

July 11, 2017

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

James A FitzPatrick Nuclear Power Plant
Renewed Facility Operating License No. DPR-59
NRC Docket No. 50-333

Subject: Errors Identified in Response Provided to NRC during License Renewal Application Process

- References:
- (1) Letter, Entergy to USNRC, "James A. FitzPatrick Nuclear Power Plant, Docket No. 50-333, License No. DPR-59, License Renewal Application," JAFP-06-0109, dated July 31, 2006.
 - (2) Letter, Entergy to USNRC, "Entergy Nuclear Operations, Inc. James A. FitzPatrick Nuclear Power Plant Docket No. 50-333, License No. DPR-59 License Renewal Application, Amendment 6," JAFP-07-0021, dated February 12, 2007.
 - (3) Letter, Entergy to USNRC, "Entergy Nuclear Operations, Inc. James A. FitzPatrick Nuclear Power Plant Docket No. 50-333, License No. DPR-59 License Renewal Application, Amendment 9," JAFP-07-0048, dated April 6, 2007.
 - (4) "Safety Evaluation Report Related to the License Renewal of James A. FitzPatrick Nuclear Power Plant," ML080250372, dated February 2008.
 - (5) Letter, USNRC to Exelon Generation Company, LLC, "James A. FitzPatrick Nuclear Power Plant - Integrated Inspection Report 05000333/2017001," ML17128A109, dated May 8, 2017.

This letter provides corrections to information Entergy Nuclear Operations, Inc. (Entergy) previously submitted to the U.S. Nuclear Regulatory Commission (NRC) in letters dated July 31, 2006 (Reference 1), February 12, 2007 (Reference 2), and April 6, 2007 (Reference 3) relating to the Renewal Application for the James A. FitzPatrick Nuclear Power Plant (JAF) Facility Operating License. The information provided in the referenced letters is reflected in the License Renewal (LR) Safety Evaluation Report (SER) (Reference 4). The discrepancy between LR documentation and plant conditions


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was first identified by the NRC in January of 2017 during the R22 Refuel Outage and is the basis for an open Unresolved Item (URI 05000333/2017001-01), which is documented in the 1Q2017 Quarterly Inspection Report (Reference 5). The original incorrect information along with the corrected response is provided in Attachment 1.

Exelon Generation Company, LLC believes that the erroneous information Entergy provided does not have a material impact on the effectiveness of the affected Aging Management Program. Specifically, the Containment Inservice Inspection (CII) IWE Program is fully compliant with ASME Section XI requirements. This program requires augmented inspections of the interface between the drywell floor and drywell shell liner as described in IWE 1240. The augmented inspections have been completed as required during the period of extended operations. These inspections are required and performed regardless of whether a moisture barrier is installed or not.

Should you have any questions concerning this submittal, then please contact Christian Williams at 610-765-5729.

Respectfully,



David T. Gudger
Manager - Licensing & Regulatory Affairs
Exelon Generation Company, LLC

Attachment: 1) Summary of Incorrect and Corrected Information Provided During
JAF License Renewal

cc: Regional Administrator - NRC Region I
NRC Senior Resident Inspector James A. FitzPatrick Nuclear Power Plant
NRC Project Manager - James A. FitzPatrick Nuclear Power Plant

Attachment 1

**Summary of Incorrect and Corrected Information Provided
During JAF License Renewal**

ATTACHMENT 1

SUMMARY OF INCORRECT AND CORRECTED INFORMATION PROVIDED DURING JAF LICENSE RENEWAL

Requested Information / Source	ORIGINAL INFORMATION PROVIDED	CORRECTED INFORMATION
<i>Letter, Entergy to USNRC, "James A. FitzPatrick Nuclear Power Plant, Docket No. 50-333, License No. DPR-59, License Renewal Application," JAFP-06-0109, dated July 31, 2006 (Reference 1)</i>		
JAFP-06-0109 License Renewal Application Technical Information (Page 2.1-17)	<p><i>ISG-2006-01 Corrosion of the Mark I Steel Containment Drywell Shell</i></p> <p>The JAFNPP drywell steel shell and the moisture barrier where the drywell shell becomes embedded in the drywell concrete floor are inspected in accordance with the Containment Inservice Inspection (CII) IWE Program and Structures Monitoring Program. The exterior surface of the drywell shell at the sand cushion is effectively drained and protected from condensation or water that might enter the air gap from above and potentially cause corrosion. Therefore, significant corrosion of the JAF drywell is not expected. See Table 3.5.1, Item 3.5.1-5.</p>	<p><i>ISG-2006-01 Corrosion of the Mark I Steel Containment Drywell Shell</i></p> <p>The JAFNPP drywell steel shell and the interface at the drywell steel shell and concrete floor joint are inspected in accordance with the Containment Inservice Inspection (CII) IWE Program and the Structures Monitoring Program. The exterior surface of the drywell shell at the sand cushion is effectively drained and protected from condensation or water that might enter the air gap from above and potentially cause corrosion. Therefore, significant corrosion of the JAF drywell is not expected. See Table 3.5.1, Item 3.5.1-5.</p>
Table 2.4-1 Reactor Building Components Subject to Aging Management Review (Page 2.4-23)	<p>Moisture barrier: Shelter or protection [(EN) Provide shelter or protection to safety-related equipment (including HELB, radiation shielding and pipe whip restraint).] Support for criterion (a) (1) equipment [(SSR): Provide structural or functional support for safety-related equipment.]</p>	No moisture barrier exists at the interface between the drywell steel shell and the drywell concrete floor.
3.5.2.2.1.4 Loss of Material due to General, Pitting, and Crevice Corrosion (Page 3.5-7)	JAFNPP containment is a Mark I steel containment located within the reactor building. JAFNPP reactor building concrete in contact with the drywell shell is designed in accordance with specification ACI 318-63, Building Code Requirements for Reinforced Concrete. The concrete meets requirements of later ACI guide ACI 201.2R-77 since both documents	JAFNPP containment is a Mark I steel containment located within the reactor building. JAFNPP reactor building concrete in contact with the drywell shell is designed in accordance with specification ACI 318-63, Building Code Requirements for Reinforced Concrete. The concrete meets requirements of later ACI guide ACI 201.2R-77 since both documents use

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	use the same ASTM standards for selection, application and testing of concrete. Concrete is monitored for cracks under the Structures Monitoring Program. The drywell steel shell and the moisture barrier where the drywell shell becomes embedded in the drywell concrete floor are inspected in accordance with the Containment Inservice Inspection – IWE Program and Structures Monitoring Program.	the same ASTM standards for selection, application and testing of concrete. Concrete is monitored for cracks under the Structures Monitoring Program. The drywell steel shell and the interface at the drywell steel shell and concrete floor joint are inspected in accordance with the Containment Inservice Inspection – IWE Program and Structures Monitoring Program.
Table 3.5.1 Structures and Components, NUREG-1801 Vol. 1 [Page 3.5-20] LRA TI	Item Number 3.5.1-5 Discussion: Containment Inservice Inspection (CII) and Containment Leak Rate Program will manage this aging effect. Containment inservice inspection is a plant-specific program for JAFNPP. Corrosion is not significant for inaccessible areas (i.e., drywell steel shell). To prevent corrosion of the lower part of the drywell, the interior and exterior surfaces are protected from contact with the atmosphere by complete concrete encasement. Concrete is designed in accordance with ACI standards and monitored under the Structures Monitoring Program. The drywell steel shell and the moisture barrier where the drywell shell becomes embedded in the drywell concrete floor are inspected in accordance with the Containment Inservice Inspection (IWE) Program and Structures Monitoring Program. See Section 3.5.2.2.1.4.	Item Number 3.5.1-5 Corrected Discussion: Containment Inservice Inspection (CII) and Containment Leak Rate Program will manage this aging effect. Containment inservice inspection is a plant-specific program for JAFNPP. Corrosion is not significant for inaccessible areas (i.e., drywell steel shell). To prevent corrosion of the lower part of the drywell, the interior and exterior surfaces are protected from contact with the atmosphere by complete concrete encasement. Concrete is designed in accordance with ACI standards and monitored under the Structures Monitoring Program. The drywell steel shell and the interface at the drywell steel shell and concrete floor joint are inspected in accordance with the Containment Inservice Inspection (IWE) Program and Structures Monitoring Program. See Section 3.5.2.2.1.4.
Table 3.5.2.1 Reactor Building and Primary Containment (Page 3.5-64)	Structure and/or Component or Commodity: Moisture Barrier Notes: E: Consistent with NUREG-1801 material, environment, and aging effect but a different aging management program	Structure and/or Component or Commodity: Moisture Barrier Notes: JAF does not have a moisture barrier at the drywell shell and floor interface therefore this component is not applicable.

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<p>Letter, Entergy to USNRC, , “Entergy Nuclear Operations, Inc. James A. FitzPatrick Nuclear Power Plant Docket No. 50-333, License No. DPR-59 License Renewal Application, Amendment 6” JAFP-07-0021, dated February 12, 2007 (Reference 2)</p>		
<p>RAI 3.5.2-3 In Table 3.5.2-1 under Structure and/or Component or Commodity “Drywell shell,” JAFNPP CII and Containment Leak Rate Programs are credited to manage the loss of material due to general, pitting, and crevice corrosion. However, it was unclear to the staff how and when inspections were performed to verify that there has been no observed leakage causing moisture in the vicinity of the sand cushion at JAFNPP and no moisture has been detected or is suspected on the inaccessible areas of the drywell shell which would result in corrosion and wall thinning. If conditions exist, the staff requests the applicant to address proposed license renewal interim staff guidance LR-ISG-2006-01, “Plant Specific Aging Management Program for Inaccessible Areas of Boiling Water Reactor Mark 1 Steel Containment Drywell Shell,” which was published in the Federal Register on May 9, 2006. Also, the staff requests the applicant to</p>	<p><u>JAF Primary Containment Design</u> [...] With regard to the inner surface of the drywell, the gap seal between the concrete floor (Elevation 256’-6”) and the drywell shell is inspected for functionality. There have been no discernible signs of degradation in the sealant material or in the concrete and steel surfaces in the area of the seal.</p> <p><u>Operating Experience and Actions Taken to Prevent Drywell Corrosion</u> [...] The drywell shell to floor caulked seal is inspected every refueling outage. A general visual examination is performed looking for cracking, peeling, delaminating or separation of the seal, discoloration in the caulking material, and flexibility of the caulking. The caulk seal has not been removed or replaced.</p>	<p><u>JAF Primary Containment Design</u> [...] With regard to the inner surface of the drywell, the joint between the concrete floor (Elevation 256’-6”) and the drywell shell is inspected for degradation. There is no significant degradation in the concrete and steel surfaces in the area of the gap.</p> <p><u>Operating Experience and Actions Taken to Prevent Drywell Corrosion</u> [...] The drywell shell to floor joint is inspected every refueling outage per surveillance test ST-15B and once a period in accordance with the JAF IWE Program. Since JAF does not have a moisture barrier at the drywell shell to floor joint, augmented examinations per ASME Section XI, IWE-1241(a) and IWE-2500-1, E-C, Item Nos. E4.11 and E4.12 are performed once a period.</p>

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<p>provide significant findings during the implementation of, and subsequent examinations to GL 87-05, "Request for Additional Information-Assessment of Licensee Measures to Mitigate And/or Identify Potential Degradation of Mark I Drywells."</p>		
<p>Attachment 1 pg 17 of 27</p>	<p>JAFP-07-0021 Attachment 1 Page 17 of 27 contains a Sketch titled "Primary Containment Detail" which contains an arrow pointing to the Drywell floor surface to shell interface at El. 256'-6" with the words CAULK SEAL.</p>	<p>The referenced Sketch in this letter is not a controlled plant document. The reference to a CAULK SEAL with arrow should be deleted and the Sketch should be used to represent sand cushion information only.</p>
<p>Letter, Entergy to USNRC, , "Entergy Nuclear Operations, Inc. James A. FitzPatrick Nuclear Power Plant Docket No. 50-333, License No. DPR-59 License Renewal Application, Amendment 9" JAFP-07-0048, dated April 6, 2007. (Reference 3)</p>		
<p><i>(JAFNPP AMP and AMR Database Audit Questions associated with moisture barrier.)</i></p>		
<p>Audit Question #291: LR Request Section 3.5-8 AMR Item 3.5.1-16 - In Table 3.5.2-1 on page 3.5-64 of the LRA for Primary Containment Electrical Penetration seals and sealant, the AMP shown is Containment Leak Rate. The applicant is asked to confirm that AMP CII-IWE will not be used to manage the aging of the moisture barrier.</p>	<p>LR Response The "Structures Monitoring Program", AMP B.1.27.2 [Ref. LRA Table 3.5.2-1 Page 3.5-64], will manage aging effect of the drywell moisture barrier. The "Containment Leak Rate program", AMP B.1.8 [Ref. LRA Table 3.5.2-1 Page 3.5-64], will manage aging effect of the Primary Containment Electrical Penetration seals and sealant.</p>	<p>Revised LR Response The JAFNPP drywell does not have a moisture barrier, therefore an AMP is not required for this component. The "Containment Leak Rate program", AMP B.1.8 [Ref. LRA Table 3.5.2-1 Page 3.5-64], will manage aging effects of the Primary Containment Electrical Penetration seals and sealant.</p>

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<p>Audit Question #294: LR Request Section 3.5-11 AMR Item Number 3.5.1-16 - Under the discussion column, it states that seals and gaskets are not included in the Containment Inservice Inspection Program at JAFNPP. One of the components for this item number is moisture barriers. Explain how JAFNPP seals the joint between the containment drywell shell and the drywell concrete floor if there is no moisture barrier. Explain why the inspection of this joint is not part of the Containment Inservice Inspection (IWE) Program at FitzPatrick?</p>	<p>LR Response JAFNPP uses a moisture barrier to seal the joint between the containment drywell shell and drywell concrete floor. Moisture barrier is listed in LRA Table 3.5.2-1 as "moisture barrier". As indicated in LRA Table 3.5.2-1, aging effects on the moisture barrier will be managed under the "Structures Monitoring Program" (AMP B.1.27.1). The Structures Monitoring Program includes drywell interior inspections. Program inspections have confirmed no visible evidence of water collection or equipment leakage have been noted in the area of the moisture barrier caulk seal that would challenge the capability of the seal. The moisture barrier was noted to be in good condition and capable of performing its design function to provide an effective barrier to moisture from entering the interface between the concrete floor and steel shell.</p>	<p>Revised LR Response JAFNPP does not have a moisture barrier to seal the joint between the containment drywell shell and drywell concrete floor. JAFNPP does not seal the joint, thus the Containment Inservice Inspection (IWE) examination requirement for a moisture barrier does not apply. Augmented examinations of the drywell floor to joint interface area are performed in accordance with IWE-1240 as part of the Containment Inservice Inspection (IWE) Program.</p>
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