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Fred R. Dacimo
Vice President
License Renewal

June 11, 2008

Re: Indian Point Units 2 & 3
Docket Nos. 50-247 & 50-286

NL-08-095

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

SUBJECT: **Reply to Request for Additional Information Regarding License Renewal Application – Structures - Clarification on Responses**

Dear Sir or Madam:

Entergy Nuclear Operations, Inc is providing, in Attachment I, the additional information requested in the referenced letter pertaining to NRC review of the License Renewal Application for Indian Point 2 and Indian Point 3. The additional information provided in this transmittal addresses staff questions as discussed in telephone conferences held on April 16, 2008, and April 28, 2008 regarding Structures.

There are no new commitments identified in this submittal. If you have any questions or require additional information, please contact Mr. R. Walpole, Manager, Licensing at (914) 734-6710.

I declare under penalty of perjury that the foregoing is true and correct. Executed on 6/11/08.

Sincerely,

Fred R. Dacimo
Vice President
License Renewal

A128
NRR

Attachment:

1. Reply to NRC Request for Additional Information Regarding License Renewal Application – Structures - Clarification on Responses

cc: Mr. Bo M. Pham, NRC Environmental Project Manager
Ms. Kimberly Green, NRC Safety Project Manager
Mr. John P. Boska, NRC NRR Senior Project Manager
Mr. Samuel J. Collins, Regional Administrator, NRC Region I
Mr. Sherwin E. Turk, NRC Office of General Counsel, Special Counsel
IPEC NRC Senior Resident Inspectors Office
Mr. Paul D. Tonko, President, NYSERDA
Mr. Paul Eddy, New York State Dept. of Public Service

ATTACHMENT I TO NL-08-095

REPLY TO NRC REQUEST FOR ADDITIONAL INFORMATION

REGARDING

LICENSE RENEWAL APPLICATION

Structures – Clarification on Responses

ENTERGY NUCLEAR OPERATIONS, INC
INDIAN POINT NUCLEAR GENERATING UNIT NOS. 2 and 3
DOCKETS 50-247 and 50-286

INDIAN POINT NUCLEAR GENERATING UNIT NOS. 2 AND 3
LICENSE RENEWAL APPLICATION
REQUEST FOR ADDITIONAL INFORMATION (RAI)
STRUCTURES—CLARIFICATION ON RESPONSES

Based on the staff's review of Entergy's responses dated February 27, 2008, and as discussed in a telephone conferences held on April 16, 2008, and April 28, 2008, please provide responses to the following:

RAI 2.4-1 (Follow Up)

With regard to Switchgear Structures and Foundation (IP3), clarify which structural components in Table 2.4-3 cover the switchgear structures and foundation. (Note that the structures listed in parentheses under line item "foundations" do not include switchgear structures).

Response to RAI 2.4-1 (Follow Up)

RAI 2.4-1 CLARIFICATION RESPONSE (original response in LR #471, letter NL-08-042).

Switchgear foundation is listed in LRA table 2.4-4, as equipment pads/foundations.

RAI 2.4.1-2 (Follow Up)

(i) The response states that the Primary Shield Wall is included as part of line item "Beams, columns, interior walls, slabs" in LRA Table 2.4-1. Note that walls with lesser safety significance such as pressurizer shield, ring wall and cylinder walls have been listed as separate items in Table 2.4-1. Considering that the primary shield wall is subjected to a more severe environment (high temperature and radiation exposure) and has a much higher safety-significance than the general interior wall, it is prudent to include the primary shield wall as a separate line item in LRA Table 2.4-1 to make its inclusion as within the scope of license renewal and subject to AMR explicitly clear.

(iii) The response states that the retaining wall is included as part of line item "Beams, columns, interior walls, slabs" in Table 2.4-1. The retaining wall at the equipment hatch entrance is an exterior wall and is subjected to a different environment than the interior wall. Therefore, the applicant should explicitly call out in the LRA Table 2.4-1 that the line item includes the retaining wall at the equipment hatch entrance or a separate table line item should be provided.

(v) The response states that liner plate insulation is included with line item 'Insulation Jacket' in LRA Table 2.4-1. The materials for the insulation jacket and the insulation itself are not the same. The jacket is stainless steel but the insulation is polyvinyl chloride (PVC) for Unit 2, and Urethane foam covered with gypsum board for Unit 3 (See UFSAR Section 5.1). The insulation itself is not included in LRA Table 2.4-1 or Table 2.4-4, nor are these materials identified in LRA Sections 3.5.2.1.1 or 3.5.2.1.4. These items are also not addressed in the response to RAI 2.4.4-2. Clarify/address the scoping, screening and AMR of these in-scope insulation materials.

(vi) The response states that protective coatings for the containment liner are not in scope because they do not perform an intended function. The staff believes that although protective coatings on the containment liner do not directly perform a license renewal function, they, however, prevent degradation of the liner if maintained. GALL AMP XI.S8 of NUREG-1801, Vol. 2 (the GALL Report), which is the AMP for protective coatings, recommends coating maintenance to avoid clogging of the sumps. The GALL Report states that if protective coatings are relied upon to manage the effects of aging, the structures monitoring program should include provisions to address protective coating monitoring and maintenance (See Item 25 in Table 5 of NUREG-1801, Vol. 1). Considering the above, justify the exclusion of the protective coating on the containment liner from the scope of license renewal and from being subject to an AMR.

(ix) The response states that the reactor cavity seal ring has no license renewal intended function. The staff has determined that the reactor cavity seal ring performs as a flood barrier (FLB) to preclude borated water leaks through the seal and accumulation in the gap between the reactor vessel and the primary shield wall that could induce corrosion in the reactor vessel and its supports as well as cause degradation of the primary shield wall concrete. Considering the above, justify the exclusion of the reactor cavity seal from the scope of license-renewal and from being subject to an AMR.

Response to RAI 2.4.1-2 (Follow Up)

RAI 2.4.1-2 CLARIFICATION RESPONSE (original response in LR #473, letter NL-08-042).

(i) The primary shield wall is added as a separate line item in LRA Table 2.4-1 and 3.5.2-1 as follows.

LRA Table 2.4-1, under heading "Concrete":

Primary shield wall	Missile barrier Shelter or protection Support for Criterion (a)(1) equipment Support for Criterion (a)(2) equipment

LRA Table 3.5.2-1, under heading "Containment Building Structural Components and Commodities (IP2 and IP3)":

Primary shield wall	EN, MB, SNS, SSR	Concrete	Air-indoor uncontrolled	None	Structures monitoring			I, 501

(iii) The retaining wall (equipment hatch entry retaining wall) is added as a separate line item in LRA Table 2.4-1 and 3.5.2-1 as follows.

LRA Table 2.4-1 under "heading "Concrete":

Equipment hatch entry retaining wall (IP2)	Shelter or protection Support for Criterion (a)(1) equipment Support for Criterion (a)(2) equipment

LRA Table 3.5.2-1, under heading "Containment Building Structural Components and Commodities (IP2 and IP3)":

Equipment hatch entry retaining wall (IP2)	EN, SNS, SSR	Concrete	Soil	None	Structures monitoring			I, 501

(v) The IP2 containment liner plate PVC insulation and IP3 containment liner urethane insulation are encapsulated within stainless steel jacketing (IP2 UFSAR 6C.8.4, and IP3 UFSAR 5.5), and are not exposed to containment atmosphere. The only visible and exposed parts of the insulation are the stainless steel jacketing. The aging management review results in LRA Table 3.5.2-1 for the liner plate insulation pertain to the stainless steel jacketing. The containment liner plate insulation within the jacketing is in scope and subject to aging management review for providing shelter and protection to the containment liner plate. The PVC and urethane insulation materials have no aging effects in the air-indoor environment and therefore, no aging management program is necessary.

(vi) The liner plates of IP2 and IP3 containment are provided with protective coatings. In response to Generic Safety Issue (GSI)-191, "Assessment of Debris Accumulation on PWR Sump Performance", the Civil/Structural group visually inspects coatings in the vapor containment building during refueling outages. Sump clogging for IP2 and IP3 was evaluated and the evaluation results were provided by Entergy, Inc. in letter NL-05-094, dated September 1, 2005 in response to NRC generic letter 2004-02, "Potential impact of debris blockage on emergency recirculation during design basis accidents at pressurized-water reactors".

The GALL Report states that if protective coatings are relied upon to manage the effects of aging, the structures monitoring program should include provisions to address protective coating monitoring and maintenance. As indicated in Table 3.5.1, Item 3.5.1-25, IP2 and IP3 containment liner protective coatings are not relied upon to manage the effects of aging. As shown in IPEC LRA Table 3.5.2-1, aging effects of liner plate and integral attachments are managed by CII-IWE and containment leak rate programs for license renewal. Accordingly, the protective coating on the containment liner is not within the scope of license renewal and subject to aging management review.

(ix) Scoping and screening of the reactor cavity seal ring was performed in accordance with license renewal functions of 10CFR 54.4(a). The reactor cavity seal ring is nonsafety-related component and it has no license renewal intended function. Specifically, the reactor cavity seal ring is installed prior to filling the refueling cavity to allow for fuel handling operations. Plant procedures ensure proper installation to preclude leakage during refueling operations. If the seal were to leak during the time the refueling cavity is filled, sump pumps in the cavity beneath the reactor vessel would prevent water accumulation in the gap between the reactor vessel and the primary shield wall.

Plant operating experience does not indicate that leakage from the reactor cavity seal ring at IPEC has caused corrosion of the reactor vessel, its supports, or degradation of primary shield wall concrete. Further, aging management programs shown in LRA Tables 3.1.2-1 and 3.5.2-1 will manage the effects of aging due to corrosion, if any, of the reactor vessel and its supports or degradation of the interior concrete walls due to borated water leakage during refueling.

For the foregoing reasons, the reactor cavity seal is not within the scope of license renewal and subject to aging management review. As noted above, it is a nonsafety-related component and has no license renewal intended function.

RAI 2.4.1-3 (Follow Up)

The response states that bellows penetrations in LRA Table 2.4-1 are associated with containment piping penetrations, and that refueling bellows is not a feature of the IP2/3 design. Please describe the types of piping penetration bellows in each unit. Further, clarify if there are transfer canal bellows (with the number in each unit) at Indian Point, and if they are within the scope of license renewal. If not, please justify their exclusion.

Response to RAI 2.4.1-3 (Follow Up)

RAI 2.4.1-3 CLARIFICATION RESPONSE (original response in LR #474, letter NL-08-042).

IP2 and IP3 containment penetrations consist of a sleeve embedded in the concrete and welded to the containment liner. Differential expansion between a sleeve and one or more hot pipes passing through it is accommodated by using a nickel alloy or stainless steel bellows type expansion joint between the outer end of the sleeve and the piping outside of the containment wall. Figures 5.1-30 (Unit 2 UFSAR) and 5.1-12 (Unit 3 UFSAR) show details of the containment penetrations and bellows for each unit.

For each unit, a fuel transfer tube is provided for fuel movement between the refueling transfer canal in the reactor containment and the spent fuel pit. The fuel transfer tube consists of a 20-in. stainless steel pipe installed inside a 24-in. pipe. Two bellows type expansion joints (one inside containment and one in the spent fuel pit) are provided on the tubes to compensate for any differential movement between the two pipes and other structures. Figure 5.1-31 (Unit 2 UFSAR) and Figure 5.1-14 (Unit 3UFSAR) show details of the fuel transfer tube and bellows for each unit. These penetration bellows are in scope of license renewal and subject to aging management review. They are listed as "bellows penetration" in Table 2.4-1 and 3.5.2-1.

RAI 2.4.1-5 (Follow Up)

The response states that the hatch locks, hinges and closure mechanisms are active components and, therefore, are not subject to AMR as discussed in LRA Table 3.5.1, Line Item 3.5.1-17. The staff has determined that these components are passive during plant operation, during which time they are (and need to remain) in a closed position, and are an integral part of the pressure boundary. The aging effect on these components is loss of leak tightness in closed position due to mechanical wear of locks, hinges and closure mechanisms (see NUREG-1801, Vol. 1, Rev. 1, Table 5, Item 17). The AMPs listed are 10 CFR Part 50, Appendix J and Plant Technical Specifications that ensure that the containment is operable and access airlocks maintain leak tightness in the closed position. Considering the above, justify the exclusion of the hatch locks, hinges and closure mechanisms from the scope of license renewal and from being subject to an AMR.

Response to RAI 2.4.1-5 (Follow Up)

RAI 2.4.1-5 CLARIFICATION RESPONSE (original response in LR #476, letter NL-08-042).

IP2 and IP3 hatch locks, hinges and closure mechanisms are in scope of IPEC license renewal.

However, since they perform their functions with moving parts or change in configuration, they are not subject to AMR. Consistent with NUREG 1801, Vol. 1, Rev. 1, Table 5, item 17, their leak tightness in the closed position is demonstrated through routine testing under the containment leak rate program as required by IP2 and IP3 Technical Specifications (Ref. LRA Table 3.5.1, Line Item 3.5.1-17).

RAI 2.4.2-1 (Follow Up)

The response states that in-scope grating, decking and ladders are bulk commodities addressed in LRA Table 2.4-4. Since this is a generic statement, clarify if the specific components in question that were identified in the RAI (i.e. metal decking and grating of the intake structure enclosure and ladder of the service water valve pit) are included in-scope and subject to AMR as bulk-commodities addressed in LRA Table 2.4-4.

Response to RAI 2.4.2-1 (Follow Up)

RAI 2.4.2-1 CLARIFICATION RESPONSE (original response in LR #477, letter NL-08-042).

Metal decking and grating of the intake structure enclosure and ladder of the service water valve pit have license renewal intended functions as defined by 10CFR54.4(a)(2). Thus, they are in scope of license renewal and subject to AMR. These structural components are included in LRA Table 2.4-4, line item "Stairway, handrail, platform, grating, decking, and ladders".

RAI 2.4.3-4 (Follow Up)

The response states that the component type "crane rails and girders" in LRA Table 2.4-3 includes bridge and trolley and also refers to the cranes themselves. Since the language of this line item as currently written is misleading, correct the typo in the line item "crane rails and girders" in LRA Table 2.4-3.

Response to RAI 2.4.3-4 (Follow Up)

RAI 2.4.3-4 CLARIFICATION REPONSE (original response in LR #481, letter NL-08-042).

LRA Table 2.4-3, line item "crane rails and girders" is corrected to read "crane, rails and girders". Additionally, the same line item in LRA Table 3.5.2-3 is corrected accordingly.

RAI 2.4.2-2

(a) LRA Table 2.2-3 and LRA Section 2.4.2 include "Discharge Canal and Outfall Structure" as being within the scope of license renewal. The description in LRA Section 2.4.2 in the second paragraph under the subtitle "Discharge Canal and Outfall Structure," states that the Outfall Structure does not support a license renewal function and, therefore, is not in scope. If this is the case, explain why "Outfall Structure" is included in LRA Table 2.2-3 and LRA Section 2.4.2.

(b) Based on the description in LRA Section 2.4.2 with regard to the Discharge Canal, confirm/clarify if (i) the entire Discharge Canal is considered within the scope of license renewal and subject to AMR, or if (ii) only the portion adjacent to/supporting the service water pipe chase and the portion supporting and including the slab on which the Unit 3 service water backup pumps are mounted is within the scope of license renewal and subject to AMR.

Response to RAI 2.4.2-2

(a) The "Outfall Structure" is included in LRA Table 2.2-3 and LRA Section 2.4.2 as part of line item "Discharge Canal and Outfall Structure" because this line item is the name of one continuous structure that includes the discharge canal and outfall. The only portion that is within the scope of license renewal is the discharge canal. The description in LRA Section 2.4.2 in the second paragraph under the subtitle "Discharge Canal and Outfall Structure," states "The outfall structure does not support a license renewal function as defined by 10CFR54.4 and, therefore, is not in scope". This statement specifically addresses exclusion of the outfall portion of the structure from the scope of license renewal and AMR.

(b) The entire discharge canal is within the scope of license renewal and subject to AMR.