May 16, 2003

Mr. Michael R. Kansler
Senior Vice President and
Chief Operating Officer
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440 Hamilton Avenue
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SUBJECT: INDIAN POINT NUCLEAR GENERATING UNIT NO. 2 - REQUEST FOR ADDITIONAL INFORMATION (RAI) REGARDING SECTION 3.7 - PLANT SYSTEMS (TAC NO. MB4739)

Dear Mr. Kansler:

The Nuclear Regulatory Commission staff is reviewing your application for a license amendment dated March 27, 2002, to change the format and content of the current Technical Specifications (TSs) for the Indian Point Nuclear Generating Unit No. 2 to be generally consistent with NUREG-1431, “Standard Technical Specifications Westinghouse Plants Technical Specifications,” Revision 2, dated April 2001.

On the basis of our review of the changes proposed for improved TS Section 3.7, “Plant Systems,” we find that additional information identified in Enclosure 1 is needed. Also, a list of acronyms is included as Enclosure 2.

We have discussed this with your staff and it was agreeable to your staff to respond to this RAI and provide comments within 60 days from receipt of this letter.

If you have questions regarding this letter or are unable to meet this response schedule, please contact me by phone on (301) 415-1441 or by electronic mail at gsv@nrc.gov.

Sincerely,

/RA/

Guy S. Vissing, Senior Project Manager, Section 1
Project Directorate 1
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-247

Enclosures: As stated

cc w/encls: See next page

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Guy S. Vissing, Senior Project Manager, Section 1
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cc w/encls: See next page

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REQUEST FOR ADDITIONAL INFORMATION
INDIAN POINT 2
IMPROVED TECHNICAL SPECIFICATIONS
SECTION 3.7, PLANT SYSTEMS
CTS MARKUP & NUREG-1431 MARKUP RAIS

3.7 General

3.7-1 DOC R14

The justification for relocation of CTS 3.8.C.1 fails to address the regulatory requirements regarding Nuclear Regulatory Commission's (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 (FHA) 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 Response:

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 FHA 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 Response:

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 Response:

3.7.1 MSSVs

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 Response:

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 Nl-02-004), which was used to calculate the reduced reactor power values for inoperable MSSVs.
ENTERGY Response:

3.7.2 MSIVs & MSCVs

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 Response:

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 cannot 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 8 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 Response:

3.7.3 Main Feedwater Isolation

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 MFBP 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 Response:

3.7.4 ADVs

No comments

3.7.5 AFW

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 Response:

3.7.6 CST

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 Response:

3.7.7 CCW

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 recirculate 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 Response:

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 Response:

3.7.8 SWS

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 Response:

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 cool down (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 Response:

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 six 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 Response:

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 Response:

3.7.9 UHS

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 Response:

3.7.10 CRVS

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 Response:

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 Response:

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 Response:

3.7.11 Spent Fuel Pit Water Level

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 Part 100 and GDC-19 are not referenced and how 10 CFR 50.67 applies to the ITS application.
ENTERGY Response:

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 Response:

3.7.12 Spent Fuel Pit Boron Concentration

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 Response:

3.7.13 Spent Fuel Pit Storage

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 Response:

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 Response:

3.7.14 Secondary Specific Activity

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 No. 211 explicitly state that the assumed secondary specific activity is 0.15 µCi/gm DOSE EQUIVALENT I-131?

ENTERGY Response:

LIST OF ACRONYMS

AC	Air Conditioning or Alternating Current
ADS	Automatic Depressurization System
ANSI	American Nuclear Standards Institute
AOT	Allowed Outage Time
APLHGR	Average Planar Linear Heat Generation Rate
APRM	Average Power Range Monitor
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATWS	Anticipated Transient Without Scram
ATWS-RPT	Anticipated Transient Without Scram - Recirculation Pump Trip
BPWS	Banked Position Withdrawal Sequence
BWR	Boiling-Water Reactor
BWROG	Boiling Water Reactor Owners Group
CCW	Component Cooling Water
CFR	Code of Federal Regulations
CFT	Channel Functional Test
COLR	Core Operating Limits Report
CLB	Current Licensing Basis
CRD	Control Rod Drive
CRDA	Control Rod Drop Accident
CREF	Control Room Envelope Filtration
CRVS	Control Room Ventilation System
CST	Condensate Storage Tank
CTS	Current Technical Specification
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
EFCV	Excess Flow Check Valve
EOC-RPT	End of Cycle - Recirculation Pump Trip
EPA	Electrical Protection Assembly
ESFAS	Engineered Safeguard Feature
FCU	Flow Control Unit
FCV	Flow Control Valve
FHA	Fuel-Handling Accident
FSAR	Final Safety Analysis Report
FR	Federal Register
FRTP	Fraction of Rated Thermal Power
GDC	General Design Criteria
GE	General Electric
HEPA	High Efficiency Particulate Air
HPCS	High Pressure Core Spray
Hx	Heat Exchanger
Hz	Hertz
IP2	Indian Point Nuclear Generating Unit No. 2

IP3	Indian Point Nuclear Generating Unit No. 3
IRM	Intermediate Range Monitor
ISI	Inservice Inspection
ITS	Improved (converted) Technical Specifications
Kv	Kilovolt
kW	Kilowatt
LCO	Limiting Condition for Operation
LHGR	Linear Heat Generation Rate
LLS	Low-Low Set
LOCA	Loss-of-Coolant Accident
LOOP	Loss of Offsite Power
LOP	Loss of Power
LPCI	Low Pressure Coolant Injection
LPCS	Low Pressure Core Spray
LPRM	Local Power Range Monitor
LSFT	Logic System Functional Test
MCPR	Minimum Critical Power Ratio
MFLPD	Maximum Fraction of Limiting Power Density
MFIV	Main Feed Isolation Valve
MFRV	Main Feedwater Regulation Valve
MFW	Main Feed Water
MG	Motor Generator
MSCVS	Main Stream Control Valves
MSIV	Main Steam Isolation Valve
MWD/T	Megawatt Days/short Ton
NMP2	Nine Mile Point Unit 2
NUMAC	Nuclear Measurement Analysis and Control
OPDRV	Operation with a Potential for Draining the Reactor Vessel
PAM	Post-Accident Monitoring
P/T	Pressure/Temperature
PWR	Pressurized-Water Reactor
QA	Quality Assurance
RAI	Request for Additional Information
RBM	Rod Block Monitor
RCS	Reactor Coolant System
RCIC	Reactor Core Isolation Cooling
RCS	Reactor Coolant System
RG	Regulatory Guide
RHR	Residual Heat Removal
RPS	Reactor Protection System
RPV	Reactor Pressure Vessel
RSCS	Rod Sequence Control System
RTP	Rated Thermal Power
RWCU	Reactor Water Cleanup
RWM	Rod Worth Minimizer
SAS	Safety Actuation System
SCIV	Secondary Containment Isolation Valve
SDC	Shutdown Cooling

SDM	Shutdown Margin
SDV	Scram Discharge Volume
SE	Safety Evaluation
SER	Safety Evaluation Report
SG	Steam Generator
SGT	Standby Gas Treatment
SI	Safety Injection
SLC	Standby Liquid Control
SPDS	Safety Parameter Display System
SR	Surveillance Requirement
SRM	Source Range Monitor
SRV	Safety/Relief Valve
SSER	Supplemental Safety Evaluation Report
STS	Improved Standard Technical Specification(s), NUREG-1431, Rev. 2
SW	Service Water
TRM	Technical Requirements Manual
TS	Technical Specifications
TSTF	Technical Specifications Task Force (re: generic changes to the STS)
UHS	Ultimate Heat Sink