



Order No. EA-13-109

RS-16-109

June 30, 2016

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

Peach Bottom Atomic Power Station, Units 2 and 3
Renewed Facility Operating License Nos. DPR-44 and DPR-56
NRC Docket Nos. 50-277 and 50-278

Subject: Fourth Six-Month Status Report For Phases 1 and 2 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)

References:

1. NRC Order Number EA-13-109, "Issuance of Order to Modify Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions," dated June 6, 2013
2. NRC Interim Staff Guidance JLD-ISG-2015-01, "Compliance with Phase 2 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
3. 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
4. Exelon Generation Company, LLC's Answer 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 26, 2013
5. Exelon Generation Company, LLC Phase 1 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 (RS-14-062)
6. Exelon Generation Company, LLC First Six-Month Status Report Phase 1 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 December 19, 2014 (RS-14-305)
7. Exelon Generation Company, LLC Second Six-Month Status Report Phase 1 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, 2015 (RS-15-151)

8. Exelon Generation Company, LLC Phase 1 (Updated) and Phase 2 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 December 15, 2015 (RS-15-303)
9. NRC letter to Exelon Generation Company, LLC, Peach Bottom Atomic Power Station, Units 2 and 3 – Interim Staff Evaluation Relating to Overall Integrated Plan in Response to Phase 1 of Order EA-13-109 (Severe Accident Capable Hardened Vents) (TAC Nos. MF4416 and MF4417), dated February 12, 2015

On June 6, 2013, the Nuclear Regulatory Commission (“NRC” or “Commission”) issued an Order (Reference 1) to Exelon Generation Company, LLC (EGC). Reference 1 was immediately effective and directs EGC to require their BWRs with Mark I and Mark II containments to take certain actions to ensure that these facilities have a hardened containment vent system (HCVS) to remove decay heat from the containment, and maintain control of containment pressure within acceptable limits following events that result in loss of active containment heat removal capability while maintaining the capability to operate under severe accident (SA) conditions resulting from an Extended Loss of AC Power (ELAP). Specific requirements are outlined in Attachment 2 of Reference 1.

Reference 1 required submission of an Overall Integrated Plan (OIP) by June 30, 2014 for Phase 1 of the Order, and an OIP by December 31, 2015 for Phase 2 of the Order. The interim staff guidance (Reference 2) provides direction regarding the content of the OIP for Phase 1 and Phase 2. Reference 2 endorses industry guidance document NEI 13-02, Revision 1 (Reference 3) with clarifications and exceptions identified in Reference 2. Reference 4 provided the EGC initial response regarding reliable hardened containment vents capable of operation under severe accident conditions. Reference 5 provided the Peach Bottom Atomic Power Station, Units 2 and 3, Phase 1 OIP pursuant to Section IV, Condition D.1 of Reference 1. References 6 and 7 provided the first and second six-month status reports pursuant to Section IV, Condition D.3 of Reference 1 for Peach Bottom Atomic Power Station. Reference 8 provided the Peach Bottom Atomic Power Station, Units 2 and 3, Phase 1 updated and Phase 2 OIP pursuant to Section IV, Conditions D.2 and D.3 of Reference 1.

The purpose of this letter is to provide the fourth six-month update report for Phases 1 and 2, pursuant to Section IV, Condition D.3 of Reference 1, that delineates progress made in implementing the requirements of Reference 1 for Peach Bottom Atomic Power Station, Units 2 and 3. The enclosed report provides an update of milestone accomplishments since the last status report, including any changes to the compliance method, schedule, or need for relief and the basis, if any. The enclosed report also addresses the NRC Interim Staff Evaluation open items contained in Reference 9.

This letter contains no new regulatory commitments. If you have any questions regarding this report, please contact David P. Helker at 610-765-5525.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 30th day of June 2016.

Respectfully submitted,



James Barstow
Director - Licensing & Regulatory Affairs
Exelon Generation Company, LLC

Enclosure:

Peach Bottom Atomic Power Station, Units 2 and 3 Fourth Six-Month Status Report for Phases 1 and 2 Implementation of Order EA-13-109, Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions

cc: Director, Office of Nuclear Reactor Regulation
NRC Regional Administrator - Region I
NRC Senior Resident Inspector - Peach Bottom Atomic Power Station
NRC Project Manager, NRR - Peach Bottom Atomic Power Station
Mr. Raj Auluck, NRR/JLD/TSD/JCBB, NRC
Mr. Peter Bamford, NRR/JLD/JOMB, NRC
Director, Bureau of Radiation Protection – Pennsylvania Department of Environmental Resources
R. R. Janati, Chief, Division of Nuclear Safety, Pennsylvania Department of Environmental Protection, Bureau of Radiation Protection
S. T. Gray, State of Maryland

Enclosure

Peach Bottom Atomic Power Station, Units 2 and 3

**Fourth Six-Month Status Report for Phases 1 and 2 Implementation of Order EA-13-109,
Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable
of Operation Under Severe Accident Conditions**

(11 pages)

Enclosure

Peach Bottom Atomic Power Station, Units 2 and 3 Fourth Six-Month Status Report for Phases 1 and 2 Implementation of Order EA-13-109, “Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions”

1 Introduction

Peach Bottom Atomic Power Station (PBAPS) developed an Overall Integrated Plan (Reference 1 in Section 8), documenting the installation of a Hardened Containment Vent System (HCVS) that provides a reliable hardened venting capability for pre-core damage and under severe accident conditions, including those involving a breach of the reactor vessel by molten core debris, in response to Reference 2. Starting with this six-month status report, updates of milestone accomplishments will be based on the combined Phases 1 and 2 Overall Integrated Plan dated December 15, 2015.

PBAPS developed an updated and combined Phases 1 and 2 Overall Integrated Plan (Reference 6 in Section 8), documenting:

1. The installation of a Hardened Containment Vent System (HCVS) that provides a reliable hardened venting capability for pre-core damage and under severe accident conditions, including those involving a breach of the reactor vessel by molten core debris, in response to Reference 2.
2. An alternative venting strategy that makes it unlikely that a drywell vent is needed to protect the containment from overpressure related failure under severe accident conditions, including those that involve a breach of the reactor vessel by molten core debris, in response to Reference 2

This enclosure provides an update of milestone accomplishments since submittal of the combined Phases 1 and 2 Overall Integrated Plan, 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 combined Phases 1 and 2 Overall Integrated Plan (Reference 6), and are current as of May 15, 2016:

- Fourth Six-Month Update (complete with this submittal)

3 Milestone Schedule Status

The following provides an update to Attachment 2 of the combined Phases 1 and 2 Overall Integrated Plan. It provides the activity 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.

Peach Bottom Atomic Power Station, Units 2 and 3
 Fourth Six-Month Status Report for the Implementation of HCVS Phases 1 and 2
 June 30, 2016

Milestone	Target Completion Date	Activity Status	Comments
Phases 1 and 2 HCVS Milestone Table			
Submit Overall Integrated Plan (Phase 1)	Jun. 2014	Complete	
Submit 6 Month Updates			
Update 1	Dec. 2014	Complete	
Update 2	Jun. 2015	Complete	
Update 3 [Simultaneous with Phase 2 OIP]	Dec. 2015	Complete	
Update 4	Jun. 2016	Complete with this submittal	
Update 5	Dec. 2016	Not Started	
Update 6	Jun. 2017	Not Started	
Update 7	Dec. 2017	Not Started	
Update 8	Jun. 2018	Not Started	
Update 9	Dec. 2018	Not Started	
Submit Completion Report	Jan. 2019	Not Started	Date Change: Previously Dec. 2018
Phase 1 Specific Milestones			
Phase 1 Unit 2 Modifications			
Begin Conceptual Design	Apr. 2014	Complete	
Complete Conceptual Design	Jun. 2015	Complete	
Begin Detailed Design	Jun. 2015	Complete	
Complete Detailed Design and Issue Modification Package	Jun. 2016	Started	Date Change: Previously Apr. 2016
Begin Online Portion of the Installation	Jun. 2016	Started	
Complete Online Installation	Oct. 2016	Not Started	

Peach Bottom Atomic Power Station, Units 2 and 3
 Fourth Six-Month Status Report for the Implementation of HCVS Phases 1 and 2
 June 30, 2016

Milestone	Target Completion Date	Activity Status	Comments
Phases 1 and 2 HCVS Milestone Table			
Begin Outage Portion of the Installation	Oct. 2016	Not Started	
Complete Outage Installation	Nov. 2016	Not Started	
Phase 1 Procedure Changes Active			
Operations Procedure Changes Developed	Nov. 2016	Started	
Site Specific Maintenance Procedure Developed	Nov. 2016	Started	
Procedure Changes Active	Nov. 2016	Not Started	
Phase 1 Training			
Training Complete	Nov. 2016	Not Started	
Phase 1 Completion			
Unit 2 Phase 1 HCVS Implementation	Nov. 2016	Started	
Submit Completion Report	Jan. 2019	Not Started	
Phase 1 Unit 3 Modifications			
Begin Conceptual Design	N/A	N/A	
Complete Conceptual Design	N/A	N/A	
Begin Detailed Design	May 2016	Complete	
Complete Detailed Design and Issue Modification Package	Oct. 2016	Started	Date Change: Previously Sep. 2016
Begin Online Portion of the Installation	Feb. 2017	Not Started	
Complete Online Installation	Jun. 2017	Not Started	
Begin Outage Portion of the Installation	Oct. 2017	Not Started	
Complete Outage Installation	Nov. 2017	Not Started	Date Change: Previously Oct. 2017
Phase 1 Procedure Changes Active			

Peach Bottom Atomic Power Station, Units 2 and 3
 Fourth Six-Month Status Report for the Implementation of HCVS Phases 1 and 2
 June 30, 2016

Milestone	Target Completion Date	Activity Status	Comments
Phases 1 and 2 HCVS Milestone Table			
Operations Procedure Changes Developed	Nov. 2017	Not Started	Date Change: Previously Oct. 2017
Site Specific Maintenance Procedure Developed	Nov. 2017	Not Started	Date Change: Previously Oct. 2017
Procedure Changes Active	Nov. 2017	Not Started	Date Change: Previously Oct. 2017
Phase 1 Training			
Training Complete	Nov. 2017	Not Started	Date Change: Previously Oct. 2017
Phase 1 Completion			
Unit 3 Phase 1 HCVS Implementation	Nov. 2017	Not Started	
Full Site HCVS Phase 1 Implementation	Nov. 2017	Not Started	
Submit Completion Report	Jan. 2018	Not Started	Date Change: Previously Dec. 2017
Phase 2 Specific Milestones			
Phase 2 Unit 3 Modifications			
Begin Conceptual Design	May 2016	Complete	
Complete Conceptual Design	Jul. 2016	Started	
Begin Detailed Design	Jul. 2016	Not Started	
Complete Detailed Design and Issue Modification Package	Oct. 2016	Not Started	Date Change: Previously Sep. 2017
Begin Online Portion of the Installation	Feb. 2017	Not Started	
Complete Online Installation	Jun. 2017	Not Started	

Peach Bottom Atomic Power Station, Units 2 and 3
 Fourth Six-Month Status Report for the Implementation of HCVS Phases 1 and 2
 June 30, 2016

Milestone	Target Completion Date	Activity Status	Comments
Phases 1 and 2 HCVS Milestone Table			
Begin Outage Portion of the Installation	Oct. 2017	Not Started	
Complete Outage Installation	Nov. 2017	Not Started	Date Change: Previously Oct. 2017
Phase 2 Procedure Changes Active			
Operations Procedure Changes Developed	Nov. 2017	Not Started	Date Change: Previously Oct. 2017
Site Specific Maintenance Procedure Developed	Nov. 2017	Not Started	Date Change: Previously Oct. 2017
Procedure Changes Active	Nov. 2017	Not Started	Date Change: Previously Oct. 2017
Phase 2 Training			
Training Complete	Nov. 2017	Not Started	Date Change: Previously Oct. 2017
Phase 2 Completion			
Unit 3 Phase 2 HCVS Implementation	Nov. 2017	Not Started	
Submit Phase 1 and Phase 2 Completion Report	Jan. 2018	Not Started	
Phase 2 Unit 2 Modifications			
Begin Conceptual Design	N/A	N/A	
Complete Conceptual Design	N/A	N/A	
Begin Detailed Design	Mar. 2017	Not Started	
Complete Detailed Design and Issue Modification Package	Sep. 2017	Not Started	
Begin Online Portion of the Installation	Feb. 2018	Not Started	

Peach Bottom Atomic Power Station, Units 2 and 3
 Fourth Six-Month Status Report for the Implementation of HCVS Phases 1 and 2
 June 30, 2016

Milestone	Target Completion Date	Activity Status	Comments
Phases 1 and 2 HCVS Milestone Table			
Complete Online Installation	Jun. 2018	Not Started	
Begin Outage Portion of the Installation	Oct. 2018	Not Started	
Complete Outage Installation	Nov. 2018	Not Started	
Phase 2 Procedure Changes Active			
Operations Procedure Changes Developed	Nov. 2018	Not Started	
Site Specific Maintenance Procedure Developed	Nov. 2018	Not Started	
Procedure Changes Active	Nov. 2018	Not Started	
Phase 2 Training			
Training Complete	Nov. 2018	Not Started	
Phase 2 Completion			
Unit 2 Phase 2 HCVS Implementation	Nov. 2018	Not Started	
Full Site HCVS Phase 2 Implementation	Nov. 2018	Not Started	
Submit Phase 1 and Phase 2 Completion Report	Jan. 2019	Not Started	Date Change: Previously Dec. 2018

4 Changes to Compliance Method

It was previously communicated in the combined Phases 1 and 2 Overall Integrated Plan (Reference 6) that the Remote Operating Station (ROS) location is in the Radwaste Building, elevation 150'. This location has been changed in order to further minimize plant operator's exposure to occupational hazards and also due to existing sample tanks located in the vicinity which could potentially challenge the functionality of the ROS equipment if the tanks were to rupture. The HCVS dedicated nitrogen and argon supply is relocated to elevation 135' of the Radwaste Building and the HCVS DC power supply is relocated to the 3A/C station battery room (battery) and E33 switchgear room (battery charger) on elevation 135'. These locations are not affected by a rupture of the sample tanks due to an existing open hatch adjacent to the sample tanks, which is open down to elevation 91'-6". If a rupture of the sample tanks were to occur, the water would drain from elevation 150' down to elevation 91'-6" via the open hatch. Any collection of water on elevation 135' would reach an existing floor drain prior to reaching the HCVS equipment relocated to El. 135'. These

locations also have significant shielding and/or distance from radiological sources and will be evaluated for Severe Accident (SA) temperature and radiation conditions to ensure access to the equipment is maintained.

The Phase 2 Severe Accident Water Addition (SAWA) flow path was described in the combined Phases 1 and 2 Overall Integrated Plan (Reference 6) to be from the FLEX suction at the Emergency Cooling Tower (ECT) basin through the FLEX (SAWA) pump to the permanent SAWA connection point. This connection point was described as connecting to the Residual Heat Removal (RHR) System Loop A (Low Pressure Coolant Injection (LPCI)). This connection point is only applicable for Unit 3; RHR System Loop B (LPCI) is planned to be used for Unit 2. These connection points are existing FLEX connection points and will only be used for SAWA during a flooding hazard. For all other hazards, the existing FLEX connection points to the High Pressure Service Water (HPSW) system will be used as the permanent SAWA connection points for Units 2 and 3. These connection points tie into the RHR System Loop A for Unit 3 and will tie into Loop B for Unit 2. The connection actions will be completed in the first eight hours of the event, and as soon as practical. Motor-operated valve (MOV) alignment required for all SAWA flow paths will be powered from the FLEX Diesel Generators (DGs).

Table 4-1 of the combined Phases 1 and 2 Overall Integrated Plan (Reference 6) communicated that the performance of visual inspections and a walk down of HCVS and installed SAWA components would be performed on a frequency of once per every other operating cycle. However, the performance of this requirement will be on a frequency of once per operating cycle to align with the guidance provided in NEI 13-02, Rev. 1 (Reference 3).

There are no other changes to the compliance method outlined in Reference 6.

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

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

6 Open Items from Combined Phases 1 and 2 Overall Integrated Plan and Interim Staff Evaluations

The following tables provide a summary of the open items documented in the combined Phases 1 and 2 Overall Integrated Plan or the Interim Staff Evaluation (ISE) and the status of each item.

Combined Phases 1 and 2 OIP Open Item	Status
Phase 1 Open Items	
OI-1. Confirm that the Remote Operating Station (ROS) will be in an accessible area following a Severe Accident (SA).	Deleted. Closed to ISE Open Item number 09.
OI-2. Provide procedures for HCVS Operation	Deleted. Closed to ISE Open Item

Peach Bottom Atomic Power Station, Units 2 and 3
 Fourth Six-Month Status Report for the Implementation of HCVS Phases 1 and 2
 June 30, 2016

Combined Phases 1 and 2 OIP Open Item	Status
	number 01.
OI-3. Identify site specific controlling document for HCVS out of service and compensatory measures	Deleted. Closed to ISE Open Item number 02.
OI-4. Determine the approach for combustible gases.	Deleted. Closed to ISE Open Item number 08.
OI-5. Perform radiological evaluation for Phase 1 vent line impact on ERO response actions.	Started.

Phase 1 Interim Staff Evaluation Open Item	Status
ISE-1. Make available for NRC staff audit guidelines and procedures for HCVS operation. (Section 3.2.3.1)	Started.
ISE-2. Make available for the NRC staff audit the site specific controlling document for HCVS out of service and compensatory measures. (Section 3.4.1)	Not Started.
ISE-3. Make available for NRC staff audit a technical justification for use of jumpers in the HCVS strategy. (Section 3.1.3)	Complete - The design of the HCVS includes a control switch in the MCR for transferring power to the solenoid valve (SV) that does not include a PCIS isolation signal, eliminating the need for jumpers.
ISE-4. Make available for NRC staff audit analyses demonstrating that the HCVS has the, capacity to vent the steam/energy equivalent of one 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. (Sections 3.2.2.1 and 3.2.2.2)	<p>Complete - Calculation PM-0546, Torus Hardened Vent-Flow demonstrates that the HCVS has the capacity to vent the steam/energy equivalent of one percent licensed/rated thermal power.</p> <p>The primary containment design pressure is 56 psig (UFSAR 5.2.3.1). The primary containment pressure limit is 60 psig (UFSAR 5.2.3.6). PM-0546 shows that the HCVS capacity exceeds one percent of licensed/rated thermal power at the lower of these values.</p> <p>Calculation PM-0546 is available for NRC review on the ePortal.</p>
ISE-5. Make available for NRC staff audit descriptions or diagrams of reactor building ventilation including	Complete - Reference Drawing M-395: The Reactor Building

Peach Bottom Atomic Power Station, Units 2 and 3
 Fourth Six-Month Status Report for the Implementation of HCVS Phases 1 and 2
 June 30, 2016

Phase 1 Interim Staff Evaluation Open Item	Status
exhaust dampers failure modes to support licensee justification for the HVAC release point being below and 150 feet from the reactor building ventilation release point. (Section 3.2.2.3)	Exhaust System. The RB Exhaust System Fans, including the Refuel Floor Exhaust Fans, RB Exhaust Fans, and RB Equipment Exhaust Fans, have Fail-Close dampers in exhaust ducts to prevent uncontrolled or unmonitored release from the RB in the event of loss of power to the solenoid valves associated with the dampers. Fail-Close dampers will eliminate pathway into the RB in the event of use of the HCVS in an ELAP. Drawing M-395 is available for NRC review on the ePortal.
ISE-6. Make available for NRC staff audit details to justify the deviation from tornado protection standards provided in NEI 13-02 or make available a description of how the HCVS will comply with the tornado protection standards provided in NEI-13-02. (Section 3.2.2.3)	Started - Exelon is preparing an analysis to demonstrate that the location of the existing external piping already provides reasonable protection from tornado generated missiles.
ISE-7. 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 condition. (Section 3.2.2.5)	Complete – FLEX modification ECR 15-00126 improved the PBAPS communication system, to be functional in the event of an ELAP. ECR 15-00126 is available for NRC review on the ePortal.
ISE-8. Provide a description of the final design of the HCVS to address hydrogen detonation and deflagration.(Section 3.2.2.6)	Complete – PBAPS will utilize an Argon purge system to address combustible gases in the HCVS piping. A summary of the design features is included in the December 2015 OIP.
ISE-9. 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. (Sections 3.2.1, 3.2.2.3, 3.2.2.4, 3.2.2.5, 3.2.2.10, 3.2.4.1, 3.2.4.2, 3.2.5.2, and 3.2.6)	Started.
ISE-10. Make available for NRC staff audit descriptions of all instrumentation and controls (existing and planned) necessary to implement this order including qualification	Started.

Peach Bottom Atomic Power Station, Units 2 and 3
 Fourth Six-Month Status Report for the Implementation of HCVS Phases 1 and 2
 June 30, 2016

Phase 1 Interim Staff Evaluation Open Item	Status
methods. (Sections 3.2.2.9 and 3.2.2.10)	
ISE-11. Make available for NRC staff audit the final sizing evaluation for HCVS batteries/battery charger including incorporation into FLEX DG loading calculation. (Sections 3.2.2.4, 3.2.3.1, 3.2.3.2, 3.2.4.1, 3.2.4.2, 3.2.5.1, 3.2.5.2, and 3.2.6)	Started.
ISE-12. 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. (Sections 3.2.2.3, 3.2.2.5, 3.2.2.9, and 3.2.2.10)	Started.
ISE-13. 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 venting. (Section 3.2.2.9)	Started.
ISE-14. 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. (Section 3.2.2.6 and 3.2.2.7)	Completed - As described in the OIP, the HCVS torus vent path in each unit, starting at and including the downstream PCIV, will be a dedicated HCVS flow path. There are no interconnected systems downstream of the downstream, dedicated HCVS PCIV. Interconnected systems are upstream of the downstream HCVS PCIV and are isolated by normally shut, fail shut PCIVs which, if open, would shut on an ELAP. There is no shared HCVS piping between the two units. The vent path will rely on an Argon purge system to prevent the formation of a combustible gas mixture in the vent line.

Peach Bottom Atomic Power Station, Units 2 and 3
 Fourth Six-Month Status Report for the Implementation of HCVS Phases 1 and 2
 June 30, 2016

Phase 1 Interim Staff Evaluation Open Item	Status
ISE-15. Make available for NRC audit documentation confirming that HCVS will remain isolated from standby gas treatment system during ELAP and severe accident conditions. (Section 3.2.2.7)	Started.
Phase 2 Interim Staff Evaluation Open Item	Status
Phase 2 ISE has not been issued.	

7 Interim Staff Evaluation Impacts

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

8 References

The following references support the updates to the combined Phases 1 and 2 Overall Integrated Plan described in this enclosure.

1. Peach Bottom Atomic Power Station, Units 2 and 3, 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.
2. 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.
3. NEI 13-02, “Industry Guidance for Compliance with NRC Order EA-13-109, ‘To Modify Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions,’ Revision 1, dated April 2015.
4. 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 (Accession No. ML13304B836).
5. NRC Endorsement of Industry “Hardened Containment Venting System (HCVS) Phase 1 Overall Integrated Plan Template (EA-13-109) Rev 0,” dated May 14, 2014 (Accession No. ML14128A219).
6. Peach Bottom Atomic Power Station, Units 2 and 3, Combined Phases 1 and 2 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 December 15, 2015.
7. 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 (Accession No. ML15104A118).