January 24, 2008

LICENSEE: Entergy Nuclear Operations, Inc.

FACILITY: Indian Point Nuclear Generating Unit Nos. 2 and 3

SUBJECT: SUMMARY OF TELEPHONE CONFERENCE CALL HELD ON JANUARY 9, 2008, BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION AND ENTERGY NUCLEAR OPERATIONS, INC., CONCERNING DRAFT REQUEST FOR ADDITIONAL INFORMATION PERTAINING TO THE INDIAN POINT NUCLEAR GENERATING UNIT NOS. 2 AND 3, LICENSE RENEWAL APPLICATION - STRUCTURES

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of Entergy Nuclear Operations, Inc., held a telephone conference call on January 9, 2008, to discuss and clarify the staff's draft request for additional information (D-RAI) concerning the Indian Point Nuclear Generating Unit Nos. 2 and 3, license renewal application. The telephone conference call was useful in clarifying the intent of the staff's D-RAI.

Enclosure 1 provides a listing of the participants; and Enclosure 2 contains a listing of the D-RAI items discussed with the applicant, including a brief description on the status of the items.

The applicant had an opportunity to comment on this summary.

/RA/

Kimberly Green, Safety Project Manager
Projects Branch 2
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket Nos. 50-247 and 50-286

Enclosures:
As stated

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January 24, 2008

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Kimberly Green, Safety Project Manager
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Letter to Entergy from Kimberly Green, dated January 24, 2008

DISTRIBUTION:

SUBJECT: SUMMARY OF TELEPHONE CONFERENCE CALL HELD ON JANUARY 9, 2008, BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION AND ENTERGY NUCLEAR OPERATIONS, INC., CONCERNING DRAFT REQUEST FOR ADDITIONAL INFORMATION PERTAINING TO THE INDIAN POINT NUCLEAR GENERATING UNIT NOS. 2 AND 3, LICENSE RENEWAL APPLICATION - STRUCTURES

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TELEPHONE CONFERENCE CALL
INDIAN POINT NUCLEAR GENERATING UNIT NOS. 2 AND 3
LICENSE RENEWAL APPLICATION

LIST OF PARTICIPANTS
JANUARY 9, 2008

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Kim Green	U.S. Nuclear Regulatory Commission (NRC)
George Thomas	NRC
Hans Ashar	NRC
Mike Stroud	Entergy Nuclear Operations, Inc. (Entergy)
Reza Ahrabli	Entergy

Enclosure 1

DRAFT REQUEST FOR ADDITIONAL INFORMATION
INDIAN POINT NUCLEAR GENERATING UNIT NOS. 2 AND 3
LICENSE RENEWAL APPLICATION
STRUCTURES

JANUARY 9, 2008

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of Entergy Nuclear Operations, Inc., held a telephone conference call on January 9, 2008, to discuss and clarify the following draft request for additional information (D-RAI) concerning the Indian Point Nuclear Generating Unit Nos. 2 and 3 license renewal application (LRA).

D-RAI 2.4-1

LRA Table 2.2-3 lists the structures within the scope of license renewal and Section 2.4 provides the scoping and screening results for these structures. LRA Table 2.2-4 lists the structures not within the scope of license renewal. Confirm whether the following structures, that are not included in either of the above tables, are within the scope of license renewal and subject to an aging management review (AMR).

(i) Service Water Screenwell (listed as a Class I structure in IP2 FSAR Section 1.11.2)
(ii) Pipe Penetration Tunnel (Ref. IP2 FSAR Section 1.11.4.10)
(iii) Liquid Waste Storage Building (Ref. IP3 FSAR Sections 16.1.2 & 9.6.4)
(iv) Condenser Tube Withdrawl/Removal Pit (Ref. IP3 FSAR, Chapter 1, Site Plan Drawing 64513 and IP2 FSAR Figure 10.2-3)
(v) Fuel oil storage tank and its foundation at Buchanan Substation (since it provides backup fuel oil for emergency diesels and gas turbines)

If they are within the scope of license renewal, include their scoping, screening and AMR results, as appropriate. If not, provide a justification for their exclusion. Also, update Table 2.2-3 or 2.2-4 as appropriate.

The staff also notes that the structure identified as "Gas Turbine Substation Switchgear Structures and Foundation (IP3)" in LRA Table 2.2-3 is not included in the subsection titled "Description" in LRA Section 2.4.3. Include this structure in Section 2.4.3 and provide its scoping, screening and AMR results.

LRA Table 2.2-3 is referenced for "Service Water Valve Pit (IP2/3);" however, LRA Section 2.4.3, Turbine Buildings, Auxiliary Buildings and Other Structures," does not discuss this structure. Confirm the correct reference and make any necessary changes to the LRA.

Discussion: The applicant stated that the service screenwell structure is referred to as the intake structure in LRA Table 2.4.2. The staff confirmed that the intake structure is identified as within the scope of license renewal; therefore, this portion of the question will be withdrawn. The remainder of the question will be reworded and sent as a formal RAI.

> LRA Table 2.2-3 lists the structures within the scope of license renewal, and Section 2.4 provides the scoping and screening results for these structures. LRA Table 2.2-4 lists the structures not within the scope of license renewal. Confirm

whether the following structures, that are not included in either of the above tables, are within the scope of license renewal and subject to an AMR.

(i) Pipe Penetration Tunnel (Ref. IP2 FSAR Section 1.11.4.10)
(ii) Liquid Waste Storage Building (Ref. IP3 FSAR Sections 16.1.2 & 9.6.4)
(iii) Condenser Tube Withdrawl/Removal Pit (Ref. IP3 FSAR, Chapter 1, Site Plan Drawing 64513 and IP2 FSAR Figure 10.2-3)
(iv) Fuel Oil Storage Tank and its foundation at Buchanan Substation (since it provides backup fuel oil for emergency diesels and gas turbines)

If the above structures are within the scope of license renewal, provide their scoping, screening and AMR results, as appropriate. If not, provide a justification for their exclusion. Also, update LRA Tables 2.2-3 or 2.2-4, as appropriate.

The staff also notes that the structure identified as "Gas Turbine Substation Switchgear Structures and Foundation (IP3)," in LRA Table 2.2-3 is not included in the subsection titled "Description," in LRA Section 2.4.3. Include this structure in Section 2.4.3 and provide its scoping, screening and AMR results, or indicate where these structures and their components are addressed.

D-RAI 2.4.1-1

The first paragraph of Section 5.1.2.1 of the FSAR (IP2 & IP3) states that the containment structure serves as both a biological shield and a pressure container. The biological shield function is not listed among the intended functions for Containment Buildings in the "Description" paragraph of LRA Section 2.4.1 and Table 2.4-1. The definition of the shelter or protection (EN) function in LRA Table 2.0-1 is not consistent with the biological shield function (SH). The biological shield function is protection provided against radiation to plant personnel and the public, and not to safety-related equipment. Please clarify and include biological shield function as an intended function for Containment Buildings in the LRA.

Discussion: The applicant indicated that the question is clear. This D-RAI will be sent as a formal RAI.

D-RAI 2.4.1-2

From LRA Table 2.4-1, it is not clear if the following components of the Containment Buildings have been screened-in as components subject to an AMR.

(i) Primary Shield Wall around the Reactor
(ii) Control Rod Drive Missile Shield
(iii) Retaining Wall at the Equipment Hatch Entrance and its Missile Shield (Fixed and Removable)
(iv) Blowout Shield Plug
(v) Insulation for the Containment Building Liner (limits temperature rise in liner under accident conditions)
(vi) Protective Coating for liner
(vii) Water proofing around fuel transfer tube
(viii) Waterproof membrane for containment wall against backfill

(ix) Reactor Cavity Seal Ring (see UFSAR Figures 5.1-6 and 5.1-7)
(x) Seismic Class I Debris Screens at Containment Purge (Ref. FSAR Section 5.1.4.2.4)
(xi) Stud anchors that anchor the containment liner plate to the concrete shell

Please confirm and clarify their inclusion in LRA Table 2.4-1 or justify their exclusion. For the components that are included within scope and subject to an AMR, identify the appropriate AMR results.

Discussion: The applicant indicated that the question is clear. This D-RAI will be sent as a formal RAI.

D-RAI 2.4.1-3

In the second paragraph under the title "Description" in LRA Section 2.4.1, it is stated that: "The basemat is reinforced concrete with the bottom liner plate located on top of this mat. This bottom liner plate is covered with additional concrete, the top of which forms the floor of the containment." Please confirm and make explicit that the inaccessible bottom liner plate in the basemat and the 3 ft thick concrete fill slab above this bottom liner are included in the components listed in Table 2.4-1 that are subject to an AMR. If they are not included, please provide justification for their exclusion.

Discussion: The applicant stated that bottom liner in question is included as component type "liner." Upon further review by the staff, it agrees that the liner has been appropriately included as a component type subject to an AMR. Therefore, this question is withdrawn and will not be sent as a formal RAI.

D-RAI 2.4.1-4

Please confirm if the component identified as "Structural Steel: beams, columns, plates, trusses" in LRA Table 2.4-1 includes bracings, welds and bolted connections. Also confirm if the pressurized channel shrouds that are used at liner welded joints (including those at penetrations) are included in a structure/commodity group. If not, justify their exclusion from an AMR. Also, confirm if the components identified as "bellows penetrations" in LRA Table 2.4-1 include the refueling bellows. If not, indicate where in the LRA the refueling bellows have been evaluated.

Discussion: The applicant indicated that the question is clear. This D-RAI will be sent as a formal RAI. (Renumbered as RAI 2.4.1-3)

D-RAI 2.4.1-5

LRA Table 2.4-1 includes the components "Polar Crane, rails and girders" and "Manipulator Crane, crane rails and girders." Please confirm if the column structure, bridge and trolley of the polar crane and the bridge, trolley and mast of the manipulator crane are screened-in as subject to an AMR. Also, confirm if fasteners and rail hardware associated with the polar crane and manipulator crane are within scope and subject to an AMR. If not, provide the technical bases for their exclusion. Indicate if there are any other hoists and lifting devices (e.g. Reactor Vessel Head Lifting Device, Reactor Internals Lifting Device) that may need to be included as

components that are within scope and subject to an AMR. If so, please include in the table and provide associated scoping, screening and AMR results information relevant to the LRA.

Discussion: The applicant indicated that the question is clear. This D-RAI will be sent as a formal RAI. (Renumbered as RAI 2.4.1-4)

D-RAI 2.4.1-6

LRA Table 2.4-1 lists the Equipment Hatch and Personnel Lock as Containment components subject to an AMR. It is not explicitly clear from Table 2.4-1 if the flange double-gaskets, hatch locks, hinges and closure mechanisms that help prevent loss of sealing/leak-tightness for these listed hatches are included within the scope of license renewal and subject to an AMR. Please confirm the inclusion or exclusion of these components within the scope of license renewal. If they were not included, but should be, please provide a description of their scoping and aging management review. If they are included elsewhere in the LRA, please indicate the location. If they are excluded from the scope of license renewal, please provide the basis for their exclusion.

Discussion: The applicant indicated that the question is clear. This D-RAI will be sent as a formal RAI. (Renumbered as RAI 2.4.1-5)

D-RAI 2.4.2-1

For the Water Control Structures listed in the first paragraph of LRA Section 2.4.2, please indicate the units to which these structures belong (e.g. IP1, IP2, IP3) or indicate if they are common to Units 2 and 3.

Discussion: The applicant stated that the water control structures are common to all three units unless otherwise noted in the LRA. Based upon this clarification, this question will be withdrawn.

D-RAI 2.4.2-2

LRA Table 2.4-2 does not include the debris wall, fixed coarse screens, fine mesh traveling screens, gates and strainers at the intake structure. It also does not include metal decking, metal siding, grating and ventilation panels for the intake structure enclosure and manhole, ladder and sump of the service water valve pit. Please confirm if these components should be included within the scope of license renewal and subject to an AMR or not. If not, provide justification for not including them. Please clarify explicitly what the “structural steel” component in LRA Table 2.4-2 includes (e.g. beams, plates, welded/bolted connections etc.).

Discussion: The applicant stated that it will answer the question; however, strainers are not considered to be structures, rather they are evaluated with mechanical systems. Based on the discussion with the applicant, the staff agreed to revise this question as follows. The revised question will be sent as a formal RAI. (Renumbered as RAI 2.4.2-1)

> LRA Table 2.4-2 does not include the debris wall, fixed coarse screens, fine mesh traveling screens, and gates at the intake structure. It also does not include metal decking, metal siding, grating and ventilation panels for the intake

structure enclosure and manhole, ladder and sump of the service water valve pit. Please confirm if these components should be included within the scope of license renewal and subject to an AMR or not. If not, provide justification for excluding them. Please clarify explicitly what the "structural steel" component type in LRA Table 2.4-2 includes (e.g. beams, plates, welded/bolted connections etc.).

D-RAI 2.4.3-1

Section 2.4.3 of the LRA states that the fuel storage buildings have the following intended functions for 10 CFR 54.4(a)(1) and (a)(2): "Maintain integrity of nonsafety-related components such that safety functions are not affected by maintaining pool water inventory (Units 2 and 3)." This intended function does not correlate with the intended functions listed in LRA Table 2.4-3 for corresponding components of the fuel storage buildings, e.g., pressure boundary, missile barrier, and shelter or protection.

Clarify the intended functions performed by the spent fuel pit concrete structures, e.g., exterior walls, exterior walls-below grade, and floor slabs, interior walls, and ceilings, and clarify the intended functions performed by the spent fuel pool liner plate and gate.

Discussion: The applicant stated that the intended functions in LRA Table 2.4-3 match those in LRA Table 3.5.2-3 for the structural intended functions. Based on the discussion with the applicant, the staff will revise this question as follows. The revised question will be sent as a formal RAI.

> Section 2.4.3 of the LRA states that the fuel storage buildings have the following intended functions for 10 CFR 54.4(a)(1) and (a)(2): "Maintain integrity of nonsafety-related components such that safety functions are not affected by maintaining pool water inventory (Units 2 and 3)." LRA Section 2.1.2.2, "Screening of Structures," states that the screening of structural components and commodities was based primarily on whether they perform an intended function. LRA Table 3.5.2-3, "Turbine Building, Auxiliary Building, and Other Structures Structural Components and Commodities (IP2 and IP3)," identifies structural components subject to aging management based on materials of construction and intended functions for components of structures including the fuel storage buildings. The intended functions listed in Table 3.5.2-3 (e.g., pressure boundary, missile barrier, and shelter or protection) agree with the intended functions listed in LRA Table 2.0-1, "Intended Functions: Abbreviations and Definitions." However, the intended function for the fuel storage building listed in LRA Section 2.4.3 does not agree with the listed intended functions in LRA Tables 2.0-1 and 3.5.2-3.
>
> Pursuant to 10 CFR 54.21, the LRA must identify and list those structures and components subject to an aging management review. Clarify the LRA Section 2.4.3 description of the intended function(s) of the fuel storage building components using the list of intended functions from LRA Table 2.0-1. To satisfy

the requirements of 10 CFR 54.21, the clarification must be adequate to reasonably identify the fuel building structural components subject to aging management by the component/commodity, material of construction, and intended functions listed in LRA Table 3.5.2-3.

D-RAI 2.4.3-2

Section 2.4.3 of the LRA states that the top of the spent fuel pit wall forms the north wall of each unit's fuel building. Unit 2 UFSAR Figure 1.2-4, "Cross Section of Plant," indicates that at least part of the fuel building exterior wall is below grade. LRA Table 2.4-3 lists pressure boundary as an intended function for the concrete component "exterior walls" but does not list pressure boundary as an intended function of the concrete component, "exterior walls-below grade," that represents the fuel building wall.

Update LRA Table 2.4-3 to include the pressure boundary intended function for the spent fuel pit wall that is below grade or provide justification for excluding this intended function.

Discussion: The applicant indicated that the question is clear. This D-RAI will be sent as a formal RAI.

D-RAI 2.4.3-3

LRA Table 2.4-3 does not include the leak chase channel of the IP3 spent fuel pit as a component subject to an AMR. Include this as a component as subject to an AMR or provide justification for its exclusion.

Discussion: The applicant stated that the leak chase channel is not a separate component, it is an integral part of the liner plate. Since this information is not clearly stated in the LRA, this question will be sent as a formal RAI.

D-RAI 2.4.3-4

LRA Table 2.4-3 lists "Cranes rails and girders" as a component type subject to AMR. It is not clear if this component refers to just crane rails and girders or also refers to the cranes themselves. If it includes the cranes, identify which cranes have been determined to be within the scope of license renewal and if all relevant sub-components ("...including bridge and trolley, rails, and girders") of these in-scope crane systems have been screened in as items requiring an AMR. Identify the specific cranes in each of these structures that are included within the above component type as within scope and subject to an AMR, and those that are excluded, with technical bases. Confirm if fasteners and rail hardware associated with this component type are in-scope and subject to AMR. If not, provide the technical bases for their exclusion. Are there any other hoists and lifting devices that may need to be included in-scope and subject to AMR? If so, include in the table and provide associated scoping, screening and AMR results information relevant to the LRA.

Discussion: The applicant indicated that the question is clear. This D-RAI will be sent as a formal RAI.

D-RAI 2.4.3-5

Please confirm if the component identified as "Structural Steel: beams, columns, plates" in LRA Table 2.4-3 includes bracings, welds and bolted connections. If yes, explicitly state so. If not, indicate where they are included. If "Battery Racks" are used as a component (e.g. for emergency diesels), include it as a component subject to an AMR. Also identify Turbine Generator Pedestals and their structural bearing pads, Diesel Generator (DG) Pedestals and the concrete curb around DG foundations as being subject to an AMR.

Discussion: The applicant indicated that the question is clear. This D-RAI will be sent as a formal RAI.

D-RAI 2.4.4-1

From LRA Table 2.4-4, it is not clear if the following bulk commodities have been screened-in as components subject to an AMR:

(i) HVAC duct supports
(ii) Racks
(iii) Expansion Anchors
(iv) Vibration Isolation elements
(v) Flood Curbs
(vi) Compressible joints and seals
(vii) Waterproofing membrane
(viii) Sliding support bearings and sliding support surfaces

Confirm if the above component types apply to the LRA and should be included and screened in as subject to an AMR or justify their exclusion. If they are in scope, include them in LRA Table 2.4-4 and provide AMR results. Also, explicitly state the specific materials that are classified as "Other Materials" in LRA Table 2.4-4.

Discussion: The applicant stated that the: HVAC duct supports are listed in LRA Table 2.4-2, racks are listed as instrument racks; and compressible joints and seals are listed in LRA Table 2.4-4 as seals and gaskets. Based on the discussion with the applicant, the staff will eliminate these three items from the draft RAI. The revised question will be sent as a formal RAI.

D-RAI 2.4.4-2

Clarify the phrase within parentheses "(insulation, or Insulation)" in the description provided for intended function (1) for insulation in the fourth paragraph of LRA Section 2.4.4.
Further, LRA Table 2.4-4 includes bulk commodity component types "insulation jacket" and "insulation" that are subject to an AMR. Based on information provided in LRA Table, it is unclear which insulation (with material) and insulation jacket are included in license renewal scope and are included in LRA Table 2.4-4. It is also unclear whether insulation and jacketing on the containment liner, reactor vessel, reactor coolant system, main steam and feed water systems have been included. Please provide the following information, limited to insulation that is used to control the maximum temperature of safety-related structural elements.

(a) Specifically, identify the structures and structural components designated within the license renewal scope that have insulation and/or insulation jacketing, and identify their location in the plant. Identify locations of the thermal insulation that serves an intended function in accordance with 10 CFR 54.4(a)(2) and describe the scoping and screening results of thermal insulation and provide technical basis for its exclusion from the scope of license renewal.

(b) For insulation and insulation jacketing materials associated with item (a) above that do not require aging management, submit the technical basis for this conclusion, including plant-specific operating experience.

(c) For insulation and insulation jacketing materials associated with item (a) above that require aging management, indicate the applicable LRA sections that identify the aging management program(s) credited to manage aging.

Discussion: The applicant indicated that the question is clear. This D-RAI will be sent as a formal RAI.

D-RAI 3.5A.2-1

Table 3.5.1, item 3.5.1-46, of the LRA states that aging of the fuel pool liners will be managed by the water chemistry program and monitoring of spent fuel pool water level in accordance with Technical Specifications and leakage from the leak chase channel. The table includes the following discussion:

> "Monitoring spent fuel pool water level in accordance with Technical Specifications and monitoring leakage from the leak chase channels (Unit 3) will also continue during the period of extended operation."

The monitoring program for Unit 2 differs from that specified for Unit 3 and from that credited in NUREG-1801. The Unit 3 and NUREG-1801 programs involve monitoring leakage from the leak chase channels.

Explain whether the spent fuel pool water level may be insensitive to leakage comparable to the rate of evaporation and could be masked by routine makeup water additions. If spent fuel pool leakage could be masked by evaporation and routine water additions, describe how the proposed monitoring at Unit 2 would provide acceptable indication of a degrading liner or describe an alternative monitoring method (e.g., monitoring of nearby wells).

Discussion: The applicant indicated that the question is clear. This D-RAI will be sent as a formal RAI.