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Joseph E. Pacher
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JAFP-17-0063
June 29, 2017

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

Subject: Exelon - James A. FitzPatrick Sixth Six-Month Status Report in Response to June 6, 2013 Commission Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions (Order Number EA-13-109)

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

Reference:

1. NRC Order, Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions, EA-13-109, dated June 6, 2013
2. NRC Interim Staff Guidance, Compliance with Order EA-13-109, Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions, Revision 0, JLD-ISG-2013-02, dated November 2013
3. NRC Interim Staff Guidance, Compliance with Phase 2 of Order EA-13-109, Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation under Severe Accident Conditions, Revision 0, JLD-ISG-2015-01, dated April 2015
4. NEI document, Industry Guidance for Compliance with NRC Order EA-13-109: BWR Mark I & II Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions, Revision 1, NEI 13-02, dated April 2015
5. ENOI letter, James A. FitzPatrick Overall Integrated Plan In Response To June 6, 2013 Commission Order Modifying License With Regard To Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions (Order Number EA-13-109), JAFP-14-0075, dated June 30, 2014
6. ENOI letter, James A. FitzPatrick Phase 2 Overall Integrated Plan In Response To June 6, 2013 Commission Order Modifying License With Regard To Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions (Order Number EA-13-109), JAFP-15-0149, dated December 29, 2015

Dear Sir or Madam:

On June 6, 2013, the Nuclear Regulatory Commission ("NRC" or "Commission") issued Order EA-13-109 to James A. FitzPatrick Nuclear Power Plant (JAF) [Reference 1]. EA-13-109 directs JAF to install a reliable hardened venting capability in accordance with the requirements detailed in the Order, including:

> A Phase 1 Overall Integrated Plan pursuant to Section IV, Condition D.1. Reference 2 endorses industry guidance document NEI 13-02, Revision 0 with clarifications and exceptions identified in Reference 2. Reference 5 provided the JAF's Phase 1 Overall Integrated Plan.
>
> A Phase 2 Overall Integrated Plan pursuant to Section IV, Condition D.2. Reference 3 endorses industry guidance document NEI 13-02, Revision 1 [Reference 4]. Reference 6 provided the JAF's Phase 2 Overall Integrated Plan.
>
> Submission of a status report at six-month intervals following submittal of the Overall Integrated Plan phase 1 [Reference 5] pursuant to Section IV, Condition D.3. NEI 13-02 [Reference 4] provides direction regarding the content of the status reports.

The purpose of this letter is to provide the sixth six-month status report, which delineates progress made in implementing the requirements of EA-13-109. Attachment 1 provides an update to milestone status, including any changes to the compliance method, schedule, or possible need for relief and the basis. The status update for responses to Phase 1 and 2 Interim Staff Evaluation Open Items as part of Attachment 1 is provided in Attachments 2 and 3.

This letter contains no new regulatory commitments. If you have any questions regarding this report, please contact Mr. William C. Drews, Regulatory Assurance Manager, at 315-349-6562.

I declare under penalty of perjury that the foregoing is true and correct; executed on June 29, 2017.

Sincerely,

Joseph E. Pacher
Site Vice President

JEP/WCD/mh

Attachment 1: James A. FitzPatrick (JAF) Nuclear Power Plant's Sixth Six Month Status Report for the Implementation of Order EA-13-109, "Order to Modify Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions"
2: Response to Phase 1 Interim Staff Evaluation Open Items
3: Response to Phase 2 Interim Staff Evaluation Open Items

cc: Director, Office of Nuclear Reactor Regulation
NRC Regional Administrator
NRC Resident Inspector
NRC Project Manager
NYSPSC
NYSERDA

JAFP-17-0063

Attachment 1

James A. FitzPatrick (JAF) Nuclear Power Plant's Sixth Six Month Status Report for the Implementation of Order EA-13-109, "Order to Modify Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions"

(4 Pages)

James A. FitzPatrick (JAF) Nuclear Power Plant's Sixth Six Month Status Report for the Implementation of Order EA-13-109, "Order to Modify Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions"

1 Introduction

JAF developed a Phase 1 Overall Integrated Plan (Reference 2) and a Phase 2 Overall Integrated Plan (Reference 3), documenting the installation of a Hardened Containment Vent System (HCVS) that provides a reliable hardened venting capability in response to NRC Order Number EA-13-109 (Reference 1). This attachment provides an update of milestone accomplishments since submittal of the Phase 1 Overall Integrated Plan, Phase 2 Overall Integrated Plan, and the subsequent Six Month Status Reports, 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 the development of the Phase 1 Overall Integrated Plan (Reference 2) and Phase 2 Overall Integrated Plan (Reference 3), and are current as of June 1, 2017. (See Section 3)

- Submitted Sixth 6 Month Status Report by letter JAFP-17-0063.
- While not listed as a specific milestone, the required HCVS offline (outage) installation activities were completed in February 2017.

3 Milestone Schedule Status

The following provides an update to Part 5 of the Phase 1 Overall Integrated Plan (Reference 2) and Part 5 of the Phase 2 Overall Integrated Plan (Reference 3). It provides the status of each item, and whether the expected completion date has changed. The dates are planning dates subject to change as design and implementation details are developed.

JAF - Phase 1 and Phase 2 Specific Milestone Schedule

Milestone	Target Completion Date	Activity Status	Comments
Phase 1			
Hold preliminary / conceptual design meeting	Jan 2014	Complete	
Submit Overall Integrated Implementation Plan	Jun 2014	Complete	
Submit 6 Month Status Report	Dec 2014	Complete	
Submit 6 Month Status Report	Jun 2015	Complete	
Design Engineering On-site/Complete	Dec 2015	Complete	
Submit 6 Month Status Report	Dec 2015	Complete	
Submit 6 Month Status Report	Jun 2016	Complete	
Submit 6 Month Status Report	Dec 2016	Complete	
Submit 6 Month Status Report	Jun 2017	Complete with this submittal	

James A. FitzPatrick (JAF) Nuclear Power Plant's Sixth Six Month Status Report for the Implementation of Order EA-13-109, "Order to Modify Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions"

Milestone	Target Completion Date	Activity Status	Comments
Submit 6 Month Status Report	Dec 2017	Not Started	
Operations Procedure Changes Developed	April 2018	Not Started	
Site Specific Maintenance Procedure Developed	April 2018	Not Started	
HCVS Installation Complete	May 2018	Started	
Procedure Changes Active	Jun 2018	Not Started	
Walk Through Demonstration/Functional Test	Jun 2018	Not Started	
Training Complete	Jun 2018	Not Started	
HCVS Phase 1 Compliance	Jun 2018	Not Started	
Submit Completion Report	Nov 2018*	Not Started	
Phase 2			
Hold preliminary/conceptual design meeting	Oct 2015	Complete	
Submit Overall Integrated Implementation Plan	Dec 2015	Complete	
Submit 6 Month Status Report	Jun 2016	Complete	
Submit 6 Month Status Report	Dec 2016	Complete	
Submit 6 Month Status Report	Jun 2017	Complete with this submittal	
Design Engineering On-site/Complete	Oct 2017*	Started	
Submit 6 Month Status Report	Dec 2017	Not Started	
Operations Procedure Changes Developed	Jun 2018	Not Started	
Site Specific Maintenance Procedure Developed	Jun 2018	Not Started	
Training Complete	Jun 2018	Not Started	
Submit 6 Month Status Report	Jun 2018	Not Started	
Implementation Outage	Sep 2018	Not Started	
Walk Through Demonstration/Functional Test	Sep 2018	Not Started	
Procedure Changes Active	Sep 2018	Not Started	
Submit Completion Report	Nov 2018	Not Started	

*Date changed for this six month update

James A. FitzPatrick (JAF) Nuclear Power Plant's Sixth Six Month Status Report for the Implementation of Order EA-13-109, "Order to Modify Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions"

4 Changes to Compliance Method

The JAF design changes to the HCVS will continue to meet the requirements of Order EA-13-109 (Reference 1). There is a clarification to the information presented in the JAF HCVS OIPs based on the final detailed design. The following clarification is described based on the applicable Order section items as well as the applicable sections in the Overall Integrated Plan.

Phase 1

Phase 1 Overall Integrated Plan (Reference 2): Part 2 [BDBEE Venting, Greater than 24 Hour Coping Detail; HCVS Support Equipment Functions, BDBEE Venting, Severe Accident Venting]; Order EA-13-109 (Reference 1) Item 1.2.4, 1.2.8, 1.29

The HCVS battery charger will be normally powered from a 120V AC Non-safety related lighting panel via standard receptacle in lieu of a 600V AC power source and transformer repowered by a FLEX DG (as stated in the OIP). The battery charger will be repowered within 24 hours via extension cords from the FLEX DG. This compliance method meets NEI 13-02.

Phase 2

There is no change to the compliance method that meets NEI 13-02 (Reference 4).

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

On January 9, 2017, James A. FitzPatrick received approval for an extension until June 30, 2018 to comply with requirements for implementation of Phase 1 (wetwell) vent at JAF (Reference 9). JAF expects to comply with the Phase 2 order implementation date and no relief/relaxation for Phase 2 is required at this time.

6 Open Items from Overall Integrated Plan and Interim Staff Evaluation

The following tables provide a summary of the open items documented in the Phase 1 and Phase 2 Overall Integrated Plan and the status of each item.

Overall Integrated Plan Phase 1 & 2 Open Items	Status
Phase 1	
None	
Phase 2	
Complete hydraulic analysis of diesel fire pump for SAWA / SAWM flowrates	Started
Identify and evaluate severe accident conditions for Phase 2 manual actions.	Started
The FLEX Engineering Change (EC 52736) has not been completed; therefore, any reference to this information is considered unverified.	Complete; Approved December 2016

James A. FitzPatrick (JAF) Nuclear Power Plant's Sixth Six Month Status Report for the Implementation of Order EA-13-109, "Order to Modify Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions"

Open items from the Phase 1 Interim Staff Evaluation (Reference 7) are provided in Attachment 2 to this letter. Open items from the Phase 2 Interim Staff Evaluation (Reference 8) are provided in Attachment 3 to this letter.

7 Interim Staff Evaluation Impacts

There are no potential impacts to the Phase 1 or 2 Interim Staff Evaluation (Reference 7 and 8) identified at this time.

8 References

The following references support the updates to the Phase 1 & 2 Overall Integrated Plan described in this attachment.

1. NRC Order Number EA-13-109, Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions dated June 6, 2013 (ML13143A321).
2. Letter JAFP-14-0075, James A. FitzPatrick Overall Integrated Plan in Response to June 6, 2013 Commission Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions (Order Number EA-13-109), dated June 30, 2014 (ML14181B117).
3. Letter JAFP-15-0149, James A. FitzPatrick Phase 2 Overall Integrated Plan In Response To June 6, 2013 Commission Order Modifying License With Regard To Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions (Order Number EA-13-109), dated December 29, 2015 (ML15365A593).
4. NEI 13-02, Industry Guidance for Compliance with Order EA-13-109: BWR Mark I & II Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions, Revision 1, dated April 2015 (ML15113B318).
5. NRC Interim Staff Guidance, JLD-ISG-2013-02, Compliance with Order EA-13-109, Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions, Revision 0, dated November 2013 (ML13304B836).
6. NRC Interim Staff Guidance, JLD-ISG-2015-01, Compliance with Phase 2 of Order EA-13-109, Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation under Severe Accident Conditions, Revision 0, dated April 2015 (ML15104A118)
7. James A. FitzPatrick Nuclear Power Plant – Interim Staff Evaluation Relating to Overall Integrated Plan in Response to Phase 1 of Order EA-13-109 (Severe Accident Capable Hardened Vents), dated February 12, 2015, (ML15007A090).
8. James A. FitzPatrick Nuclear Power Plant – Interim Staff Evaluation Relating to Overall Integrated Plan in Response to Phase 2 of Order EA-13-109 (Severe Accident Capable Hardened Vents), dated December 16, 2016, (ML16343B030).
9. NRC letter, James A. FitzPatrick Nuclear Power Plant – Relaxation of the Schedule Requirements for Order EA-13-109: Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operations Under Severe Accident Conditions (CAC No. MF4464), dated January 9, 2017, (ML16336A754).

JAFP-17-0063

Attachment 2

Response to Phase 1 Interim Staff Evaluation Open Items

(5 Pages)

Response to Phase 1 Interim Staff Evaluation Open Items

Item #	Phase 1 Interim Staff Evaluation Open Items	Status
ISE-1	Make available for NRC staff audit analyses demonstrating that HCVS has the capacity to vent the steam/energy equivalent of one (1) percent of licensed/rated thermal power (unless a lower value is justified), and that the suppression pool and the HCVS together are able to absorb and reject decay heat, such that following a reactor shutdown from full power containment pressure is restored and then maintained below the primary containment design pressure and the primary containment pressure limit.	**COMPLETE** James A. FitzPatrick Nuclear Power Plant (JAF) is capable of (a) venting the equivalent of (1) percent of licensed/rated thermal power and (b) the Torus is capable of absorbing the decay heat for the first three hours to maintain the integrity of primary containment. Auditable analyses to justify the capability of the Torus, as described in this action, have been issued as calculation JAF-CALC-14-00015 (part of the approved design change package EC 52721) and calculation JAF-CALC-15-00026 (part of the approved design change package EC 58158). For additional discussion, see EC 52721 Topic Notes Section 3.1.7 entitled “Hydraulic Requirements”.
ISE-2	Make available for NRC staff audit the seismic and tornado missile final design criteria for the HCVS stack.	**COMPLETE** The Hardened Containment Venting System (HCVS) piping from the Torus to the discharge above the Reactor Building (RB) Roof is designed to be seismically rugged as supported by calculations JAF-CALC-14-00017, JAF-CALC-15-00008, JAF-CALC-15-00033, and JAF-CALC-14-00016 (part of the approved design change package EC 52721). Protection from tornado missiles is acceptable in accordance with evaluations based on the HCVS-WP-04 guidance. See EC 52721 Topic Notes Section 3.1.3 entitled “Structural Requirements”. Specifically, see the associated subsection entitled “Tornado Missiles”.

Response to Phase 1 Interim Staff Evaluation Open Items

Item #	Phase 1 Interim Staff Evaluation Open Items	Status
ISE-3	Make available for NRC staff audit the final sizing evaluation for HCVS batteries/battery charger including incorporation into FLEX DG loading calculation.	**COMPLETE** The HCVS Battery System will support a minimum of 24 hours of operation. Refer to EC 52721 Topic Notes, Section 3.1.4 entitled "Electrical Requirements." Specifically, refer to the subsections entitled "Battery Selection and Sizing," "Battery Charger Selection and Sizing," and the associated Engineering Change (EC) attachment, P2e Sequence No. 6.003. The HCVS battery load has been incorporated into the FLEX Disel Generator (DG) via approved EC 52736 (FLEX Strategy) and associated calculation JAF-CALC-15-00031.
ISE-4	Make available for NRC staff audit documentation of the HCVS nitrogen pneumatic system design including sizing and location.	**COMPLETE** The HCVS pneumatic system design sizing will be capable of 12 cycles in the first 24 hours. The sizing of the nitrogen motive force and purge systems is provided in calculations JAF-CALC-15-00013 and JAF-CALC-15-00038, respectively (part of the approved design change package EC 52721). For additional discussion, see EC 52721 Topic Notes Section 3.1.6.3 entitled “Cross Flow & Hydrogen Detonation”. Specifically, see the associated subsection entitled “HCVS Pipeline Protection”.
ISE-5	Provide a description of the final design of the HCVS to address hydrogen detonation and deflagration.	**COMPLETE** The JAF strategy for preventing hydrogen detonation and deflagration beyond the final isolation point (valve) is a nitrogen purge system. Concurrent with closing the isolation valve, the purge system will be initiated to purge the vented fluid from the HCVS pipeline. For additional discussion, see EC 52721 Topic Notes Section 3.1.6.3 entitled “Cross Flow & Hydrogen Detonation”. Specifically, see the associated subsection entitled “HCVS Pipeline Protection”.

Response to Phase 1 Interim Staff Evaluation Open Items

Item #	Phase 1 Interim Staff Evaluation Open Items	Status
ISE-6	Provide a description of the strategies for hydrogen control that minimizes the potential for hydrogen gas migration and ingress into the reactor building or other buildings.	**COMPLETE** At JAF, the interfaces between the RB and the HCVS pipeline are limited to normally closed, small bore drain and instrument valves minimizing the hydrogen gas migration and ingress into the Reactor Building. In addition, migration to the Standby Gas Treatment System is minimized through the use of existing Class VI Motor Operator Valves (MOV) that will be leak tested in accordance with NEI 13-02. For additional discussion, see EC 52721 Topic Notes Section 3.1.6.3 entitled "Cross Flow & Hydrogen Detonation". Specifically, see the associated subsection entitled "Interconnecting Systems".
ISE-7	Make available for NRC staff audit descriptions of all instrumentation and controls (existing and planned) necessary to implement this order including qualification methods.	**STARTED** The required instrumentation and controls (existing and new) are identified as part of the JAF Overall Integrated Plan (OIP), Part 2. The qualification of the equipment has been described within the approved design change package EC 52721; however, additional documentation must be supplied by vendors before this item is completed. Upon completion, the evaluations will be posted to ePortal.
ISE-8	Make available for NRC staff audit documentation of a seismic qualification evaluation of HCVS components.	**STARTED** The qualification of the equipment has been described within the approved design change package EC 52721; however, additional documentation must be supplied by vendors before this item is completed. Upon completion, the evaluations will be posted to ePortal.

Response to Phase 1 Interim Staff Evaluation Open Items

Item #	Phase 1 Interim Staff Evaluation Open Items	Status
ISE-9	Make available for NRC staff audit the descriptions of local conditions (temperature, radiation and humidity) anticipated during ELAP and severe accident for the components (valves, instrumentation, sensors, transmitters, indicators, electronics, control devices, etc.) required for HCVS venting including confirmation that the components are capable of performing their functions during ELAP and severe accident conditions.	**STARTED** The approved design change package EC 52721 describes the conditions and capability of the equipment to function within the stated conditions. The qualification of the equipment has been described within the approved design change package EC 52721; however, additional documentation must be supplied by vendors before this item is completed. Upon completion, the evaluations will be posted to ePortal.
ISE-10	Make available for NRC staff audit documentation of an evaluation verifying the existing containment isolation valves, relied upon for the HCVS, will open under the maximum expected differential pressure during BDBEE and severe accident wetwell ventinq.	**COMPLETE** At JAF, the existing Primary Containment Isolation Valves (PCIV) (27AOV-117 and -118) that will be part of the EA-13-109 HCVS flow path are currently a part of the Generic Letter (GL) 89-16 containment hardened pipe flow path. Calculation 14620.9011-US(N)-004 "Suppression Chamber (20") & Drywell (24") Vent & Purge Butterfly Valves based on RELAP 5/MOD2 56 psig and 62 psig Results" concludes the valves can be opened against the maximum expected differential pressure during an Order EA-13-109 event, the primary containment pressure limit of 62 psig.
ISE-11	Make available for NRC staff audit documentation that demonstrates adequate communication between the remote HCVS operation locations and HCVS decision makers during ELAP and severe accident conditions.	**COMPLETE** JAF utilizes the site Ultra-High Frequency (UHF) security radio system (Ref. EC 53903) to communicate between the Main Control Room (MCR) and the operator at the HCVS control location. This communication method is the same as accepted in Order EA-12-049. These items will be powered and remained powered using the same methods as evaluated under EA-12-049 for the period of sustained operation.

Response to Phase 1 Interim Staff Evaluation Open Items

Item #	Phase 1 Interim Staff Evaluation Open Items	Status
ISE-12	Make available for NRC staff audit an evaluation of temperature and radiological conditions to ensure that operating personnel can safely access and operate controls and support equipment.	**COMPLETE** The approved design change package EC 52721, along with supporting calculations, has identified the anticipated conditions during Extended Loss of AC Power (ELAP) and a Severe Accident and confirm the capability for operating personnel to safely access and operate controls and support equipment. For additional discussion, see EC 52721 Topic Notes Section 3.1.11.3 entitled “HCVS Manual Actions”.

JAFP-17-0063

Attachment 3

Response to Phase 2 Interim Staff Evaluation Open Items

(4 Pages)

Response to Phase 2 Interim Staff Evaluation Open Items

Item #	Phase 2 Interim Staff Evaluation Open Items	Status
ISE-1	Licensee to evaluate the SAWA equipment and controls, as well as the ingress and egress paths for the expected severe accident conditions (temperature, humidity, radiation) for the sustained operating period.	**STARTED** Temperature and Humidity The location of Severe Accident Water Addition (SAWA) equipment and controls including ingress and egress paths that are the same or similar as FLEX will be bounded by the FLEX evaluations for temperature and humidity. Ingress and Egress For locations inside the Reactor Building between 1 and 7 hours when SAWA is being deployed, JAF has performed a preliminary quantitative evaluation of expected dose rates per HCVS-FAQ-12 and found the dose rates at deployment locations including ingress/egress paths are acceptable. For locations outside the Reactor Building between 7 hours and 7 days when SAWA is being utilized, JAF has performed a preliminary quantitative evaluation of expected dose rates per HCVS-WP-02 and found the dose rates at deployment locations including ingress/egress paths are acceptable. Upon completion, the evaluations will be posted to ePortal.

Response to Phase 2 Interim Staff Evaluation Open Items

Item #	Phase 2 Interim Staff Evaluation Open Items	Status
ISE-2	Licensee to demonstrate how instrumentation and equipment being used for SAWA and supporting equipment is capable to perform for the sustained operating period under the expected temperature and radiological conditions.	**STARTED** Equipment and Controls Plant instrumentation for SAWA that is qualified to Regulatory Guide (RG) 1.97 or equivalent is considered qualified for the sustained operating period without further evaluation. The following plant instruments are qualified to RG 1.97: • Drywell Pressure: 27PI-115A1, 2 • Drywell Pressure: 27PI-115B1, 2 • Torus Water Level: 23LI-202A, B Passive components that do not need to change state after initially establishing SAWA flow do not require evaluations. The following additional equipment performing an active SAWA/Sever Accident Water Management (SAWM) function is considered for temperature and radiation effects: • SAWA/SAWM flow instrument • SAWA/SAWM pump (FLEX pump) • SAWA/SAWM generator (FLEX generator) • Active valves in SAWA flow path Temperature The location of SAWA equipment and controls that are the same or similar as FLEX will be bounded by the FLEX evaluations for temperature and humidity. Radiation The in-progress Phase 2 detailed design will address equipment and controls inside and outside the Reactor Building between 1 hour and 7 days, when SAWA is being utilized. Upon completion, the evaluations will be posted to ePortal.

Response to Phase 2 Interim Staff Evaluation Open Items

<table>
<tr><th>Item #</th><th>Phase 2 Interim Staff Evaluation Open Items</th><th>Status</th></tr>
<tr><td>ISE-3</td><td>Licensee to demonstrate that containment failure as a result of overpressure can be prevented without a drywell vent during severe accident conditions.</td><td>
STARTED

The wetwell vent has been designed and will be installed to meet NEI 13-02 Rev 1 guidance, which will ensure that it is adequately sized to prevent containment overpressure under severe accident conditions (Ref. JAF-CALC-14-00015).

The SAWM strategy will ensure that the wetwell vent remains functional for the period of sustained operation. JAF will follow the guidance (flow rate and timing) for SAWA/SAWM described in BWROG-TP-15-008 and BWROG-TP-15-011. These documents have been posted to the ePortal for NRC staff review.

The wetwell vent will be opened prior to exceeding the PCPL value of 62 PSIG. Therefore, containment over pressurization is prevented without the need for a drywell vent.

JAF is bounded by the reference plant analysis that shows the SAWM strategy is successful in making it unlikely that a drywell vent is needed as demonstrated by the following table.
<table>
<tr><th>Reference Plant</th><th>James A. FitzPatrick</th></tr>
<tr><td>Torus freeboard volume is 525,000[2] gallons</td><td>Torus freeboard volume is preliminarily determined to be 813,000 gallons</td></tr>
<tr><td>SAWA flow is 500 GPM at 8 hours followed by 100 GPM from 12 hours to 168 hours</td><td>SAWA flow is 361 GPM at 8 hours followed by 73 GPM from 12 hours to 168 hours</td></tr>
<tr><td colspan="2">The above parameters for JAF compared to the reference plant that determine success of the SAWM strategy demonstrate that the reference plant values are bounding. Therefore, the SAWM strategy implemented at JAF makes it unlikely that a Drywell (DW) vent is needed to prevent containment overpressure related failure.</td></tr>
</table>
</td></tr>
</table>

[2] Peach Bottom available freeboard volume in gallons is estimated from nominal water level of 14.7 feet to 21 feet. 21 feet is the upper range of the wide range torus level instrument and the assumed loss of wetwell vent function. The Peach Bottom torus is 31 feet in diameter.

Response to Phase 2 Interim Staff Evaluation Open Items

<table>
<tr><th>Item #</th><th>Phase 2 Interim Staff Evaluation Open Items</th><th>Status</th></tr>
<tr><td>ISE-4</td><td>Licensee to demonstrate that there is adequate communication between the primary HCVS operating station and the operator at the FLEX supply hose splitter valve during severe accident conditions.</td><td>COMPLETE
JAF utilizes the site Ultra-High Frequency (UHF) security radio system (Ref. EC 53903) to communicate between the MCR and the operator at the SAWA/SAWM flow control location. This communication method is the same as accepted in Order EA-12-049. These items will be powered and remained powered using the same methods as evaluated under EA-12-049 for the period of sustained operation.</td></tr>
<tr><td>ISE-5</td><td>Licensee to demonstrate the SAWA/SAWM flow instrumentation qualification for the expected environmental conditions.</td><td>STARTED
JAF will utilize a four inch size Seametrics AG2000 flowmeter. The flow meter will be deployed in the Diesel Fire Pump room which is part of the plant circulating water Screen House building which is located a substantial distance from the Hardened Containment Venting System (HCVS) vent line and is well shielded from the expected HCVS vent line dose.
For locations outside the Reactor Building between 7 hours and 7 days when SAWA is being utilized, JAF performed a qualitative evaluation of equipment and deployment locations and confirmed they are protected by buildings with substantial shielding to minimize dose rates. The selected instrument is designed for the expected flow rate, temperature and pressure for SAWA over the period of sustained operation. The instrument qualification for pressure, temperature and flow provided in the table below is from the product technical data.
<table>
<tr><th>SAWA Flow Instrument Qualification</th><th>Expected SAWA Parameter Range</th></tr>
<tr><td>12 – 1,000 GPM</td><td>73 - 361 GPM</td></tr>
<tr><td>10 – 130 °F Operating
-40 to 158 °F Storage</td><td>40 - 119 °F</td></tr>
<tr><td>0 – 150 PSI Working Pressure</td><td>0 – 143 PSIG</td></tr>
</table></td></tr>
</table>