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Fred Dacimo  
Vice President  
License Renewal

NL-09-060

May 15, 2009

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

**SUBJECT:** Amendment 8 to License Renewal Application (LRA)  
Indian Point Nuclear Generating Unit Nos. 2 & 3  
Docket Nos. 50-247 and 50-286  
License Nos. DPR-26 and DPR-64

- REFERENCES:**
1. Entergy Letter dated April 23, 2007, F. R. Dacimo to Document Control Desk, "License Renewal Application" (NL-07-039)
  2. Entergy Letter dated April 23, 2007, F. R. Dacimo to Document Control Desk, "License Renewal Application Boundary Drawings (NL-07-040)
  3. Entergy Letter dated April 23, 2007, F. R. Dacimo to Document Control Desk, "License Renewal Application Environmental Report References (NL-07-041)
  4. Entergy Letter dated October 11, 2007, F. R. Dacimo to Document Control Desk, "License Renewal Application (LRA)" (NL-07-124)
  5. Entergy Letter November 14, 2007, F. R. Dacimo to Document Control Desk, "Supplement to License Renewal Application (LRA) Environmental Report References" (NL-07-133)

Dear Sir or Madam:

In the referenced letters, Entergy Nuclear Operations, Inc. applied for renewal of the Indian Point Energy Center operating license. This letter contains Amendment 8 to the License Renewal Application (LRA).

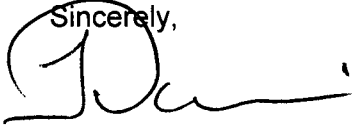
If you have any questions, or require additional information, please contact Mr. Robert Walpole at 914-734-6710.

A128  
NRR

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

5/15/09

Sincerely,



FRD/dmt

Attachment: 1. Amendment 8 to License Renewal Application, Annual Update  
Amendment

cc: Mr. Samuel J. Collins, Regional Administrator, NRC Region I  
Mr. Sherwin E. Turk, NRC Office of General Counsel, Special Counsel  
Mr. Kenneth Chang, NRC Branch Chief, Engineering Review Branch I  
Mr. John Boska, NRR Senior Project Manager  
Mr. Paul Eddy, New York State Department of Public Service  
NRC Resident Inspector's Office  
Mr. Francis J. Murray, President and CEO, NYSERDA

ATTACHMENT 1 TO NL-09-060

**Amendment 8 to License Renewal Application,  
Annual Update Amendment**

ENTERGY NUCLEAR OPERATIONS, INC.  
INDIAN POINT NUCLEAR GENERATING UNIT NOS. 2 & 3  
DOCKET NOS. 50-247 AND 50-286

**INDIAN POINT NUCLEAR GENERATING UNIT NOS. 2 AND 3  
 LICENSE RENEWAL APPLICATION  
 ANNUAL UPDATE AMENDMENT**

In accordance with 10 CFR 54.21(b), each year following submittal of the license renewal application and at least 3 months before scheduled completion of the NRC review, an amendment to the renewal application must be submitted that identifies any change to the CLB of the facility that materially affects the contents of the license renewal application (LRA), including the FSAR supplement. This attachment documents the review of Indian Point Energy Center (IPEC) current licensing basis (CLB) documents per 10CFR54.21(b), and identifies any changes that materially affect the contents of the LRA.

The review includes documents affecting the CLB during the period of May 1, 2008 through March 1, 2009 since the last annual update for amendment of the LRA included a review of documents thru April 30, 2008. This review period reflects the need to provide an update prior to issuance of the final SER.

This review concluded that certain sections of the LRA are affected by changes to the CLB over the period of review. The table shown below provides a summary of the changes including the affected system (if applicable), an explanation of the change (including affect on the LRA), and the affected LRA section.

**IPEC LRA Sections Affected**

<b>System</b>	<b>CLB Change</b>	<b>LRA Section Affected</b>
CS	<p>Engineering change modified the buffer chemical in the IP3 containment spray system from sodium hydroxide (liquid injection) to sump baskets containing sodium tetraborate. The sodium hydroxide injection components are retired in place (disconnected and drained). (The sump baskets themselves have no license renewal intended function and as such are not reviewed, but the buffer descriptions in the LRA require changing.)</p> <p>[Deleted line items associated with sodium hydroxide components from LRA tables and tank inspection activities from the Appendix B program]</p>	<p>2.3.2.2 (IP3)            Table 2.3.2-2-IP3            Table 3.2.2-2-IP3            (including notes)            App. B, B.1.29</p>

System	CLB Change	LRA Section Affected
CISS	<p>During site activities for the corporate Buried Piping and Tanks Program it was found that there is buried piping in the CISS system that had not been previously identified. This buried piping provides air to Flow Thru Test Station # 15</p> <p>[Added stainless steel/soil as a material/environment to the tables and the system reference to the Appendix B program. See identical material/environment line items in LRA tables 3.2.2-2-IP3 and 3.2.2-4-IP3]</p>	<p>3.2.2.1.3            Table 3.2.2-3-IP2            App. B, B.1.6</p>
SIS	<p>Drawing change added valve numbers for valves already shown on LRA dwg and included in LRA tables. (Component database change only)</p> <p>[Component numbers added to component database - no new component type/material/environment line items created]</p>	<p>None</p>
--	<p>Engineering change – added drain piping and float valve to protect RHR pump motors from internal flooding</p> <p>[Additional component type/material/environment added to LRA tables – See identical material/environment line items in LRA tables 3.3.2-19-28-IP2 and 3.3.2-11-IP3 with the exception of plastic/soil which is a new material/environment combination]</p>	<p>3.3.2.1.18            Table 2.3.3-18-A            Table 3.3.2-18-IP2            Table 3.3.2-18-IP3</p>
N <sub>2</sub>	<p>Drawing change added piping and valves for nitrogen backup to ADVs</p> <p>[Addition of components with no new component type/material/environment line items created]</p>	<p>None</p>
SW	<p>Engineering change deleted valve.</p> <p>[Deletion of components only - no impact on existing component type/material/environment line items]</p>	<p>None</p>

System	CLB Change	LRA Section Affected
SPG	<p>Engineering change replaced IP3 Security Generator</p> <p>[Change in materials for section 3.3 tables - See identical material/environment line items in table 3.3.2-16-IP2 for the stainless steel/exhaust gas line item and NUREG 1801, Rev. 1 line item VII.A4-5 for the aluminum/treated water line item. Modified heat exchanger (bonnet) line item for a new fiberglass/treated water combination. This fiberglass/treated water material/environment combination has been previously reviewed as documented in the final Vermont Yankee Safety Evaluation Report (dated February 2008), in section 3.3.2.3.72 which includes the staff finding that the fiberglass/treated water combination has no aging effects. Therefore, no program is required for management of this combination]</p>	<p>3.3.2.1.15            Table 3.3.2-15-IP3</p>
CO <sub>2</sub>	<p>SER review identified that there are no IP2 fire protection CO<sub>2</sub> systems which contradicts information in the LRA that included a CO<sub>2</sub> system for the new Station Blackout Out diesel which was not installed.</p> <p>[Change to text only]</p>	<p>2.3.3.12(IP2)</p>
LO	<p>Engineering change replaced oil water separator for main boiler feed pump lube oil system (some components designated as in scope for 54.4 (a)(2) were deleted)</p> <p>[Change to text only. No impact to table line items]</p>	<p>None</p>
--	<p>Engineering change – IP2 Fuel Storage Building Single Failure Proof Gantry Crane</p> <p>[Change to text only to identify new gantry crane in building description. No impact to table line items]</p>	<p>2.4.3</p>

**IPEC LRA changes are shown below.**

(Changes are shown as strikethroughs for deletions and underlines for additions)

LRA Section 2.3.2.2, Containment Spray System, System Description, Unit 3, second and third paragraphs, are revised as follows.

~~The containment spray system includes a spray additive tank containing sodium hydroxide and eductors that draw from the tank when the containment spray pumps are in operation following a LOCA for pH control of the water in containment. Long-term post-accident retention of iodine is assured by sodium tetraborate baskets located in the containment that will be flooded under accident conditions, allowing the sodium tetraborate to dissolve into the fluid for pH control.~~ The containment spray system also includes a dousing system for the carbon filter bank of each fan cooler unit of the containment air recirculation cooling and filtration system. Each dousing system can be started manually if high temperature conditions occur.

The containment spray system has the following intended functions for 10 CFR 54.4(a)(1).

- Provide means for rapid reduction of containment pressure and temperature by providing borated water from the RWST following a design basis loss-of-coolant accident (LOCA) or a steam-line-break accident inside containment.
- Distribute flow from the containment recirculation pumps or RHR pumps to the containment atmosphere during the recirculation phase of an accident.
- Provide a means to inject chemical spray additives (~~sodium hydroxide~~ sodium tetraborate) into the containment spray stream to increase the pH of post-accident fluids in the recirculation and containment sumps.
- Provide containment isolation capability for lines penetrating containment.

LRA Table 2.3.2-2-IP3 is revised as follows.

**Table 2.3.2-2-IP3  
Containment Spray System  
Components Subject to Aging Management Review**

<b>Component Type</b>	<b>Intended Function(s)</b>
Bolting	Pressure boundary
Eductor	Pressure boundary Flow control
Flow element	Pressure boundary
Nozzle	Pressure boundary Flow control
Piping	Pressure boundary
Pump casing	Pressure boundary
Tank	Pressure boundary
Tubing	Pressure boundary
Valve body	Pressure boundary



LRA Table 3.2.2-2-IP3 is revised as follows:

<b>Table 3.2.2-2-IP3: Containment Spray System</b>								
<b>Component Type</b>	<b>Intended Function</b>	<b>Material</b>	<b>Environment</b>	<b>Aging Effect Requiring Management</b>	<b>Aging Management Programs</b>	<b>NUREG-1801 Vol. 2 Item</b>	<b>Table 1 Item</b>	<b>Notes</b>
Flow element	Pressure boundary	Stainless steel	Air – indoor (int)	None	None	--	--	G
Flow element	Pressure boundary	Stainless steel	Treated water (int)	Loss of material	Water Chemistry Control—Auxiliary Systems	--	--	<del>G</del> , 202
Flow element	Pressure boundary	Stainless steel	Treated water (int)	Cracking	Water Chemistry Control—Auxiliary Systems	--	--	<del>G</del> , 202
Nozzle	Pressure boundary Flow control	Stainless steel	Air – indoor (ext)	None	None	V.F-13 (EP-19)	3.2.1-57	A
Nozzle	Pressure boundary Flow control	Stainless steel	Air – indoor (int)	None	None	--	--	G
Piping	Pressure boundary	Stainless steel	Air – indoor (ext)	None	None	V.F-13 (EP-19)	3.2.1-57	A
Piping	Pressure boundary	Stainless steel	Air – indoor (int)	None	None	--	--	G

<b>Table 3.2.2-2-IP3: Containment Spray System</b>								
<b>Component Type</b>	<b>Intended Function</b>	<b>Material</b>	<b>Environment</b>	<b>Aging Effect Requiring Management</b>	<b>Aging Management Programs</b>	<b>NUREG-1801 Vol. 2 Item</b>	<b>Table 1 Item</b>	<b>Notes</b>
Piping	Pressure boundary	Stainless steel	Air – outdoor (ext)	Loss of material	External Surfaces Monitoring	--	--	G
Piping	Pressure boundary	Stainless steel	Soil (ext)	Loss of material	Buried Piping and Tanks Inspection	V.D1-26 (EP-31)	3.2.1-4	E
Piping	Pressure boundary	Stainless steel	Treated borated water (int)	Loss of material	Water Chemistry Control – Primary and Secondary	V.A-27 (EP-41)	3.2.1-49	A
Piping	Pressure boundary	Stainless steel	Treated water (int)	Cracking	Water Chemistry Control – Auxiliary Systems	--	--	<del>G</del> , 202
Piping	Pressure boundary	Stainless steel	Treated water (int)	Loss of material	Water Chemistry Control – Auxiliary Systems	--	--	<del>G</del> , 202
Pump casing	Pressure boundary	Stainless steel	Air – indoor (ext)	None	None	V.F-13 (EP-19)	3.2.1-57	A
Pump casing	Pressure boundary	Stainless steel	Treated borated water (int)	Loss of material	Water Chemistry Control – Primary and Secondary	V.A-27 (EP-41)	3.2.1-49	A
Tank	Pressure boundary	Carbon steel with stainless cladding	Air – indoor (ext)	Loss of material	External Surfaces Monitoring	V.E-7 (E-44)	<del>3.2.1-31</del>	A

Table 3.2.2-2-IP3: Containment Spray System								
Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Programs	NUREG-1801 Vol. 2 Item	Table 1 Item	Notes
Tank	Pressure boundary	Carbon steel with stainless cladding	Air—indoor (ext)	Loss of material	Boric Acid Corrosion Prevention	V.D1-4 (E-28)	3.2.1-45	G
Tank	Pressure boundary	Carbon steel with stainless cladding	Treated water (int)	Cracking	Water Chemistry Control—Auxiliary Systems	--	--	G, 202
Tank	Pressure boundary	Carbon steel with stainless cladding	Treated water (int)	Loss of material	Water Chemistry Control—Auxiliary Systems	--	--	G, 202
Tank	Pressure boundary	Carbon steel with stainless cladding	Treated water (int)	Loss of material	Periodic Surveillance and Preventive Maintenance	--	--	G, 202
Tubing	Pressure boundary	Stainless steel	Air – indoor (ext)	None	None	V.F-13 (EP-19)	3.2.1-57	A
Tubing	Pressure boundary	Stainless steel	Air – indoor (int)	None	None	--	--	G
Tubing	Pressure boundary	Stainless steel	Treated borated water (int)	Loss of material	Water Chemistry Control – Primary and Secondary	V.A-27 (EP-41)	3.2.1-49	A

**Table 3.2.2-2-IP3: Containment Spray System**

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Programs	NUREG-1801 Vol. 2 Item	Table 1 Item	Notes
Tubing	Pressure boundary	Stainless steel	Treated water (int)	Loss of material	Water Chemistry Control—Auxiliary Systems	--	--	<del>G</del> , 202
Tubing	Pressure boundary	Stainless steel	Treated water (int)	Cracking	Water Chemistry Control—Auxiliary Systems	--	--	<del>G</del> , 202
Valve body	Pressure boundary	Stainless steel	Air – indoor (ext)	None	None	V.F-13 (EP-19)	3.2.1-57	A
Valve body	Pressure boundary	Stainless steel	Air – outdoor (ext)	Loss of material	External Surfaces Monitoring	--	--	G
Valve body	Pressure boundary	Stainless steel	Treated borated water (int)	Loss of material	Water Chemistry Control – Primary and Secondary	V.A-27 (EP-41)	3.2.1-49	A
Valve body	Pressure boundary	Stainless steel	Treated water (int)	Loss of material	Water Chemistry Control—Auxiliary Systems	--	--	<del>G</del> , 202
Valve body	Pressure boundary	Stainless steel	Treated water (int)	Cracking	Water Chemistry Control—Auxiliary Systems	--	--	<del>G</del> , 202

LRA Notes for Tables 3.2.2-1-IP2 through 3.2.2-5-IP3 are revised as follows.

**Notes for Tables 3.2.2-1-IP2 through 3.2.2-5-IP3**

**Plant-Specific Notes**

201. The air – treated environment is the equivalent of the NUREG-1801 defined dried air.

202. ~~This treated water environment is water with sodium hydroxide.~~ Not used.

203. This treated water environment is the equivalent of the NUREG-1801 defined closed cycle cooling water.

204. The containment sump suction line on IP3 utilizes a “mini-containment” consisting of guard piping and encapsulation of the containment outboard isolation valve. The air pressure internal to the “mini-containment” is maintained above the pressure internal to the RHR components by instrument air.

205. Not used.

LRA Appendix B, Section B.1.29, Periodic Surveillance and Preventive Maintenance, is revised as follows.

**B.1.29 PERIODIC SURVEILLANCE AND PREVENTIVE MAINTENANCE**

**Program Description**

The Periodic Surveillance and Preventive Maintenance Program is an existing program that includes periodic inspections and tests that manage aging effects not managed by other aging management programs. In addition to specific activities in the plant's preventive maintenance program and surveillance program, the Periodic Surveillance and Preventive Maintenance Program includes enhancements to add new activities. The preventive maintenance and surveillance testing activities are generally implemented through repetitive tasks or routine monitoring of plant operations. Credit for program activities has been taken in the aging management review of the following systems and structures. All activities are new unless otherwise noted.

Reactor building Use visual or other NDE techniques to inspect the surface condition of carbon steel components of the reactor building cranes (polar and manipulator), crane rails, and girders, and refueling platform to manage loss of material. [existing]

~~Containment spray system — IP3: Perform wall thickness measurements of the NaOH tank to manage loss of material. [existing]~~

LRA Appendix B, Periodic Surveillance and Preventive Maintenance, Section B.1.29, Attribute 10, is revised as follows.

### 10. Operating Experience

Typical inspection results of this program include:

- IP2 reactor building polar crane (May 2006): no indication of corrosion, cracking, or wear in the crane structural members.
- IP3 reactor building polar crane (February 2001 and March 2005): no indication of corrosion, cracking, or wear in the crane structural members.
- ~~IP3 sodium hydroxide (NaOH) storage tank (August 2004): no deficiencies. Ultrasonic measurement of wall thickness was satisfactory.~~
- IP2 and IP3 recirculation pumps and related system components (2005 and 2006): no deficiencies.
- IP2 Diesel Generator Building floor drain backwater valves (October 2006): no loss of material.
- IP2 and IP3 EDG's (2005 and 2006): no unacceptable loss of material.

LRA Section 3.2.2.1.3 Containment Isolation Support System is revised as follows.

#### Environment

Containment isolation support system components are exposed to the following environments.

- air – indoor
- air – treated
- gas
- treated water
- soil

### **Aging Effects Requiring Management**

The following aging effects associated with the containment isolation support system require management.

- loss of material

### **Aging Management Programs**

The following aging management programs manage the aging effects for containment isolation support system components.

- Bolting Integrity
- External Surfaces Monitoring
- Water Chemistry Control – Primary and Secondary
- Buried Piping and Tanks Inspection

LRA table 3.2.2-3-IP2, Containment Isolation Support Systems Summary of Aging Management Review (IP2), is revised as follows.

<b>Table 3.2.2-3-IP2: Containment Isolation Support Systems</b>								
<b>Component Type</b>	<b>Intended Function</b>	<b>Material</b>	<b>Environment</b>	<b>Aging Effect Requiring Management</b>	<b>Aging Management Programs</b>	<b>NUREG-1801 Vol. 2 Item</b>	<b>Table 1 Item</b>	<b>Notes</b>
Piping	Pressure boundary	Carbon steel	Air – treated (int)	None	None	VII.J-22 (AP-4)	3.3.1-98	C, 201
<u>Piping</u>	<u>Pressure boundary</u>	<u>Stainless steel</u>	<u>Soil (ext)</u>	<u>Loss of material</u>	<u>Buried Piping and Tanks Inspection</u>	<u>VII.C1-18 (A-01)</u>	<u>3.3.1-19</u>	<u>C</u>
<u>Piping</u>	<u>Pressure boundary</u>	<u>Stainless steel</u>	<u>Air – treated (int)</u>	<u>None</u>	<u>None</u>	<u>VII.J-18 (AP-20)</u>	<u>3.3.1-98</u>	<u>C, 201</u>
Piping	Pressure boundary	Stainless steel	Air – indoor (ext)	None	None	V.F-12 (EP-18)	3.2.1-53	A
Piping	Pressure boundary	Stainless steel	Treated water (int)	Loss of material	Water Chemistry Control – Primary and Secondary	V.C-4 (E-33)	3.2.1-3	C, 206
Tank	Pressure boundary	Carbon steel	Air – indoor (ext)	Loss of material	External Surfaces Monitoring	V.E-7 (E-44)	3.2.1-31	A
Tank	Pressure boundary	Carbon steel	Air – treated (int)	None	None	VII.J-22 (AP-4)	3.3.1-98	C, 201



LRA Appendix B, BURIED PIPING AND TANKS INSPECTION, Section B.1.6, is revised as follows.

## **B.1.6 BURIED PIPING AND TANKS INSPECTION**

### **Program Description**

The Buried Piping and Tanks Inspection Program is a new program that includes (a) preventive measures to mitigate corrosion and (b) inspections to manage the effects of corrosion on the pressure-retaining capability of buried carbon steel, gray cast iron, and stainless steel components. Preventive measures are in accordance with standard industry practice for maintaining external coatings and wrappings. Buried components are inspected when excavated during maintenance. If trending within the corrective action program identifies susceptible locations, the areas with a history of corrosion problems are evaluated for the need for additional inspection, alternate coating, or replacement. The program applies to buried components in the following systems.

- Safety injection
- Service water
- Fire protection
- Fuel oil
- Security generator
- City water
- Plant drains
- Auxiliary feedwater
- Containment isolation support

LRA Section 3.3.2.1.18, Plant Drains is revised as follows.

### **Materials**

Plant drains components are constructed of the following materials.

- carbon steel
- stainless steel
- gray cast iron
- plastic

### **Environment**

Plant drains components are exposed to the following environments.

- air – indoor
- air – outdoor
- concrete
- gas
- raw water
- soil
- treated borated water

LRA Table 2.3.3-18-A, Floor Drains Routing is revised as follows:

**Table 2.3.3-18-A  
 Floor Drains Routing (Continued)**

Route Number	Description
1	<p><u>IP2</u>: Fire Area A, Zone 32A, Electrical Tunnel in the Primary and Control Building, contains automatic closed head, preaction water spray systems. Water from the actuated sprinklers in the electrical tunnel flow down the sloped floor toward the cable spreading room. At the end of the tunnel, a properly sized drain routes water to the yard where drainage terminates.</p>
2	<p><u>IP2</u>: Fire Area G, Zone 10, Diesel Generator Building, contains an automatic (closed head) spray system with backflow prevention devices. Five drainage sumps are provided in the building and connect to the site drainage system routing water from elevation 64' to elevation 18' and terminates at manhole 17.</p>
3	<p><u>IP2</u>: Primary Auxiliary Building (PAB) drains protect safety-related equipment from flooding at various elevations throughout the building. Drain water is routed through a series of 4" drains to a deep sump located at the 15' elevation. <del>The door leading to the main transformer yard is designed to provide for drainage to the yard</del> <u>A float operated valve with PVC pipe that penetrates the exterior PAB wall is routed below grade to a nearby storm drain manhole in the transformer yard to prevent RHR pump failure in the unlikely event the pipe failure is undetected. Operator actions are also credited to prevent flooding of the RHR pumps.</u></p>
6	<p><u>IP3</u>: The Primary Auxiliary Building (PAB) is designed so flooding from any elevation will result in water settling at the lowest elevation (15'). Each room utilizes drains to protect safety-related equipment from flooding at various elevations throughout the building. Drain water is routed through a series of 4" drains to a deep sump located at the 15' elevation. <del>Sufficient drainage area is provided in addition to a flap installed in the door leading to the main transformer yard</del> <u>A float operated valve with PVC pipe that penetrates the exterior PAB wall is routed below grade to a nearby storm drain manhole in the transformer yard in the unlikely event the pipe failure is undetected to prevent RHR pump failure. Operator actions are also credited to prevent flooding of the RHR pumps.</u></p>

LRA Table 3.3.2-18-IP2, Plant Drains Summary of Aging Management Review (IP2) and LRA table 3.3.2-18-IP3, Plant Drains Summary of Aging Management Review (IP3), is revised as follows.

<b>Table 3.3.2-18-IP2: Plant Drains</b>								
<b>Component Type</b>	<b>Intended Function</b>	<b>Material</b>	<b>Environment</b>	<b>Aging Effect Requiring Management</b>	<b>Aging Management Programs</b>	<b>NUREG-1801 Vol. 2 Item</b>	<b>Table 1 Item</b>	<b>Notes</b>
<u>Piping</u>	<u>Pressure boundary</u>	<u>Plastic</u>	<u>Air – indoor (int)</u>	<u>None</u>	<u>None</u>	=	=	<u>F</u>
<u>Piping</u>	<u>Pressure boundary</u>	<u>Plastic</u>	<u>Air – indoor (ext)</u>	<u>None</u>	<u>None</u>	=	=	<u>F</u>
<u>Piping</u>	<u>Pressure boundary</u>	<u>Plastic</u>	<u>Soil (ext)</u>	<u>None</u>	<u>None</u>	=	=	<u>F</u>
Strainer	Filtration	Carbon steel	Air – indoor (ext)	Loss of material	External Surfaces Monitoring	VII.I-8 (A-77)	3.3.1-58	A
Strainer	Filtration	Stainless steel	Air – indoor (ext)	None	None	VII.J-15 (AP-17)	3.3.1-94	A
Tubing	Pressure boundary	Stainless steel	Air – indoor (ext)	None	None	VII.J-15 (AP-17)	3.3.1-94	A
Tubing	Pressure boundary	Stainless steel	Raw water (int)	Loss of material	One-Time Inspection	VII.C1-15 (A-54)	3.3.1-79	E

Table 3.3.2-18-IP2: Plant Drains								
Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Programs	NUREG-1801 Vol. 2 Item	Table 1 Item	Notes
Valve body	Pressure boundary	Carbon steel	Air – indoor (ext)	Loss of material	External Surfaces Monitoring	VII.I-8 (A-77)	3.3.1-58	A
Valve body	Pressure boundary	Carbon steel	Raw water (int)	Loss of material	Periodic Surveillance and Preventive Maintenance	VII.C1-19 (A-38)	3.3.1-76	E
Valve body	Pressure boundary	Stainless steel	Air – indoor (ext)	None	None	VII.J-15 (AP-17)	3.3.1-94	A
Valve body	Pressure boundary	Stainless steel	Gas (int)	None	None	VII.J-19 (AP-22)	3.3.1-97	A
Valve body	Pressure boundary	Stainless steel	Raw water (int)	Loss of material	One-Time Inspection	VII.C1-15 (A-54)	3.3.1-79	E
Valve body	Pressure boundary	Stainless steel	Treated borated water (int)	Loss of material	Water Chemistry Control – Primary and Secondary	VII.E1-17 (AP-79)	3.3.1-91	C
Valve body	Pressure boundary	Gray cast iron	Air – indoor (ext)	Loss of material	External Surfaces Monitoring	VII.I-8 (A-77)	3.3.1-58	A
Valve body	Pressure boundary	Gray cast iron	Air – indoor (int)	None	None	V.A-19 (E-29)	3.2.1-32	E

**Table 3.3.2-18-IP3  
 Plant Drains  
 Summary of Aging Management Review**

<b>Table 3.3.2-18-IP3: Plant Drains</b>								
<b>Component Type</b>	<b>Intended Function</b>	<b>Material</b>	<b>Environment</b>	<b>Aging Effect Requiring Management</b>	<b>Aging Management Programs</b>	<b>NUREG-1801 Vol. 2 Item</b>	<b>Table 1 Item</b>	<b>Notes</b>
<u>Piping</u>	<u>Pressure boundary</u>	<u>Plastic</u>	<u>Air – indoor (int)</u>	<u>None</u>	<u>None</u>	=	=	<u>F</u>
<u>Piping</u>	<u>Pressure boundary</u>	<u>Plastic</u>	<u>Air – indoor (ext)</u>	<u>None</u>	<u>None</u>	=	=	<u>F</u>
<u>Piping</u>	<u>Pressure boundary</u>	<u>Plastic</u>	<u>Soil (ext)</u>	<u>None</u>	<u>None</u>	=	=	<u>F</u>
Strainer	Filtration	Carbon steel	Air – indoor (ext)	Loss of material	External Surfaces Monitoring	VII.I-8 (A-77)	3.3.1-58	A
Strainer	Filtration	Stainless steel	Air – indoor (ext)	None	None	VII.J-15 (AP-17)	3.3.1-94	A
Tubing	Pressure boundary	Stainless steel	Air – indoor (ext)	None	None	VII.J-15 (AP-17)	3.3.1-94	A

<b>Table 3.3.2-18-IP3: Plant Drains</b>								
<b>Component Type</b>	<b>Intended Function</b>	<b>Material</b>	<b>Environment</b>	<b>Aging Effect Requiring Management</b>	<b>Aging Management Programs</b>	<b>NUREG-1801 Vol. 2 Item</b>	<b>Table 1 Item</b>	<b>Notes</b>
Tubing	Pressure boundary	Stainless steel	Raw water (int)	Loss of material	One-Time Inspection	VII.C1-15 (A-54)	3.3.1-79	E
Valve body	Pressure boundary	Stainless steel	Air – indoor (ext)	None	None	VII.J-15 (AP-17)	3.3.1-94	A
Valve body	Pressure boundary	Stainless steel	Gas (int)	None	None	VII.J-19 (AP-22)	3.3.1-97	A
Valve body	Pressure boundary	Stainless steel	Raw water (int)	Loss of material	One-Time Inspection	VII.C1-15 (A-54)	3.3.1-79	E
Valve body	Pressure boundary	Stainless steel	Treated borated water (int)	Loss of material	Water Chemistry Control – Primary and Secondary	VII.E1-17 (AP-79)	3.3.1-91	C
<u>Valve body</u>	<u>Pressure boundary</u>	<u>Gray cast iron</u>	<u>Air – indoor (ext)</u>	<u>Loss of material</u>	<u>External Surfaces Monitoring</u>	<u>VII.I-8 (A-77)</u>	<u>3.3.1-58</u>	<u>A</u>
<u>Valve body</u>	<u>Pressure boundary</u>	<u>Gray cast iron</u>	<u>Air – indoor (int)</u>	<u>Loss of material</u>	<u>External Surfaces Monitoring</u>	<u>V.A-19 (E-29)</u>	<u>3.2.1-32</u>	<u>E</u>

LRA Section 3.3.2.1.15, Security Generator is revised as follows.

**Materials**

Security generator system components are constructed of the following materials.

- aluminum
- carbon steel
- ~~copper alloy > 15% zinc~~
- stainless steel
- fiberglass

**Aging Management Programs**

The following aging management programs manage the aging effects for security generator system components.

- Bolting Integrity
- Buried Piping and Tanks Inspection
- External Surfaces Monitoring
- Periodic Surveillance and Preventive Maintenance
- ~~Selective Leaching~~
- Water Chemistry Control – Closed Cooling Water

LRA Table 3.2.2-15-IP3, Security Generator Summary of Aging Management Review, is revised as follows.

<b>Table 3.3.2-15-IP3: Security Generator</b>								
<b>Component Type</b>	<b>Intended Function</b>	<b>Material</b>	<b>Environment</b>	<b>Aging Effect Requiring Management</b>	<b>Aging Management Programs</b>	<b>NUREG-1801 Vol. 2 Item</b>	<b>Table 1 Item</b>	<b>Notes</b>
Bolting	Pressure boundary	Carbon steel	Air – indoor (ext)	Loss of material	Bolting Integrity	VII.I-4 (AP-27)	3.3.1-43	A
Bolting	Pressure boundary	Stainless steel	Air – indoor (ext)	None	None	VII.J-15 (AP-17)	3.3.1-94	C
Filter housing	Pressure boundary	Carbon steel	Air – indoor (ext)	Loss of material	External Surfaces Monitoring	VII.I-8 (A-77)	3.3.1-58	A
Filter housing	Pressure boundary	Carbon steel	Air – indoor (int)	Loss of material	External Surfaces Monitoring	V.A-19 (E-29)	3.2.1-32	E
Flexible bellows	Pressure boundary	Carbon steel Stainless Steel	Air – indoor (ext)	Loss of material None	External Surfaces Monitoring None	VII.I-8 (A-77) VII.J-15 (AP-17)	3.3.1-58 3.3.1-94	C
Flexible bellows	Pressure boundary	Carbon steel Stainless Steel	Exhaust gas (int)	Cracking – fatigue	Periodic Surveillance and Preventive Maintenance	--	--	H



Table 3.3.2-15-IP3: Security Generator								
Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Programs	NUREG-1801 Vol. 2 Item	Table 1 Item	Notes
Flexible bellows	Pressure boundary	<del>Carbon steel</del> <u>Stainless Steel</u>	Exhaust gas (int)	Loss of material	Periodic Surveillance and Preventive Maintenance	VII.H2-2 (A-27)	3.3.1-18	E
Flexible connection	Pressure boundary	Stainless steel	Air – indoor (ext)	None	None	VII.J-15 (AP-17)	3.3.1-94	A
Flexible connection	Pressure boundary	Stainless steel	Gas (int)	None	None	VII.J-19 (AP-22)	3.3.1-97	A
Heat exchanger (bonnet)	Pressure boundary	<del>Copper alloy &gt; 15% Zn</del> <u>Fiberglass</u>	Air – indoor (ext)	None	None	<del>V.F-3 (EP-10)</del> --	<del>3.2.1-53</del> --	<del>G</del> E
Heat exchanger (bonnet)	Pressure boundary	<del>Copper alloy &gt; 15% Zn</del> <u>Fiberglass</u>	Treated water (int)	<del>Loss of material</del> <u>None</u>	<del>Water Chemistry Control – Closed Cooling Water</del> <u>None</u>	<del>VII.E1-2 (AP-34)</del> --	<del>3.3.1-51</del> --	<del>D</del> E
Heat exchanger (fins)	Heat transfer	Aluminum	Air – indoor (ext)	Fouling	Periodic Surveillance and Preventive Maintenance	--	--	H

Table 3.3.2-15-IP3: Security Generator								
Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Programs	NUREG-1801 Vol. 2 Item	Table 1 Item	Notes
Heat exchanger (tubes)	Heat transfer	Copper alloy > 15% Zn <u>Aluminum</u>	Air – indoor (ext)	Fouling	Periodic Surveillance and Preventive Maintenance	--	--	<del>G</del> F
Heat exchanger (tubes)	Heat transfer	Copper alloy > 15% Zn <u>Aluminum</u>	Treated water (int)	Fouling	Water Chemistry Control – Closed Cooling Water	VII.C2-2 (AP-80) =	3.3.1-52 =	<del>D</del> E
Heat exchanger (tubes)	Pressure boundary	Copper alloy > 15% Zn <u>Aluminum</u>	Air – indoor (ext)	None	None	V.F-3 (EP-10) =	3.2.1-53 =	<del>C</del> E
Heat exchanger (tubes)	Pressure boundary	Copper alloy > 15% Zn	Treated water (int)	Loss of material	Selective Leaching	VII.H2-12 (AP-43)	3.3.1-84	<del>A</del> 304
Heat exchanger (tubes)	Pressure boundary	Copper alloy > 15% Zn <u>Aluminum</u>	Treated water (int)	Loss of material	Water Chemistry Control – Closed Cooling Water	VII.E1-2 (AP-34) =	3.3.1-51 =	<del>D</del> E
Piping	Pressure boundary	Carbon steel	Air – indoor (ext)	Loss of material	External Surfaces Monitoring	VII.I-8 (A-77)	3.3.1-58	A

<b>Table 3.3.2-15-IP3: Security Generator</b>								
<b>Component Type</b>	<b>Intended Function</b>	<b>Material</b>	<b>Environment</b>	<b>Aging Effect Requiring Management</b>	<b>Aging Management Programs</b>	<b>NUREG-1801 Vol. 2 Item</b>	<b>Table 1 Item</b>	<b>Notes</b>
Piping	Pressure boundary	Carbon steel	Air – indoor (int)	Loss of material	External Surfaces Monitoring	V.A-19 (E-29)	3.2.1-32	E
Piping	Pressure boundary	Carbon steel	Exhaust gas (int)	Cracking – fatigue	Periodic Surveillance and Preventive Maintenance	--	--	H
Piping	Pressure boundary	Carbon steel	Exhaust gas (int)	Loss of material	Periodic Surveillance and Preventive Maintenance	VII.H2-2 (A-27)	3.3.1-18	E

LRA Section 2.3.3.12(IP2), Fire Protection – CO2, Halon, and RCP Oil Collection Systems, System Description, Unit 2, third paragraph, is revised as follows.

The fire protection – CO2, halon, and RCP oil collection system consists of fixed fire suppression systems utilizing ~~carbon dioxide (CO2)~~ and bromotrifluoromethane (Halon 1301) as well as oil leakage collection for the reactor coolant pumps (RCPs). The ~~CO2 and~~ halon systems consists of gas storage tanks and the necessary piping, valves, and instrumentation. The RCP oil collection system consists of drain pans, collection tanks and the necessary piping, valves, and instrumentation to collect any leakage of the RCP lube oil system.

LRA Section 2.4.3, Turbine Buildings, Auxiliary Buildings and Other Structures, Description, fourteenth section (Fuel Storage Buildings (IP2/3) is revised as follows.

*Fuel Storage Buildings (IP2/3)*

For Units 2 and 3, the fuel storage building is designed to handle and store both spent and new fuel and provides support for the spent fuel crane and other fuel handling equipment. In addition, the floor of IP2 provides support of a single-failure-proof gantry crane. Each structure is located adjacent to, but separate from, its respective containment building.