & §50.59

Existing Unit 2 TS	Title	Relocation Document	Relocation Control
3/4.6.1.2	Primary Containment Leakage		
3.6.1.2.a.1 & 2	Values of P_a, L_t and P_t	Bases	5.5.11
3.6.1.2.b.2	Secondary Containment Bypass Leakage Paths	Bases & TRM	5.5.11 & §50.59
3/4.6.1.3	Primary Containment Air Lock		
3.6.1.3.a	Primary Containment Air Lock Operability Details	Bases	5.5.11
3.6.1.3.b	Value of P_a	Bases	5.5.11
3/4.6.1.4	MSIV Leakage Control System	Deleted by Amendment Number 132	N/A
3/4.6.1.7	Drywell Average Air Temperature		
4.6.1.7	Details for Determining Drywell Average Air Temperature	Procedures	§50.59
3/4.6.2.1	Suppression Chamber		
3.6.2.1.a	Suppression Pool Volume Limit in Cubic Feet	Bases & FSAR	5.5.11 & §50.59
4.6.2.1.d	Method for Determining Average Suppression Pool Temperature.	Procedures & Bases	§50.59 & 5.5.11
3.6.2.1.c ACTIONS f, g, & h; & 4.6.2.1.h	Suppression Pool Level (Indication Only Instrumentation)	Procedures	§50.59
3/4.6.2.2	Suppression Pool Cooling		
3.6.2.2	Design Details of RHR Suppression Pool Cooling Mode of Operation	Bases & FSAR	5.5.11 & §50.59
4.6.2.2.b	Procedural Detail of RHR Suppression Pool Cooling Flow Test	Procedures	§50.59
3/4.6.3	Primary Containment Isolation Valves		
3.6.3-1	List of PCIVs	TRM	§50.59
4.6.3.2	PCIV Functional Testing Restricted to Modes 4 and 5	Procedures	§50.59

Existing Unit 2 TS	Title	Relocation Document	Relocation Control
3/4.6.4.1	Suppression Chamber-Drywell Vacuum Breakers		
3.6.4.1.b	Position Indication of the Suppression Chamber to Drywell Vacuum Breakers (Indication-only Instrumentation)	Procedures	§50.59
4.6.4.1.b	Method for Verifying Vacuum Breaker in Closed Position	Bases & Procedures	5.5.11 & §50.59
3/4.6.4.2	Reactor Building - Suppression Chamber Vacuum Breakers		
4.6.4.2.b.2	Reactor Building to Suppression Chamber Vacuum Breakers Visual Inspection	Procedures	§50.59
3/4.6.5.2	Secondary Containment Automatic Isolation Dampers		
3/4.6.5.2 & ACTION; 3.6.5.2-1	References List of Secondary Containment Isolation Dampers for Modes 1, 2, and 3: List of Isolation Dampers and Isolation Times	TRM	§50.59
4.6.5.2.c	Restriction to Perform Isolation Damper Isolation Time Verification in Mode 4 or 5	Procedures	§50.59
3/4.6.6.1	Standby Gas Treatment System		
4.6.6.1.1.a	Details for Performing the Standby Gas Treatment System 10-hour Test	Procedures & Bases	§50.59 & 5.5.11
3/4.6.6.2	Primary Containment Hydrogen Recombiner Systems		
3.6.6.2	Design Details of Hydrogen Recombiners	Bases & FSAR	5.5.11 & §50.59
4.6.6.2.b.1	Channel Calibration of Hydrogen Recombiner Instrumentation and Control Circuits (Indication-only Instrumentation)	Procedures	§50.59
4.6.6.2.b.2, b.3, & b.4	Hydrogen Recombiner Visual Examination, Functional Test, and Electrical Test	Bases & Procedures	5.5.11 & §50.59

Existing Unit 2 TS	Title	Relocation Document	Relocation Control
3/4.6.6.3	Primary Containment Hydrogen Mixing System		
4.6.6.3.a	Details of Method of Performing Drywell Cooling System Fan Functional Test	Procedure	§50.59
4.6.6.3.c	Drywell Cooling System Design Detail	Bases & FSAR	5.5.11 & §50.59
3/4.6.6.5	Primary Containment Purge System		
4.6.6.5.2	Details of Methods for Visually Inspecting the Purge System Excess Flow Isolation Dampers	Procedures	§50.59
3/4.7.1.1	Residual Heat Removal Service Water System		
4.7.1.1.b	RHRSW Pump Capacity Test Requirements	IST Program Procedures	5.5.6, §50.55a, & §50.59
3/4.7.1.2	Plant Service Water (PSW) System		
3.7.1.2 & ACTION b	PSW System LCO for Modes 4 and 5	Bases	5.5.11
3.7.1.2.a.2	Procedural Detail to Throttle PSW Flow	Procedures	§50.59
3.7.1.2.a.2 & 3.7.1.2.d	Details of PSW System Design	Bases & FSAR	5.5.11 & §50.59
3.7.1.2.b	River Level Monitoring Method	Bases	5.5.11
4.7.1.2.c	River Bottom Conditions Near Intake Structure	Procedures	§50.59
4.7.1.2.d	River Stage Discharge Rating Curve	Procedures	§50.59
4.7.1.2.e.1	Restriction on testing of PSW automatic valves to isolate non-safety systems to when the plant is shutdown.	Procedures	§50.59
4.7.1.2.e.2	Standby PSW Pump Low Pressure Auto Start Test	Procedures	§50.59
4.7.1.2.e.3	Restriction on testing of the auto start of the SSW pump upon 1B diesel generator start to when the plant is shutdown.	Procedures	§50.59

Existing Unit 2 TS	Title	Relocation Document	Relocation Control
3/4.7.2	Main Control Room Environmental Control System		
3.7.2	Independence of MCREC Subsystems	Bases & FSAR	5.5.11 & §50.59
4.7.2.b	Details of 15-minute Flow Test Through the HEPA filters and charcoal absorbers	Bases & Procedures	5.5.11 & §50.59
3/4.7.3	Reactor Core Isolation Cooling System		
3.7.3	RCIC System Design Details	Bases & FSAR	5.5.11 & §50.59
4.7.3.b	RCIC SR Procedural Details	Procedures & Bases	§50.59 & 5.5.11
3/4.7.4	Snubbers	ISI Programed	§50.55a & §50.59
3/4.7.5	Sealed Source Contamination	TRM	§50.59
3/4.8.1.1	A.C. Sources - Operating		
4.8.1.1.2.a.5	DG Standby Alignment Verification	Procedures	§50.59
4.8.1.1.2.c	Diesel Fuel Oil Testing Methods	Procedures	5.5.9 & §50.59
4.8.1.1.2.d.1	Diesel Generator (DG) 18-month Inspections Recommended by the Manufacturer	Procedures	§50.59
4.8.1.1.2.d.3 & 4.8.1.1.2.d.10	Name and kW Value of Single Largest Load and the Total kW of All Auto-Connected Loads for Each DG	Bases	5.5.11
4.8.1.1.3.b.1	Quarterly Measure of Cell Voltage Values to Detect DG Battery Degradation	Procedures	§50.59
4.8.1.1.4	DG Failure Report	Procedures	§50.59
4.8.1.1.2-1	DG Accelerated Test Schedule (See paragraph 2.3.8.1.b(4) of this safety evaluation.)	Procedures	§50.59

Existing Unit 2 TS	Title	Relocation Document	Relocation Control
3/4.8.2.2	A.C. Distribution - Shutdown		
3.8.2.2	List of AC Distribution Buses	Bases	5.5.11
3/4.8.2.3	D.C. Distribution - Operating		
3.8.2.3	DC Sources Design Details	Bases	5.5.11
4.8.2.3.1.b.1	Quarterly Measure of Cell Voltage Values to Detect Battery Degradation	Procedures	§50.59
4.8.2.3.2.d.1 & 4.8.2.3.2.d.2 and Figure 3.8.2.3-1	Battery Service Test Procedural Details "Dummy" Load Profiles for Station Service Batteries 2A and 2B	Procedures & FSAR	§50.59
4.8.2.3.2.d.3	Re-Validation of Battery Charger Design	Procedures	§50.59
3/4.8.2.5	A.C. Circuits Inside Primary Containment	TRM	§50.59
3/4.8.2.6	Primary Containment Penetration Conductor Overcurrent Protective Devices	TRM	§50.59
3/4.9.2	Instrumentation (Refueling Operations)		
3.9.2.a & b, 4.9.2.a.2	SRM Operability Conditions SRM Position In Mode 5	Procedures, Bases & FSAR	§50.59 & 5.5.11
3.9.2.d	SRM Operability/RPS Shorting Links	Procedures	§50.59
3/4.9.4	Decay Time	TRM	§50.59
3/4.9.5.2	Secondary Containment Automatic Isolation Dampers		
3.9.5.2, ACTION, & 4.9.5.2.1 3.9.5.2-1	References List of Isolation Dampers required in Mode 5 or when moving irradiated fuel in secondary containment: List of Isolation Dampers and Isolation Times	TRM	§50.59
3/4.9.6	Communications	TRM & Procedures	§50.59
3/4.9.7	Crane and Hoist Operability	TRM & Procedures	§50.59

Existing Unit 2 TS	Title	Relocation Document	Relocation Control
3/4.9.8	Crane Travel - Spent Fuel Storage Pool	TRM & Procedures	§50.59
3/4.9.9	Water Level - Reactor Vessel		
3.9.9, ACTION	Procedural Details for Low Water Level Required Action	Bases	5.5.11
3/4.9.10	Water Level - Spent Fuel Storage Pool		
3.9.10, ACTION	Action to Suspend Movement of Loads Over Spent Fuel Pool; Procedural Guidance	Procedures	§50.59
3/4.9.11.1	Single Control Rod Removal		
3/4.9.11.1.d	Details for Disarming a Control Rod Drive	Bases & Procedures	5.5.11 & §50.59
3/4.9.12	Reactor Coolant Circulation		
3.9.12	Definition of an RHR Subsystem	Bases	5.5.11
3/4.10.1	Primary Containment Integrity	Deleted	N/A
3/4.10.4	Recirculation Loops	Deleted	N/A
3/4.11.1.4	Liquid Holdup Tank Activity Limits		
3.11.1.4	Liquid Holdup Tank Activity Limits	Procedures & FSAR	§50.59
3/4.11.2.6	Explosive Gas Mixture		
3.11.2.6	Offgas System Hydrogen Concentration Limits	Procedures & FSAR	§50.59
3/4.11.2.7	Main Condenser		
3.11.2.7 & 4.11.2.7.2	Details of Determining Noble Gas Gross Gamma Activity Rate for Main Condenser Offgas	Procedures & Bases	§50.59 & 5.5.11
4.11.2.7.1	Monitoring Noble Gas Activity at the Main Condenser Air Ejector per the Offsite Dose Calculation Manual (ODCM)	ODCM	5.5.1
5.2	Primary Containment	FSAR	§50.59
5.4	Reactor Coolant System	FSAR	§50.59

Existing Unit 2 TS	Title	Relocation Document	Relocation Control
5.5	Meteorological Tower Location	FSAR	§50.59
5.7	Component Cyclic or Transient Limit		
5.7.1-1	Reactor Pressure Vessel Limits	FSAR	§50.59
6.2.2	Unit Staff		
6.2.2.a. & 6.2.2-1	Minimum Shift Composition	Procedures	§50.59 & §50.54(a)
6.2.2.h	Positions Requiring an Operators License	Procedures & FSAR	§50.59
6.2.2.e	Senior Reactor Operator Present During CORE ALTERATIONS	Procedures	§50.59 & §50.54(m)
6.2.2.f	Fire Team	FSAR, Procedures & Fire Hazards Analysis	§50.59
6.4	Training	FSAR, Procedures & Fire Hazards Analysis	§50.59 & §55
6.5	Review and Audit	FSAR & Procedures	§50.59, §50.54(p), §50.54(t), & §50.73
6.6	Reportable Event Action	Procedures	§50.59 & §50.73
6.8.1.d	Security Plan Implementation	Security Plan	§50.54(p), §50.59, §73.55, & §73.56
6.8.1.e	Emergency Plan Implementation	Emergency Plan	§50.54(q), §50.54(t), & §50.59
6.8.2 & 6.8.4	Procedure Review and Approval Process	FSAR & Procedures	§50.59 & §50.54(a)
6.8.3	Procedure Temporary Change Process	FSAR & Procedures	§50.59 & §50.54(a)

Existing Unit 2 TS	Title	Relocation Document	Relocation Control
6.10	Record Retention	FSAR & Procedures	§50.59 & §50.54(a) §20, & §71
6.11	Radiation Protection Program	FSAR & Procedures	§50.59 §20
6.14	Iodine Monitoring	Procedures	§50.59
6.15	Environmental Qualification	Procedures & Design Change Control Program	§50.59
6.19	Radiological Environmental Monitoring Program		
6.19.2) 6.19.3)	Land Use Census Interlaboratory Comparison Program	ODCM	5.5.1 & §50.59
6.20	Process Control Program	Quality Assurance Programmatic Requirements in the FSAR	§20 §50.54 §50.59 §61 §71

Table 3

References

Listed below are documents referenced in the attached safety evaluation for Amendment Nos. 195 and 135 to the technical specifications for Hatch Nuclear Plant, Units 1 and 2, respectively. The safety evaluation paragraphs that refer to each reference are listed below each reference.

1. Generic Letter 88-01, "NRC Position on Intergranular Stress-Corrosion Cracking in BWR Austenitic Stainless Steel Piping," January 25, 1988
   2.3.0.1.b(1)

2. NEDO-21231, "Banked Position Withdrawal Sequence (BPWS)," Section 7.2, January 1977
   2.3.1.2.c(8)
   2.3.1.5(1)

3. NUREG 0123, "Standard Technical Specifications, General Electric Plants BWR/6," Revision 3, December 1980
   2.1.3.1.d(2)
   2.3.6.2.r(7)

4. Letter A. C. Thadani (NRC) to J. S. Charnley (GE), entitled, "Acceptance for Referencing of Amendment 19 to General Electric Licensing Topical Report NEDE-24011-P-A (GESTAR-II), General Electric Standard Application for Reactor Fuel," dated April 7, 1987
   2.3.2.2.b.(2)

5. NEDO-31400, "Safety Evaluation for Eliminating the Boiling Water Reactor Main Steam Isolation Valve Closure Function and SCRAM Function of the Main Steam Line Radiation Monitor"
   2.3.3.1.a(1)

6. Regulatory Guide 1.97, "Instrumentation for Light Water Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," Revision 2, December 1980
   2.3.3.1.a(3)
   2.3.3.2.e(5)
   2.3.3.3.e(1)
   2.3.3.5(9)

7. NEDC-30851-P-A "Technical Specifications Improvement Analyses for BWR Reactor Protection System," March 1988
   2.3.3.2.a(2) and (3)

8. NEDE-24011-P-A-10, "General Electric Standard Application for Reactor Fuel," March 1991
   2.3.3.2.a(7)

9. NEDE-24011-P-A (GESTAR-II), General Electric Standard Application for Reactor Fuel," April 7, 1987
2.3.2.2.b(2)

10. NEDE-31152P, "GE Fuel Bundle Designs," December 1988
2.3.3.2.a(7)

11. GENE-770-225-1092, "Plant Hatch Units 1 and 2, Analysis to Support Surveillance Test Interval Extension for Scram Discharge Volume Level Switches," September 1993
2.3.3.2.a(12)

12. Generic Letter 87-09, "Sections 3.0 and 4.0 of the Standard Technical Specifications on the Applicability of LCO and Surveillance Requirements," June 4, 1987
2.3.0.2(1)
2.3.3.2.c(5)
2.3.6.2.h(2)
2.3.6.2.r(7)

13. Generic Letter 89-19, "Safety Implications of Control Systems in LWR Power Plants," September 20, 1989
2.3.3.2.d

14. GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-Of-Service Times for Selected Instrumentation Technical Specifications," February 1991
2.3.3.2.g(1)
2.3.3.2.h(1)
2.3.3.2.m(1)
2.3.3.2.n(1)

15. NEDC-30936-P-A, "BWR Owners Group Technical Specification Improvement Analyses for ECCS Actuation Instrumentation Part 2," December 1988
2.3.3.2.i(1)

16. GENE-770-06-2, "Addendum to Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications," February 1991
2.3.3.2.j(1)

17. NEDC-30851-P-A, Supplement 2, "Technical Specifications Improvement Analysis for BWR Isolation Instrumentation Common to RPS and ECCS Instrumentation," March 1989
2.3.3.2.k(1)
2.3.3.2.l(3)

18. NEDC-31677-P-A, "Technical Specification Improvement Analysis for BWR Isolation Actuation Instrumentation," July 1990
2.3.3.2.k(1)
2.3.3.2.l(3)

19. GE Report EAS-24-0489, "Hatch Nuclear Plant Evaluation of the Failure of the Time Delay Relays in the RWCU Differential Flow High Instrumentation During Design," May 1989.
2.3.3.2.k(7)

20. NUREG-1366
2.3.3.4(17)
2.3.3.5(5)
2.3.6.2.m(4)

21. Generic Letter 93-05, "Line-Item Technical Specifications Improvements To Reduce Surveillance Requirements For Testing During Power Operation,"
2.3.3.4(17)
2.3.3.5(5)
2.3.6.2.h(3)

22. NEDC-31753P, "BWROG In-Service Pressure Relief Technical Specification Revision Licensing Topical Report," submitted to NRC by BWROG on July 9, 1990
2.3.4.2.c(3)

23. Letter from A.C. Thadani to C.L. Tully, dated 3/8/83, "Acceptance for Referencing of "BWROG In Service Pressure Relief TS Revision Licensing Topical Report"
2.3.4.2.c(3)

24. Generic Letter 88-01, Supplement 1
2.3.4.2.d(3)
2.3.4.2.e(2)
2.3.4.3.e(1)

25. HNP letter response to NRC dated June 3, 1987, regarding Generic Letter 87-06, "Periodic Verification of Leak Tight Integrity of Pressure Isolation Valves"
2.3.4.5(4)

26. NEDC-31376P, "E.I. Hatch Nuclear Plants Units 1 and 2 SAFER/GESTR-LOCA Loss-of-Coolant Accident Analysis"
2.3.5.2.a(5)
2.3.5.2.a(6)
2.3.5.2.a(7)

27. ASME/ANSI Operations and Maintenance Standard, Part 10, "Inservice Testing of Valves in LWR Power Plants"
2.3.5.2.a(8)

28. Recommended Interim Revisions to LCOs for ECCS components, December 1, 1975 (NRC reliability study)
2.3.5.2.c(2)

29. Generic Letter 91-08, "Removal of Component Lists from Technical Specifications," May 6, 1991
2.3.6.1.b(2)
2.3.6.1.b(7)
2.3.6.1.b(33)

30. Generic Letter 91-04, "Changes in Technical Specifications Surveillance Intervals to accommodate a 24-month fuel cycle," April 2, 1991
2.3.6.1.b(10)
2.3.6.1.b(32)
2.3.6.1.b(34)
2.3.7.1.b(8)
2.3.8.1.b(6)

31. GENE-A00-05873-02, "Evaluation of an Increase in the Containment Normal Operating Pressure Analytical Limit to 1.75 PSIG," dated April 1994
2.3.6.2.a(1)

32. NEDO-21052, "Maximum Discharge Rate of Liquid Vapor Mixture From Vessels," May 1979
2.3.6.2.a(1)

33. NEDO-10320, "The General Electric Pressure Suppression Containment Analytical Model," March 1979
2.3.6.2.a(1)

34. NUREG-0661, Appendix A
2.3.6.2.a(1)

35. NEDO-24570, "Plant Unique Load Definition Mark I Containment Program, Hatch Unit 1," March 1979
2.3.6.2.a(1)

36. NEDO-24569, "Plant Unique Load Definition Mark I Containment Program, Hatch Unit 2," March 1979
2.3.6.2.a(1)

37. Letter from GPC to the NRC dated January 26, 1983 (with later supplements forwarding NEDO-24570 and NEDO-24569) and the NRC safety evaluation report dated January 25, 1984
2.3.6.2.a(1)

38. GE Report EAS-19-0388, "Elimination of the Suppression Pool Temperature Limit for Plant Hatch Units 1 and 2," March 1988
2.3.6.2.i(1)

39. NEDO-30832, "Elimination of Limit on BWR Suppression Pool Temperature for SRV Discharge with Quenchers," December 1984
2.3.6.2.i(2)

40. Licensee procedure 34-SVR43-009-05, "Diesel Generator Failure Tracking"
2.3.8.1.b(4)

41. Generic Letter 94-01, "Removal of Accelerated Testing and Special Reporting Requirements for Emergency Diesel Generators"
2.3.8.1.b(4)
2.3.8.5(7)

42. Generic Letter 84-15, "Proposed Staff Actions to Improve and Maintain Diesel Generator Reliability," July 2, 1984
2.3.8.2.a(13)

43. Regulatory Guide 1.93
2.3.8.2.a(10)
2.3.8.2.a(15)
2.3.8.2.g(2)
2.3.8.3.d(4)
2.3.8.3.g(3)
2.3.8.3.g(7)

44. Letter dated August 2, 1988, from B. M. Radimer (IEEE Battery Working Group (BWG)) to S.K. Aggarval (NRC) forwarding the IEEE BWG recommendations
2.3.8.2.f(1)

45. Appendix A to IEEE-450
2.3.8.2.f(2)
2.3.8.2.f(3)
2.3.8.2.f(4)

46. NUREG 0612
2.3.9.1.a(1)

47. Generic Letter 90-02, Supplement 1, "Alternative Requirements for Fuel Assemblies in the Design Features Section of TS," July 31, 1992
2.4.0.2(1)

48. ANSI N18.1-1971
2.5.0.1.a(3)

49. Regulatory Guide 1.8, September 1975
2.5.0.2.a(3)

50. ANSI N18.7-1976
2.5.0.1.a(4)
2.5.0.1.a(7)

51. HNP Security Plan,
2.5.0.1.a(6)

52. HNP Emergency Plan
2.5.0.1.a(6)

53. ANSI N45.2-1971
2.5.0.1.a(4) and (7)

54. NUREG-0737, Item III.D.3.3 as stated in a letter to the NRC from GPC dated December 30, 1980
2.5.0.1.a(11)

55. ASTM D-2276, Method A-2 or A-3
2.5.0.1.b(1)

56. NUREG-0737 and Supplement 1
2.5.0.3(4)

57. Regulatory Guide 1.33
2.5.0.3(4)
2.5.0.3(5)

58. Generic Letter 82-33, Supplement 1 to NUREG-0737, "Emergency Response Capabilities," December 17, 1982
2.5.0.3(4)

59. Laboratory test standards ASTM D3803-1989 and RDT-M16-IT
2.5.0.3(8)

60. ASME XI
2.3.0.1.b(1)
2.3.0.4(2)
2.3.4.1.a(1)
2.3.4.5(4)
2.3.7.1.a(1)

61. Letter dated May 7, 1988 from T.E. Murley (NRC) to R.F. Janecek (BWROG)
2.3.3.1.a(3)

62. NRC SER, "Edwin I. Hatch Nuclear Plant, Unit Nos. 1 and 2, Conformance to Regulatory Guide 1.97," dated July 30, 1985
2.3.3.1.a(3)

Table 4

Acronyms and Terms

Acronyms

Acronyms spelled out in capitalized type are improved TS defined terms. See Section 2.1.1 of the attached safety evaluation.

AC	air conditioning
AC	alternating current
ADS	automatic depressurization system
ALARA	as low as reasonably achievable
AOT	allowed outage time
APRM	average power range monitor
APLHGR	AVERAGE PLANAR LINEAR HEAT GENERATION RATE
ASME	American Society of Mechanical Engineers
ATTS	analog transmitter trip system
ATWS	anticipated transient without scram
ATWS-RPT	ATWS-recirculation pump trip
BPV	boiler and pressure vessel
BPWS	banked position withdrawal sequence
BWG	battery working group
BWR	boiling water reactor
BWROG	BWR Owners Group
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CFT	CHANNEL FUNCTIONAL TEST
COLR	CORE OPERATING LIMITS REPORT
CR	control rod
CRB	control rod block
CRD	control rod drive
CRDA	control rod drop accident
CS	core spray
CST	condensate storage tank
CTS	current technical specifications
DBA	design basis accident
DC	direct current
DEI	dose equivalent iodine-131 (I-131)
DG	diesel generator
dP	differential pressure
ECCS	emergency core cooling system
EFCV	excess flow check valve
EFPH	effective full power hours
EOP(s)	emergency operating procedure(s)
EOC-RPT	end of cycle - recirculation pump trip

EPIP	emergency plan implementing procedures
ESF	engineered safety feature
FSAR	Final Safety Analysis Report
GDC	General Design Criterion/Criteria (Appendix A to 10 CFR 50)
GE	General Electric
GPC	Georgia Power Company
HELB	high energy line break
HEM	homogeneous equilibrium model
HNP	Edwin I. Hatch Nuclear Plant
HPCI	high pressure core injection
improved TS	improved technical specifications
IPE	individual plant examination
IRM	intermediate range monitor
ISI	inservice inspection
IST	inservice testing
Kr	krypton
kV	kilovolts
kW	kilowatts
LCO(s)	limiting condition(s) for operation.
LER	licensee event report
LLS	low-low set
LLRT	local leak rate test
LOCA	loss-of-coolant accident
LOP	loss of power
LOSP	loss of offsite power
LPCI	low pressure core injection
LPRM	local power range monitor
LSFT	LOGIC SYSTEM FUNCTIONAL TEST
LSSS	limiting safety system settings
MCPR	MINIMUM CRITICAL POWER RATIO
MCREC	main control room environmental control
MG	motor-generator
MPL	master parts list
MSL	main steam line
MSLRM	main steam line radiation monitor
Mwt	megawatt (as used in the Unit 1 CTS)
MWD/t	megawatt-day per ton (as used in the CTS)
MWD/T	megawatt-day per ton (as used in the improved TS and the STS)
NMS	neutron monitoring system
NPSH	net positive suction head
NRC	Nuclear Regulatory Commission
NUMAC	nuclear measurement analysis and control

ODCM	OFFSITE DOSE CALCULATION MANUAL
OPDRV	operation with the potential for draining the reactor vessel
PAM	post accident monitoring
PCIS	primary containment isolation system
PCIV	primary containment isolation valve
PRB	plant review board
PSW	plant service water
QA	quality assurance
RBM	rod block monitor
RCIC	reactor core isolation cooling
RCS	reactor coolant system
RF	refueling floor
RHR	residual heat removal
RHRSW	RHR service water
rms	root mean square
RPIS	rod position indication system
RPS	reactor protection system
RPV	reactor pressure vessel
RSS	remote shutdown system
RTD	resistence temperature detector
RTP	RATED THERMAL POWER
RWCU	reactor water cleanup
RWE	rod withdrawal error
RWM	rod worth minimizer
scfh	standard cubic feet per hour
SCIS	secondary containment isolation system
SCIV	secondary containment isolation valve
SD	shutdown
SDC	shutdown cooling
SDM	SHUTDOWN MARGIN
SDV	scram discharge volume
SFDP	safety function determination program
SFSP	spent fuel storage pool
SGT	standby gas treatment
SGTS	standby gas treatment system
SL(s)	safety limit(s)
SLC	standby liquid control
SJAE	steam jet air ejector
SR(s)	surveillance requirement(s)
SRM	source range monitor
SRO	senior reactor operator
S/RV	safety/relief valve (as used in the safety evaluation)
SRV	safety/relief valve
STA	shift technical advisor
STS	standard technical specifications

TIP	traversing in-core probe
TRM	Technical Requirements Manual
TS	technical specifications
UHS	ultimate heat sink
VFTP	ventilation filter test program
Xe	xenon

Terms

In the attached safety evaluation, the following terms were taken to have the meanings described below; these definitions are consistent with the meanings of these terms in the improved standard technical specifications and the licensee's submittal.

ACTIONS	That part of a specification that prescribes Required Actions to be taken under designated Conditions within specified Completion Times. (In the safety evaluation, existing requirements corresponding to this definition are also referred to as ACTIONS; equivalent terms are "action statements" or "action requirements.") ACTIONS is a defined term in the improved TS.
Applicability	That part of a specification that prescribes the Modes and other operational conditions in which the associated LCO is required to be met (i.e., the conditions within which the requirements of the LCO apply).
Condition	A statement in the ACTIONS associated with an LCO that describes which requirement(s) of the LCO or associated ACTIONS are not met. For each designated Condition, the ACTIONS typically specify one or more Required Actions to be taken within the specified Completion Times.
Completion Time	The amount of time allowed for completing a Required Action for a designated Condition in the ACTIONS associated with an LCO. An equivalent term is "allowed outage time" (AOT).
Frequency	The requirement associated with each SR that defines when the SR must be met (i.e., verifying the SR acceptance criteria are satisfied) in order to meet the requirements of the associated LCO. A SR Frequency may be specified on a periodic basis and on a conditional basis for otherwise stated conditions. On a periodic basis, the Frequency is expressed in terms of a the time period, since the SR was last met, within which the SR must be met again (typically expressed in hours, days, months, or years). In the CTS, a SR Frequency expressed in this fashion has commonly been referred to as a "surveillance test interval" (STI).

the current TS	(or the CTS) The entire Appendix A to the operating license as amended through Amendment No. 194 for Unit 1 and Amendment No. 134 for Unit 2.
the improved TS	The entire Appendix A to the operating license as amended through Amendment No. 195 for HNP Unit 1 and Amendment No. 135 for HNP Unit 2)
Required Action	A statement of the remedial action to be taken within a specified Completion Time for a designated Condition in the ACTIONS associated with an LCO.
specification	In Sections 3.1 through 3.10 of the improved TS (and corresponding sections of the CTS): that set of requirements consisting of an LCO and its associated Applicability, ACTIONS, and SRs. In Sections 2.1 and 2.2 of the improved TS (and the corresponding sections of the CTS): a safety limit or safety limit violation. In Section 3.0 of the improved TS (and the corresponding requirements in the CTS): each LCO and SR general applicability requirement. In Section 4.0 of the improved TS (and Section 5.0 of the CTS): the requirements stated for each listed design feature. In Sections 5.1 through 5.7 of the improved TS (and Section 6.0 of the CTS): the requirements contained in each administrative control.
the STS	NUREG-1433, Revision 0, as revised through November 1994
the TS	the technical specifications, the general term as used in 10 CFR 50.36