



March 2, 2015

10 CFR 2.202
EA-12-049

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

Serial No.: 14-393B
NL&OS/MAE: R4
Docket No.: 50-336
License No.: DPR-65

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 2
SIX-MONTH STATUS REPORT IN RESPONSE TO MARCH 12, 2012 COMMISSION
ORDER MODIFYING LICENSES WITH REGARD TO REQUIREMENTS FOR
MITIGATION STRATEGIES FOR BEYOND-DESIGN-BASIS EXTERNAL EVENTS
(ORDER NUMBER EA-12-049)

References:

1. NRC Order Number EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events, dated March 12, 2012
2. Dominion Nuclear Connecticut, Inc., Overall Integrated Plan in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049), dated February 28, 2013 (Serial No. 12-161B)
3. Dominion Nuclear Connecticut, Inc., Six Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049), dated August 28, 2014 (Serial No. 14-393)

On March 12, 2012, the Nuclear Regulatory Commission (NRC) issued an order (Reference 1) to Dominion Nuclear Connecticut, Inc. (DNC). Reference 1 was immediately effective and directed DNC to develop, implement, and maintain guidance and strategies to maintain core cooling, containment, and spent fuel pool cooling capabilities in the event of a beyond-design-basis external event.

Reference 1 required submission of an Overall Integrated Plan (OIP) (Reference 2) pursuant to Section IV, Condition C. Reference 1 also required submission of a status report at six-month intervals following submittal of the OIP.

Attachment 1 to this letter provides the fourth six-month status report and an update of milestone accomplishments since the submittal of the previous six-month status report

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(Reference 3), including any changes to the compliance method, schedule, or need for relief and the basis.

If you have any questions, please contact Ms. Margaret Earle at (804) 273-2768.

Sincerely,



Mark D. Sartain
Vice President - Nuclear Engineering

Attachments (2)

Commitments made by this letter: No new Regulatory Commitments

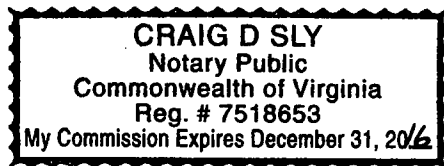
COMMONWEALTH OF VIRGINIA)
)
COUNTY OF HENRICO)

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by Mark D. Sartain who is Vice President - Nuclear Engineering of Dominion Nuclear Connecticut, Inc. He has affirmed before me that he is duly authorized to execute and file the foregoing document in behalf of the Company, and that the statements in the document are true to the best of his knowledge and belief.

Acknowledged before me this 2ND day of March, 2015.

My Commission Expires: December 31, 2016.

(SEAL)





Notary Public

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NRC Senior Resident Inspector
Millstone Power Station

Attachment 1

**Six-Month Status Report for the Implementation of Order EA-12-049, Order
Modifying Licenses with Regard to Requirements for Mitigation Strategies for
Beyond-Design-Basis External Events**

February 2015

Millstone Power Station Unit 2

Dominion Nuclear Connecticut, Inc. (DNC)

Six-Month Status Report for the Implementation of Order EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events

1 Introduction

Dominion Nuclear Connecticut, Inc. (DNC) developed an Overall Integrated Plan (OIP) (Reference 1), documenting the diverse and flexible strategies (FLEX) for Millstone Power Station Unit 2 (MPS2), in response to NRC Order Number EA-12-049 (Reference 2). This attachment provides an update of milestone accomplishments and open items since the last status report (Reference 3), including changes to the compliance method, schedule, or need for relief/relaxation and the basis, if any.

2 Milestone Accomplishments

The following milestones have been completed since the development of the OIP, and are current as of January 31, 2015.

- Submit Integrated Plan
- Develop Strategies
- Develop Training Plan
- Develop Strategies/Contract with NSRC
- Purchase Equipment
- Receive Equipment
- Create Maintenance Procedures

3 Milestone Schedule Status

The following table provides an update to Attachment 2A of the OIP. It provides the activity status of each item as of January 31, 2015, 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 for 'Develop Modifications,' 'Implement Modifications,' 'Implement Training,' 'Issue FSGs and Associated Procedure Revisions,' 'Validation Walk-throughs or Demonstrations of FLEX Strategies and Procedures,' and 'Outage Implementation' do not impact the Order implementation date.

Milestone	Target Completion Date	Activity Status	Revised Target Completion Date
Submit Integrated Plan	February 2013	Complete	
Develop Strategies	April 2014	Complete	
Develop Modifications	December 2014	Started	March 2015*
Implement Modifications	October 2015	Started	
Develop Training Plan	April 2014	Complete	
Implement Training	April 2015	Started	September 2015*
Issue FSGs and Associated Procedure Revisions	July 2015	Started	September 2015*
Develop Strategies/Contract with NSRC**	August 2014	Complete	
Purchase Equipment	February 2014	Complete	
Receive Equipment	September 2014	Complete	
Validation Walk-throughs or Demonstrations of FLEX Strategies and Procedures	December 2014	Started	February 2015*
Create Maintenance Procedures*	August 2014	Complete	
Outage Implementation	October 2015	Not Started	

* Refer to Section 8, Supplemental Information, for an explanation of the change to this Milestone.

** NSRC is the National SAFER Response Center.

4 Changes to Compliance Method

By letter dated February 28, 2013, (Reference 1), DNC provided an OIP to address Beyond-Design-Basis (BDB) events at MPS2 and MPS Unit 3 (MPS3) as required by Order Number EA-12-049, dated March 12, 2012. The first Six-Month Status Update of the OIP for MPS2 and MPS3 was provided by letter dated August 23, 2013 (Reference 4). The second and third Six-Month Status Updates for MPS2 were provided by letters dated February 28, 2014 (Reference 3) and August 28, 2014 (Reference 5), respectively. Listed below are changes to the compliance method information provided in the MPS2 OIP and subsequent updates. These changes continue to meet Nuclear Energy Institute (NEI) 12-06 guidance (Reference 6):

- a. An alternate location for the 120 VAC and 480 VAC Diesel Generators (DGs) has been identified in the event that the "Courtyard" area at the west end of the MPS Unit 1 (MPS1) Radwaste Building is not accessible. The alternate area for the 480 VAC DG is in the alleyway just south of the MPS1 Radwaste Building. The alternate area for the 120/240 VAC DG is in the area east of the MPS2 Auxiliary Building at the Health Physics entrance. The available cables for both DGs are of sufficient length for either their primary or alternate locations. The alternate areas were identified in response to concerns for blockage of the haul route to the primary "courtyard" location due to failure of the MPS stack structure.

The tie-in location for the NSRC High Capacity / Low Pressure pump that is used to supply cooling water from Long Island Sound for either the primary or the alternate Containment cooling strategy was incorrectly identified in OIP Figures 10 and 11 provided in the February 2014 Six Month Status Update (Reference 3). These figures have been revised and included at the end of this attachment.

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

DNC expects to comply with the order implementation date and no relief/relaxation is required at this time.

6 Open Items

The Nuclear Regulatory Commission (NRC) has established an audit process to allow the exchange of information between the licensees and the NRC Staff (Reference 7). Between July 21, 2014 and July 25, 2014, MPS2 and MPS3 were the subject of an NRC onsite audit where the site specific aspects of DNC's proposed FLEX Mitigating Strategies were reviewed. During this NRC onsite audit, the staff reviewed site specific documentation and upon completion of the audit, indicated that further review of several items was not anticipated as DNC proceeds towards compliance for Orders EA-12-049 and EA-12-051. These items are identified in the following tables in Section 6. Note that the tables provided in Sections 6.4 and 6.5 are new and are the result of the ongoing NRC audit process.

6.1. Open Items from Overall Integrated Plan

The following table provides a summary of the status of Open Items (OI) identified by DNC and documented in Attachment 2B of the MPS2 OIP submitted on February 28, 2013 and the status of each item.

Overall Integrated Plan Open Items		
OI #	Description	Status
1	Verify response times listed in timeline and perform staffing assessment.	See Milestone Schedule above for completion schedule. In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)
2	Preliminary analyses have been performed to determine the time to steam generator (SG) overflow without operator action to reduce Auxiliary Feedwater (AFW) flow, time to SG dryout without AFW flow, and time to depletion of the Condensate Storage Tank (CST). Final durations will be provided when the analyses are completed.	Complete. (Reference 9) In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)
3	Analyses will be performed to develop fluid components performance requirements and confirm fluid hydraulic-related strategy objectives can be met.	Complete. The hydraulic calculations for the FLEX pumps deployed using their associated hose networks have confirmed that the primary and the alternate connections for core cooling/decay heat removal, RCS Inventory, and reactivity control (RCS Injection), and Spent Fuel Pool (SFP) make-up strategies can be satisfactorily accomplished in response to an extended loss of alternating current (ac) power (ELAP)/Loss of Ultimate Heat Sink (LUHS) event. (Reference 10) Hydraulic calculations have confirmed that the service water (SW) flows for the Containment cooling options are adequate. (Reference 10) In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)

Overall Integrated Plan Open Items		
OI #	Description	Status
4	A study is in progress to determine the design features, site location(s), and number of equipment storage facilities. The final design for BDB equipment storage will be based on the guidance contained in NEI 12-06, Section 11.3, Equipment Storage. A supplement to this submittal will be provided with the results of the equipment storage study.	<p>Complete.</p> <p>A single 10,000 sq. ft. Type 1 building has been constructed at MPS for storage of BDB equipment. The building is designed to meet the plant's design basis for the Safe Shutdown Earthquake, high wind hazards, snow, ice and cold conditions, and is located above the flood elevation from the most recent site flood analysis.</p> <p>The BDB Storage Building is sited south of the railroad bridge, on the west side of the MPS access road, adjacent to the existing northeast contractor parking lot. (References 11 and 12)</p>
5	FLEX Support Guidelines (FSGs) will be developed in accordance with PWROG guidance. Existing procedures will be revised as necessary to implement FSGs.	<p>Started.</p> <p>Scheduled completion date is revised from July 2015 to September 2015*</p>
6	Electric Power Research Institute (EPRI) guidance documents will be used to develop periodic testing and preventative maintenance procedures for BDB equipment. Procedures will be developed to manage unavailability of equipment such that risk to mitigating strategy capability is minimized.	<p>Complete.</p> <p>EPRI guidance documents have been used, where available, to develop the testing and preventative maintenance strategies for the sites. Fleet-wide templates have been developed and input into the individual site maintenance strategies. Specific Preventative Maintenance (PM) procedures based on these strategies will be implemented prior to the required MPS2 compliance date for Order EA-12-049.</p> <p>A fleet-wide FLEX Strategy Program Document has been developed (Refer to Open Item 7). The program includes the requirement to manage unavailability of equipment such that risk to mitigating strategy capability is minimized. A fleet-wide procedure has been developed to specifically address equipment unavailability. (Reference 13)</p>

Overall Integrated Plan Open Items		
OI #	Description	Status
		In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)
7	An overall program document will be developed to maintain the FLEX strategies and their bases, and provide configuration control and change management for the FLEX Program.	Complete. In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)
8	The DNC Nuclear Training Program will be revised to assure personnel proficiency in the mitigation of BDB events is developed and maintained. These programs and controls will be developed and implemented in accordance with the Systematic Approach to Training (SAT).	Complete. In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)
9	Confirm consistency of the FLEX strategies with the PWROG evaluation of post-loss of all AC power plant response for Combustion Engineering plants.	Complete. The Combustion Engineering (CE) Owners Group has issued generic guidelines to address plant response for post-loss of all AC power for CE plants. Based on these guidelines, DNC has developed plant specific FSGs for MPS2 to address plant response for post-loss of all AC power. Specifically, MPS2 will depressurize the steam generators (SGs) to a plant specific target SG pressure to prevent Safety Injection Tank (SIT) nitrogen injection. (Reference 14) In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)

Overall Integrated Plan Open Items		
OI #	Description	Status
10	Develop strategy for use of the BDB AFW Pump to provide SG injection in the unlikely event of loss of TDAFW pump due to hurricane related storm surge flooding of the Turbine Building.	<p>Complete.</p> <p>A modification to the storm preparation procedure has been developed which requires the early deployment of one BDB auxiliary feedwater (AFW) pump to the MPS2 Turbine Building Truck Bay. The modification will go into effect upon implementation of the MPS2 FSGs. (Reference 12)</p> <p>In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)</p>
11	Plant modifications will be completed for permanent plant changes required for implementation of FLEX strategies.	<p>See Milestone Schedule above for completion schedule.</p> <p>In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)</p>
12	Complete the engineering evaluation of the main steam (MS) atmospheric dump valve (ADV) outlet lines.	<p>Complete.</p> <p>The evaluation identified the need for a plant modification to the ADV outlet lines. The identified modification is included in Open Item 11. (Reference 15)</p> <p>In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)</p>

Overall Integrated Plan Open Items		
OI #	Description	Status
13	Complete the evaluation of TDAFW pump long term operation with \leq 120 psig inlet steam pressure.	Complete. Turbine driven auxiliary feedwater (TDAFW) pump operation and adequate AFW flow to the SGs at SG pressures < 120 psig has been confirmed. (References 15 and 16)
14	The Phase 3 coping strategy to maintain Containment integrity is under development. Methods to monitor and evaluate Containment conditions and depressurize/cool Containment, if necessary, will be provided in a future update.	Complete. In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)
15	Analyses will be performed to develop electrical components performance requirements and confirm electrical loading-related strategy objectives can be met.	Complete. Calculations have been completed for the sizing and loading analysis of the 120VAC, 480VAC, and 4160 VAC generators and confirm the electrical loading-related strategy objectives can be met (Reference 17). In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)
16	An evaluation of all BDB equipment fuel consumption and required re-fill strategies will be developed.	Complete. An evaluation of the BDB equipment fuel consumption and required refill strategies has been completed and provided as part of the ongoing NRC audit process. (Reference 12) In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)

Overall Integrated Plan Open Items		
OI #	Description	Status
17	A lighting study will be performed to validate the adequacy of supplemental lighting and the adequacy and practicality of using portable lighting to perform FLEX strategy actions.	<p>Complete.</p> <p>A lighting study has been completed validating the adequacy of supplemental lighting and the adequacy and practicality of using portable lighting to perform FLEX Strategy actions. This was provided as part of the ongoing NRC audit process. (Reference 12)</p> <p>In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)</p>
18	A comprehensive study of communication capabilities is being performed in accordance with the commitments made in DNC letter S/N 12-205F dated October 29, 2012 in response to Recommendation 9.3 of the 10 CFR 50.54(f) letter dated March 12, 2012. The results of this study will identify the communication means available or needed to implement command and control of the FLEX strategies at Millstone. Validation of communications required to implement FLEX strategies will be performed as part of Open Item No. 1.	<p>Complete.</p> <p>A study documenting the communications strategy has been completed. The study concludes that effective implementation of the FLEX strategies will include the use of satellite phones and hand-held radios. The study acknowledges that MPS2 does not have a sound-powered phone system or equivalent and that radio usage has limitations in a few remote plant locations. These remote locations are, however, associated only with alternate BDB connections. (Reference 18). The tabletop assessment of the FLEX strategies performed as part of the Phase 2 Staffing study has identified that the coordination of command and control of the FLEX strategies will require the use of dispatched personnel.</p> <p>In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)</p>

Overall Integrated Plan Open Items		
OI #	Description	Status
19	Details of the ventilation strategy are under development and will conform to the guidance given in NEI 12-06. The details of this strategy will be provided at a later date.	<p>Complete.</p> <p>See Attachment 2, OIP Section F5 – Safety Functions Support (Ventilation).</p> <p>In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)</p>
20	Preferred travel pathways will be determined using the guidance contained in NEI 12-06. The pathways will attempt to avoid areas with trees, power lines, and other potential obstructions and will consider the potential for soil liquefaction.	<p>Complete.</p> <p>The soil liquefaction study has been completed (Reference 19), which supports the location of the storage building and the haul routes. The results have been included with the final design package for the storage building (Reference 11).</p> <p>In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)</p>
21	The equipment listed in Table 1 will be received on site.	<p>Complete.</p> <p>In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)</p>

6.2. Open Items from Interim Staff Evaluation (ISE)

The following table provides a summary of the Open Items (OI) from the MPS2 ISE (Reference 20) and the status of each item.

Interim Staff Evaluation Open Items		
OI #	Description	Status
3.2.1.8.A	<p>Core Subcriticality and Boron Mixing: The PWROG submitted to NRC a position paper, dated August 15, 2013, which provides test data regarding boric acid mixing under single-phase natural circulation conditions and outlined applicability conditions intended to ensure that boric acid addition and mixing would occur under conditions similar to those for which boric acid mixing data is available.</p> <p>During the audit process, the licensee informed the NRC staff of its intent to abide by the generic approach discussed above. The licensee should address the clarifications in the NRC endorsement letter dated January 8, 2014.</p>	<p>Complete.</p> <p>In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)</p>
3.2.4.1.A	<p>The licensee did not provide sufficient information regarding cooling functions provided by such systems as auxiliary building cooling water, service water, or component cooling water cooling when ac power is lost during the ELAP for Phase 1 and 2. For example, the potential need for cooling water for the TDAFW pump bearings was not discussed. Additional analysis by the licensee is required to determine the acceptability of the licensee's plans to provide supplemental cooling to the subject components when normal cooling will not be available during the ELAP.</p>	<p>This ISE OI has been addressed as follows:</p> <p>Permanently installed plant equipment used to support FLEX strategies does not require cooling support systems, such as component cooling water and service water, to perform their required functions. Therefore, no additional analysis is required to confirm the acceptability of supplemental cooling to plant equipment supporting Phase 1 or 2 strategies. (Reference 12)</p> <p>This ISE Confirmatory Item (CI) is being addressed through the ongoing NRC audit process.</p>

Interim Staff Evaluation Open Items		
OI #	Description	Status
		(Reference 7)

6.3. Confirmatory Items from Interim Staff Evaluation

The following table provides a summary of the Confirmatory Items (CI) from the MPS2 ISE and the status of each item.

Interim Staff Evaluation Confirmatory Items		
CI #	Description	Status
3.1.1.2.A	Confirm that the preferred travel pathways are determined using the guidance contained in NEI 12-06. The pathways will attempt to avoid areas with trees, power lines, and other potential obstructions and will consider the potential for soil liquefaction. This is scheduled to be completed in June 2014.	This ISE CI is being addressed through the ongoing NRC audit process. (References 12 and 7)
3.1.1.3.A	Confirm that a review is completed to determine impacts from large internal flooding sources that are not seismically robust and do not require ac power.	In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)
3.1.1.4.A	The licensee's plan for implementing the use of off-site resources is not complete. The local assembly areas have not been identified. The licensee is also evaluating the possibility of boat transport for personnel.	This ISE CI is being addressed through the ongoing NRC audit process. (References 12 and 7)

Interim Staff Evaluation Confirmatory Items		
CI #	Description	Status
3.1.2.2.A	The licensee has identified open items related to deployment of equipment during flooding conditions resulting from a hurricane; to verify response times listed in the timeline and perform staffing assessment, and to perform an evaluation of all BDB equipment fuel consumption and required re-fill strategies, and to determine preferred travel pathways using the guidance contained in NEI 12-06. The pathways will attempt to avoid areas with trees, power lines, and other potential obstructions.	In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)
3.2.1.A	Confirm that Combustion Engineering Case 21 in WCAP-17601-P, as evaluated in MPS2 document ETE-NAF-2012-0150, Section 6.1, is representative for MPS2 and appropriate for simulating the ELAP transient.	In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)
3.2.1.1.A	Confirm that Westinghouse letter LTR-TDA-13-31, Rev. 0-B, Attachment 1, shows that the CENTS code used in the ELAP analysis for Combustion Engineering (CE) plants is limited to analyzing the flow conditions before reflux boiling initiates. This review should confirm an acceptable definition for the initiation of reflux boiling.	In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)
3.2.1.2.A	The RCP seal initial maximum leakage rate should be greater than or equal to the upper bound expectation for the seal leakage rate for the ELAP event discussed in the PWROG position paper addressing the RCP seal leakage for CE plants (ADAMS Accession No. ML13235A151 (Non-Publicly Available)) or justification should be provided for use of a lower value.	In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)

Interim Staff Evaluation Confirmatory Items		
CI #	Description	Status
3.2.1.6.A	Sequence of Event (SOE) action Item 5 indicates that the ELAP is declared at 45 minutes, and Action Item 6 indicates that at 50 minutes (5 minutes after the declaration of the ELAP), the operator controls SG atmospheric dump valves (ADVs) and AFW flow locally as an on-going action for cooldown and decay heat removal. On page 105 of the integrated plan in Attachment 1B NSSS Significant Reference Analysis Deviation Table, the licensee notes in item 6 that cooldown starts at 2 hours at 75 degrees F/hr. to a SG pressure of 135 psia. Clarification is needed to correct this apparent inconsistency.	In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)
3.2.1.6.B	The licensee did not provide a discussion regarding the operator actions required to control SG ADVs and AFW flow and justification is needed to determine that all the required operator actions are reasonably achievable within the required time constraint of 50 minutes during the ELAP conditions, or a discussion regarding the required cooldown completion time that is supportable by analysis.	In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)
3.2.1.6.C	Confirm that response times listed in the SOE timeline are verified and that staffing assessment has been performed.	In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)

Interim Staff Evaluation Confirmatory Items		
CI #	Description	Status
3.2.2.A	Following a BDB event, a vent pathway would be required in the event of SFP bulk boiling and can be established by opening the Fuel Building roll-up doors for inlet and outlet air flow. However the licensee's strategy for providing air flow to remove steam generated from pool boiling is not clear. The path for inlet and exhaust air is apparently the same i.e., the fuel building rollup doors. It is not clear from the discussion provided how this will enable a flow path to vent the steam and condensate from the Fuel Building.	In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)
3.2.3.A	During the audit process the licensee stated that the details of the long term Containment cooldown and depressurization strategies for MPS2 are still under development. Upon selection of the preferred strategy, detailed GOTHIC analysis will be performed to document and validate the strategy and also to provide operators with timelines and guidelines for actions to ensure the long term integrity of the Containment throughout the Phase 3 of the postulated ELAP/LUHS scenario. Confirm that the revised analyses and the selected strategy are acceptable.	In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)
3.2.4.2.A	The ventilation evaluation will be completed later this year and the results will be provided in the February 2014 6-Month update. Confirm that the evaluation and results are acceptable.	In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)
3.2.4.4.A	Confirm the adequacy of existing lighting and the adequacy of portable lighting to perform FLEX strategy actions.	In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)

Interim Staff Evaluation Confirmatory Items		
CI #	Description	Status
3.2.4.4.B	Confirm that upgrades to the site's communications systems have been completed.	This ISE CI is being addressed through the ongoing NRC audit process. (Reference 7)
3.2.4.6.A	Additional information is needed to confirm habitability of the Main Control Room during the ELAP.	This ISE CI is being addressed through the ongoing NRC audit process. (Reference 7)
3.2.4.7.A	Westinghouse is currently performing an analysis to determine the consequences of usage of impure water sources in the steam generators. The results of the analysis are expected to provide the allowed time limits on usage of these sources. The NSRC will provide equipment to initiate residual heat removal and water treatment equipment such that heat removal can be ensured for extended durations. Confirm that the analysis results and resultant strategies are acceptable.	In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)
3.2.4.9.A	A secondary source for fuel oil will be the MPS3 Diesel Fuel Oil Storage Tanks. These underground tanks contain a minimum of 32,670 gallons of fuel oil. They are seismic and missile protected. Confirm the ability to transfer this fuel, and complete an evaluation of all BDB equipment fuel consumption and required re-fill strategies, including any gasoline required for small miscellaneous equipment.	In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)
3.2.4.10.A	The licensee has completed an analysis of the battery capability regarding expected time available with ac power. Site specific procedural guidance governing load stripping will be developed. Confirm electrical components performance requirements and electrical loading-related strategy objectives can be met.	This ISE CI is being addressed through the ongoing NRC audit process. (Reference 7)

Interim Staff Evaluation Confirmatory Items		
CI #	Description	Status
3.4.A	The licensee's plans for the use of off-site resources conform to the minimum capabilities specified in NEI12-06 Section 12.2, with regard to the capability to obtain equipment and commodities to sustain and backup the site's coping strategies (item 1). Confirm the licensee addresses the remaining items (2 through 10), or provides an appropriate alternative.	In the Final Audit Report from the July 2014 NRC Onsite Audit, the NRC Staff indicated that further review of this item was not anticipated as DNC proceeds towards compliance for Order EA-12-049. (Reference 8)

6.4. Audit Questions Reviewed During the MPS2 NRC Onsite Audit

Various MPS2 Audit Questions (AQs) were evaluated during the MPS NRC Onsite Audit.

In the Final Audit Report from the July 2014 NRC Onsite Audit (Reference 8), the NRC Staff indicated that for the majority of the AQs items, further review was not anticipated as DNC proceeds towards compliance for Order EA-12-049. However, the following AQs are still under review by the NRC Staff:

AQ #s: 1, 2, 3, 6, 7, 8, 9, 12, 20, 32, 33, 35, 44, 58, 64, and 80

The responses to the above AQs are being addressed through the ongoing NRC audit process (Reference 7).

6.5. Additional Items Reviewed During the MPS2 NRC Onsite Audit

Additional Safety Evaluation (SE) Review items were identified and evaluated during the MPS NRC Onsite Audit.

In the Final Audit Report from the July 2014 NRC Onsite Audit (Reference 8), the NRC Staff indicated that for the majority of these SE items, further review was not anticipated as DNC proceeds towards compliance for Order EA-12-049. However, the following SEs are still under review by the NRC Staff:

SE #s: 7, 8, and 9

The responses to the above SEs are being addressed through the ongoing NRC audit process (Reference 7).

7 Potential Safety Evaluation Impacts

Section 6.5 addresses the additional Safety Evaluation (SE) Review items identified and evaluated during the MPS NRC Onsite Audit.

Additionally, DNC is participating in the ongoing industry effort to develop guidance for the Final Integrated Plan that will support NRC preparation of the Safety Evaluation documenting MPS2 compliance with Order EA-12-049. The format of the Final Integrated Plan is consistent with the Safety Evaluation Template provided with the July 1, 2014 Jack Davis memorandum (ML14161A643)(Reference 21).

8 Supplemental Information

This supplemental information provides details of the changes identified in the status updates above and addresses the following topics: a) a revision to Milestone Task 'Develop Modifications', b) a revision to Milestone Task 'Implement Training', c) 'Issue FSGs and Associated Procedure Revisions', d) a revision to Milestone Task 'Validation Walk-throughs or Demonstrations of FLEX Strategies and Procedures', and e) a revision to Open Item No. 5.

- a) **MPS2, Milestone Task 'Develop Modifications'**: The revision to the scheduled target completion date is needed to obtain final design change approval of the MPS2 modifications to the ADV outlet piping and the Turbine Driven AFW pump exhaust supports.
- b) **MPS2, Milestone Task 'Implement Training'**: The revision to the scheduled target completion date reflects the current MPS2 scheduled training cycles necessary to complete training on the final approved FSGs.
- c) **MPS2, Milestone Task 'Issue FSGs and Associated Procedure Revisions'**: The revision to the scheduled milestone target completion date allows for completion of training on finalized MPS2 FSGs.
- d) **MPS2, Milestone Task 'Validation Walk-throughs or Demonstrations of FLEX Strategies and Procedures'**: The revision to the scheduled milestone target completion date allows for completion of the validation of the MPS2 FSGs based on the availability of required resources.
- e) **MPS2, Open Item 5**: The Open Item completion date is revised to September 2015. The revision corresponds to the scheduled milestone target completion date and allows for completion of the MPS2 FSGs prior to the beginning of the currently scheduled MPS2 fall 2015 refueling outage.

9 References

The following references support the updates to the Overall Integrated Plan described in this attachment and are available in ADAMS or have been provided to the staff for their review.

1. DNC's Overall Integrated Plan in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049), dated February 28, 2013 (Serial No. 12-161B).
2. NRC Order Number EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," dated March 12, 2012.
3. DNC's Six Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049), dated February 28, 2014 (Serial No. 12-161E).
4. DNC's Six Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049), dated August 23, 2013 (Serial No. 12-161D).
5. DNC's Six Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049), dated August 28, 2014 (Serial No. 14-393).
6. NEI 12-06, "Diverse and Flexible Coping Strategies (FLEX) Implementation Guide," Revision 0, dated August 2012.
7. NRC letter from Jack R. Davis, Director Mitigating Strategies Directorate to All Operating Reactor Licensees and Holders of Construction Permits, "Nuclear Regulatory Commission Audits of Licensee Responses to Mitigating Strategies Order EA-12-049," dated August 28, 2013 (ML13234A503).
8. Letter from Mr. Stephen Monarque (NRC) to Mr. Dave Heacock (Dominion) titled "Millstone Power Station, Units 1 and 2 – 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," dated November 17, 2014 (ML14275A017).
9. DNC's Supplement to Overall Integrated Plan in Response to March 21, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis Events (Order Number EA-12-049), dated April 30, 2013 (Serial No. 12-161C).
10. Calculation 13-015, "MP2 & MP3 FLEX Strategy Hydraulic Calculations," Rev. 0.

11. Design Change MPG-13-00010, "BDB Storage Building/Millstone Power Station/Units 2&3."
12. ETE-CPR-12-0009, Rev. 3 "Beyond Design Basis – FLEX Strategy Overall Integrated Plan Basis Document."
13. Procedure CM-AA-BDB-102, Rev. 001, "Beyond Design Basis FLEX Equipment Unavailability Tracking."
14. PWROG letter, OG-13-197, Transmittal of PA-PSC-0965 Final CE-NSSS Specific ELAP Response (FLEX) Guidelines, May 17, 2013.
15. Calculation 13-024, "Turbine Driven Auxiliary Feedwater (TDAFW) Pump Delivered Flow at Reduced Steam Generator Pressure," Rev. 0, April 22, 2013.
16. Engineering Technical Evaluation ETE-MP-2013-1034, "MP2 Turbine Driven Aux Feedwater Pump Minimum Continuous Operating Speed," Rev. 0, dated March 12, 2013.
17. Calculation 2013-ENG-04383E2, "Millstone Power Station Unit 2 Beyond Design Basis – FLEX Electrical 4160V, 480V and 120VAC System Loading Analysis," Rev. 0.
18. ETE-CPR-2013-0003, "Beyond Design Basis Communications Strategy/Plan," Rev. 2.
19. URS Geotechnical Investigation and Engineering Report, FLEX Storage Building Project, Millstone Power Station, Waterford, Connecticut, dated January 27, 2014.
20. Millstone Power Station, Units 2 and 3 - Interim Staff Evaluation Relating to Overall Integrated Plan in Response to Order EA-12-049 (Mitigating Strategies), dated January 31, 2014.
21. Memorandum from Jack R. Davis, JLD, Office of NRR, to Stewart N. Bailey, Sheena A. Whaley, and Jeremy S. Bowen, "Supplemental Staff Guidance for the Safety Evaluations for Order EA-12-049 on Mitigation Strategies for Beyond-Design-Basis External Events and Order EA-12-051 on Spent Fuel Pool Instrumentation," dated July 1, 2014 (ML14161A643).

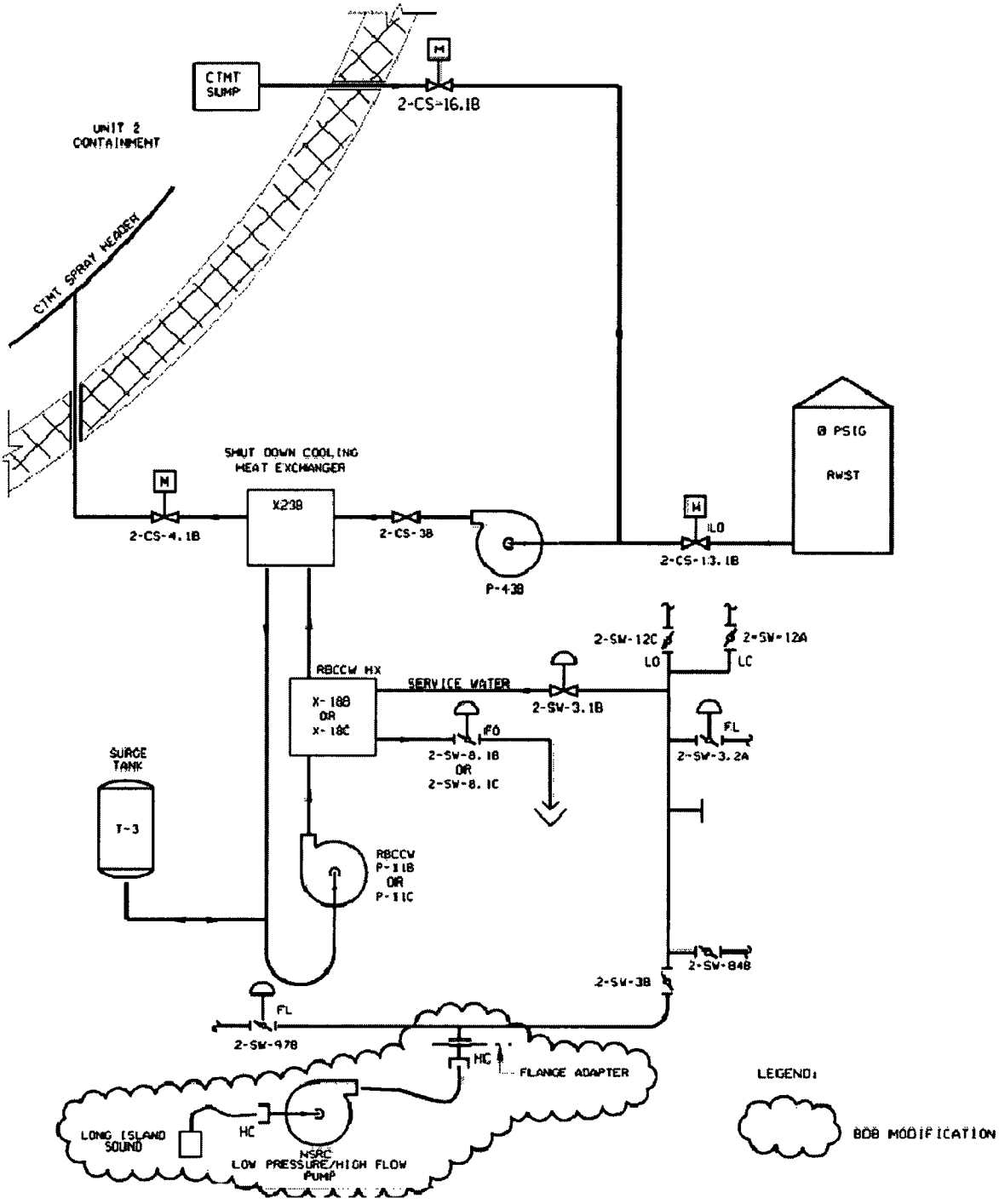


FIGURE 10
 CONTAINMENT COOLING- SPRAY OPTION
 BDB FLEX MECHANICAL CONNECTION
 MILLSTONE UNIT 2

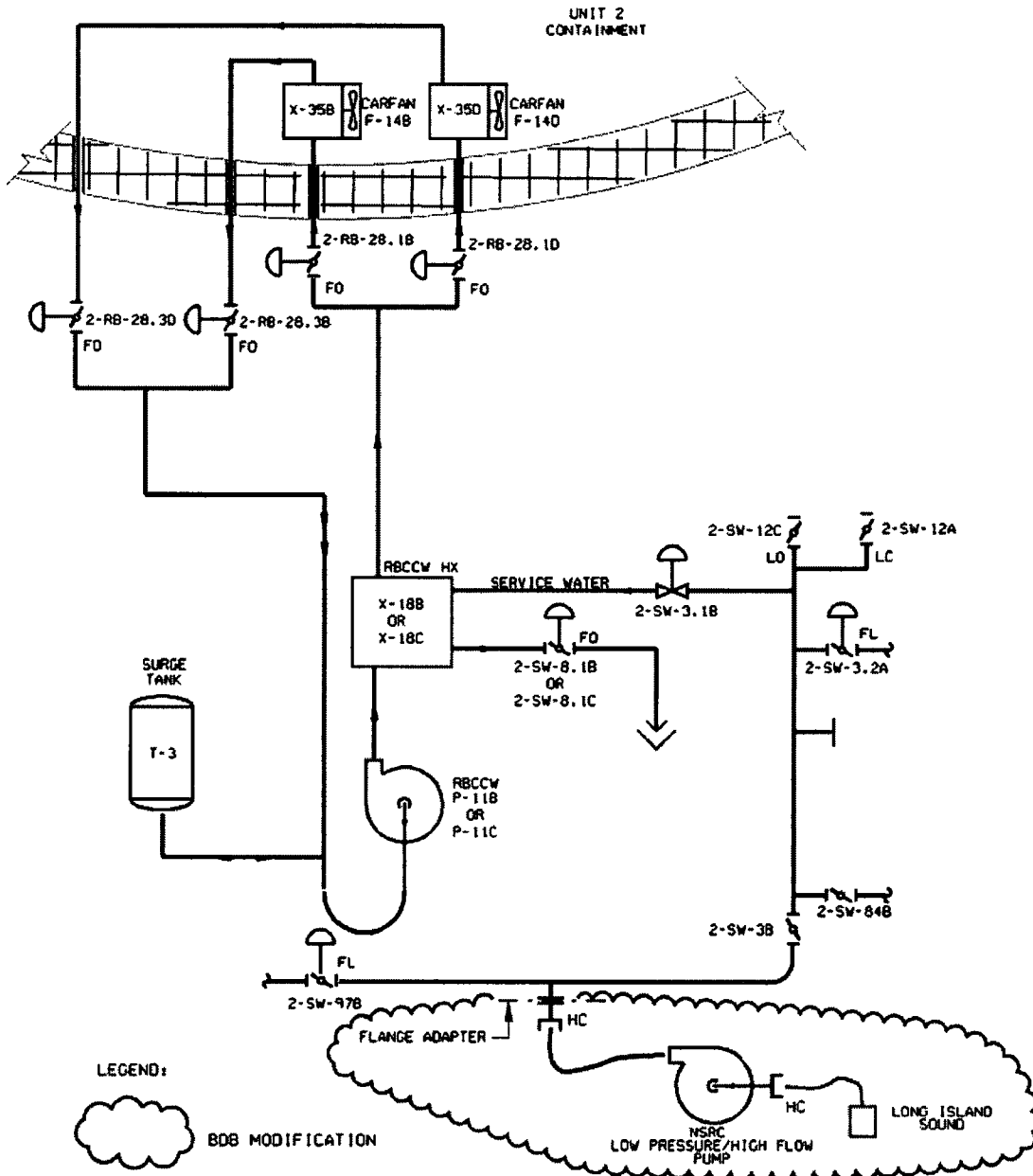


FIGURE 11
 CONTAINMENT COOLING – VENTILATION OPTION
 BDB FLEX MECHANICAL CONNECTION
 MILLSTONE UNIT 2