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SOUTHERN COMPANY

June 26, 2015

Docket Nos.: 50-321
50-366

NL-15-0698

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

Edwin I. Hatch Nuclear Plant – Units 1 and 2
Second Six-Month Status Report of the Implementation of the
Commission Order with Regard to Requirements for
Reliable Hardened Containment Vents (EA-13-109)

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.
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. SNC Letter, *Edwin I. Hatch Nuclear Plant – Units 1 and 2 Phase 1 Overall Integrated Plan in Response to June 6, 2013 Commission Order Modifying Licenses with Regard to Requirements for Reliable Hardened Containment Vents (EA-13-109)*, dated June 27, 2014.

Ladies and Gentlemen:

On June 6, 2013, the Nuclear Regulatory Commission (NRC) issued an Order (Reference 1) to Southern Nuclear Operating Company (SNC). Reference 1 was immediately effective and directs the Edwin I. Hatch Nuclear Plant - Units 1 and 2 (HNP) to install 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. Specific requirements are outlined in Attachment 2 of Reference 1.

In addition, Reference 1 also required submission of a Phase 1 overall integrated plan pursuant to Section IV, Condition D, and status reports at six-month intervals thereafter. SNC submitted the overall integrated plan by letter dated June 27, 2014 (Reference 4). Enclosed is the second six-month status report pursuant to Section IV, Condition D, of Reference 1, reflecting: (1) progress associated with implementation of the requirements of Reference 1, and (2) milestone accomplishments subsequent to issuance of the

Phase 1 overall integrated plan (Reference 4), consistent with the guidance provided in References 2 and 3.

This letter contains no new NRC commitments. If you have any questions, please contact John Giddens at 205.992.7924.

Mr. C. R. Pierce states he is the Regulatory Affairs Director for Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and, to the best of his knowledge and belief, the facts set forth in this letter are true.

Respectfully submitted,

C. R Pierce

C. R. Pierce
Regulatory Affairs Director

CRP/JMG/GLS

Sworn to and subscribed before me this 26th *day of* June, *2015.*

Notary Public

My commission expires: 1-2-2018

Enclosure: Second Six-Month Status Report Regarding Requirement for Reliable Hardened Containment Vents (EA-13-109)

cc: Southern Nuclear Operating Company
Mr. S. E. Kuczynski, Chairman, President & CEO
Mr. D. G. Bost, Executive Vice President & Chief Nuclear Officer
Mr. D. R. Vineyard, Vice President – Hatch
Mr. M. D. Meier, Vice President – Regulatory Affairs
Mr. B. J. Adams, Vice President – Engineering
Mr. D. R. Madison, Vice President – Fleet Operations
Mr. G. L. Johnson, Regulatory Affairs Manager – Hatch
RType: CHA02.004

U. S. Nuclear Regulatory Commission
Mr. W. M. Dean, Director of the Office of Nuclear Reactor Regulations
Mr. V. M. McCree, Regional Administrator
Mr. R. E. Martin, NRR Senior Project Manager – Hatch
Mr. D. H. Hardage, Senior Resident Inspector – Hatch
Ms. J. A. Kratchman, NRR/JLD/PMB
Mr. E. E. Bowman, NRR/DPR/PGCB

State of Georgia
Mr. J. H. Turner, Director – Environmental Protection Division

Edwin I. Hatch Nuclear Plant – Units 1 and 2
Second Six-Month Status Report of the Implementation of the Commission Order with Regard to Requirements for Reliable Hardened Containment Vents (EA-13-109)

Enclosure

Second Six-Month Status Report Regarding Requirement for Reliable Hardened Containment Vents (EA-13-109)

Enclosure

Edwin I. Hatch Nuclear Plant – Units 1 and 2
Second Six Month Status Report for the Implementation of Order EA-13-109

1 Introduction

Southern Nuclear Operating Company developed an Overall Integrated Plan (Reference 1) for the Edwin I. Hatch Nuclear Plant – Units 1 and 2 (HNP) 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 enclosure provides an update of milestone accomplishments since submittal of the Phase 1 Overall Integrated Plan (OIP).

2 Milestone Accomplishments

In addition to the submittal of status reports, the following milestone(s) directly related to the vent Order implementation have been completed since the submittal of the OIP, and are current as of April 30, 2015:

- Hold preliminary/conceptual design meeting

3 Milestone Schedule Status

The following provides an update to Attachment 2 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	Revised Target/ Completion Date
Submit Overall Integrated Implementation Plan	Jun 2014	Complete	N/A
Submit 6 Month Status Report	Dec 2014	Complete	N/A
Hold preliminary/conceptual design meeting	Mar 2015	Complete	N/A
Submit 6 Month Status Report	Jun 2015	Complete	N/A
Submit 6 Month Status Report	Dec 2015	On Schedule	N/A
U2 Design Engineering On-site/Complete	Mar 2016	On Schedule	N/A
Submit 6 Month Status Report	Jun 2016	On Schedule	N/A

Milestone	Target Completion Date	Activity Status	Revised Target/ Completion Date
Operations Procedure Changes Developed	Dec 2016	On Schedule	N/A
Site Specific Maintenance Procedure Developed	Dec 2016	On Schedule	N/A
Submit 6 Month Status Report	Dec 2016	On Schedule	N/A
Training Complete	Dec 2016	On Schedule	N/A
U2 Implementation Outage	Feb 2017	On Schedule	N/A
Procedure Changes Active	Mar 2017	On Schedule	N/A
U2 Walk Through Demonstration/Functional Test	Mar 2017	On Schedule	N/A
U1 Design Engineering On-site/Complete	Mar 2017	On Schedule	N/A
Submit 6 Month Status Report	Jun 2017	On Schedule	N/A
Submit 6 Month Status Report	Dec 2017	On Schedule	N/A
U1 Implementation Outage	Feb 2018	On Schedule	N/A
U1 Walk Through Demonstration/Functional Test	Mar 2018	On Schedule	N/A
Submit Completion Report	May 2018	On Schedule	N/A

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

Edwin I. Hatch Nuclear Plant – Units 1 and 2, expect 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 or the Interim Staff Evaluation (ISE) and the status of each item.

	Overall Integrated Plan Phase 1 Open Item	**Status/Comment**
1	Determine location of Dedicated HCVS Battery transfer switch	Complete
2	Determine location of back-up nitrogen bottles	*In progress*
3	Evaluate location of Portable DG for accessibility under Severe Accident HCVS use	**Confirmatory action** *In progress*
4	Confirm suppression pool heat capacity	**Confirmatory action** *In progress*
5	Determine location of HCVS Remote Operating Station (ROS)	*In progress*
6	State which approach or combination of approaches Plant Hatch decides to take to address the control of flammable gases, clearly demarcating the segments of vent system to which an approach applies	*In progress*
7	Evaluate SGTS Valve Leakage utilizing criteria from NEI HCVS-FAQ-05	**Confirmatory action** *In progress*
8	Identify qualification method used for HCVS instruments	*In progress*
9	Evaluate HCVS monitoring location for accessibility, habitability, staffing sufficiency, and communication capability with Vent-use decision makers	**Confirmatory action** *In progress*
10	Perform severe accident evaluation for FLEX DG use post 24 hour actions	**Confirmatory action** *In progress*
11	Determine the control document for HCVS out of service time criteria	**Confirmatory action** *In progress*

Interim Staff Evaluation Open Item	**Status**
1. Make available for NRC staff audit the location of the ROSs.	*In progress (same as 5 above)*
2. Make available for NRC staff audit the location of the dedicated HCVS battery transfer switch.	*Available (same as 1 above)*
3. Make available for NRC staff audit documentation of the HCVS nitrogen pneumatic system design including sizing and location.	*In progress (part of 2 above)*

4. Make available for NRC staff audit the deployment location of the portable diesel generators.	*In progress (same as 3 above)*
5. 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.	*In progress*
6. 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.	*In progress (part of 4 above)*
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, 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.	*In progress (part of 8 above)*
8. Make available for NRC staff audit the final sizing evaluation for HCVS batteries/battery charger including incorporation into FLEX DG loading calculation.	*In progress (part of 10 above)*
9. 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.	*In progress (same as 9 above)*
10. Provide a description of the final design of the HCVS to address hydrogen detonation and deflagration.	*In progress (same as 6 above)*
11. 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.	*In progress (same as 7 above)*
12. Make available descriptions of design details that minimize unintended cross flow of vented fluids within a unit and between units.	*In progress (same as 5 above)*
13. Make available for NRC staff audit descriptions of all instrumentation and controls (existing and planned) necessary to implement this order including qualification methods.	*In progress (same as 8 above)*
14. 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.	*In progress*
15. Make available for NRC staff audit the control document for HCVS out of service time criteria.	*In progress (same as 11 above)*

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. SNC Letter, *Edwin I. Hatch Phase I Overall Integrated Plan in Response to June 6, 2013 Commission Order Modifying Licenses with Regard to Requirements for Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions (Order Number EA-13-109),* dated June 27, 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, *Hardened Containment Venting System (HCVS) Phase 1 Overall Integrated Plan Template (EA-13-109) Rev 0* (Accession No. ML14128A219).
6. SNC Letter, *Edwin I. Hatch Nuclear Plant – Units 1 and 2 Phase 1 Overall Integrated Plan in Response to June 6, 2013 Commission Order Modifying Licenses with Regard to Requirements for Reliable Hardened Containment Vents (EA-13-109),* Revision 0, dated June 27, 2014.
7. SNC Letter, *First Six-Month Status Report of the Implementation of the Commission Order with Regard to Requirements for Reliable Hardened Containment Vents (EA-13-109),* dated December 30, 2014.
8. NRC Letter, *Edwin I. Hatch Nuclear Plant Units, 1 and 2 - 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. MF4479 and MF4480),* dated March 25, 2015.