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JAFP-14-0024
February 28, 2014

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

Subject: Second Six-Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051)

James A. FitzPatrick Nuclear Power Plant
Docket No. 50-333
License No. DPR-059

Reference:

1. NRC Order Number, EA-12-051, Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation, ML12056A044, dated March 12, 2012
2. NRC Interim Staff Guidance, Compliance with Order EA-12-051, Reliable Spent Fuel Pool Instrumentation, JLD-ISG-2012-03, date August 29, 2012
3. Industry Guidance for Compliance with NRC Order EA-12-051, To Modify Licenses with Regard to Reliable Spent Fuel Pool Instrumentation, NEI 12-02, dated August 24, 2012
4. Entergy to NRC, Initial Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051), JAFP-12-0125, dated October 29, 2012
5. Entergy to NRC, James A. FitzPatrick Overall Integrated Plan in Response to March 12, 2012 Commission Order Modifying License with Regard to Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051), JAFP-13-0023, dated February 28, 2013

Dear Sir or Madam:

On March 12, 2012, the Nuclear Regulatory Commission ("NRC" or "Commission") issued an order [Reference 1] to Entergy. Reference 1 was immediately effective and directs Entergy to install reliable spent fuel pool level instrumentation. Specific requirements are outlined in Attachment 2 of Reference 1.

Reference 1 required submission of an initial status report 60 days following issuance of the final interim staff guidance (Reference 2) and an overall integrated plan pursuant to Section IV,

Condition C.2. Reference 2 endorses industry guidance document NEI 12-02, Revision 1 [Reference 3] with clarifications and exceptions identified in Reference 2. Reference 4 provided the Entergy initial status report regarding spent fuel pool instrumentation. Reference 5 provided the Entergy overall integrated plan.

Reference 1 requires submission of a status report at six-month intervals following submittal of the overall integrated plan. Reference 3 provides direction regarding the content of the status reports. The purpose of this letter is to provide the second six-month status report pursuant to Section IV, Condition C.2, of Reference 1, that delineates progress made in implementing the requirements of Reference 1. The attached report provides an update of milestone accomplishments since the last status report, including any changes to the compliance method, schedule, or need for relief/relaxation and the basis, if any.

This letter contains no new regulatory commitments. If you have any questions regarding this report, please contact Chris M. Adner, Regulatory Assurance Manager, at 315-349-6766.

I declare under penalty of perjury that the foregoing is true and correct. Executed on 28th day of February, 2014.

Sincerely,

Lawrence M. Coyle
Site Vice President

LMC/CMA/mh

Attachment: James A. FitzPatrick Nuclear Power Plant's (JAF's) Second Six-Month Status Report for the Implementation of Order EA-12-051, Order Modifying Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation

cc: Director, Office of Nuclear Reactor Regulation
NRC Regional Administrator
NRC Resident Inspector
Ms. Jessica A. Kratchman, NRR/JLD/PMB, NRC
Mr. Mohan Thadani, Senior Project Manager
Ms. Bridget Frymire, NYSPSC
Mr. Francis J. Murray Jr., President NYSERDA

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Attachment

James A. FitzPatrick Nuclear Power Plant's (JAF's) Second Six-Month Status Report for the Implementation of Order EA-12-051, Order Modifying Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation

(6 Pages)

James A. FitzPatrick Nuclear Power Plant's (JAF's) Second Six-Month Status Report for the Implementation of Order EA-12-051, Order Modifying Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation

1. Introduction

James A. FitzPatrick Nuclear Power Plant (JAF) developed an Overall Integrated Plan (Reference 1 in Section 8), documenting the requirements to install reliable spent fuel pool instrumentation (SFPI), in response to Reference 2. This attachment provides an update of milestone accomplishments since the last status report, including any changes to the compliance method, schedule, or need for relief/relaxation and the basis, if any.

2. Milestone Accomplishments

The following milestone(s) have been completed since August 28, 2013 and are current as of January 31, 2014.

- Respond to RAIs received August 29, 2013
- Although not part of the original milestone schedule, an Interim Staff Evaluation (ISE) was received December 12, 2013 [Reference 3]. The ISE also includes requests for additional information (RAIs) for NRC staff to complete its review. NRC staff clarified during the November 26, 2013 public meeting that the Interim Staff Evaluation questions supersede any previous requests for information issued by the staff concerning the spent fuel pool instrumentation [Reference 4]. Therefore, the RAIs dated August 29, 2013 [Reference 5] are considered superseded by the RAIs contained in the ISE. The addition of this milestone and target completion date does not impact the Order implementation date.

3. Milestone Schedule Status

The following provides an update to milestone schedule to support the Overall Integrated Plan. This section provides the activity status of each item, and the expected completion date noting any change. The dates are planning dates subject to change as design and implementation details are developed.

Milestone	Target Completion Date	Activity Status	Revised Target Completion Date
Submit 60 Day Status Report	October 2012	Complete	
Submit Overall Integrated Plan	February 2013	Complete	
Submit 6 Month Updates:			
Update 1	August 2013	Complete	
Update 2	February 2014	Complete	
Update 3	August 2014	Not Started	
Update 4	February 2015	Not Started	

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Milestone	Target Completion Date	Activity Status	Revised Target Completion Date
Update 5	August 2015	Not Started	
Update 6	February 2016	Not Started	
Update 7	August 2016	Not Started	
Modifications:			
Modifications Evaluation	2015	Not Started	
Design Engineering	2015	Not Started	
Implementation Outage	2016	Not Started	
Procedures:			
Create Procedures	2016	Not Started	
Training:			
Develop Training Plan	2016	Not Started	
Training Complete	2016	Not Started	
SFP LI Implementation	2016	Not Started	
Full Site SFPI Implementation	Fall of 2016	Not Started	
Submit Completion Report	2016	Not Started	
Respond to ISE RAIs received December 12, 2013 (Reference 3)	March 31, 2016	In Progress	
Respond to RAIs received August 29, 2013	October 3, 2013	Completed	

4. Changes to Compliance Method

There are no changes to the compliance method as documented in the Overall Integrated Plan [Reference 1].

5. Need for Relief/Relaxation and Basis for the Relief/Relaxation

JAF expects to comply with the order implementation date and no relief/relaxation is required at this time.

6. Open Items from Overall Integrated Plan and Interim Staff Evaluation

As discussed in Section 2, FitzPatrick has received an Interim Staff Evaluation that includes 18 RAIs. Responses to the RAIs are due by March 31, 2016 and are provided in Section 9 of this

six-month status report. The following table provides a status of any RAIs documented in the Interim Staff Evaluation.

RAI #	Response Status
1	In Progress
2	In Progress
3	In Progress
4	In Progress
5	In Progress
6	In Progress
7	In Progress
8	In Progress
9	In Progress

RAI #	Response Status
10	In Progress
11	In Progress
12	In Progress
13	In Progress
14	In Progress
15	In Progress
16	In Progress
17	In Progress
18	In Progress

7. Potential Interim Staff Evaluation Impacts

There are no potential impacts to the Interim Staff Evaluation identified at this time.

8. References

1. James A. FitzPatrick Overall Integrated Plan in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051), JAFP-13-0023, dated February 28, 2013.
2. NRC Order Number EA-12-051, "Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation," dated March 12, 2012.
3. James A. FitzPatrick Nuclear Power Plant – Interim Staff Evaluation and Request for Additional Information, Regarding the Overall Integrated Plan for Implementation of Order EA-12-051, Reliable Spent Fuel Pool Instrumentation (TAC NO. MF1076), dated December 12, 2013 (ML13338A645).
4. November 26, 2013, Public Meeting Summary for the Discussion Between the NRC Staff and Industry Concerning Responses to Staff Interim Evaluations for Spent Fuel Pool Instrumentation, dated December 26, 2013 (ML13347B030).
5. James A. FitzPatrick Nuclear Power Plant - Request for Additional Information Regarding Overall Integrated Plan for Reliable Spent Fuel Pool Instrumentation (Order EA-12-051) (TAC No. MF1076), dated August 29, 2013 (ML13226A534).
6. Response to Request for Additional Information for the Overall Integrated Plan for the Commission Order Modifying Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation, dated October 3, 2013 (JAFP-13-0132).

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9. Responses to the Interim Staff Evaluation Requests for Additional Information

RAI #1

Please provide information regarding specific procedures controlling irradiated hardware stored in the SFP. Include details of any analysis performed to determine the projected dose rate impact and the appropriate Level 2 elevation as a result of dose from irradiated material stored in the SPF.

This response will be provided in a future update.

RAI #2

Please provide the results of the analyses used to verify the design criteria and methodology for seismic testing of the SFP instrumentation and the electronics units, including design basis maximum seismic loads and the hydrodynamic loads that could result from pool sloshing or other effects that could accompany such seismic forces.

This response will be provided in a future update.

RAI #3

For each of the mounting attachments required to fasten SFP Level equipment to plant structures, please describe the design inputs and the methodology that was used to qualify the structural integrity of the affected structures/equipment.

This response will be provided in a future update**.**

RAI #4

Please provide further information to describe how other material stored in the SFP will not create adverse interaction with the fixed instrument location(s).

This response will be provided in a future update.

RAI #5

Please provide analysis of the maximum expected radiological conditions (dose rate and total integrated dose) to which the sensor electronics (including power boxes, signal processors, and display panels) will be exposed. Also, provide documentation indicating the maximum total integrated dose the sensor electronics can withstand and how it was determined. Discuss the time period over which the analyzed total integrated dose was applied.

This response will be provided in a future update.

RAI #6

Please provide information indicating (a) the maximum expected ambient temperature in the room in which the sensor electronics will be located under BDB conditions, with no ac power available to run Heating Ventilation and Air Conditioning (HVAC) systems; and, (b) whether the sensor electronics are capable of continuously performing required functions under this expected temperature condition.

This response will be provided in a future update.

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RAI #7

Please provide information indicating (a) the maximum expected relative humidity in the room in which the sensor electronics will be located under BDB conditions, with no ac power available to run HVAC systems; and, (b) whether the sensor electronics are capable of continuously performing required functions under this expected humidity condition.

This response will be provided in a future update.

RAI #8

Please provide a description of the specific method or combination of methods you intend to apply to demonstrate the reliability of the permanently installed equipment under BDB shock and vibration conditions.

This response will be provided in a future update.

RAI #9

For RAI #8 above, please provide the results for the selected methods, tests and analyses used to demonstrate the qualification and reliability of the installed equipment in accordance with the Order requirements.

This response will be provided in a future update.

RAI #10

Please provide the vendor analysis and seismic testing results and show the SFP level instrument performance reliability, following exposure to simulated seismic conditions representative of the environment anticipated for the SFP structures at JAF, has been adequately demonstrated.

This response will be provided in a future update.

RAI #11

Please provide the NRC staff with the final configuration of the power supply source for each channel so the staff may conclude the two channels are independent from a power supply assignment perspective.

This response will be provided in a future update.

RAI #12

Please provide the results of the calculation depicting the battery backup duty cycle requirements demonstrating battery capacity is sufficient to maintain the level indication function until offsite resource availability is reasonably assured.

This response will be provided in a future update.

RAI #13

Please provide an analysis verifying the proposed instrument performance is consistent with these estimated normal and BDB accuracy values. Demonstrate that the channels will retain these accuracy performance values following a loss of power and subsequent restoration of power.

This response will be provided in a future update.

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RAI #14

Please provide a description of the methodology to be used for determining the maximum allowed deviation from the instrument channel design accuracy under normal operating conditions. Staff understands this allowed deviation will serve as an acceptance criterion for a calibration procedure to alert operators and technicians that the channel requires adjustment to within normal design accuracy.

This response will be provided in a future update.

RAI #15

Please provide a description of the in-situ calibration process at the SFP location that will result in the channel calibration being maintained at its design accuracy.

This response will be provided in a future update.

RAI #16

For the SFP level instrumentation displays located outside the main control room, please describe the evaluation used to validate the display location can be accessed without unreasonable delay following a BDB event. Include the time available for personnel to access the display as credited in the evaluation, as well as the actual time (e.g., based on walkthroughs) that it will take for personnel to access the display. Include a description of the radiological and environmental conditions on the paths personnel might take. Describe whether the display location remains habitable for radiological, heat and humidity, and other environmental conditions following a BDB event. Describe whether personnel are continuously stationed at the display or monitor the display periodically.

This response will be provided in a future update.

RAI #17

Please provide a list of the procedures addressing operation (both normal and abnormal response), calibration, test, maintenance, and inspection that will be developed for use of the SFP instrumentation. Include a brief description of the specific technical objectives to be achieved within each procedure.

This response will be provided in a future update.

RAI #18

Please provide further information describing the maintenance and testing program to be established and implemented to ensure that regular testing and calibration is performed and verified by inspection and audit to demonstrate conformance with design and system readiness requirements. Include a description of plans to ensure necessary channel checks, functional tests, periodic calibration, and maintenance will be conducted for the level measurement system and its supporting equipment.

This response will be provided in a future update.