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Fred Dacimo
Vice President, Operations

June 23, 2003

Re: Indian Point Unit No. 2
Docket No. 50-247
NL-03-103

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station O-P1-17
Washington, DC 20555-0001

Subject: Response to Request for Additional Information Regarding Section 3.7, Plant Systems, of the Improved Technical Specifications (ITS) (TAC No. MB4739)

Reference:
1) Entergy letter (NL-02-016) to NRC, "License Amendment Request (LAR 02-005) Conversion to Improved Standard Technical Specifications," dated March 27, 2002
2) Entergy letter (NL-02-092) to NRC, "Supplement 1 to the Indian Point 2 License Amendment Request for Conversion to Improved Standard Technical Specifications," dated July 10, 2002
3) Entergy letter (NL-03-035) to NRC, "Supplement 2 to the Indian Point 2 License Amendment Request for Conversion to Improved Standard Technical Specifications," dated February 26, 2003
4) Entergy letter (NL-03-081) to NRC, "Supplement 3 to the Indian Point 2 License Amendment Request for Conversion to Improved Standard Technical Specifications," dated May 19, 2003
5) NUREG 1431, "Standard Technical Specifications-Westinghouse Plants," Revision 2, dated April 2001
6) 10 CFR 50.36, "Technical Specifications," as amended
7) NRC letter to Entergy Nuclear Operations, Inc., "Request for Additional Information (RAI) Regarding Section 3.7 – Plant Systems (TAC No. MB4739)," dated May 16, 2003
8) Entergy letter (NL-02-160) to NRC, "Response to Request for Additional Information Regarding Sections 1.0, 2.0, 3.0, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.9, 4.0, and 5.0 of the Improved Technical Specifications (ITS)," dated December 18, 2002

A001

Dear Sir:

By letter dated March 27, 2002 (Reference 1), as supplemented by letters dated July 10, 2002 (Reference 2), February 26, 2003 (Reference 3) and May 19, 2003 (Reference 4), Entergy Nuclear Operations, Inc. (ENO) requested to amend the Indian Point 2 (IP2) Plant Operating License, Appendices A and B, "Technical Specifications." The proposed amendment converts the IP2 Current Technical Specifications (CTS) to Improved Technical Specifications (ITS) in accordance with NUREG 1431, "Standard Technical Specifications-Westinghouse Plants," (Reference 5), and the Code of Federal Regulations (CFR) (Reference 6).

The U.S. Nuclear Regulatory Commission (NRC) staff reviewing the request has determined that additional information is required to complete its review. The request for additional information is dated May 16, 2003 (Reference 7). A list of acronyms that may have been used in this response has been provided as Attachment 1 to this letter. Attachment 2 to this letter, "Response to Request for Additional Information Regarding Section 3.7 of the Improved Technical Specifications (ITS)," provides ENO's response to the subject request for additional information. The IP2 Actions described in Attachment 2 will be incorporated in a future supplement to the ITS submittal packages.

As indicated in ENO's letter dated December 18, 2002 (Reference 8), ENO requested a Safety Evaluation Report (SER) from the NRC by June 2003 to support an implementation date of September 2003. ENO is changing the intended implementation date for the proposed license amendment to October 16, 2003. Therefore, ENO respectfully requests an approved SER in time to support the revised implementation date.

There are no commitments contained in this letter.

Should you or your staff have any questions regarding this matter, please contact the IP2 ITS Project Manager, Mr. William Blair at (914) 734-5336.

I declare under penalty of perjury that the foregoing is true and correct.

Sincerely,

Executed on 6/23/03

Fred R. Dacimo
Vice President, Operations

Attachments

cc: See page 3

cc:

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ATTACHMENT 1 TO NL-03-103

List of Acronyms That May Be Used In This Submittal

Entergy Nuclear Operations, Inc.
Indian Point Unit No. 2
Docket No. 50-247

List of Acronyms That May Be Used In This Submittal

AC	Air Conditioning or Alternating Current
AOT	Allowed Outage Time
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATWS	Anticipated Transient Without Scram
BIT	Boron Injection Tank
CFR	Code of Federal Regulations
CLB	Current License Basis
COLR	Core Operating Limits Report
COT	Channel Operational Test
CST	Condensate Storage Tank
CTS	Current Technical Specification
DB	Design-Basis
DBA	Design-Basis Accident
DC	Direct Current
DG	Diesel Generator
DOC	Discussion of Change (from the CTS)
ECCS	Emergency Core Cooling System
EDG	Emergency Diesel Generator
ESF	Engineered Safeguard Feature
FR	Federal Register
GDC	General Design Criteria
HEPA	High Efficiency Particulate Air
Hz	Hertz
IRM	Intermediate Range Monitor
ISI	Inservice Inspection
ITS	Improved (converted) Technical Specifications
JFD	Justification For Difference
kV	Kilovolt
kW	Kilowatt
LAR	Licence Amendment Request
LCO	Limiting Condition for Operation
LOCA	Loss of Coolant Accident
LOOP	Loss of Offsite Power
LOP	Loss of Power
MSIV	Main Steam Isolation Valve
MSLB	Main Steam Line Break
NUMAC	Nclear Measurement Analysis and Control
PAM	Post-Accident Monitoring
P/T	Pressure/Temperature
QA	Quality Assurance
RAI	Request for Additional Information

RCS	Reactor Coolant System
RG	Regulatory Guide
RHR	Residual Heat Removal
RPS	Reactor Protection System
RPV	Reactor Pressure Vessel
RTP	Rated Thermal Power
SDC	Shutdown Cooling
SDM	Shutdown Margin
SE	Safety Evaluation
SER	Safety Evaluation Report
SR	Surveillance Requirement
SRM	Source Range Monitor
STS	Improved Standard Technical Specification(s), NUREG-1431, Rev. 2
SW	Service Water
TRM	Technical Requirements Manual
TS	Technical Specifications
TSTF	Technical Specifications Task Force (re: generic changes to the STS)

ATTACHMENT 2 TO NL-03-103

Response to Request for Additional Information Regarding Section 3.7 of the Improved Technical Specifications (ITS)

Entergy Nuclear Operations, Inc.
Indian Point Unit No. 2
Docket No. 50-247

Response to Request for Additional Information

The NRC Staff reviewing information provided in the March 27, 2002 license amendment request, as supplemented by letters dated July 10, 2002, February 26, 2003 and May 19, 2003, has determined that additional information is required to complete its review. The following are the specific requests from the NRC staff and ENO's response to those requests.

3.7.1 : Main Steam Safety Valves (MSSVs)

NRC RAI Number	TAC Number:
3.7.1 - 1	**MB4739**

NRC Request for Additional Information (RAI):

3.7.1-1 DOC L2
ITS 3.7.1 Bases Reference 5
ITS SR 3.7.1.1
CTS Table 4.1-3 Item 4

When was the IST program updated to reference ANSI/ASME OM-1-1987 for the setpoint testing of MSSVs? Cite the pertinent correspondence between the licensee and the NRC staff.

Entergy (IP2) Response:

NRC letter from Marsha Gamberoni (NRC) to A. Alan Blind (Consolidated Edison), "One Time Relief Related to Inservice Testing of Main Steam Safety Valves, Indian Point Nuclear Generating Station No. 2 (TAC No. MA9032)," dated November 14, 2000, confirms that the IP2 IST program was previously updated to reference ANSI/ASME OM-1-1987 for the setpoint testing of MSSVs.

Entergy (IP2) Action:

None

3.7.1 : Main Steam Safety Valves (MSSVs)

NRC RAI Number	TAC Number:
3.7.1 - 2	**MB4739**

NRC Request for Additional Information (RAI):

3.7.1-2 DOC M6
ITS Table 3.7.1-1
NL-02-004

Provide the values of the parameters in the STS Bases Reviewer's Note equation (also given in NI-02-004 (sic)), which was used to calculate the reduced reactor power values for inoperable MSSVs.

Entergy (IP2) Response:

CTS Amendment 237, dated May 22, 2003, approved a 1.4% power uprate for Indian Point 2. This amendment changed the Neutron Flux Trip Setpoint adjustments for inoperable MSSVs specified in CTS Table 3.4-1 and, consequently, ITS Table 3.7.1-1. IP2 will revise ITS LCO 3.7.1, Main Steam Safety Valves (MSSVs), to incorporate the changes approved in CTS Amendment 237.

Entergy (IP2) Action:

IP2 will revise ITS LCO 3.7.1, Main Steam Safety Valves (MSSVs), to incorporate the changes approved in CTS Amendment 237.

3.7.2 : Main Steam Isolation Valves (MSIVs) and Main Steam Check Valves (MSCVs)

NRC RAI Number	TAC Number:
3.7.2 - 1	**MB4739**

NRC Request for Additional Information (RAI):

3.7.2-1 ITS LCO 3.7.2 Applicability
ITS 3.7.2 Action A & Action C Completion Times

Explain why the MSIVs do not need to be made incapable of opening (deactivated) when they are closed. Point out any precedent for a 72-hour Completion Time for an inoperable MSIV or inoperable MSCVs at a facility with similar MS isolation design, other than IP3 (which has a 48-hour CT). (The MSIV 72-hour AOT is CLB.)

Entergy (IP2) Response:

This RAI is addressed below based on the following generic description of the main steam isolation valves (MSIVs) safety function and plant specific description of the IP2 MSIV design:

Description of the MSIV Safety Function: Each PWR main steam line must have MSIVs that ensure the consequences of a steam line break (SLB) and steam generator tube rupture (SGTR) remain within the assumptions of the IP2 accident analysis. For an SLB, no more than one SG experiences blowdown following an SLB that occurs either upstream or downstream of the MSIVs assuming the failure of a single MSIV. For a SGTR, the SG with a ruptured tube must be isolated from the atmospheric dump valves (ADVs) associated with the three intact SGs assuming the failure of a single MSIV. To accomplish this safety function (including single failure tolerance), MSIVs in each steam line must perform two functions: 1) the stop function (i.e., close within 5 seconds to terminate flow out of all SGs during an SLB downstream of the MSIVs and terminate flow from an SG with an SGTR to the ADVs of the three intact SGs); and 2) the reverse flow or check function (i.e., close within 5 seconds to terminate flow into an SG during an SLB upstream of the MSIV or terminate flow from an SG with a SGTR to the ADVs of the three intact SGs which are upstream of the SGs MSIVs).

Description of the IP2 MSIV Design: STS (NUREG-1431) LCO 3.7.2 was written for a plant with a single valve (i.e., the MSIV) in each steam line that performs both the stop function and the reverse flow or check function. IP2 ITS LCO 3.7.2 was written for the IP2 design which uses a separate stop valve (i.e., the MSIV) and check valve (i.e., MSCV) in each steam line (refer to IP2 UFSAR Figure 14.2-1). In the design modeled in the STS (NUREG-1431), if an MSIV is inoperable, then it must be assumed that both the stop function and the check function in that steam line are lost. In the IP2 design, if an MSIV is inoperable, there is still a very high degree of assurance that the check function remains Operable. Additionally, IP2's use of simpler design for both the MSIV (i.e., a swing disc type check valve aligned to prevent flow out of the SG) and the completely independent MSCV (a swing disc type check valve aligned to prevent flow into the SG) is inherently reliable.

Issue 1: Explain why the MSIVs do not need to be made incapable of opening (deactivated) when they are closed.

STS (NUREG-1431) LCO 3.7.2 requires that MSIVs are operable in Mode 1 and in Modes 2 and 3 except when all MSIVs are closed [and de-activated]. The brackets indicate that the requirement for an MSIV to be de-activated is plant specific. The term de-activated means that the MSIV is closed and in a condition such that a single failure (circuit failure or single operator action) would not result in the closed MSIV being opened inadvertently when the valve is assumed to be performing its safety function.

IP2 ITS LCO 3.7.2 requires only that MSIVs are Operable in Mode 1 and in Modes 2 and 3 except when all MSIVs are closed. IP2 ITS LCO 3.7.2 does not require that an inoperable closed MSIV be deactivated when in Modes 2 and 3. This is acceptable because the plant remains within the accident analysis assumptions (i.e., one MSIV fails to perform its safety function) for a steam line break (SLB) assuming that a single failure (including operator error) results in a closed MSIV opening or an open MSIV failing to close either before or during the event. Note that the IP2 MSIVs are not assumed to isolate the three intact SGs from an SG with a tube rupture as assumed in STS (NUREG-1431) because the MSCVs in the three unfaulted lines isolate the faulted SG from the ADVs that will be used to cool the plant.

The IP2 MSIVs are swing disc type check valves that are aligned to prevent flow out of the steam generator. During normal operation, the free swinging discs in the MSIVs are held out of the main steam flow path by an air piston and the MSIVs close to prevent the release of steam from the SG when air is removed from the piston. Therefore, a closed MSIV cannot be deactivated to prevent reverse flow into an SG with suddenly reduced pressure because of an SLB upstream of a closed MSIV. This is acceptable because at IP2 the independent MSCV and the operable MSIVs in the other SGs provide redundant protection for this scenario. Furthermore, if an SLB occurs downstream of a closed MSIV, the MSIV air piston would not be capable of opening a closed MSIV against the resulting pressure differential. Based on the above, requiring closed MSIVs to be deactivated does not provide any enhancement to safety at IP2.

Issue 2: Point out any precedent for a 72-hour Completion Time for an inoperable MSIV or inoperable MSCVs at a facility with similar MS isolation design, other than IP3 (which has a 48-hour CT). (The MSIV 72-hour AOT is CLB.)

IP2 was not able to identify any Westinghouse Plant that converted to ITS that has a 72 hour completion time for restoration of an inoperable MSIV. Note that IP2 CTS allows all 4 MSIVs to be inoperable for up to 72 hours prior to requiring initiation of a plant shutdown. ITS LCO 3.7.2, DOC M.1 applies the more restrictive change that allows only one MSIV to be inoperable for 72 hours. This change ensures that the plant remains within the SGTR and SLB accident analysis assumptions (including assumptions regarding single failure of an MSIV) except for an SLB that occurs downstream of the MSIVs. For an SLB that occurs downstream of the MSIVs, IP2 remains within the accident analysis assumptions except for the ability to tolerate the random failure of a second MSIV during the 72 hour allowable out of service time for the one MSIV permitted to be inoperable.

Conversely, for a plant that uses a single valve to perform both the stop function and the check function, single failure tolerance is lost for all three accident types (SGTR and SLB both upstream and downstream of the MSIV) when a single MSIV is inoperable. This difference, in conjunction with the inherent reliability of a reverse check valve as the MSIV, warrants IP2's retention of a 72 hour Completion Time for restoration of a single inoperable MSIV. Note that STS (NUREG-1431) LCO 3.7.2,

Condition C, allows 8 hours for restoration when both the stop function and the check function are inoperable and the MSIV safety function is lost. (See the IP2 Response to RAI 3.7.2-2).

Entergy (IP2) Action:

None

3.7.2 : Main Steam Isolation Valves (MSIVs) and Main Steam Check Valves (MSCVs)

NRC RAI Number	TAC Number:
3.7.2 - 2	**MB4739**

NRC Request for Additional Information (RAI):

3.7.2-2 Bases for ITS 3.7.2 Actions C and F
DOC L1

Action C Bases: The second paragraph seems a bit exaggerated in view of the 72-hour Completion Time, as opposed to an 8 hour time; how many other containment isolation valves in closed systems get 72 hours? The basis for the 72 hours has little if anything to do with the MSIV's function as a containment isolation valve. Propose a more appropriate discussion of the containment isolation function of the MSIVs.

Action F Bases: The first two sentences are unclear and need editorial corrections. In addition, why is a time of 8 hours justified if a plant in Condition F is vulnerable to more than one SG blowing down (even without needing to assume a single failure)? Please explain which configuration of inoperable MSCVs and an inoperable MSIV would lead to this vulnerability? Note that in the STS, such a vulnerability exists when two MSIVs are inoperable and can not close (MSIVs of the design assumed in the STS); the STS does not allow 8 hours to exit such a condition. The STS would require being in Mode 2 in 7 hours (combination of LCO 3.0.3 and STS Action C); and if one or both of the MSIVs could not be closed in the next eight hours, then STS would require being in Mode 3 within the next 6 hours and Mode 4 within the following 6 hours. (Note that this point was apparently not raised in the IP3 ITS review, but in hindsight, perhaps it should have been.)

Entergy (IP2) Response:

Issue 1: The second paragraph seems a bit exaggerated in view of the 72-hour Completion Time, as opposed to an 8 hour time; how many other containment isolation valves in closed systems get 72 hours?

STS (NUREG-1431, Rev 2), LCO 3.7.2, Required Action A.1 Bases (ITS 3.7.2, Required Action C.1), justifies the Completion Time for Restoration of an inoperable MSIV (assumed to be a single stop-check valve) by stating that the "Completion Time is greater than that normally allowed for containment isolation valves because the MSIVs are valves that isolate a closed system penetrating containment. These valves differ from other containment isolation valves in that the closed system provides an additional means for containment isolation." STS (NUREG-1431, Rev 2), LCO 3.6.3, Condition C and Required Action C.1, allows 72 hours to take compensatory action for an inoperable containment isolation valve on a penetration associated with a closed system. (Note that STS (NUREG-1431, Rev 2), LCO 3.7.2, Required Action A.1 Bases, was not updated to reflect the 72 hour completion time adopted in Revision 2 of STS LCO 3.6.3.)

IP2 agrees that the Completion Time justification provided in STS (NUREG-1431, Rev 2), LCO 3.7.2, Required Action A.1 Bases, (IP2 ITS 3.7.2, C.1 Bases) is not an adequate justification that an MSIV is similar to containment isolation valve associated with a closed system. Therefore, IP2 will revise the

Bases justification for the Completion Time in IP2 ITS 3.7.2, C.1 Bases to be consistent with the response to NRC RAI 3.7.2-1, as follows:

"The 72 hour Completion Time for restoration of an inoperable MSIV is acceptable because the plant remains within the SGTR and SLB accident analysis assumptions (including assumptions regarding single failure of an MSIV) except for an SLB that occurs downstream of the MSIVs. For an SLB that occurs downstream of the MSIVs, IP2 remains within the accident analysis assumptions except for the ability to tolerate the random failure of a second MSIV during the 72 hour allowable out of service time for the one MSIV permitted to be inoperable."

Issue 2: Why is a time of 8 hours justified if a plant in Condition F is vulnerable to more than one SG blowing down (even without needing to assume a single failure)?

Completion Time for restoration from IP2 ITS 3.7.2, Condition F, One MSIV inoperable and One or more MSCVs inoperable," was proposed to be 8 hours even though this Condition represents a loss of safety function based on the 8 hour Completion Time for STS(NUREG-1431) LCO 3.7.2, Condition C, One or more MSIVs inoperable in Modes 2 or 3, which also represents a loss of safety function. However, IP2 agrees that the STS(NUREG-1431) allowance of 8 hours for restoration from a complete loss of safety function is not conservative. Therefore, the Completion Times of IP2 ITS LCO 3.7.2, Required Actions F.1 and F.2, will be revised from 8 hours to 1 hour. This change will require that the plant be placed in Mode 3 within 7 hours and Mode 4 within 13 hours after entering Condition F. These Completion Times are identical to ITS LCO 3.0.3.

Entergy (IP2) Action:

IP2 will revise the Bases justification for the Completion Time in IP2 ITS 3.7.2, C.1 Bases to be consistent with the response to NRC RAI 3.7.2-1, as described above.

Completion Time for restoration from IP2 ITS 3.7.2, Condition F, will be revised from 8 hours to 1 hour. This change will require that the plant be placed in Mode 3 within 7 hours and Mode 4 within 13 hours after entering Condition F. These Completion Times are identical to ITS LCO 3.0.3.

3.7.3 : Main Feedwater Isolation

NRC RAI Number	TAC Number:
3.7.3 - 1	**MB4739**

NRC Request for Additional Information (RAI):

3.7.3-1 ITS 3.7.3 Actions C, D, and E - Bases
ITS SR 3.7.3.3 - Bases

The circuits to close the MFIVs and trip the MBFPs when the limit switch on the MBFP discharge isolation valve actuates upon the valve coming off the full open position (when it closes on an SI or high SG level signal) are proposed to be tested by SR 3.7.3.3 on a 24 month interval. These automatic actuations are required for operability of the MFIV isolation function, the MFBP trip function, and the MBFP discharge valve isolation function. Together these functions comprise one MFW isolation function, which is redundant to the MFW primary isolation accomplished by automatic closure of the MFRVs and MFBPs (also on an SI or high SG level signal). Consider revising the Bases discussion of the associated Actions and this SR to clarify the rationale behind the proposed presentation of requirements for this instrumentation function and actuated equipment. A statement of why these circuits are not covered in ITS 3.3.2 and a statement of the redundancy of electrical power for the circuits and valve motor operators would also be helpful.

Entergy (IP2) Response:

The proposed IP2 ITS 3.7.3, Main Feedwater Isolation, required the Operability of two redundant barriers for isolation of main feedwater. The first barrier consisted of the four Main Feedwater Regulating Valves (MFRVs) and the four Low Flow Feedwater Bypass Valves (Lo Flow FBVs). The second barrier consisted of the two Main Boiler Feedwater Pump (MBFP) discharge valves, the trip function for each MBFP, and the eight Main Feedwater Isolation Valves (MFIVs).

The eight MFIVs (BFD-5, BFD-5-1, BFD-5-2 and BFD-5-3 and BFD-90, BFD-90-1, BFD-90-2 and BFD-90-3), which were not included in the original IP2 design for feedwater isolation. These valves were included in the proposed IP2 ITS 3.7.3 based an analysis performed by Westinghouse in 1999 that determined that the second barrier was not adequate to meet accident analysis assumptions. Specifically, this analysis determined that MBFP discharge valve closure does not occur quickly enough and does not isolate the SGs and containment from the significant amount of feedwater mass and energy in the three high pressure feedwater heaters and the feedwater piping located between the MBFP discharge valves and the SGs.

Subsequent analysis (Westinghouse calculation CRA-02-038) determined that closure of the eight MFIVs (BFD-5, BFD-5-1, BFD-5-2 and BFD-5-3 and BFD-90, BFD-90-1, BFD-90-2 and BFD-90-3) was not required to ensure that containment pressure did not exceed required limits during a excessive feed flow event. The results of this new analysis was incorporated into the IP2 UFSAR by change 1150 which was approved on march 25, 2003. Therefore, IP2 will revise IP2 ITS 3.7.3 to eliminate Technical Specification requirements for the Operability of the eight MFIVs.

Entergy (IP2) Action:

IP2 will revise IP2 ITS 3.7.3 to eliminate Technical Specification requirements for the Operability of the

eight MFIVs.

Questions regarding this response should be directed to Dick Bense at (914) 734-5895 (RBENS90@Entergy.Com) or Bill Blair at (914) 737-4167 (WBlair@Entergy.Com).

3.7.5 : Auxiliary Feedwater (AFW) System

NRC RAI Number	TAC Number:
3.7.5 - 1	**MB4739**

NRC Request for Additional Information (RAI):

3.7.5-1 DOC LA1
CTS 3.4.C.1

The requirement to place the AFW start [switch] in manual if one or both suction isolation valves are closed is proposed for removal, but will be covered in a plant procedure. This change should be classified as an L-type change because this equipment protection requirement is being deleted as an explicit TS action, but will be maintained in a plant procedure. Unless this procedure "contains information described in the FSAR, such as how systems are operated and controlled" - see 50.59(a)(5), the provisions of 10 CFR 50.59 would not apply to any subsequent changes in this requirement. If it is desired to maintain the LA-type change classification, the DOC must be revised to explain why 10 CFR 50.59 will govern future changes, or the relocation document must be changed to one with such change controls.

Entergy (IP2) Response:

IP2 will reclassify ITS LCO 3.7.5, DOC LA.1, to a less restrictive change (DOC L.5). This change will justify deletion of the requirement even though this requirement will be maintained in plant procedures.

Entergy (IP2) Action:

IP2 will reclassify ITS LCO 3.7.5, DOC LA.1, to a less restrictive change (DOC L.5).

3.7.6 : Condensate Storage Tank (CST)

NRC RAI Number	TAC Number:
3.7.6 - 1	**MB4739**

NRC Request for Additional Information (RAI):

3.7.6-1 JFD PA1
ITS 3.7.6 Action B Bases
STS Bases markup Insert 3.7.6 - 3 - 03

Describe a scenario and condition in which the Actions of ITS 3.7.5 may be appropriate when in 3.7.6 Condition B.

Entergy (IP2) Response:

ITS LCO 3.7.6 requires that the plant be in Mode 3 in 6 hours and Mode 4 in 24 hours if the CST is inoperable and the backup water supply (i.e., city water) is not Operable. If neither the Condensate Storage Tank (CST) nor City Water are available, then there may be no water source for the auxiliary feedwater pumps. This is equivalent to no auxiliary feedwater pumps available. In this situation, it may be appropriate to take the actions for all auxiliary feedwater pumps inoperable.

Entergy (IP2) Action:

None

3.7.7 : Component Cooling Water (CCW) System

NRC RAI Number	TAC Number:
3.7.7 - 1	**MB4739**

NRC Request for Additional Information (RAI):

3.7.7-1 DOCs L1 and L3
JFD PA1

a. The ITS 3.7.7 Bases should make clear that substituting the third CCW pump for a pump in one of the two "required" trains requires that the third pump be operable; i.e., it must be current on the CCW pump SRs.

b. DOC L3 (justification) states that the auxiliary CCW pumps support operability of the containment recirculation functions covered by ITS 3.5.2, which appears to contradict the justification for removing CTS 3.3.E.1.b and 3.3.E.2.c, that CCW flow to recirc pump motor coolers is not needed. Revise the DOC to clarify this apparent inconsistency.

c. Explain why the word 'required' is needed to make the wording of the CCW SRs clearer. SRs usually only apply to components that are relied on to be operable to satisfy the LCO.

Entergy (IP2) Response:

Response to Issue a:
ITS SR 3.0.1 specifies that "SRs shall be met during the MODES or other specified conditions in the Applicability for individual LCOs, unless otherwise stated in the SR. Failure to meet a Surveillance, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be failure to meet the LCO." Therefore, there is no need to establish specific guidance for the CCW pumps.

Response to Issue b: IP2 will revise ITS LCO 3.3.7, DOC L.3, to clarify that the auxiliary component cooling water pumps are not a prerequisite for the Operability of the ECCS Recirculation pumps.

Response to Issue c: IP2 will revise ITS SR 3.7.7.1, SR 3.7.7.2 and SR 3.7.7.3 to delete the word "required" consistent with the explanation provided in the response to Issue a above.

Entergy (IP2) Action:

IP2 will revise ITS LCO 3.3.7, DOC L.3, to clarify that the auxiliary component cooling water pumps are not a prerequisite for the Operability of the ECCS Recirculation pumps.

IP2 will revise ITS SR 3.7.7.1, SR 3.7.7.2 and SR 3.7.7.3 to delete the word "required."

Questions regarding this response should be directed to Dick Bense at (914) 734-5895 (RBENS90@Entergy.Com) or Bill Blair at (914) 737-4167 (WBlair@Entergy.Com).

3.7.7 : Component Cooling Water (CCW) System

NRC RAI Number	TAC Number:
3.7.7 - 2	**MB4739**

NRC Request for Additional Information (RAI):

3.7.7-2 JFD X1
ITS Required Action B.2 Completion Time
DOCs L3 and L1

a. Explain how IP2 interprets current TS 3.3.E.2 regarding the total time to be in Mode 5 for two inoperable CCW pumps.

b. If both trains of CCW are inoperable, ITS LCO 3.0.3 would require being in Mode 5 in 37 hours. If Mode 5 can be achieved in 37 hours with no trains, why not in 36 hours with one train? Adopt the STS completion time of 36 hours for Required Action B.2.

c. TS 3.3.E.2 only permits one component to be inoperable "at any one time" (including components in the same train). These components as listed are (1) one of three CCW pumps, (2) two of three CCW pumps, (3) one auxiliary CCW pump, and (4) one CCW heat exchanger or other passive component. ITS uses CCW trains, but permits just one train to be inoperable at a time (Action A); thus more than one component in the same train may be inoperable at any one time. Which DOC addresses this relaxation?

d. There are three diesel generators; what prevents designating active CCW components, with different trains of electrical power, in the same train? Are there active CCW components besides the pumps?

Entergy (IP2) Response:

Issue 1: Explain how IP2 interprets current TS 3.3.E.2 regarding the total time to be in Mode 5 for two inoperable CCW pumps.

Response:
CTS 3.3.E.2 states:
"If the system is not restored to meet the conditions of 3.3.E.1 within the time period specified, the reactor shall be placed in the hot shutdown condition utilizing normal operating procedures. If the requirements of 3.3.E.1 are not satisfied within an additional 48 hours, the reactor shall be placed in the cold shutdown condition utilizing normal operating procedures."
IP2 interprets this as follows:
1. Place reactor in the hot shutdown condition utilizing normal operating procedures (i.e. be in Mode 3 within 6 hours after entering CTS 3.3.E.2).
2. Plant may remain in Mode 3 for an additional 48 hours (i.e., until 54 hours after entering CTS 3.3.E.2).
3. Place reactor in the cold shutdown condition utilizing normal operating procedures (i.e., Mode 3 to Mode 5 within 30 hours or be in Mode 5 within 84 hours after entering CTS 3.3.E.2).

Issue 2: If both trains of CCW are inoperable, ITS LCO 3.0.3 would require being in Mode 5 in 37 hours. If Mode 5 can be achieved in 37 hours with no trains, why not in 36 hours with one train?

Response:
If both trains of CCW are inoperable, IP3 would enter ITS LCO 3.0.3. However, if CCW system capability was significantly degraded and/or if environmental conditions were adverse (e.g., river water temperature approaching the 95 F limit), then the Completion Times in ITS LCO 3.0.3 could not be met based on physical limitations of the plant. The plant would remain in Mode 4 using SGs and auxiliary feedwater to maintain plant temperature.

STS (NUREG-1431) LCO 3.7.7, Required Action B.2, requires that the plant be in Mode 5 within 36 hours if only one train of CCW is operable and the redundant train is not restored within the specified Completion Time. Under the same conditions, IP2 ITS LCO 3.7.7, Required Action B.2, allows 72 hours to reach Mode 5. This deviation from STS (described and justified in JFD X.1) can be summarized as follows:
UFSAR 9.3.3.1.2, which is based on WCAP-12312, "Safety Evaluation for An Ultimate Heat Sink Temperature to 95 F at Indian Point Unit 2," July 1989, states that "The time to cool down using the auxiliary safe shutdown components (1 RHR pump and heat exchanger, 1 component cooling pump, and 1 service water pump supplying flow to non-essential header) has been determined. Conditions assumed were an initial core thermal power of 3071.4 MW and service water temperature of 95 F. The analysis shows that the RCS can be brought to the cold shutdown mode (temperature less than 200 F) within 72 hours."

The Completion Time of 72 hours for IP2 ITS LCO 3.7.7, Required Action B.2, is more restrictive than the 84 hours permitted by current licensing basis.

Issue 3: TS 3.3.E.2 only permits one component to be inoperable "at any one time" (including components in the same train). These components as listed are (1) one of three CCW pumps, (2) two of three CCW pumps, (3) one auxiliary CCW pump, and (4) one CCW heat exchanger or other passive component. ITS uses CCW trains, but permits just one train to be inoperable at a time (Action A); thus more than one component in the same train may be inoperable at any one time. Which DOC addresses this relaxation?

Response:
ITS LCO 3.7.7, DOC L.3, provides the justification for deleting CTS 3.3.E.1.b and CTS 3.3.E.2.c requirements for the auxiliary component cooling water pumps.

ITS LCO 3.7.7, DOC L.1, provides the justification for combining the requirements of items (1), (2) and (4) as follows (Note that CTS 3.3.E.2 has a change labeled L.2 that should be labeled L.1):

CTS 3.3.E.1.a and CTS 3.3.E.1.c require that three CCW pumps and two CCW heat exchangers are Operable. CTS 3.3.E.2 allows one of the three pumps to be inoperable for 14 days and two of the three pumps to be inoperable for 24 hours (See DOC L.2) or one of the heat exchangers or other passive component to be inoperable for 48 hours.
ITS LCO 3.7.7 requires that only two of the three CCW pumps are Operable and defines the combination of a CCW pump and associated heat exchanger as a CCW train. ITS LCO 3.7.7, Required

Action A.1, allows 72 hours (See DOC L.2) to restore an inoperable CCW train (i.e., one CCW pump and/or heat exchanger) to Operable status.

This change is acceptable because WCAP-12312, "Safety Evaluation for An Ultimate Heat Sink Temperature to 95 F at Indian Point Unit 2," July, 1989, and its approved supplements specify that any one of the three CCW pumps in conjunction with any one of the two CCW heat exchangers is sufficient to accommodate the normal and post accident heat load. Therefore, LCO 3.7.7 requirements that two of the three CCW pumps are Operable provides the required 100% redundancy for the CCW safety function.

Issue 4: There are three diesel generators; what prevents designating active CCW components, with different trains of electrical power, in the same train? Are there active CCW components besides the pumps?

Response:
During a LOCA, CCW pumps are started and the CCW system aligned provide cooling to the RHR pumps approximately 20 minutes after initiation of the event. CCW active components are limited to the pumps and remote manually operated valves. CCW system configuration (i.e., any of the three pumps can be used with either of the two heat exchangers can be used to supply cooling water to either or both RHR heat exchangers) provides a high degree of flexibility. ITS LCO 3.8.1, Required Action A.3, requires that redundant required features are declared inoperable when a component is supported by an immediate access offsite circuit, and Required Action B.2 requires that redundant required features are declared inoperable when a DG is inoperable. Additionally, because CCW is not required immediately when an accident initiates, CCW can meet design assumptions when supported by a delayed access offsite circuit.

Entergy (IP2) Action:

IP2 will revise the markup of CTS 3.3.E.2 to correct a change labeled L.2 that should be labeled L.1.

3.7.8 : Service Water System (SWS)

NRC RAI Number	TAC Number:
3.7.8 - 2	**MB4739**

NRC Request for Additional Information (RAI):

3.7.8-1 Bases for ITS 3.7.8 Required Actions C.1 and D.1

The cited Bases state "The SW to FCU ESFAS valves and SW to EDG ESFAS valves are OPERABLE when they open automatically in response to an ESFAS actuation signal or are maintained open (valves fail to open on loss of power or loss of air)." Does the phrase in parenthesis mean to say the valves fail open?

Entergy (IP2) Response:

The statement in ITS LCO 3.7.8 Bases for Conditions C.1 and D.1, valves fail to open on loss of power or loss of air, is a typographical error. Statement will be corrected to read "valves fail open on loss of power or loss of air."

Entergy (IP2) Action:

IP2 will revise the statement in ITS LCO 3.7.8 Bases for Conditions C.1 and D.1, valves fail to open on loss of power or loss of air, to read "valves fail open on loss of power or loss of air."

3.7.8 : Service Water System (SWS)

NRC RAI Number	TAC Number:
3.7.8 - 3	**MB4739**

NRC Request for Additional Information (RAI):

3.7.8-2 ITS 3.7.8 Actions
DOC M1

a. If more than one SW pump is inoperable in either the essential or nonessential header, ITS LCO 3.0.3 would require being in Mode 5 in 37 hours. If Mode 5 can be achieved in 37 hours with just one essential SW pump and one nonessential SW pump operable, or two essential SW pumps and no nonessential pumps operable, why not in 36 hours with more SW pumps operable? Adopt the STS completion time of 36 hours for Required Action E.2.

Note that the Bases for Required Actions E.1 and E.2 seem to say that Condition E covers these conditions, as well as the conditions of both containment cooling valves inoperable and both EDG cooling valves inoperable. However, the proposed statement of Condition E does not cover these conditions..

b. The submittal indicates that, under certain SW inlet temperature conditions, the plant takes 72 hours to reach Mode 5 when only one SW pump can support just one CCW HX, and just one CCW pump can support just one RHR HX, and just one RHR pump is available to force flow thru the core. So less time is needed if more favorable conditions exists or more RHR capability is operable. Why allow 72 hours to reach Mode 5 for less severe conditions of inoperable SWS, CCW, and RHR pumps and HXs?

c. How do plant procedures direct a plant cooldown (per 3.0.3) in the event no SW pumps are operable on the non-essential header? Is it permissible to cross-connect the two headers once Mode 4 is reached? If so, why are 72 hours to reach Mode 5 needed, except for the situation noted in paragraph b above?

d. In the event one SW pump is inoperable in both headers simultaneously, or a FCV is inoperable for both the EDG and the containment fan coolers, or a pump and a valve, or one of each, the proposed Actions would permit operation to continue for up to 72 hours in such conditions. Justify why a separate action requirement with a shorter Completion Time is not appropriate for these conditions.

e. Conditions A through D are independent of each other. Consistent with ITS Example 1.3-3, Required Actions A.1 and B.1 should have an additional Completion Time of "144 hours from discovery of failure to meet the LCO", and Required Actions C.1 and D.1 should have an additional Completion Time of "84 hours from discovery of failure to meet the LCO."

Entergy (IP2) Response:

Issue a (Part 2): Bases for Required Actions E.1 and E.2 say that Condition E covers both containment cooling valves inoperable and both EDG cooling valves inoperable. However, the proposed statement of Condition E does not cover these conditions.

IP2 Response:
Condition E does not address the Condition of both containment cooling (FCU) valves inoperable and both EDG cooling water supply valves inoperable. No LCO 3.7.8 Condition applies if both EDG ESFAS valves or both FCU ESFAS valves are inoperable and entry into LCO 3.0.3 is required. IP2 will correct the Bases for ITS LCO 3.7.8, Required Actions E.1 and E.2, to delete the inaccurate statement that Condition E applies if both EDG ESFAS valves or both FCU ESFAS valves are inoperable.

Issue a and b: Completion Time to reach Mode 5 if requirements essential or non-essential service water are not met.

IP2 Response:
IP2 will revise the Completion Time to reach Mode 5 in Required Action E.2 from 72 hours to 36 hours to be consistent with other ITS LCOs. The 72 hour Completion Time was intended to recognize that analysis shows that the RCS can be brought to MODE 5 within 72 hours using the auxiliary safe shutdown components (1 RHR pump and heat exchanger, 1 component cooling pump, and 1 service water pump supplying flow to non-essential header). Conditions with a service water temperature of 95 F. However, the majority of the conditions for which Required Action E.2 will apply will not require cooldown using one service water pump supplying flow to non-essential header with a service water temperature of 95 F. Therefore, the 36 hour Completion Time to complete the cooldown is more appropriate.

Issue c: Is it permissible to cross-connect the two headers (essential and no-essential) once Mode 4 is reached?

IP2 Response:
ITS LCO 3.7.8 does not allow essential and non-essential SWS headers to be cross connected (except during the 8 hours permitted for swapping headers) and does not differentiate between requirements in Modes 1, 2, and 3 and requirements in Mode 4. This is necessary to preserve the Operability of emergency diesel generators and fan cooler units, both of which are required to be Operable in Mode 4. CTS procedures do not address this Mode 4 issue because CTS does not require that the DGs or other equipment supported by SWS be Operable in Mode 4.

Issue d: In the event one SW pump is inoperable in both headers simultaneously, or a FCV is inoperable for both the EDG and the containment fan coolers, or a pump and a valve, or one of each, the proposed Actions would permit operation to continue for up to 72 hours in such conditions. Justify why a separate action requirement with a shorter Completion Time is not appropriate for these conditions.

IP2 Response:
Separate condition entry is allowed if one required pump is inoperable in the essential header (Condition A) and one pump is inoperable on the non-essential header (Condition B) at the same time because the essential and non-essential headers are completely independent and each header performs a completely different safety function. The essential header supplies cooling water for DGs and FCUs and the non-essential header supplies cooling water to the component cooling water system which supplies cooling water to the RHR heat exchanger.

Separate condition entry is allowed if one EDG ESFAS valve is inoperable (Condition C) and FCU ESFAS

valve is inoperable (Condition D) at the same time because the valves and the safety function these valves perform are completely independent. The inoperable EDG ESFAS valve is one of two 100% capacity valves that initiates cooling water to the three DGS. The inoperable FCU ESFAS valve is one of two 100% capacity valves that initiates cooling water to the five FCUs.

An inoperable valve, other than the EDG and FCU ESFAS valves, on either the essential header or the non-essential header could result in either the entire header being inoperable (LCO 3.0.3 is applicable) or the individual supported component being inoperable in accordance with the Note to SR 3.7.8.1.

Issue e: Conditions A through D are independent of each other. Consistent with ITS Example 1.3-3, Required Actions A.1 and B.1 should have an additional Completion Time of "144 hours from discovery of failure to meet the LCO", and Required Actions C.1 and D.1 should have an additional Completion Time of "84 hours from discovery of failure to meet the LCO."

IP2 Response:
This issue is generally referred to as the 'second Completion Time.' IP2 ITS did not include any new 'second Completion Times' based on pending Standard Technical Specification Change Traveler (TSTF) 439 which provides the following description and justification for not including the "second Completion Time" in the ITS:

The Improved Standard Technical Specifications (NUREGs 1430 through 1434) associated with all NSSS designs were issued in September 1992. A second Completion Time was included in the Completion Time for certain Required Actions to establish a limit on the maximum time allowed for any combination of Conditions of inoperability during any single continuous failure to meet the LCO. The intent of the second Completion Time was to preclude entry into and out of the Actions for an indefinite period of time by providing a limit on the amount of time that the LCO could not be met for various combinations of Conditions.

This system of controls is no longer necessary since the final Maintenance Rule, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," was published by the Nuclear Regulatory Commission (NRC) in the Federal Register (56 Fed. Reg. 31324) as 10 CFR 50.65 on July 10, 1991. The Maintenance Rule became effective July 10, 1996, requiring full implementation by all licensees on that date.

The performance and condition monitoring activities required by 10 CFR 50.65(a)(1) and (a)(2) would identify if continuous multiple entries into the Actions of the Technical Specifications results in unacceptable unavailability of these SSCs. The effectiveness of these performance monitoring activities, and associated corrective actions, is evaluated at least every refueling cycle, not to exceed 24 months per 10 CFR 50.65 (a)(3). This aspect of the Maintenance Rule requires adjustments to performance and condition monitoring activities, associated goals, and preventive maintenance activities to ensure that the objective of preventing failures of structures, systems, and components through maintenance is appropriately balanced against the objective of minimizing unavailability of structures, systems, and components due to monitoring or preventive maintenance.

Additionally, NEI 99-02, Revision 2, "Regulatory Assessment Performance Indicator Guideline establishes Safety System Unavailability criteria for the AFW and Diesel Generators as a part of the Mitigating Systems Cornerstone. Continuous multiple entries into these LCOs would be identified as part

of the unavailability for these systems.

Based on the above discussions, the concern regarding multiple continuous entries into LCOs would be identified by the associated system unavailability monitoring programs described above, given that all licensees' Maintenance Rule programs include unavailability monitoring for the SSCs included in this evaluation. Therefore, this potential concern is no longer an issue, since all licensees have been required to comply with the Maintenance Rule since July 10, 1996. This obviates the need for the potential multiple continuous LCO entries that the second Completion Time was intended to prevent.

Entergy (IP2) Action:

IP2 will correct the Bases for ITS LCO 3.7.8, Require Actions E.1 and E.2, to delete the inaccurate statement that Condition E applies if both EDG ESFAS valves or both FCU ESFAS valves are inoperable.

IP2 will revise the Completion Time to reach Mode 5 in Required Action E.2 from 72 hours to 36 hours to be consistent with other ITS LCOs.

3.7.8 : Service Water System (SWS)

NRC RAI Number	TAC Number:
3.7.8 - 4	**MB4739**

NRC Request for Additional Information (RAI):

3.7.8-3 ITS SR 3.7.8.3

The Bases for SR 3.7.8.3 state that this SR is usually performed on all 6 SW pumps. And the SR is usually done during shutdown conditions. Therefore, there is no need to single out the essential pumps in the SR.

Entergy (IP2) Response:

ITS SR 3.0.1 requires that "SRs shall be met during the Modes or other specified conditions in the Applicability for individual LCOs, unless otherwise stated in the SR. Failure to meet a Surveillance, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be failure to meet the LCO."

IP2 has two service water headers, each supported by three pumps. Either of the two SWS headers can be aligned to supply the essential heat loads or the non-essential SWS heat loads. The SWS pumps associated with the SWS header designated as the essential header must start automatically on an ESFAS signal to support the fan cooler units and the DGs. The SWS pumps associated with the SWS header designated as the non-essential header are stripped following a LOOP and are manually started when required during recirculation phase following a LOCA.

ITS SR 3.7.8.3 requires verification that "each essential SWS pump starts automatically on an actual or simulated actuation signal."

The SR was worded this way so that if automatic start capability for the essential pumps is inoperable, then the pumps are inoperable. However, if the automatic start capability for the non-essential pumps is inoperable, then the pumps are still operable.

This is clarified in the Bases for SR 3.7.8.3 as follows:
This SR verifies proper automatic operation of the SWS pumps on an actual or simulated actuation signal. Only the SWS pumps associated with the designated essential header are required to operate automatically. However, both sets of SWS pumps are tested because the pumps designated as essential and non-essential are periodically swapped during the operating cycle.

Entergy (IP2) Action:

None

3.7.8 : Service Water System (SWS)

NRC RAI Number	TAC Number:
3.7.8 - 5	**MB4739**

NRC Request for Additional Information (RAI):

3.7.8-4 DOC L1
CTSs 3.3.F.1.b and 3.3.F.2.b

The DOC says that the cited action statements address one or more inoperable pumps; however, they actually address only one inoperable pump (or any of its associated piping and valves) in each header. CTS requires a shutdown per CTS 3.0.3 if more than one pump in either or both headers is inoperable. This change should only address the relaxation of the one inoperable pump Completion Times of 12 and 24 hours for the essential and non-essential headers, respectively.

Entergy (IP2) Response:

IP2 will revise ITS 3.7.8, DOC L.1, to delete the references to loss of safety function.

Entergy (IP2) Action:

IP2 will revise ITS 3.7.8, DOC L.1, to delete the references to loss of safety function.

3.7.9 : Ultimate Heat Sink (UHS)

NRC RAI Number	TAC Number:
3.7.9 - 1	**MB4739**

NRC Request for Additional Information (RAI):

3.7.9-1 ITS 3.7.9 Condition B - Bases
ITS SR 3.7.9.1 - Bases

a. The Bases state that Condition B addresses the condition of an inoperable UHS "for reasons other than Condition A." However, ITS 3.7.9 Condition B lacks this phrase, and Condition A does not necessarily correspond to an inoperable UHS because the observed temperature reading at any one time is less than or equal to 95°F. Correct the Bases.

b. The last sentence of the proposed Bases for SR 3.7.9.1 states the SR and Required Action A.1 "ensure" the temperature limit is not exceeded. However, there is no control over UHS temperature. Hence, all that can be said is something like "these requirements ensure that a temperature above the limit is quickly detected so that appropriate remedial actions can be taken in a timely manner." Last sentence of DOC L1 also contains a similar misstatement. See DOC LA1 justification for a better characterization of the purpose of these requirements.

c. Over what time interval is the average UHS temperature calculated? The SR should state this interval. How is the average obtained? If it is done with stored data from the SW inlet temperature monitoring instrumentation, what is the backup method if the data is unavailable or the system is down? What is the required action in the event the average temperature exceeds 90°F? Action B? In this condition, is the UHS inoperable, or not? Action A only addresses instantaneous temperature.

d. Why not specify a minimum river level in the TS as a condition of UHS operability and a SR, consistent with the STS?

Entergy (IP2) Response:

Issue 1:
ITS LCO 3.7.9, Ultimate Heat Sink, (Revision) was revised to eliminate any action until UHS temperature is greater than 95 F. This revision was submitted to the NRC on February 26, 2003.

Issue 2:
ITS LCO 3.7.9, Ultimate Heat Sink, was revised to eliminate any action until UHS temperature is greater than 95 F. DOC L.1 was deleted. This revision was submitted to the NRC on February 26, 2003.

Issue 3:
ITS LCO 3.7.9, Ultimate Heat Sink, was revised to eliminate any action until UHS temperature is greater than 95 F. DOC L.1 was deleted. This revision was submitted to the NRC on February 26, 2003.

Issue 4: Why not specify a minimum river level in the TS as a condition of UHS operability and a SR, consistent with the STS?

Questions regarding this response should be directed to Dick Bense at (914) 734-5895 (RBENS90@Entergy.Com) or Bill Blair at (914) 737-4167 (WBlair@Entergy.Com).

STS (NUREG-1431) SR 3.7.9.1 is a bracketed requirement for periodic verification of the ultimate heat sink level with acceptance criteria designed to assure both the quantity and accessibility of required emergency cooling water in accordance with requirements in Regulatory Guide 1.27. The IP2 ITS conversion submittal did not generally include any justification for not including bracketed SRs if an equivalent requirement is not in the CTS.

IP2 CTS do not include requirements for periodic verification of UHS level because the UHS is the Hudson River. As explained in UFSAR 1.1.2.1, the Hudson River is not a river, its is a tidal estuary. Unlike a river, water level and flow at the site are affected only by tidal flow. The service water pumps are designed to function at the expected extreme low level condition for the river at the intake structure, which, as explained in the IP3 UFSAR, is 4'5" below mean sea level. Therefore, there is no benefit from periodic verification that the Hudson River is above a specified minimum level.

Entergy (IP2) Action:

None

3.7.10 : Control Room Ventilation System (CRVS)

NRC RAI Number	TAC Number:
3.7.10 - 1	**MB4739**

NRC Request for Additional Information (RAI):

3.7.10-1 ITS 3.7.10 Action B

Describe the operator dose mitigation compensatory measures currently in place that would be implemented in the event Action B is entered (intentionally or not). Consider describing these measures in the Bases for Action B as additional justification for allowing continued operation with a loss of function in the CRVS system for 72 hours. Recommend adopting the more restrictive STS action requirements, which apply.

Entergy (IP2) Response:

The IP2 CRVS was originally designed and licensed without redundancy. (Note that 10 CFR 50, Appendix A, General Design Criterion 19, does not explicitly require single failure tolerance for this function as is required for other functions such as containment cooling, ECCS, decay heat removal, etc.) The IP2 CRVS has been updated to provide redundancy for key components such as fans and dampers but single failure tolerance is not provided for certain features such as filter media and actuation and control circuitry. Therefore, IP2 elected to maintain the current licensing basis of allowing both trains of CRVS to be inoperable for up to 72 hours. IP2 currently has no specific compensatory action if an event that would normally actuate control room isolation occurs when both trains of CRVS are inoperable.

Entergy (IP2) Action:

None

3.7.10 : Control Room Ventilation System (CRVS)

NRC RAI Number	TAC Number:
3.7.10 - 2	**MB4739**

NRC Request for Additional Information (RAI):

3.7.10-2 ITS SR 3.7.10.4 Frequency

Changing the Frequency to 24 months on a Staggered Test Basis is less restrictive because CTS can be interpreted to mean testing both trains in the same 24-month interval. The purpose of the test is verifying CRVS system capability as well as verification of the adequacy of the control room boundary.

Entergy (IP2) Response:

CTS 3.5.E.4 is a 24 month requirement for "verifying that the system maintains the control room at positive pressure relative to the adjacent areas during the pressurization mode of operation at a makeup flow rate of 2000 cfm 10%." Although primarily a verification that the control room pressure boundary is intact, this test can also be interpreted as a verification of CRVS fan performance. Therefore, IP2 SR 3.7.10.4 maintains this requirement except that the CRVS requires that the CRVS fan used to satisfy this requirement is alternated for each required performance of the test (i.e., the test is performed on a staggered test basis).

IP2 will revise ITS 3.7.10 to add DOC L.2 to re-classify this change (i.e., alternating between fans for each test performance) as a less restrictive change.

Entergy (IP2) Action:

IP2 will revise ITS 3.7.10 to add DOC L.2 to re-classify this change (i.e., alternating between fans for each test performance) as a less restrictive change.

3.7.10 : Control Room Ventilation System (CRVS)

NRC RAI Number	TAC Number:
3.7.10 - 3	**MB4739**

NRC Request for Additional Information (RAI):

3.7.10-3 ITS 3.7.10 Bases Background discussion

The Bases states that for CRVS mode 2 operation the redundant component to air conditioning unit fan, CCRF-22, is air conditioning unit bypass fan, CCRCF-22. Explain whether the air conditioning function is necessary for control room temperature control, and how is temperature control accomplished if CRVS Train A is inoperable; specifically when fan CCRCF-22 is out of service.

Entergy (IP2) Response:

Indian Point 2 UFSAR 7.2.4.2 provides a detailed description of the analysis that demonstrated that control room cooling is not required following an accident.

Entergy (IP2) Action:

None

3.7.11 : Spent Fuel Pit Water Level

NRC RAI Number	TAC Number:
3.7.11 - 1	**MB4739**

NRC Request for Additional Information (RAI):

3.7.11-1 DOCs L1 & L2

The justifications for relaxing the requirement to reduce the minimum spent fuel pit water level and the action requirement to restore it to the limit within 4 hours cites limits in 10 CFR 50.67. Please explain why 10 CFR 100 and GDC 19 are not referenced and how 50.67 applies to the ITS application.

Entergy (IP2) Response:

IP2 performed a complete re-analysis of the radiological consequences of accidents using the new source term methodology from NUREG-1465, "Accident source Terms for Light Water Nuclear Power Plants," which applied the criteria of 10 CFR 50.67, Accident Source Term. This re-analysis was addressed in Safety Evaluation by the Office of Nuclear Reactor Regulation Related to Amendment No. 211 to Facility Operating License No. DPR-26, July 27, 2000, which approved use of 10 CFR 50.67, Accident Source Term, for evaluation of the radiological consequences of accidents at IP2. Therefore, the post accident exposure limits in 10 CFR 50.67 are applicable to IP2 and these limits supercede the limits identified in 10 CFR 100.

Entergy (IP2) Action:

None

3.7.11 : Spent Fuel Pit Water Level

NRC RAI Number	TAC Number:
3.7.11 - 2	**MB4739**

NRC Request for Additional Information (RAI):

3.7.11-2 DOC LA1

The 93'2" elevation corresponding to "approximately 24 feet" as noted in the CTS Bases was relaxed to an elevation of 23 feet in DOC L2, so how can it be equivalent to 23 feet in DOC LA1? Please state what this elevation corresponds to in spent fuel pit water level above the stored fuel.

Entergy (IP2) Response:

CTS 3.8.C.2 specifies that "The spent fuel storage pit water level shall be maintained at an elevation of at least 93'2"."

CTS Bases page 3.8-6 clarifies that "The spent fuel storage pit water level requirement in Specification 3.8.C.2 provides approximately 24 feet of water above fuel assemblies stored in the spent fuel storage racks."

ITS LCO 3.7.11, DOC L.1, relaxes the requirement in CTS 3.8.C.2 for a water level of 93'2" (i.e., 24 feet above top of fuel) to 23 feet above top of fuel with a clarification in the ITS Bases the "23 feet corresponds to an elevation of 92 feet, 2 inches."

ITS LCO 3.7.11, DOC L.2, and DOC LA.1, both contain a typographical error which states the Bases specifies 23 feet corresponds to 93 feet, 2 inches instead of 92 feet, 2 inches."
IP2 will correct the typographical error in both ITS LCO 3.7.11, DOC L.2, and DOC LA.1.

Entergy (IP2) Action:

IP2 will correct the typographical error in both ITS LCO 3.7.11, DOC L.2, and DOC LA.1.

3.7.12 : Spent Fuel Pit Boron Concentration

NRC RAI Number	TAC Number:
3.7.12 - 1	**MB4739**

NRC Request for Additional Information (RAI):

3.7.12-1 JFD DB1
STS Required Action A.2.2
STS 3.7.12 Applicability

Provide an explicit justification for not adopting the omitted STS applicability condition and action requirement for a fuel pool verification. JFD DB1 is too general.

Entergy (IP2) Response:

10 CFR 50.68, "Criticality Accident Requirements," provides two options regarding boron concentrations for fuel storage for plants that do not have a monitoring system capable of detecting a criticality. Option 1, if no credit for soluble boron is taken, then the k-effective of the spent fuel storage racks loaded with fuel of the maximum fuel assembly reactivity must not exceed 0.95, if flooded with unborated water. Option 2, if credit is taken for soluble boron, the k-effective of the spent fuel storage racks loaded with fuel of the maximum fuel assembly reactivity must not exceed 0.95, if flooded with borated water, and the k-effective must remain below 1.0 (subcritical) if flooded with unborated water.

STS (NUREG-1431) LCO 3.7.16, Fuel Storage Pool Boron Concentration, and STS LCO 3.7.17, Spent Fuel Pool Storage, work in tandem to enforce 10 CFR 50.68 but are written for a plant that satisfies 10 CFR 50.68 with no credit taken for soluble boron (i.e., Option 1). If a plant conforms to Option 1, the spent fuel pool is required to maintain a minimum concentration of soluble boron by STS LCO 3.7.16 only when there is the potential that a misplaced fuel assembly could invalidate the assumptions of fuel pool criticality analysis (i.e., during movement of fuel and after fuel movement is completed until a complete fuel pool verification, performed after completion of the last fuel movement, confirms that all fuel assemblies are stored in accordance with STS LCO 3.7.17). Therefore, STS LCO 3.7.16, Fuel Storage Pool Boron Concentration, is Applicable only "When fuel assemblies are stored in the fuel storage pool and a fuel storage pool verification has not been performed since the last movement of fuel assemblies in the fuel storage pool." After a fuel storage pool storage location verification, there is no requirement for maintaining a minimum boron concentration in the spent fuel pool.

Indian Point 2 satisfies 10 CFR 50.68 using Option 2 (i.e., credit is taken for soluble boron). As specified in the Bases of IP2 ITS 3.7.12, Spent Fuel Pit Boron Concentration, the IP2 spent fuel pit criticality analysis determined that if storage location requirements in ITS LCO 3.7.1, Spent Fuel Pit Storage, are met then the SFP will have a keff of less than 0.95 if filled with a soluble boron concentration of greater than 786 ppm and will have a keff of less than 1.0 if filled with unborated water. The IP2 spent fuel pit criticality analysis evaluated credible abnormal occurrences in accordance with ANSI/ANS 57.2 1983. This evaluation considered the effects of the following: a) a dropped fuel assembly or an assembly placed alongside a rack; b) a misloaded fuel assembly; and, c) abnormal heat loads. This analysis determined that the SFP will maintain a keff of less than 0.95 under the worst case accident scenario if the SFP is filled with a soluble boron concentration of greater than 1495 ppm. Therefore, ITS LCO 3.7.12, Spent Fuel Pit Boron Concentration, conservatively requires a minimum

boron concentration at all times "when fuel is stored in the spent fuel pit." Additionally, a Required Action to "Initiate Action to perform a spent fuel pool verification" will not result in LCO 3.7.12 being met or put the plant outside the applicable condition if boron concentration limits are not met.

Entergy (IP2) Action:

None

3.7.13 : Spent Fuel Pit Storage

NRC RAI Number	TAC Number:
3.7.13 - 1	**MB4739**

NRC Request for Additional Information (RAI):

3.7.13-1 CTS Figure 3.8-1
ITS Figure 3.7.13-5

Suggest adding a label for the south-east part of the divided Region 2-2 in the spent fuel pit layout, to be consistent with the CTS figure and to preclude confusion. Also recommend changing the shading used for region demarcation in order to have greater contrast.

Entergy (IP2) Response:

IP2 will revise ITS Figure 3.7.13-5, Spent Fuel Pit Rack Layout, to label the south-east part of the divided Region 2-2 and to improve the gray shading of the various regions.

Entergy (IP2) Action:

IP2 will revise ITS Figure 3.7.13-5, Spent Fuel Pit Rack Layout, to label the south-east part of the divided Region 2-2 and to improve the gray shading of the various regions.

3.7.13 : Spent Fuel Pit Storage

NRC RAI Number	TAC Number:
3.7.13 - 2	**MB4739**

NRC Request for Additional Information (RAI):

3.7.13-2 DOC A4
CTS 3.8.D.2.a

The justification for deleting the action requirement to verify SFP boron concentration if an assembly is found in the wrong storage location is insufficient. This change is less restrictive.

Entergy (IP2) Response:

CTS 3.8.D.2.a requires IP2 to "Verify the spent fuel storage pit boron concentration meets the requirements of Specification 3.8.D.3" in the event any fuel assembly is found to be stored in a configuration other than specified.

ITS LCO 3.7.13 does not include this requirement as a Required Action in ITS LCO 3.7.13 for the following reasons:
a) ITS LCO 3.7.12, Spent Fuel Pit Boron Concentration, requires that spent fuel pit boron concentration is within required limits at all times fuel is stored in the spent fuel pit;
b) ITS SR 3.7.12.1 verifies that boron concentration is within required limits every 7 days and boron concentration in the spent fuel pit is unlikely to change during this interval;
c) Discovery of fuel assembly stored in an unauthorized location is not indicative of any operator action or event that could cause boron concentration to be outside of required limits; and,
d) The minimum spent fuel pit boron concentration required at all times by ITS LCO 3.7.12 (i.e., >2000 ppm) is significantly higher than the 1495 ppm concentration that the IP2 analysis indicates will maintain spent fuel pit Keff < 0.95 when the most reactive fuel assembly is stored in an unacceptable location.

IP2 will reclassify the deletion of the requirement in CTS 3.8.D.2.a to verify spent fuel pit boron concentration if a fuel assembly is found in a location other than specified as a less restrictive change in DOC L.2.

Entergy (IP2) Action:

IP2 will reclassify the deletion of the requirement in CTS 3.8.D.2.a to verify spent fuel pit boron concentration if a fuel assembly is found in a location other than specified as a less restrictive change in DOC L.2.

Questions regarding this response should be directed to Dick Bense at (914) 734-5895 (RBENS90@Entergy.Com) or Bill Blair at (914) 737-4167 (WBlair@Entergy.Com).

3.7.14 : Secondary Specific Activity

NRC RAI Number	TAC Number:
3.7.14 - 1	**MB4739**

NRC Request for Additional Information (RAI):

3.7.14-1 DOCs A.3, M.2
CTS 3.4.A.6

Explain how the CTS value of 0.15 µCi/cc of "total I-131 and I-133" is numerically identical to the ITS value of 0.15 µCi/gm "DOSE EQUIVALENT I-131". The discussion implies that the ITS definition of "DOSE EQUIVALENT I-131" is more restrictive than "total I-131 and I-133"; note this is not a question about cc vs. gm. Please explain by what amount the ITS exceeds the CTS value. Does Amendment 211 explicitly state that the assumed secondary specific activity is 0.15 µCi/gm DOSE EQUIVALENT I-131.

Entergy (IP2) Response:

Steam generator secondary side activity is an initial condition in the analysis of the radiological consequences of a steam line break accident. CTS 3.4.A.6 establishes steam generator secondary side activity upper limit for "total iodine activity of I-131 and I-133" at <0.15 micro Ci/cc.

ITS LCO 3.7.14 (i.e., STS (NUREG-1431) LCO 3.7.18) establishes the limit for steam generator secondary side activity as <0.15 micro Ci/gm Dose Equivalent I-131. NUREG-1431 defines Dose Equivalent I-131 as "that concentration of I-131 (gram/gram) that alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present." This limit is more restrictive because use of Dose Equivalent I-131 requires consideration of the dose contribution of isotopic mixture of I-131, I-132, I-133, I-134, and I-135. This change is needed because and is acceptable because the radiological consequence analyses used to demonstrate compliance with 10 CFR 50.67, Accident Source Term, assumed limits for primary and secondary specific activity using Dose Equivalent I-131 as defined in NUREG-1431. These revised radiological consequence analyses were reviewed in Safety Evaluation by the Office of Nuclear Reactor Regulation Related to Amendment No. 211 to Facility Operating License No. DPR-26, July 27, 2000. IP2 already maintains the steam generator secondary side activity within the more restrictive limit assumed in the analyses used to demonstrate compliance with 10 CFR 50.67. This change is already described and justified in ITS LCO 3.7.14, DOC M.1. The difference between establishing these limits as "micro Ci/gm" versus "micro Ci/cc" is described and justified in ITS LCO 3.7.14, DOC A.3.

Entergy (IP2) Action:

None

R.14 : CTS 3.8:

NRC RAI Number	TAC Number:
R.14 - 1	**MB4739**

NRC Request for Additional Information (RAI):

3.7-1 DOC R14

The justification for relocation of CTS 3.8.C.1 fails to address the regulatory requirements regarding NRC's prior approval of spent fuel cask shipping / storage plans (if 10 CFR Part 73 is relevant to this change). Also, it seems the "cask handling system" should have been approved by the NRC by now. Please explain when this pre-approval requirement was satisfied, or why it is still not satisfied (and thus preventing movement of a "spent fuel cask" over any region of the spent fuel pit).

DOC R.14 also fails to explain how the spent fuel pit hoist load limit in CTS 3.8.C.1, which directly supports the fuel handling accident assumption of a single fuel assembly being dropped onto stored spent fuel, is unnecessary for inclusion in TSs as an LCO during movement of irradiated fuel assemblies.

CTS 3.8.C.2 is mistakenly identified as being relocated under DOC R.14 on the CTS markup for R.14; the markup for ITS 3.7.11, CTS page 3.8-4 clarifies that only a part of this specification should be included in R.14.

Entergy (IP2) Response:

CTS 3.8.C.1 states: "The spent fuel cask shall not be moved over any region of the spent fuel pit until the cask handling system has been reviewed by the Nuclear Regulatory Commission and found to be acceptable. Furthermore, any load in excess of the nominal weight of a spent fuel storage rack and associated handling tool shall not be moved on or above El. 95' in the Fuel Storage Building. Additionally, loads in excess of the nominal weight of a fuel and control rod assembly and associated handling tool shall not be moved over spent fuel in the spent fuel pit. The weight of installed crane systems shall not be considered part of these loads."

Issue 1: Please explain when this pre-approval requirement (i.e., CTS 3.8.C.1) was satisfied, or why it is still not satisfied (and thus preventing movement of a "spent fuel cask" over any region of the spent fuel pit).

IP2 Response:
NRC approval of the cask handling system has not yet been needed because spent fuel is not yet being transferred out of the spent fuel pit. In addition to the administrative restriction imposed by CTS 3.8.C.1, which prohibits movement of a spent fuel cask over the spent fuel pit, the FSAR states that mechanical blocks located on the crane bridge rails physically prevent movement of the crane beyond the cask loading area.

Entergy is evaluating the use of dry cask storage technology for Indian Point 2. The existing IP2 cask-handling system, as described in the FSAR, is not capable of lifting currently licensed spent fuel storage casks that would be suitable for use at IP2. Implementation of dry cask storage technology is subject to the regulatory requirements of 10 CFR 72. Changes to the facility as described in the FSAR,

including changes to the cask handling system, would also be subject to the regulatory requirements of 10 CFR 50.59. Therefore, the CTS 3.8.C.1 requirement regarding NRC approval of the cask handling system is now redundant with existing regulatory requirements and can be relocated from the Technical Specifications. The requirements in CTS 3.8.C.1, including prohibitions on movement of the spent fuel cask over the spent fuel pit until approved by the NRC, has been relocated to Technical Requirements Manual (TRM) 3.9.C.

Issue 2: DOC R.14 fails to explain how the spent fuel pit hoist load limit in CTS 3.8.C.1, which directly supports the fuel handling accident assumption of a single fuel assembly being dropped onto stored spent fuel, is unnecessary for inclusion in Technical Specifications as an LCO during movement of irradiated fuel assemblies.

IP2 Response:
Relocation of restrictions for movement of heavy loads over the spent fuel pit were relocated to TRM 3.9.C based on WCAP-11618, Section 4.0 (Appendix A, page A-68) and summarized in Table 1, which confirmed that the hoists or cranes utilized in handling irradiated fuel were found to be a non-significant risk contributor to core damage frequency and offsite releases.

Control of heavy loads over the spent fuel pit is not part of the STS (NUREG-1431) and is addressed in accordance with NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants." As stated in UFSAR 1.13, Control of Heavy Loads, in response to a December 22, 1980 Generic Letter and the NRC Staff guidelines provided in NUREG-0612, Con Edison performed evaluations of provisions for the handling and control of heavy loads in the vicinity of irradiated fuel or safe shutdown equipment. Control of heavy loads in the Fuel Storage Building is addressed in UFSAR 9.5.6. The NRC documented their acceptance of Con Edison's assessments in a Safety Evaluation Report dated February 19, 1985.

Issue 3: CTS 3.8.C.2 is mistakenly identified as being relocated under DOC R.14 on the CTS markup for R.14; the markup for ITS 3.7.11, CTS page 3.8-4 clarifies that only a part of this specification should be included in R.14.

IP2 Response:
CTS 3.8.C.2 states: "The spent fuel storage pit water level shall be maintained at an elevation of at least 93'2". In the event the level decreases below this value, all movement of fuel assemblies in the spent fuel pool storage pit and crane operations with loads over spent fuel in the spent fuel pit shall cease and water level shall be restored to within its limit within 4 hours."

CTS 3.8.C.2 includes requirements that apply to both a fuel handling accident (retained as ITS LCO 3.7.11) and crane operations with loads over spent fuel in the spent fuel pit (relocated to TRM 3.9.B and 3.9.C). Specifically, because CTS 3.8.C.2 requires stopping crane operations with loads over spent fuel pit when water level is below the required level, the spent fuel pit water level requirement must appear in both ITS LCO 3.7.11 and the TRM. Additionally, note that the CTS 3.8.C.2 requires a minimum of 24 feet of water above the active fuel. Based on IP2 accident analysis approved in Safety Evaluation related to Amendment No. 211 to Facility Operating License No. DPR-26, July 27, 2000, ITS LCO 3.7.11 requires only 23 feet of water during fuel movement (See ITS LCO 3.7.11, DOC L.1). However, movement of loads over the spent fuel pit still requires 24 feet of water.

Entergy (IP2) Action:

None

Questions regarding this response should be directed to Dick Bense at (914) 734-5895 (RBENS90@Entergy.Com) or Bill Blair at (914) 737-4167 (WBlair@Entergy.Com).

R.24 : CTS 3.8.B.4:

NRC RAI Number	TAC Number:
R.24 - 1	**MB4739**

NRC Request for Additional Information (RAI):

3.7-2 DOC R24
ITS Section 3.9

Action requirement 3.8.B.12 requires suspension of all activities permitted under CTS 3.8.B if the 100-hour decay time limit of associated CTS LCO 3.8.B.4 is not met. The Bases for this LCO clearly identify this decay time limit as an assumption of the fuel handling accident analysis. Therefore, it satisfies criterion 2 and may not be relocated. Other Westinghouse PWRs have been able to commence fuel movement from the core in less than 100 hours since criticality. Given this possibility during future refueling outages at IP2, the ITS should retain a decay time specification.

Entergy (IP2) Response:

IP2 will revise the ITS submittal to maintain the existing requirement in CTS 3.8.B.4 that prohibits movement of fuel in the reactor until the reactor has been subcritical for at least 100 hours. Requirements in CTS 3.8.B.4 will be retained in the IP2 ITS as LCO 3.9.3, Decay Time.

Note that the IP2 analyses of the radiological consequence for fuel handling accidents demonstrate compliance with 10 CFR 50.67, Accident Source Term, without reliance on containment closure, the control room ventilation system, or fuel storage building ventilation system if the fuel handing accident occurs with fuel that has decayed more than 100 hours. These analyses and conclusions were approved in Safety Evaluation by the Office of Nuclear Reactor Regulation Related to Amendment No. 211 to Facility Operating License No. DPR-26, July 27, 2000. As a result, proposed ITS LCOs, which establish requirements during movement of 'recently" irradiated fuel (i.e., fuel that was part of a critical reactor in the previous 100 hours), will never be applicable. Therefore, IP2 will revise the ITS submittal to eliminate all LCO requirements that that are applicable during movement of 'recently' irradiated fuel.

This response revises the IP2 response to the following NRC ITS RAIs:
1) RAI 3.3.5-2;
2) RAI 3.3.6-1;
3) RAI 3.3.6-4;
4) RAI 3.3.7-7;
5) RAI 3. 6-1;
6) RAI 3. 6.1-4;
7) RAI 3. 6.2-6; and
8) RAI 3. 6.3-17.

Implementation of this response will include the following:
1) Relocated Item R.24, which relocated the decay time requirements in CTS 3.8.B.4, will be marked "Not Used."

2) The following ITS LCOs, which establish requirements during movement of 'recently' irradiated fuel

(i.e., fuel that was part of a critical reactor in the previous 100 hours), will be revised to eliminate those requirements applicable only during movement of 'recently' irradiated fuel.

a) LCO 3.3.5, Loss of Power (LOP) Diesel Generator (DG) Start Instrumentation;
b) LCO 3.3.6, Containment Purge System and Pressure Relief Line Isolation Instrumentation;
c) LCO 3.3.7, Control Room Ventilation System (CRVS) Actuation Instrumentation;
d) LCO 3.7.10, Control Room Ventilation System (CRVS);
e) LCO 3.8.2, AC Sources - Shutdown;
f) LCO 3..8.3, Diesel Fuel Oil and Starting Air;
g) LCO 3.8.5, DC Sources - Shutdown;
h) LCO 3.8.8, Inverters - Shutdown;
i) LCO 3.8.10, Distribution Systems - Shutdown; and,
j) LCO 3.9.3, Containment Penetrations.

Note that the name and requirements in ITS LCO 3.9.3 will be changed from "Containment Penetrations" to "Decay Time."

Entergy (IP2) Action:

IP2 will revise the ITS submittal as described above to maintain the existing requirement in CTS 3.8.B.4 that prohibits movement of fuel in the reactor until the reactor has been subcritical for at least 100 hours and to eliminate requirements that are applicable only during movement of fuel that has been part of a critical reactor in the previous 100 hours.

R.27 : CTS 3.8.B.6: CTS 4.5.F:

NRC RAI Number	TAC Number:
R.27 - 1	**MB4739**

NRC Request for Additional Information (RAI):

3.7-3 DOC R27, R28
STS 3.7.13, 3.9.4

Acceptance of the proposal to not retain existing requirements for the fuel storage building ventilation and air filtration systems (corresponding to STS 3.7.13, Fuel Building Air Cleanup System) is dependent upon retention of a decay time specification with a 100-hour limit, to preclude the movement of "recently" irradiated fuel, and why retaining these systems is not appropriate from a defense-in-depth perspective (see NUREG-1512, AP600 SER, Chapter 16, page 16-9). In addition, explain why it is acceptable to relocate the CTS 3.8.B.6 requirement for the fuel storage building charcoal filtration system to be in operation during fuel movement in the spent fuel pool "unless the spent fuel has had a continuous 35-day decay period."

This comment also applies to the proposal to not retain CTS 3.8.B.8 requirements corresponding to STS 3.9.4, Containment Penetrations (Refueling Operations).

Entergy (IP2) Response:

Issue 1: Retention of a decay time specification with a 100-hour limit, to preclude the movement of "recently" irradiated fuel.

IP2 will revise the ITS submittal to maintain the existing requirement in CTS 3.8.B.4 that prohibits movement of fuel in the reactor until the reactor has been subcritical for at least 100 hours. Requirements in CTS 3.8.B.4 will be retained in the IP2 ITS as LCO 3.9.3, Decay Time. (See Response to NRC RAI 3.7-2, DOC R24. The IP2 RAI Number is RAI R.24-1)

Issue 2: Relocation of fuel storage building ventilation and air filtration systems including the CTS 3.8.B.6 requirement for the fuel storage building charcoal filtration system to be in operation during fuel movement in the spent fuel pool "unless the spent fuel has had a continuous 35-day decay period.

All requirements associated with Fuel Storage Building Ventilation were relocated out of the CTS by CTS Amendment 229, dated June 5, 2002 (TAC MB3920). Supplement 2 of the IP2 ITS submittal, submitted to the on February 3, 2003, revised Relocated Item 27 to show that this relocation was already approved. However, as stated above, IP2 will revise the submittal to maintain the existing requirement in CTS 3.8.B.4 that prohibits movement of fuel in the reactor until the reactor has been subcritical for at least 100 hours.

Issue 3: Why retaining these systems (i.e., fuel storage building ventilation and containment closure) is not appropriate from a defense-in-depth perspective (see NUREG-1512, AP600 SER, Chapter 16, page 16-9).

Questions regarding this response should be directed to Dick Bense at (914) 734-5895 (RBENS90@Entergy.Com) or Bill Blair at (914) 737-4167 (WBlair@Entergy.Com).

The NRC Safety Evaluation Report supporting IP2 CTS Amendment No. 211, dated July 27, 2000, confirmed that IP2 meets the requirements of 10 CFR 50.67, Accident Source Term, for the radiological consequences of a fuel handling accident both in containment and in the fuel storage building without reliance on containment closure or fuel storage building ventilation if 100 hours of decay time have elapsed since the fuel was part of a critical reactor and a minimum level 23 feet of water are maintained above the stored fuel in the reactor vessel and spent fuel pit. IP2 ITS will maintain LCOs for both water level and decay time. Therefore, fuel storage building ventilation and containment closure do not meet any of the criteria in 10 CFR 50.36 for inclusion in the Technical Specifications.

Entergy (IP2) Action:

IP2 will revise the ITS submittal to maintain the existing requirement in CTS 3.8.B.4 that prohibits movement of fuel in the reactor until the reactor has been subcritical for at least 100 hours. Requirements in CTS 3.8.B.4 will be retained in the IP2 ITS as LCO 3.9.3, Decay Time. (See Response to NRC RAI 3.7-2, DOC R24. The IP2 RAI Number is RAI R.24-1)