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January 23, 2003
NL-03-019

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

SUBJECT: Indian Point Nuclear Generating Unit No.3
Docket No. 50-286
Reply to Request for Additional Information
Regarding Proposed License Amendment for
Relaxation of Pressuizer Water Level Requirement

REFERENCE: 1. Entergy letter to NRC, IPN-02-043; "Proposed Changes to Technical Specifications for Pressurizer Water Level Requirement," dated May 30, 2002.

Dear Sir:

This letter provides additional information requested by the NRC regarding the license amendment request submitted by Entergy Nuclear Operations, Inc (ENO) in Reference 1. The additional information was requested by the NRC during a conference call with ENO personnel on October 10, 2002.

The requested information provided in Attachment I, is additional technical justification for the requested license amendment and does not alter the conclusions of the no significant hazards evaluation previously provided in Reference 1. Commitments identified in this response are documented in Attachment II. If you have any questions or require additional information, please contact Mr. Kevin Kingsley at 914-734-5581.

I declare under penalty of perjury that the foregoing is true and correct. Executed on 1/23/03

Very truly yours,

Fred Dacimo
Site Vice President
Indian Point Energy Center

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cc: next page
Attachments: as stated

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ATTACHMENT I TO NL-03-019

RESPONSE TO NRC QUESTION REGARDING

PROPOSED LICENSE AMENDMENT REQUEST FOR

RELAXATION OF PRESSURIZER WATER LEVEL REQUIREMENT

ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT NUCLEAR GENERATING UNIT NO. 3
DOCKET NO. 50-286

The following question was provided by NRC during a conference call with ENO personnel on October 10, 2002.

Question:

Provide information to demonstrate that overfilling the pressurizer, with the plant operating at the proposed new pressurizer water level limit, is not credible for events such as inadvertent safety injection or a malfunction of the chemical and volume control system.

Response:

The proposed change to the Indian Point 3 Technical Specifications will allow plant operation in Mode 3 with a pressurizer level limit of 90% actual (i.e., not including indicating instrument uncertainities). The purpose of this request is to provide additional flexibility during a plant cooldown when pressurizer level is dropping due to thermal contraction of the reactor coolant inventory.

At a pressurizer level of 90% (actual), there is approximately 2300 gallons of empty volume in the pressurizer. In the event that a charging pump is operating (98 gpm) without letdown, the operator would have more than 20 minutes to respond to the condition. In the unlikely event that all three charging pumps are operating without letdown, the operator would have nearly 8 minutes to respond to the condition. Since the purpose of the license amendment request is to support a specific and limited plant evolution (e.g., plant cooldown from Mode 3 to Mode 4), ENO will implement administrative controls which will require that a dedicated operator be assigned for operating and controlling the chemical and volume control system, including monitoring pressurizer level, whenever pressurizer level in Mode 3 is above the existing Technical Specification limit of 58.3% (actual). This operational requirement will be stated in the Technical Specification Bases and implemented through the operating procedure for plant cooldown.

The effect of an inadvertent safety injection on pressurizer water level is limited because Indian Point 3 is designed with low head safety injection pumps. The pressure-temperature limits for operating the plant in Mode 3 are established, in part, by the operating curves which ensure that the reactor pressure boundary fracture toughness requirements of 10 CFR 50 Appendix G are satisfied. The nominal shutoff head of the safety injection pumps is 1500 psig, which is bounded by the Appendix G upper pressure limit curve. Therefore, in the event of a safety injection actuation in Mode 3 with pressure above the pump shutoff head, no mass injection would occur and pressurizer level would not be affected. In the event of a safety injection with pressure below the shutoff head, the resulting mass injection would compress the pressurizer steam space and system pressure would increase to the pump shutoff head, at which point additional mass injection and increase in pressurizer level would terminate. Using the 'enhanced pump' assumption, which uses a shutoff head of 1600 psig, there is a very narrow temperature range in Mode 3 (350 ^{o}F to approximately 352 ^{o}F) where the upper pressure limit for the Appendix G curve could be slightly exceeded. The overpressure is approximately 25 psig at 350 ^{o}F and drops to zero at approximately 352 ^{o}F. In addition, because the safety

injection pumps are centrifugal-type pumps, the flowrate drops as the backpressure increases, and this scenario is bounded by the maximum charging condition described above. The dedicated operator monitoring pressurizer level would therefore also be able to take appropriate action in this case.

References:

1. Indian Point 3 FSAR Section 9.2, "Chemical and Volume Control System."

2. Indian Point 3 Design Basis Document 306, "Safety Injection System."

3. Indian Point 3 Technical Specification Section 3.4.3, "RCS P/T Limits."

4. Indian Point 3 Calculation, IP3-CALC-RCS-02444, "Generation of All PTLR Curves."

COMMITMENT REGARDING PROPOSED LICENSE AMENDMENT REQUEST FOR RELAXATION OF PRESSURIZER LEVEL REQUIREMENT IN MODE 3

Number	Commitment	Due Date
NL-03-019-01	Revise Technical Specification Bases to specify a requirement that a dedicated operator is assigned for operating and controlling the chemical and volume control system, including monitoring pressurizer level, whenever pressurizer level in Mode 3 is above the existing Technical Specification limit of 58.3%.	On or before the implementation date established when the License amendment is issued.
NL-03-019-02	Revise the operating procedure for plant cooldown from Mode 3 to Mode 4 to implement the requirement for a dedicated operator as stated in the revised Technical Specification Bases.	Prior to use of the relaxed limit on pressurizer water level in Mode 3.