PSEG Nuclear LLC
P.O. Box 236, Hancocks Bridge, NJ 08038-0236

PSEG
Nuclear LLC

Order EA-13-109

LR-N14-0258
DEC 19 2014

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

Hope Creek Generating Station
Renewed Facility Operating License No. NPF-57
NRC Docket No. 50-354

Subject: Hope Creek Generating Station's First 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)

References:

1. NRC Order EA-13-109, "Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions," dated June 6, 2013

2. PSEG Letter LR-N14-0155, "PSEG Nuclear LLC's 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 25, 2014

3. NEI 13-02, "Industry Guidance for Compliance with Order EA-13-109," 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," dated November 14, 2013

On June 6, 2013, the Nuclear Regulatory Commission (NRC) issued Order EA-13-109 (Reference 1) to all licensees that operate boiling-water reactors (BWRs) with Mark I and Mark II containment designs. The Order was effective immediately and requires the Hope Creek Generating Station (HCGS) to install reliable hardened venting capability for pre-core damage and severe accident conditions, including those involving a breach of the reactor vessel by molten core debris.

In accordance with Condition IV.D.1 of NRC Order EA-13-109, PSEG submitted an Overall Integrated Plan (Reference 2) for implementation of the Phase 1 (torus vent) requirements of the Order. The purpose of this letter is to provide the first six-month status report for HCGS, pursuant to Condition IV.D.3 of NRC Order EA-13-109.

Attachment 1 contains the first six-month status report for HCGS implementation of Phase 1 of NRC Order EA-13-109, using the report content guidance of Nuclear Energy Institute (NEI) Report 13-02 (Reference 3) as endorsed by NRC Interim Staff Guidance JLD-ISG-2013-02 (Reference 4).

There are no regulatory commitments contained in this letter.

If you have any questions or require additional information, please do not hesitate to contact Mr. Brian J. Thomas at 856-339-2022.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 12-19-2014
(Date)

Sincerely,

Paul J. Davison

Paul J. Davison
Site Vice President
Hope Creek Generating Station

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

cc: Mr. William Dean, Director of Office of Nuclear Reactor Regulation
Mr. Daniel Dorman, Administrator, Region I, NRC
Ms. Carleen Sanders-Parker, Project Manager, NRC
Mr. Charles Norton, Project Manager, NRC
NRC Senior Resident Inspector, Hope Creek
Mr. Patrick Mulligan, Manager IV, NJBNE
Hope Creek Commitment Tracking Coordinator
PSEG Commitment Coordinator – Corporate

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

1 Introduction

PSEG Nuclear LLC (PSEG) developed an Overall Integrated Plan (OIP) (Reference 1) for the Hope Creek Generating Station (HCGS), to address the installation of a Hardened Containment Vent System (HCVS) that provides reliable hardened venting capability for pre-core damage and severe accident conditions, including those involving a breach of the reactor vessel by molten core debris, in response to NRC Order EA-13-109 (Reference 2). This report is the first six-month status update for HCGS implementation of Phase 1 (torus vent) of NRC Order EA-13-109.

2 Milestone Accomplishments

As of November 30, 2014, no milestone(s) have been completed since the OIP (Reference 1) was transmitted to the NRC.

3 Milestone Schedule Status

The following table provides an update to the OIP (Reference 1) milestones. The table provides the target completion date and activity status of each item. The dates are planning dates subject to change as design and implementation details are developed.

Milestone	Target Completion Date	Activity Status	Comments
Phase 1 HCVS Milestone Table			
Submit Overall Integrated Plan	Jun 2014	Complete	
Submit Six-Month Updates			
Update 1	Dec 2014	Complete	Completed via this report
Update 2	Jun 2015	Not Started	
Update 3	Dec 2015	Not Started	
Update 4	Jun 2016	Not Started	
Modifications			
Hold preliminary/conceptual design meeting	Jun 2014	Complete	
Design Engineering On-site/Complete	Oct 2015	Started	Vendor evaluation and selection in progress
Implementation Outage	Oct 2016	Not started	
Walk-Through Demonstration / Functional Test	Nov 2016	Not started	
Procedure Changes Active			
Operations Procedure Changes Developed	Jun 2016	Not started	
Site-Specific Maintenance Procedure Developed	Jun 2016	Not started	
Procedure Changes Active	Nov 2016	Not started	
Training			
Training Complete	Jun 2016	Not started	
Completion			
Submit Completion Report	Dec 2016	Not started	

4 Changes to Compliance Method

The OIP (Reference 1) identifies PSEG's planned alternatives to NEI 13-02 (Reference 3) and NRC Interim Staff guidance JLD-ISG-2013-02 (Reference 4). These alternatives pertain to 1) monitoring the status of vent operation and 2) the height of the vent release point.

4.1 Monitoring the Status of Vent Operation

NEI 13-02, which is endorsed by JLD-ISG-2013-02, contains criteria for monitoring HCVS vent pipe conditions including radiological releases, vent pipe pressure and temperature in order to monitor HCVS operation. HCGS currently has a dual element (high/low range) flow monitor as part of the existing torus vent radiation monitoring system and will use the flow monitor for HCVS operation. In lieu of vent pipe temperature and pressure, the vent flow signal will be displayed at the primary operating station. The vent operation will be monitored by HCVS valve position, vent flow, and effluent radiation levels. Containment parameters of pressure, torus level and temperature from the Main Control Room instrumentation will be used to monitor effectiveness of the venting actions.

4.2 Vent Release Point Height

PSEG provided a 20-day response to JLD-ISG-2013-02 via Reference 5, which describes an exception to NRC Order EA-13-109 Attachment 2, Requirement 1.2.2, regarding the vent release point height. The HCVS discharge path is a dedicated 12-inch vent pipe with the release point of the vent piping located approximately 50 feet below the top of the Reactor Building dome. The vent pipe is routed to a point above adjacent structures except for the Reactor Building dome, and is located such that the release point will vent away from ventilation system intake and exhaust openings, main control room, and emergency response facilities. The location of the release was originally analyzed to support the design and installation of the existing torus vent to ensure habitability of the control room and is being re-evaluated as part of the HCVS design.

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

The vent release point height described in Section 4.2 above is an exception to NRC Order EA-13-109 Attachment 2, Requirement 1.2.2, and will be the subject of a request for relief upon completion of further evaluation of vent releases.

6 Open Items from Overall Integrated Plan and Draft Safety Evaluation

The following table provides a status of OIP (Reference 1) open items.

ID	Item Ref.	Description	Status
1.	OIP Open Item 1	Finalize time constraints and their bases	Started
2.	OIP Open Item 2	Confirm vent sizing and suppression pool heat capacity	Not Started
3.	OIP Open Item 3	Finalize χ/Q analysis	Not Started
4.	OIP Open Item 4	Perform dose evaluation for venting actions	Not Started
5.	OIP Open Item 5	Finalize design of the HCVS for hydrogen detonation/deflagration	Not Started
6.	OIP Open Item 6	Missile protection	Not Started

7 Interim Staff Evaluation Impacts

None.

8 References

1. PSEG letter LR-N14-0155, “PSEG Nuclear LLC's 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-13-1 09),” dated June 25, 2014
2. NRC Order EA-13-109, “Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions (Effective Immediately),” dated June 6, 2013
3. NEI 13-02, “Industry Guidance for Compliance with Order EA 13 109,” 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,” dated November 14, 2013
5. PSEG Letter LR-N13-0289, "Hope Creek Generating Station's Notification Pursuant to Condition IV.C.1 of the June 6, 2013 Commission Order Modifying License With Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions (Order Number EA-13-1 09)," dated December 13, 2013