UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 25, 2016

Mr. Robert Braun
President and Chief Nuclear Officer
PSEG Nuclear LLC – N09
P. O. Box 236
Hancocks Bridge, NJ 08038

SUBJECT: HOPE CREEK GENERATING STATION - REPORT FOR THE ONSITE AUDIT REGARDING IMPLEMENTATION OF MITIGATING STRATEGIES AND RELIABLE SPENT FUEL POOL INSTRUMENTATION RELATED TO ORDERS EA-12-049 AND EA-12-051 (CAC NOS. MF0867 AND MF1031)

Dear Mr. Braun:

On March 12, 2012, the U.S. Nuclear Regulatory Commission (NRC) issued Order EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond Design-Basis External Events" and Order EA-12-051, "Order to Modify Licenses With Regard To Reliable Spent Fuel Pool Instrumentation," (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML12054A736 and ML12054A679, respectively). The orders require holders of operating reactor licenses and construction permits issued under Title 10 of the *Code of Federal Regulations* Part 50 to submit for review, Overall Integrated Plans (OIPs) including descriptions of how compliance with the requirements of Attachment 2 of each order will be achieved.

By letter dated February 27, 2013 (ADAMS Accession No. ML13059A272), PSEG Nuclear LLC (PSEG, the licensee) submitted its OIP for Hope Creek Generating Station (Hope Creek) in response to Order EA-12-049. By letters dated August 22, 2013, February 25, 2014, August 26, 2014, February 18, 2015, and August 27, 2015 (ADAMS Accession Nos. ML13235A096, ML14058A229, ML14239A326, ML15051A256, and ML15239B333, respectively), PSEG submitted its first five six-month updates to the OIP. By letter dated August 28, 2013 (ADAMS Accession No. ML13234A503), the NRC notified all licensees and construction permit holders that the staff is conducting audits of their responses to Order EA-12-049 in accordance with NRC Office of Nuclear Reactor Regulation (NRR) Office Instruction LIC-111, "Regulatory Audits" (ADAMS Accession No. ML082900195). This audit process led to the issuance of the NRC's interim staff evaluation (ISE) for Hope Creek (ADAMS Accession No. ML13365A253) and continues with in-office and onsite portions of this audit.

By letter dated February 27, 2013 (ADAMS Accession No. ML130720035), the licensee submitted its OIP in response to Order EA-12-051. By letter dated July 22, 2013 (ADAMS Accession No. ML13193A291), the NRC staff sent a request for additional information (RAI) to the licensee. By letters dated August 20, 2013, August 22, 2013, February 25, 2014, August 26, 2014, and February 18, 2015 (ADAMS Accession Nos. ML13233A355, ML13235A100, ML14058A233, ML14239A327, and ML15051A201, respectively), the licensee submitted its RAI responses and first five six-month updates to the OIP. The NRC staff's review led to the issuance of the Hope Creek ISE and RAI dated November 22, 2013 (ADAMS Accession No. ML13309B592). By letter dated July 28, 2015 (ADAMS Accession No. ML15209A867), the

licensee reported achieving compliance with Order EA-12-051. By letter dated March 26, 2014 (ADAMS Accession No. ML14083A620), the NRC notified all licensees and construction permit holders that the staff is conducting in-office and onsite audits of their responses to Order EA- 12- 051 in accordance with NRC NRR Office Instruction LIC-111, as discussed above.

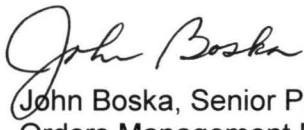
The ongoing audit process, to include the in-office and onsite portions, allows the staff to assess whether it has enough information to make a safety evaluation of the Integrated Plans. The audit allows the staff to review open and confirmatory items from the mitigation strategies ISE, RAI responses from the spent fuel pool instrumentation (SFPI) ISE, the licensee's integrated plans, and other audit questions. Additionally, the staff gains a better understanding of submitted and updated information, audit information provided on ePortals, and preliminary Overall Program Documents/Final Integrated Plans while identifying additional information necessary for the licensee to supplement its plan and address staff potential concerns.

In support of the ongoing audit of the licensee's OIPs, including the supplements, the NRC staff conducted an onsite audit at Hope Creek from February 1 to February 4, 2016, per the audit plan dated January 7, 2016 (ADAMS Accession No. ML16005A421). The purpose of the onsite portion of the audit was to provide the NRC staff the opportunity to continue the audit review and gain key insights most easily obtained at the plant as to whether the licensee is on a successful path for compliance with the Mitigation Strategies order. As the licensee has already declared compliance with the SFPI order, the staff used the audit visit as an opportunity to gather information needed for the NRC's safety evaluation related to that order. The onsite activities included detailed analysis and calculation discussions, walk-throughs of strategies and equipment laydown, visualization of portable equipment storage and deployment, review of staging and deployment of offsite equipment, and review of installation details for SFPI equipment.

The enclosed audit report provides a summary of the activities for the onsite audit portion. Additionally, this report contains an attachment listing all open audit items for Hope Creek currently under NRC staff review.

If you have any questions, please contact me at 301-415-2901 or by e-mail at John.Boska@nrc.gov.

Sincerely,



John Boska, Senior Project Manager
Orders Management Branch
Japan Lessons-Learned Division
Office of Nuclear Reactor Regulation

Docket No.: 50-354

Enclosure:
Audit Report

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

AUDIT REPORT BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO ORDERS EA-12-049 AND EA-12-051 MODIFYING LICENSES

WITH REGARD TO REQUIREMENTS FOR

MITIGATION STRATEGIES FOR BEYOND-DESIGN-BASIS EXTERNAL EVENTS

AND RELIABLE SPENT FUEL POOL INSTRUMENTATION

PSEG NUCLEAR LLC

HOPE CREEK GENERATING STATION

DOCKET NO. 50-354

BACKGROUND AND AUDIT BASIS

On March 12, 2012, the U.S. Nuclear Regulatory Commission (NRC) issued Order EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond Design-Basis External Events" and Order EA-12-051, "Order to Modify Licenses With Regard To Reliable Spent Fuel Pool Instrumentation," (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML12054A736 and ML12054A679, respectively). Order EA-12-049 directs licensees to develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool (SFP) cooling capabilities in the event of a beyond-design-basis external event (BDBEE). Order EA-12-051 requires, in part, that all operating reactor sites have a reliable means of remotely monitoring wide-range SFP levels to support effective prioritization of event mitigation and recovery actions in the event of a BDBEE. The orders require holders of operating reactor licenses and construction permits issued under Title 10 of the *Code of Federal Regulations* Part 50 to submit for review, Overall Integrated Plans (OIPs) including descriptions of how compliance with the requirements of Attachment 2 of each order will be achieved.

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The ongoing audit process, to include the in-office and onsite portions, allows the staff to assess whether it has enough information to make a safety evaluation of the Integrated Plans. The audit allows the staff to review open and confirmatory items from the mitigation strategies ISE, RAI responses from the spent fuel pool instrumentation (SFPI) ISE, the licensee's integrated plans, and other audit questions. Additionally, the staff gains a better understanding of submitted and updated information, audit information provided on ePortals, and preliminary Overall Program Documents (OPDs)/Final Integrated Plans (FIPs) while identifying additional information necessary for the licensee to supplement its plan and address staff potential concerns.

In support of the ongoing audit of the licensee's OIPs, including the supplements, the NRC staff conducted an onsite audit at Hope Creek from February 1 to February 4, 2016, per the audit plan dated January 7, 2016 (ADAMS Accession No. ML16005A421). The purpose of the onsite portion of the audit was to provide the NRC staff the opportunity to continue the audit review and gain key insights most easily obtained at the plant as to whether the licensee is on a successful path for compliance with the Mitigation Strategies order. As the licensee has already declared compliance with the SFPI order, the staff used the audit visit as an opportunity to gather information needed for the NRC's safety evaluation related to that order. The onsite activities included detailed analysis and calculation discussions, walk-throughs of strategies and equipment laydown, visualization of portable equipment storage and deployment, review of staging and deployment of offsite equipment, and review of installation details for SFPI equipment.

Following the licensee's declarations of order compliance, the NRC staff will evaluate the OIPs, as supplemented; the resulting site-specific OPDs/FIPs; and, as appropriate, other licensee submittals based on the requirements in the orders. For Order EA-12-049, the staff will make a safety determination using the Nuclear Energy Institute (NEI) developed guidance document NEI 12-06, "Diverse and Flexible Coping Strategies (FLEX) Implementation Guide" issued in August 2012 (ADAMS Accession No. ML12242A378), as endorsed by NRC Japan

Lessons- Learned Directorate (JLD) interim staff guidance (ISG) JLD-ISG-2012-01 "Compliance with Order EA-12-049, 'Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events'" (ADAMS Accession No. ML12229A174). For Order EA-12-051, the staff will make a safety determination using the NEI developed guidance document NEI 12-02, Revision 1, "Industry Guidance for Compliance with NRC Order EA-12-051, 'To Modify Licenses with Regard to Reliable Spent Fuel Pool Instrumentation'" (ADAMS Accession No. ML12240A307), as endorsed, with exceptions and clarifications, by NRC ISG JLD-ISG-2012-03 "Compliance with Order EA-12-051, 'Reliable Spent Fuel Pool Instrumentation'" (ADAMS Accession No. ML12221A339) as providing one acceptable means of meeting the order requirements. Should the licensee propose an alternative strategy for compliance, additional staff review will be required to evaluate the alternative strategy in reference to the applicable order.

AUDIT ACTIVITIES

The onsite audit was conducted at Hope Creek from February 1, 2016, through February 4, 2016. The NRC audit team staff was as follows:

Title	Team Member	Organization
Team Lead/Project Manager	John Boska	NRR/JLD
Technical Support – Electrical	Kerby Scales	NRR/JLD
Technical Support – Reactor Systems	Joshua Miller	NRR/JLD
Technical Support – Balance of Plant	Michael Levine	NRR/JLD
Technical Support – I&C	Khoi Nguyen	NRR/JLD
Technical Support – Containment	Bruce Heida	NRR/JLD
Branch Chief – Balance of Plant	Jessie Quichocho	NRR/JLD

The NRC staff executed the onsite portion of the audit per the three part approach discussed in the January 7, 2016, plan, to include conducting a tabletop discussion of the site's integrated mitigating strategies (MS) compliance program, a review of specific technical review items, and discussion of specific program topics. Activities that were planned to support the above included detailed analysis and calculation discussions, walk-throughs of strategies and equipment laydown, visualization of portable equipment storage and deployment, staging and deployment of offsite equipment, and physical sizing and placement of SFPI equipment.

AUDIT SUMMARY

1.0 Entrance Meeting (February 1, 2016)

At the audit entrance meeting, the NRC staff audit team introduced itself followed by introductions from the licensee's staff. The NRC audit team provided a brief overview of the audit's objectives and anticipated schedule.

2.0 Integrated Mitigating Strategies Compliance Program Overview

Per the audit plan and as an introduction to the site's program, the licensee provided a presentation to the NRC audit team describing the site's strategies to meet the NRC orders. The licensee reviewed its strategy to maintain core cooling, containment, and SFP cooling in the event of a BDBEE, and the plant modifications being done in order to implement the strategies. Also reviewed was the interface with the National Strategic Alliance for FLEX Emergency Response (SAFER) Response Centers including staging areas, the spent fuel pool level indication modification, the modifications planned to enhance emergency communications, preventative maintenance plans for the FLEX equipment, procedural enhancements such as development of FLEX support guidelines (FSGs), and operator training.

3.0 Onsite Audit Technical Discussion Topics

Based on the audit plan, and with a particular emphasis on the Part 2 "Specific Technical Review Items," the NRC staff technical reviewers conducted interviews with licensee technical staff, site walk-downs, and detailed document review for the items listed in the plan. Results of these technical reviews and any additional review items needed from the licensee are documented in the audit item status table in Attachment 3, as discussed in the Conclusion section below.

3.1 Reactor Systems Technical Discussions and Walk-Downs

The NRC staff met with licensee staff to discuss the amount of leakage expected from the reactor recirculation pump seals, the use of the Reactor Core Isolation Cooling (RCIC) system to maintain reactor pressure vessel (RPV) level, the availability of water sources, and the heat up of the suppression pool due to steam release from the RPV. The NRC staff reviewed the analysis and flow calculations along with applicable procedures. The NRC staff reviewed the licensee's strategy for utilizing raw water sources (the Delaware River), including water filtration and monitoring of core parameters to ensure adequate cooling. The NRC staff also walked down the licensee's strategies and reviewed plant procedures for implementing the core cooling and makeup strategies.

The NRC staff identified to the licensee that the staff considers the two FLEX RPV makeup pumps permanently located in the Unit 1 reactor building to be an alternative to NEI 12-06, Section 3.2.2, paragraph 13. The licensee presented information on the survivability of the pumps for different scenarios and requested approval of the alternative. The NRC staff concluded that it was a permissible alternative.

3.2 Electrical Technical Discussions and Walk-Downs

a. The NRC staff reviewed the calculations on extending battery life based on load shedding, and walked down the battery rooms to evaluate strategies for hydrogen and temperature control. The NRC staff also walked down panels used for load shedding to evaluate feasibility and timing.

b. The NRC staff walked down connection points and locations for FLEX electrical generators. In order to provide electrical power that is protected from potential flooding, the licensee has installed two FLEX generators on the roof of the Unit 2 reactor building (Unit 2 construction was halted and never completed). The staff reviewed the licensee's load and sizing calculations for the FLEX generators.

c. The NRC staff identified to the licensee a strategy that the NRC staff considers to be an alternative to NEI 12-06. The licensee uses a single FLEX motor control center (MCC) to route FLEX electrical power to the desired equipment, even though there are multiple FLEX diesel generators. This is an alternative to NEI 12-06, Section 3.2.2, since there is not a primary and alternate method to repower key equipment. The licensee presented information on the robust design and survivability of the FLEX MCC, and requested approval of the alternative. The NRC staff concluded that it was a permissible alternative.

3.3 SFPI Technical Discussions and Walk-Downs

The NRC staff walked down the location of the level sensors in the spent fuel pool (SFP) and the cable runs from the sensors to the electronics in the lower control equipment room, where the two channels of SFP level indication are available for operators to read. Another readout on recorders in the main control room is provided for operator convenience.

3.4 Main Control Room Temperature Response

The NRC staff reviewed the licensee's documentation on how the ELAP event may affect temperatures in various areas of the plant, and thereby affect personnel habitability and equipment operating environments. The staff noted that the licensee's GOTHIC model used for the heatup calculation for the main control room had certain assumptions about operators removing ceiling tiles to allow additional expansion for hot air. The staff identified that the ELAP procedure did not match the GOTHIC model in regards to the number of ceiling tiles being removed. During follow-up reviews, the licensee identified that the current plant response procedures for a station blackout event did not match the design calculation assumptions for that event. The licensee entered these issues into the corrective action program for evaluation, and to update the design calculations and procedures as necessary.

3.5 Other Technical Discussion Areas and Walk-Downs

a. The NRC staff toured the storage locations for the FLEX equipment, and the deployment paths that would be used to bring the equipment to the locations where it would be placed in service.

b. The NRC staff walked down the FLEX strategies for core cooling, RCS inventory, and SFP inventory functions. This included the point of deployment for the portable FLEX pumps, hose routing and deployment connection points (primary and alternate).

c. The NRC staff reviewed the strategy that will be implemented by the licensee to refuel the diesel-powered FLEX equipment. The NRC staff reviewed the instructions for refueling the equipment, as well as the capabilities of the equipment that would be used to perform the refueling. Additionally, the staff reviewed the licensee's procedures for ensuring adequate fuel quality.

d. The licensee's cooldown strategy relies on operation of the RPV safety relief valves (SRVs). The NRC staff reviewed the capability to operate the SRVs during an extended loss of alternating current power (ELAP).

4.0 Exit Meeting (February 4, 2016)

The NRC staff audit team conducted an exit meeting with licensee staff following the closure of onsite audit activities. The NRC staff highlighted items reviewed and noted that the results of the onsite audit trip will be documented in this report. There was one FLEX issue open at the conclusion of the audit and it was discussed at the exit meeting The NRC staff also noted three items that appear to be alternatives to NEI 12-06, and may need additional licensee discussion in the final integrated plan. See Attachment 3 for additional information.

CONCLUSION

The NRC staff completed all three parts of the January 7, 2016, onsite audit plan. Each audit item listed in Part 2 of the plan was reviewed by NRC staff members while on site. In addition to the list of NRC and licensee onsite audit staff participants in Attachment 1, Attachment 2 provides a list of documents reviewed during the onsite audit portion.

In support of the continuing audit process as the licensee proceeds towards orders compliance for this site, Attachment 3 provides the status of all open audit review items that the NRC staff is evaluating in anticipation of issuance of a combined safety evaluation for both the Mitigation Strategies and Spent Fuel Pool Instrumentation orders. The five sources for the audit items referenced below are as follows:

a. Interim Staff Evaluation (ISE) Open Items (OIs) and Confirmatory Items (CIs)

b. Audit Questions (AQs)

c. Licensee-identified Overall Integrated Plan (OIP) Open Items (OIs)

d. SFPI Requests for Additional Information (RAIs)

e. Additional information needed to support the Safety Evaluation (SE)

The attachments provide audit information as follows:

a. Attachment 1: List of NRC staff and licensee staff audit participants

b. Attachment 2: List of documents reviewed during the onsite audit

c. Attachment 3: MS/SFPI SE Audit Items currently under NRC staff review (licensee input needed as noted)

While this report notes the completion of the onsite portion of the audit per the audit plan dated January 7, 2016, the ongoing audit process continues as per the letters dated August 28, 2013, and March 26, 2014, to all licensees and construction permit holders for both orders.

Additionally, while Attachment 3 provides a list of currently open items, the status and progress of the NRC staff's review may change based on licensee plan changes, resolution of generic issues, and other NRC staff concerns not previously documented. Changes in the NRC staff review will be communicated in the ongoing audit process.

Attachments:
1. NRC and Licensee Staff Onsite Audit Participants
2. Onsite Audit Documents Reviewed
3. MS/SFPI Audit Items currently under NRC staff review

Onsite Audit Participants

NRC Staff:

John Boska	NRR/JLD/JOMB
Michael Levine	NRR/JLD/JCBB
Joshua Miller	NRR/JLD/JERB
Kerby Scales	NRR/JLD/JERB
Khoi Nguyen	NRR/JLD/JERB
Bruce Heida	NRR/JLD/JCBB
Jessie Quichocho, Branch Chief	NRR/JLD/JCBB

Hope Creek Staff:

Tim Devik	FLEX Team Lead
Joe Baker	EP Manager
Bill McTigue	Fukushima Response Licensing
Jack Carey	Engineering
Suresh Agarwal	Engineering
Charlotte Geiger	Fukushima Response Project Manager
Craig Banner	Beyond Design Basis Program Manager
Steve Bier	Operations Shift Supervisor
Mark Schwartz	Operations
Stuart Richardson	Engineering
Tim Gallagher	Emergency Services Compliance
John Farr	Operations
Pete Koppel	Maintenance Superintendent
Dan Blount	Sargent & Lundy

Documents Reviewed

- EM-HC-100-1000, Response to Beyond Design Basis External Events Program Document, Hope Creek Generating Station, Revision 0.
- SAFER Response Plan for Hope Creek Generating Station, VTD 432539, Rev. 1, AREVA document No. 38-9233745-000, Rev. 3.
- DCP 80110321, Hope Creek FLEX Mechanical Connection Modifications, Rev. 1.
- DCP 80110322, Hope Creek FLEX Electrical Connections, Rev. 4.
- DCP 80108785, HC U2 Upgrades for FLEX Equipment Storage, Rev. 1.
- DCP 80109771, Spent Fuel Pool Level Instrumentation, Rev. 5
- DCP 80110947, Hope Creek Communications Upgrade, Rev. 0.
- Drawing E-0006-1 (Q) - 12 (Sh. 1 of 2), Rev. 12: Single Line Meter & Relay Diagram 4.16 KV Class 1E Power Systems.
- Drawing E-0009-1 (Q) – 26 (Sh. 1 of 5), Rev. 26: Single Line Meter & Relay Diagram 125V. DC System – Channels A&C
- Drawing E-0009-1 (Q) – 30 (Sh. 2 of 5), Rev. 30: Single Line Meter & Relay Diagram 125V. DC System – Channels B&D
- Drawing E-0011-1 (Q) – 20 (Sh. 1 of 2), Rev. 20: Single Line Meter & Relay Diagram 250V DC System - Unit 1
- Drawing E-0011-1 (Q) – 20 (Sh. 2 of 2), Rev. 20: Single Line Meter & Relay Diagram 250V DC System - Unit 1
- Drawing E-0012-1 (Q) - 16 (Sh. 1 of 5), Rev. 16: Single Line Meter & Relay Diagrams 120V AC Instrumentation & Misc. Systems
- Drawing E-0018-1 (Q) - 36 (Sh. 1 of 3), Rev. 36: Single Line Meter & Relay Diagram 480 Volt Class 1E Unit Substation
- Drawing E-0018-1 (Q) - 40 (Sh. 2 of 3), Rev. 40: Single Line Meter & Relay Diagram 480 Volt Class 1E Unit Substation
- Drawing E-10179-0-0, Rev. 0: Stand By 4KV/480V FLEX Miscellaneous Wiring (DCP 80110322, AD E109, Rev. 5).
- Calculation E-15.16, Rev. 0: Hope Creek FLEX Electrical System Loading Analysis.
- VTD 432554, Rev. 1, GOTHIC Calculation H-1-FLX-MDC-4015, Hope Creek Reactor Building Loss of AC Power FLEX Response, Revision 0.
- VTD 432340, Rev. 3, GOTHIC Calculation H-1-FLX-MDC-4016, Hope Creek Auxiliary Building Loss of AC Power FLEX Response, Revision 2.
- Calculation HC-MISC-005, MAAP Analysis to Support FLEX Initial Strategy, Revision 0
- Calculation HC-MISC-006, HCGS Response to NRC Confirmatory Items Regarding Order EA-12-049, Rev. 1
- Calculation EC-0010, Spent Fuel Pool Evaporation Rates, Heat-up Rates, and Uncover Times, Revision 6.
- Calculation E-4.6(Q), Rev. 0: Hope Creek 125 Vdc Beyond Design Basis Event Battery Sizing Calculation.
- Calculation E-5.2(Q), Rev. 0: Hope Creek 250 Vdc Beyond Design Basis Event Battery Sizing Calculation
- Calculation H-1-FLX-MDC-4022, FLEX Hydraulic Model, Rev. 0.

- Calculation 1-P-FLX-008-C001, Pipe Support Qualification for FLEX Line 1-FLX-008, Rev 0
- Tech Eval 8011361-0030, Nitrogen for Safety Relief Valves
- Tech Eval 80113610-0070, Evaluation of FLEX Portable Equipment Fuel Usage against NEI 12-06 Requirements for Hope Creek
- Tech Eval 80113610-0190, Tech Eval of HC SFP Spray Header Seismic Ruggedness
- Tech Eval 80113610-0240, Evaluation of Condensate Storage Tank Availability During an ELAP Event Caused by Extreme Cold Conditions
- VTD 432404, FLEX Pump Specifications
- HC-OP-AB-ZZ-0135, Rev. 41: Station Blackout // Loss of Offsite Power // Diesel Generator Malfunction
- HC.OP-AM.TSC-0014, Rev. 8, RCIC System Operation with Complete Loss of AC & DC Power.
- HC.OP-AM.TSC-0027, Rev. 1, Local Monitoring of Plant Parameters
- HC.OP-EO.ZZ-0401, Rev. 0, FLEX Electrical – Phase 2
- HC.OP-EO.ZZ-0402, Rev. 0, FLEX Electrical – Phase 3
- HC.OP-EO.ZZ-0403, Rev. 0, FLEX Service Water Injection
- HC.OP-EO.ZZ-0404, Rev. 0, FLEX Injection from CST
- HC.OP-EO.ZZ-0406, Rev. 0, FLEX Injection from Torus
- HC.OP-EO.ZZ-0407, Rev. 0, FLEX SRV Air Compressor
- HC.OP-EO.ZZ-0408, Rev. 0, FLEX Fuel Supply
- HC.OP-EO.ZZ-0409, Rev. 0, Station Blackout Shutdown Cooling
- HC.OP-PM.FLX-0002, Rev 0, Hope Creek FLEX Equipment Inventory
- SH.OP-AM.FLX-0050, Rev. 0, Pre-Storm Storage and Protection of Outdoor FLEX Equipment
- SH.OP-AM.FLX-0051, Rev. 0, Salem/Hope Creek Shared FLEX Equipment Phase 2 Deployment
- EM-AA-100-1005, Rev 2, FLEX Response Coordination Guidelines
- MA-AA-716-002-1002, Rev. 3, Facilities Maintenance Guidelines
- OP-AA-108-111-1001, Rev. 13, Severe Weather and Natural Disaster Guidelines

Mitigation Strategies/Spent Fuel Pool Instrumentation Safety Evaluation Audit Items:

Audit Items Currently Under NRC Staff Review, Requiring Licensee Input As Noted

Audit Item Reference	Item Description	Licensee Input Needed
ISE CI 3.2.1.4.A	Need to verify flow rates and pressures for the FLEX pumps taking suction from the river and supplying water to the RPV.	The NRC staff needs to review the final hydraulic analyses to show that the flow rate for decay heat removal can be achieved.

If you have any questions, please contact me at 301-415-2901 or by e-mail at John.Boska@nrc.gov.

Sincerely,

/RA/

John Boska, Senior Project Manager
Orders Management Branch
Japan Lessons-Learned Division
Office of Nuclear Reactor Regulation

Docket No.: 50-354

Enclosure:
Audit report

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