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TALEN ENERGY

JUN 23 2015

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

10 CFR 2.202

SUSQUEHANNA STEAM ELECTRIC STATION
SECOND 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)
PLA-7345

Docket Nos. 50-387
and 50-388

References:

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.*

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 2013 (Accession No. ML13304B836).*

3. *NRC Endorsement of industry "Hardened Containment Venting System (HCVS) Phase 1 Overall Integrated Plan Template (EA-13-109) Rev 0" (Accession No. ML14128A219).*

4. *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.*

5. *PPL Letter (PLA-7180), "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 26, 2014.*

6. *PPL Letter (PLA-7269) T. S. Rausch (PPL Susquehanna, LLC) to U.S. NRC, "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), dated December 23, 2014.*

On June 6, 2013, the Nuclear Regulatory Commission ("NRC" or "Commission") issued an order (Reference 1) to PPL Susquehanna, LLC (PPL). Reference 1 was immediately effective and directs Susquehanna to install a venting capability in accordance with the requirements outlined in Attachment 2 of Reference 1.

Reference 1 required submission of a Phase 1 Overall Integrated Plan pursuant to Section IV, Condition D. Reference 2 endorses industry guidance document NEI 13-02, Revision 0 (Reference 4) with clarifications and exceptions identified in Reference 2. Reference 5 provided Susquehanna's initial Reliable Hardened Containment Vent Overall Integrated Plan.

Reference 1 requires submission of status reports at six-month intervals following submittal of the Overall Integrated Plan. References 2 and 4 provide 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 D, of Reference 1, that delineates progress made in implementing the requirements of Reference 1. The enclosed Status Report provides an update of milestone accomplishments since submittal of the Overall Integrated Plan, including any changes to the compliance method, schedule, or need for relief and the basis, if any.

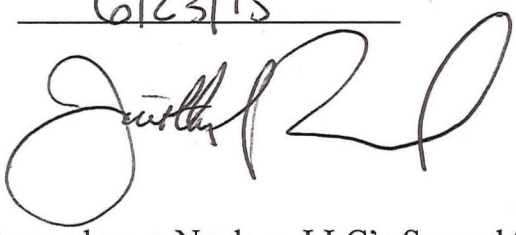
This letter contains no new regulatory commitments.

If you have any questions regarding this report, please contact Mr. Jeffery N. Grisewood at 570-542-1330.

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

Executed on: 6/23/15

T. S. Rausch



Enclosure: Susquehanna Nuclear, LLC's Second Six-Month Status Report in Response to the 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)

cc: Director, Office of Nuclear Reactor Regulation
NRC Region I
Mr. Rajender Auluck, NRR/JLD/PSB, NRC
Mr. J. E. Greives, NRC Sr. Resident Inspector
Mr. W. D. Reckley, NRR/JLD/PSB, NRC
Mr. J. A. Whited, NRC Project Manager
Mr. B. R. Fuller, PA DEP/BRP

Enclosure to PLA-7345

Susquehanna Nuclear, LLC's Second Six-Month Status Report In Response to the 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)

Susquehanna Nuclear, LLC's Second 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

Susquehanna Nuclear, LLC 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

None

3 Milestone Schedule Status

The following provides an update to the Milestone schedule included in 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.

Milestone	Target Completion Date	Activity Status	Comments {Include date changes in this column}
Phase 1 HCVS Milestone Table			
Hold preliminary/conceptual design meeting	June 2014	Complete	
Submit Overall Integrated Plan	June 2014	Complete	
Submit 6 Month Status Report 1	Dec. 2014	Complete	
Submit 6 Month Status Report 2	June 2015	Complete	
Submit 6 Month Status Report 3 - Simultaneous with Phase 2 OIP	Dec. 2015	Not Started	
U2 Design Engineering Complete	Mar. 2016	In Progress	
Submit 6 Month Status Report 4	June 2016	Not Started	
U2 Operations Procedure Changes Developed	Dec. 2016	Not Started	
U2 Maintenance Procedure Changes Developed	Dec. 2016	Not Started	

Milestone	Target Completion Date	Activity Status	Comments {Include date changes in this column}
Phase 1 HCVS Milestone Table			
Submit 6 Month Status Report 5	Dec. 2016	Not Started	
U2 Training Complete	Dec. 2016	Not Started	
U2 Implementation Outage	Feb. 2017	Not Started	
U2 Procedure Changes Active	Mar. 2017	Not Started	
U2 Walk Through Demonstration/Functional Test	Mar. 2017	Not Started	
U1 Design Engineering Complete	Mar. 2017	Not Started	
Submit 6 Month Status Report 6	June 2017	Not Started	
Submit 6 Month Status Report 7	Dec. 2017	Not Started	
U1 Operations Procedure Changes Developed	Dec. 2017	Not Started	
U1 Maintenance Procedure Changes Developed	Dec. 2017	Not Started	
U1 Training Complete	Dec. 2017	Not Started	
U1 Implementation Outage	Feb. 2018	Not Started	
U1 Procedure Changes Active	Mar. 2018	Not Started	
U1 Walk Through Demonstration/Functional Test	Mar. 2018	Not Started	
Submit Phase 1 Compliance Letter	May 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

Susquehanna 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

The following tables provide a summary of the open items documented in the Phase 1 Overall Integrated Plan and the Interim Staff Evaluation (ISE).

Open Item	Overall Integrated Plan Phase 1 Open Item	Status
1	Confirm suppression pool heat capacity	Not Started
2	Deployment under severe accident conditions will be confirmed for the deployment of the FLEX generators credited to re-energize battery chargers.	In Progress
3	Deployment under severe accident conditions will be confirmed for deployment of the supplemental nitrogen bottles.	In Progress
4	The gas supply will be sized to support HCVS operation for a minimum of 24 hours (a minimum of 12 valve cycles of valve operation is assumed, consistent with recommendations in HCVS-WP-02). This design assumption will require future validation in the design phase of this project.	In Progress
5	An assessment of temperature and radiological conditions will be performed to ensure that operating personnel can safely access and operate controls at the remote operating station, based on time constraints listed in Attachment 2 of the Overall Integrated Plan.	In Progress
6	Evaluate viable options to address Hydrogen detonation concerns in HCVS piping to meet the requirements of EA-13-109, Section 1.2.11 and incorporate in HCVS design. SSES will determine the method to be deployed once NRC review of HCVS-WP-03 is complete.	In Progress
7	An evaluation will be performed to confirm the HCVS power supply can support HCVS operation for a minimum of 24 hours.	In Progress

Interim Staff Evaluation Open Item Status			
Open Item	Action	Comment	Status
1.	Make available for NRC staff audit an evaluation that confirms that all load stripping to support HDVS operation can be accomplished within forty five minutes of event initiation.	Section 3.1.2	Not Started
2.	Make available for NRC staff audit the final sizing evaluation for HCVS batteries/battery charger including incorporation into FLEX DG loading calculation.	Section 3.2.1 Section 3.2.2.4 Section 3.2.3.1 Section 3.2.3.2 Section 3.2.4.1 Section 3.2.4.2 Section 3.2.5.1 Section 3.2.5.2 Section 3.2.6	Not Started
3.	Make available for NRC staff audit documentation of the HCVS nitrogen pneumatic system design including sizing and location.	Section 3.2.1 Section 3.2.2.4 Section 3.2.3.1 Section 3.2.3.2 Section 3.2.4.1 Section 3.2.4.2 Section 3.2.5.1 Section 3.2.5.2 Section 3.2.6	Not Started
4.	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,	Section 3.2.1 Section 3.2.2.3 Section 3.2.2.4 Section 3.2.2.5 Section 3.2.2.10 Section 3.2.4.1 Section 3.2.4.2 Section 3.2.5.2 Section 3.2.6	Not Started
5.	Make available for NRC staff audit analyses demonstrating that 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.	Section 3.2.2.1 Section 3.2.2.2	Not Started

Interim Staff Evaluation Open Item Status			
Open Item	Action	Comment	Status
6.	Make available for NRC staff audit the seismic and tornado missile final design criteria for the HCVS stack	Section 3.2.2.3	Not Started
7.	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, electronic, control devices, and etc.) required for HCVS venting including confirmation that the components are capable of performing their functions during ELAP and severe accident conditions.	Section 3.2.2.3 Section 3.2.2.5 Section 3.2.2.9 Section 3.2.2.10	Not Started
8.	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.	Section 3.2.2.5 Section 3.2.2.10	Not Started
9.	Provide a description of the final design of the HCVS to address hydrogen detonation and deflagration.	Section 3.2.2.6	Not Started
10.	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	Not Started
11.	Provide a justification for deviating from the instrumentation seismic qualification guidance specified in NEI 13-02, endorsed, in part, by JLD-ISG-2013-02 as an acceptable means for implementing applicable requirements of Order EA-13-109.	Section 3.2.2.9	Not Started
12.	Make available for NRC staff audit descriptions of all instrumentation and controls (existing and planned) necessary to implement this order including qualification methods.	Section 3.2.2.10	Not Started

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. PPL Letter (PLA-7180), Susquehanna Steam Electric Station 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 26, 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 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. Susquehanna Steam Electric Station Units 1 And 2 – Interim Staff Evaluation Relating to Overall Integrated Plan in Response to Phase One of Order EA-13-109 (Severe Accident Capable Hardened Vents) (TAC Nos. MF4364 AND MF4365), dated April 1, 2015 (ML15090A300).