



Order No. EA-13-109

RS-14-306

December 17, 2014

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

Quad Cities Nuclear Power Station, Units 1 and 2
Renewed Facility Operating License Nos. DPR-29 and DPR-30
NRC Docket Nos. 50-254 and 50-265

Subject: 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)

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-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 14, 2013
3. NEI 13-02, "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 0, dated November 2013
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-14-063)

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.

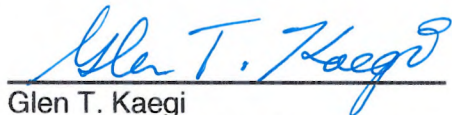
Reference 1 required submission of an initial status report 20 days following issuance of the final interim staff guidance (Reference 2) and a Phase 1 Overall Integrated Plan pursuant to Section IV, Condition D by June 30, 2014. Reference 2 endorses industry guidance document NEI 13-02, Revision 0 (Reference 3) with clarifications and exceptions identified in Reference 2. Reference 4 provided the EGC initial status report regarding reliable hardened containment vents capable of operation under severe accident conditions. Reference 5 provided the Quad Cities Nuclear Power Station, Units 1 and 2 Phase 1 Overall Integrated Plan.

Reference 1 requires submission of a status report at six-month intervals following submittal of the Phase 1 overall integrated plan. Reference 3 provides direction regarding the content of the status reports. The purpose of this letter is to provide the first six-month status report for Phase 1 pursuant to Section IV, Condition D.3, of Reference 1, that delineates progress made in implementing the requirements of Reference 1. 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.

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 17th day of December 2014.

Respectfully submitted,



Glen T. Kaegi
Director - Licensing & Regulatory Affairs
Exelon Generation Company, LLC

Enclosure:

Quad Cities Nuclear Power Station, Units 1 and 2 First Six-Month Status Report for Phase 1 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 III
NRC Senior Resident Inspector – Quad Cities Nuclear Power Station, Units 1 and 2
NRC Project Manager, NRR – Quad Cities Nuclear Power Station, Units 1 and 2
Mr. Charles H. Norton, NRR/JLD/PPSD/JOMB, NRC
Mr. John P. Boska, NRR/JLD/JOMB, NRC
Illinois Emergency Management Agency - Division of Nuclear Safety

Enclosure

Quad Cities Nuclear Power Station, Units 1 and 2

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

(4 pages)

Enclosure

Quad Cities Nuclear Power Station, Units 1 and 2 First Six Month Status Report for the 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

Quad Cities Nuclear Power Station, Units 1 and 2 (Quad Cities Station) 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. This attachment provides an update of milestone accomplishments since submittal of the Phase 1 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 Overall Integrated Plan (Reference 1), and are current as of December 15, 2014.

- Held preliminary/conceptual design meeting
- First Six-Month Update (complete with this submittal)

3 Milestone Schedule Status

The following provides an update to Part 5 of the 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.

The revised milestone target completion dates do not impact the order implementation date.

Milestone	Target Completion Date	Activity Status	Comments
Phase 1 HCVS Milestone Table			
Submit Phase 1 Overall Integrated Plan	June 2014	Complete	

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Submit 6 Month Updates:			
Update 1 Phase 1	December 2014	Complete with this submittal	
Update 2 Phase 1	June 2015	Not Started	
Update 3 [Simultaneous with Phase 2 OIP]	December 2015	Not Started	
Update 4 Phases 1 and 2	June 2016	Not Started	
Update 5 Phases 1 and 2	December 2016	Not Started	
Update 6 Phases 1 and 2	June 2017	Not Started	
Update 7 Phases 1 and 2	December 2017	Not Started	
Modifications:			
Hold preliminary/conceptual design meeting	June 2014	Complete	July 2014
Modifications Evaluation	March 2016	Not Started	
Unit 1 Design Engineering Complete	March 2016	Not Started	
Unit 1 Implementation Outage (Phase 1)	April 2017	Not Started	
Unit 1 Implementation Outage (Phase 2)	April 2019	Not Started	
Unit 1 Phase 1 Walk Through Demonstration/Functional Test	April 2017	Not Started	
Unit 2 Design Engineering Complete	March 2017	Not Started	
Unit 2 Implementation Outage (Phases 1 and 2)	April 2018	Not Started	
Unit 2 Phases 1 and 2 Walk Through Demonstration/Functional Test	April 2018	Not Started	
Procedure Changes			
Operations Procedure Changes Developed	December 2016	Not Started	
Site Specific Maintenance Procedure Developed	December 2016	Not Started	
Procedure Changes Active	April 2017	Not Started	
Training:			
Training Complete	December 2016	Not Started	
Completion			
Unit 1 Phase 1 HCVS Implementation	April 2017	Not Started	
Unit 1 Phase 1 Completion Report [60 days after Unit 1 Phase 1 compliance]	June 2017	Not Started	
Unit 2 HCVS Implementation (Phases 1 and 2)	April 2018	Not Started	

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Unit 2 Phases 1 and 2 Completion Report [60 days after Unit 2 compliance]	June 2018	Not Started	
Unit 1 Phase 2 HCVS Implementation	April 2019	Not Started	
Unit 1 Phase 2 Completion Report [60 days after Unit 1 Phase 2 compliance]	June 2019	Not Started	

4 Changes to Compliance Method

There are no changes to the compliance method as documented in the Phase 1 Overall Integrated Plan (Reference 1).

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

Quad Cities Station expects to comply with the order implementation date; therefore, no relief/relaxation 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 Overall Integrated Plan, or the Interim Staff Evaluation (ISE), and the status of each item.

Overall Integrated Plan Phase 1 Open Item	Status
1. Determine how Motive Power and/or HCVS Battery Power will be disabled during normal operation	Complete – Conceptual design (completed July 2014) determined the HCVS control panel will be provided with a key lock switch to activate the system. This must be unlocked prior to performing any actuations of the DC powered components.
2. Confirm that the Remote Operating Station (ROS) will be in an area accessible following a Severe Accident (SA)	Not Started – Design Dependent
3. Confirm diameter on new common HCVS Piping	Not Started – Design Dependent
4. Confirm suppression pool heat capacity	Complete – Vent not required for at least 5 hours (Reference 7)
5. Determine the approach for combustible gases	Not Started – Design Dependent
6. Develop a procedure for HCVS out-of-service requirements and compensatory measures.	Started
7. Provide procedures for HCVS Operation.	Not Started – Design Dependent

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8. Confirm 125 VDC DC Station Battery Life	Complete – Battery life meets minimum FLEX strategy intent of 8- hours (Reference 6)
9. Supply Part 3 Drywell Boundary Condition	Not Started – Will be provided with Phase 2 OIP (December 2015)

Interim Staff Evaluation Open Item	Status
No items at the present time.	

7 Interim Staff Evaluation Impacts

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

8 References

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

1. Quad Cities Nuclear Power Station, Units 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 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 0, dated November 2013.
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 14, 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” (Accession No. ML14128A219).
6. Exelon Calculation QDC-8300-E-2100, Unit 1(2) 125 VDC Battery Coping Calculation for Beyond Design Basis FLEX Event, 09/26/2014.
7. QC-MISC-013, Revision 2, MAAP Analysis to Support FLEX Initial Strategy, 09/16/2014.