Dominion Nuclear Connecticut, Inc.
5000 Dominion Boulevard, Glen Allen, VA 23060
Web Address: www.dom.com

Dominion®

February 28, 2014

10 CFR 2.202
EA-12-049

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

Serial No.: 12-161F
NL&OS/MAE: R1
Docket Nos.: 50-423
License Nos.: NPF-49

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 3
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.'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)
3. Dominion Nuclear Connecticut, Inc'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)
4. NRC letter, "Nuclear Regulatory Audits of Licensee Responses to Mitigating Strategies Order EA-12-049," dated August 28, 2013 (ADAMS Accession No. ML13234A503)

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 of this letter provides the second six-month status report and an update of milestone accomplishments since the submittal of the first 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.

Attachment 2 provides the Phase 3 containment strategy, identified as Open Item 4 for the OIP. This information is provided in the template format used for the originally submitted OIP. The pages provided in Attachment 2 for Section D, "Maintain Containment" supersede Section D in the originally submitted OIP.

Attachment 3 formally documents responses provided to several Audit Questions received for Millstone Power Station Unit 3 during the Audit of Licensee Responses to Mitigating Strategies Order EA-12-049 (Reference 4).

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

Sincerely,

Mark D. Sartain
Vice President - Nuclear Engineering
Dominion Nuclear Connecticut, Inc.

Attachments (3)

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 28th day of February, 2014.

My Commission Expires: May 31, 2014.

(SEAL)

VICKI L. HULL
Notary Public
Commonwealth of Virginia
140542
My Commission Expires May 31, 2014

Notary Public

cc: Director of Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
One White Flint North
Mail Stop 13H16M
11555 Rockville Pike
Rockville, MD 20852-2738

U. S. Nuclear Regulatory Commission, Region I
Regional Administrator
2100 Renaissance Blvd.
Suite 100
King of Prussia, PA 19406-2713

Mr. M. C. Thadani
NRC Project Manager Millstone Units 2 and 3
U. S. Nuclear Regulatory Commission
One White Flint North
Mail Stop O8 C 2A
11555 Rockville Pike
Rockville, MD 20852-2738

Ms. J. A. Kratchman
U. S. Nuclear Regulatory Commission
One White Flint North
Mail Stop O9 D2
11555 Rockville Pike
Rockville, MD 20852-2738

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

Millstone Power Station Unit 3

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 (DNC) developed an Overall Integrated Plan (OIP) (Reference 1), documenting the diverse and flexible strategies (FLEX) for Millstone Power Station Unit 3 (MPS3), 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 16), including any changes to the compliance method, schedule, or need for relief/relaxation and the basis, if any.

2 Milestone Accomplishments

The following milestone has been completed since the development of the OIP, and is current as of January 31, 2014.

- Submit Integrated Plan

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, 2014, 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 Strategies,' 'Develop Modifications,' 'Implement Modifications,' 'Develop Strategies/Contract with RRC,' '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	December 2013	Started	April 2014 *
Develop Modifications	February 2014	Started	July 2014 *
Implement Modifications	October 2014	Started	November 2014 *

Milestone	Target Completion Date	Activity Status	Revised Target Completion Date
Develop Training Plan	April 2014	Started	
Implement Training	September 2014	Started	
Issue FSGs and Associated Procedure Revisions	October 2014	Started	
Develop Strategies/Contract with RRC	April 2014	Started	August 2014 *
Purchase Equipment	February 2014	Started	
Receive Equipment	August 2014	Started	
Validation Walk-throughs or Demonstrations of FLEX Strategies and Procedures	June 2014	Not Started	August 2014 *
Create Maintenance Procedures	August 2014	Not Started	
Outage Implementation	October 2014	Started	November 2014 *

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

4 Changes to Compliance Method

By letter dated February 28, 2013, Serial No. 12-161B, DNC provided an OIP to address Beyond-Design-Basis (BDB) events at Millstone Power Station Unit 2 (MPS2) and 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. The following are changes to the compliance method information provided in the MPS3 OIP; which continue to meet Nuclear Energy Institute (NEI) 12-06 (Reference 3):

a) Details of the deployment locations and connections have changed for the portable 120/240VAC diesel generators (DGs) used to re-power the vital bus circuits as described below. However, the electrical re-powering strategy, as described in Section F1.2 – PWR

Portable Equipment Phase 2 of the OIP as modified in the August 2013 Six-Month Status Update letter (Reference 14), have not changed for MPS3.

The deployment strategy of the single 120/240VAC DG shown has changed. As reported in the August 2013 Six-Month Status Update letter, the MPS3 Class 1E battery life has been extended to more than 14 hours. As a result of the longer battery life, there is no longer a need to pre-stage the 120/240VAC DG. Therefore, a single 120/240VAC will be stored in the BDB Storage Building and deployed to an area outside of the MPS3 Emergency Diesel Generator (EDG) building. The attached revised OIP Figure 6 shows the deployment location of the 120/240VAC DG. The cable routing and location of the connection receptacles has been revised. The attached revised OIP Figure 7 shows the updated configuration with the cable being routed from the outside through the Cable Spreading room and into the "A" Switchgear room. The connection will be to receptacles connected directly to the VIAC 1 and VIAC 3 Distribution Panels. (Per the note on the revised OIP Figure 7, the connections from the DG can also be routed to the VIAC 2 and VIAC 4 Distribution Panels.)

DNC confirms that the Class 1E battery duty cycle for Millstone Unit 3 was calculated in accordance with the IEEE-485 methodology using manufacturer discharge test data applicable to the licensee's FLEX strategy as outlined in the NEI white paper on Extended Battery Duty Cycles. The detailed licensee calculations, supporting vendor discharge test data, FLEX strategy battery load profile, and other inputs/initial conditions required by IEEE-485 are available on DNC's web portal for documents and calculations. The time margin between the calculated battery run-time for the FLEX strategy and the expected deployment time for FLEX equipment to supply the DC loads is approximately four hours for MPS3.

b) Details of the deployment locations and connection details have changed for the portable 4160VAC diesel generators (DGs) used to re-power the vital bus circuits as described below. However, the electrical re-powering strategy, as described in Section F1.3 – PWR Portable Equipment Phase 3 of the OIP, has not changed for MPS3.

The deployment location for the 4160VAC DG has not changed, however, the attached revised Figure 6 accurately depicts the arrangement of two (2) 4160VAC DGs connected to a portable distribution panel in the area outside of the MPS3 EDG building. The cable routing from the 4160VAC portable distribution panel to the connection on the 34A non-vital bus has been revised. The attached revised OIP Figure 9 shows the updated configuration with the cable being routed from the outside through the Cable Spreading room and into the Switchgear room where the cables will be connected directly to Bus 34A. The revised OIP Figure 9 also shows that the Kirk Key interlock has been removed from the connection.

c) The BDB and Regional Response Center (RRC) equipment details in OIP Table 1, *PWR Portable Equipment Phase 2*, and OIP Table 2, *PWR Portable Equipment Phase 3,* respectively, have changed. Updates to the 'List Portable Equipment', 'Performance Criteria,' and usage categories are included as well as associated changes/deletions in

footnotes. Minor changes to the number of components have been included for some of the support equipment categories, but no changes are made to the quantities of any of the major FLEX components. Revised OIP Tables 1 and 2 are included in this attachment.

d) The OIP, submitted on February 28, 2013, contained an open item for the development of the coping strategy to maintain Containment integrity following and Extended Loss of AC Power (ELAP) event, if necessary. OIP Section A.4 (Action Item 16) and Attachment 1A, Sequence of Events, Item 16, discussed the timeframe for which action was required to address Containment temperature and pressure. Conservative analysis has concluded that Containment temperature and pressure response will remain below design limits following an ELAP event and that key parameter instrumentation subject to the Containment environment will remain functional for at least seven days (Reference 15).

   The strategy for coping with Containment temperature and pressure increases has been developed. By maintaining these parameters below their design limits, Containment structural integrity is ensured. To remain within analyzed limits for equipment qualification temperature, the Containment temperature will be procedurally monitored and, if necessary, the temperature will be reduced. This will require the implementation of the Phase 3 Containment cooling strategy such that heat removal from Containment is initiated in a timely manner.

   The Phase 3 Containment coping strategy was not provided in the initial submittal of the OIP. It is provided as in Attachment 2 of this submittal. The Containment coping strategy is presented in the original OIP template format as Section D and is intended to supersede the previous Section D in its entirety. Attachment 2 also contains two new OIP figures (Figures 10 and 11) in support of the Section D Containment strategy.

e) In response to the NRC staff concern that sufficient time and core flow conditions were available for adequate boron mixing, the PWROG, in conjunction with Westinghouse, developed a boron mixing position paper. This position paper has been endorsed by the NRC with clarifications as stated in a letter from Jack Davis, Director Mitigating Strategies, USNRC to Jack Stringfellow, PWROG, Endorsing PWROG Position Paper, January 8, 2014. The MPS3 ELAP analyses verify that the conditions set forth in the NRC's endorsement of the boron mixing position paper with clarifications are met. Accordingly, the endorsed boron mixing methodology has been applied to the final FLEX RCS inventory and reactivity management strategies.

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

6.1. Open Items from Overall Integrated Plan

The following table provides a summary of the status of open items documented in Attachment 2B of the 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.	Started. Scheduled completion date is revised from June, 2014 to August 2014 **
2	Evaluation of extended battery life with load stripping of all non-essential loads.	Complete. In our February 28, 2013 OIP submittal for Millstone, the MPS3 Class 1E 125V battery life was "estimated" at between 2 and 5 hours assuming that load stripping would commence within 45 minutes and be completed within the following 30 minutes. The pending final evaluation of the extended Class 1E station emergency battery life was identified as Open Item No. 2. The calculation with the stated load stripping assumption has been completed. The evaluated time to battery depletion is 14.3 hours. The evaluation considered that the 301B battery was stripped of all loads by the assumed time frame and that the 301A battery would carry the necessary instrumentation loads until it reached the minimum voltage for reliable instrument readings in 7.8 hours. At that time, alternate instrument loads for plant monitoring from the 301B battery would be re-connected and would be available for an

Overall Integrated Plan Open Items		
OI #	**Description**	**Status**
		additional 6.5 hours. The combined time available by this approach (14.3 hours) is sufficient for the implementation of the re-powering strategy for the 120VAC systems as outlined in the OIP submittal, Section F1.2. (Reference 5)
3	Preliminary analyses have been performed to determine the time to steam generator (SG) overfill without operator action to reduce auxiliary feedwater (AFW) flow, time to SG dryout without AFW flow, and time to depletion of the useable volume of the demineralized water storage tank (DWST). The final durations will be provided when the analyses are completed.	Complete. (Provided in Reference 4)
4	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. Provided in Attachment 2, OIP Section D. See Open Item 5 for confirmation of the effectiveness of Phase 3 Containment strategies.
5	Analyses will be performed to develop fluid components performance requirements and confirm fluid hydraulic-related strategy objectives can be met.	Started. Phase 2: The hydraulic calculation for the FLEX pumps deployed using their associated hose networks have confirmed that the primary connections for core cooling/decay heat removal, Reactor Coolant System (RCS) Inventory, and Reactivity Control (RCS Injection), and Spent Fuel Pool (SFP) Make-up strategies can be satisfactorily accomplished in response to an ELAP/Loss of Ultimate Heat Sink (LUHS) event. (Reference 8)

Overall Integrated Plan Open Items		
OI #	**Description**	**Status**
		The hydraulic calculations for the Phase 2 FLEX strategies for core cooling/decay heat removal, RCS Inventory, and Reactivity Control (RCS Injection), and SFP Make-up using the alternate connections will be fully completed by June 2014. Phase 3: Thermal and hydraulic calculations confirming that the Containment strategies are adequate will be completed by June 2014. Scheduled completion date is revised from September 2013 to June 2014 **
6	A study is in progress to determine the design features, site location(s), and number of BDB Storage Building(s). The final design for BDB Storage Building(s) 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.	Complete. A single 10,000 sq. ft. Type 1 building will be constructed at Millstone Power Station for storage of BDB equipment. The building will be designed to meet the plant's design basis for the Safe Shutdown Earthquake, high wind hazards, snow, ice and cold conditions, and located above the flood elevation from the most recent site flood analysis. The BDB Storage Building will be sited south of the railroad bridge, on the west side of the MPS access road, adjacent to the existing northeast contractor parking lot. **
7	FLEX Support Guidelines (FSGs) will be developed in accordance with PWROG guidance. Existing procedures will be revised as necessary to implement FSGs.	Started. Scheduled completion date: October 2014

Overall Integrated Plan Open Items		
OI #	**Description**	**Status**
8	Electrical 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.	Not started. Scheduled completion date: September 2014
9	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.	Started. Scheduled completion date: September 2014
10	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).	Started. Scheduled completion date: September 2014
11	Complete the evaluation of turbine driven (TD) auxiliary feedwater (AFW) pump long term operation with $\leq$ 290 psig inlet steam pressure.	Complete. TDAFW pump operation and adequate AFW flow to the SGs at SG pressures $\leq$ 290 psig has been confirmed. (References 6 and 7)
12	Plant modifications will be completed for permanent plant changes required for implementation of FLEX strategies.	Started. See Milestone Schedule above.
13	Analyses will be performed to develop electrical components performance requirements and confirm electrical loading-related strategy objectives can be met.	Started. Phase 2: Calculations have been completed for the sizing and loading analysis of the 120VAC and 480VAC generators and confirm the electrical loading-related strategy objectives can be met (Reference 11). Phase 3: Calculations identifying the Phase 3 4160VAC generator load requirements and power cable ampacity rating along with breaker coordination between the RRC equipment and DNC

Overall Integrated Plan Open Items		
OI #	**Description**	**Status**
		equipment will be completed by June 2014. Scheduled completion date is revised from September 2013 to June 2014 **
14	An evaluation of all BDB equipment fuel consumption and required re-fill strategies will be developed.	Not started. Scheduled completion date June 2014
15	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.	Started. Scheduled completion date: June 2014
16	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.	Complete. A study documenting the communications strategy has been completed. The plan concludes that FLEX strategies can be effectively implemented with a combination of satellite phones, hand-held radios and sound powered phones (Reference 9).
17	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.	Started. Scheduled completion date is revised from October, 2013 to April 2014 **
18	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.	Started. The soil liquefaction study has been completed (Reference 12), which supports the location of the storage building and the haul routes. The results will be included with the final design package for the storage building (Reference 13). Scheduled completion date: June 2014

Overall Integrated Plan Open Items		
OI #	**Description**	**Status**
19	The equipment listed in Table 1 will be received on site.	Started. Scheduled completion date: August 2014

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

6.2. Open Items from Interim Staff Evaluation

The following table provides a summary of the open items from the MPS3 Interim Staff Evaluation (Reference 17) and the status of each item.

Interim Staff Evaluation Open Item		
OI #	**Description**	**Status**
3.2.1.8.A	Core Sub-Criticality - The Pressurized Water Reactor Owners Group (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. 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.	The discussion provided above in Section 4, Item e, addresses this Open Item. Additional supporting documentation will be provided during the ongoing audit process.

6.3. Confirmatory Items from Interim Staff Evaluation

The following table provides a summary of the confirmatory items from the MPS3 Interim Staff Evaluation and the status of each item.

Interim Staff Evaluation Confirmatory Items		
CI #	**Description**	**Status**
3.1.1.2.A	The licensee stated that the haul path from the BDB Storage Building to the MPS3 equipment deployment locations and the building foundation design evaluations are proceeding for Millstone. Confirm that soil liquefaction is not a concern.	See Open Item 18 in Section 6.1 above for information that addresses this confirmatory item. Additional information regarding preferred travel pathways will be addressed during the ongoing audit process.
3.1.1.3.A	The licensee stated that the review for internal flooding sources that could result from seismic induced failures and engine-driven or gravity-drain water sources has not been completed. Also MPS3 does not have a permanent safety-related groundwater removal system installed. However, the Engineered Safety Features building does have a sump to control groundwater in-leakage. In ETE-CPR-2012-0008, Section 11.1.3.3, the licensee stated that they also have several small pumps and hoses on site for this purpose. Confirm that the impact of this in-leakage is limited, or can be addressed.	This Confirmatory Item will be addressed during the ongoing audit process.
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 Confirmatory Item will be addressed during the ongoing audit process.
3.2.1.A	Confirm that the NOTRUMP analysis provided in Section 5.2.1 of WCAP-17601-P, Revision 1 is applicable to MPS3 and supports the licensee's sequence of events.	This Confirmatory Item will be addressed during the ongoing audit process.
3.2.1.1.A	Confirm that the use of the NOTRUMP code for the ELAP analysis is limited to the flow conditions prior to reflux condensation initiation. This includes specifying an acceptable definition for reflux condensation cooling.	This Confirmatory Item will be addressed during the ongoing audit process.

Interim Staff Evaluation Confirmatory Items		
CI #	**Description**	**Status**
3.2.1.2.A	If the RCP seal leakage rates used in the plant-specific ELAP analyses are less than the upper bound expectation for the seal leakage rate discussed in the PWROG position paper addressing the RCP seal leakage (ADAMS Accession No. ML13235A151 (Non-Publicly Available)) or justification should be provided for use of a lower value. If the seals are changed to non-Westinghouse seals, the acceptability of the use of non-Westinghouse seals should be addressed, and the RCP seal leakage rates for use in the ELAP analysis should be justified.	This Confirmatory Item will be addressed during the ongoing audit process.
3.2.1.2.B	For Westinghouse Reactor Coolant Pump (RCP) seals, a discussion (including the applicable analysis and relevant seal leakage testing data) should be provided to justify that (1) the integrity of the associated O-rings will be maintained at the temperature conditions experienced during the ELAP event, and (2) the seal leakage rate of 21 gpm/seal used in the ELAP is acceptable.	This Confirmatory Item will be addressed during the ongoing audit process.
3.2.1.2.C	If the seals are changed to the newly designed Generation 3 SHIELD seals, or non-Westinghouse seals, justify the acceptability of the use of the newly designed Generation 3 SHIELD seals or non-Westinghouse seals and the RCP seal leakages rates for use in the ELAP analysis.	This Confirmatory Item will be addressed during the ongoing audit process.
3.2.1.3.A	Confirm that the licensee has addressed the applicability of assumption 4 on page 4-13 of WCAP-17601-P, and confirm that the values used for the requested parameters in the Westinghouse calculations that were performed using the ANS 5.1 1979 +2 sigma decay heat model bound initial condition 3.2.1.2(1) of NEI 12-06, Section 3.2.1.2.	This Confirmatory Item will be addressed during the ongoing audit process.
3.2.1.6.A	The licensee stated that for Action Item 11 the portable boric acid batching tank will be deployed at 12 - 18 hours, if the Refueling Water Storage Tank (RWST) is not available. Confirm that the deployment time of 12 - 18 hours is acceptable.	This Confirmatory Item will be addressed during the ongoing audit process.

Interim Staff Evaluation Confirmatory Items		
CI #	**Description**	**Status**
3.2.3.A	The strategy for Containment cooldown and depressurization will be completed per the schedule given in the August 23, 2013 6- Month Status Update. The detailed validation analysis will be completed later this year and the results will be provided in the February 2014 6-Month Status Update. Confirm that the analysis and the strategy to maintain the Containment parameters within acceptable limits is satisfactory.	Details of the Phase 3 long term Containment cooldown and depressurization strategies for MPS3 are provided in Attachment 2. Confirmation of the detailed Containment analysis will be addressed during the ongoing audit process.
3.2.4.2.A	Analyses to evaluate the effects of loss of ventilation in various areas are currently underway. Upon completion of these analyses, detailed strategies and operator action timelines will be developed for the implementation of compensatory measures to maintain the area temperatures below the applicable design limits, if necessary. The results will be provided in the February 2014 6-month update. Confirm that the analyses and the compensatory measures show that room temperatures are acceptable to maintain functionality of the equipment needed to carry out the mitigation strategies.	Change in schedule is addressed in Open Item No. 17 in Table 6.1 above. This Confirmatory Item will be addressed during the ongoing audit process.
3.2.4.2.B	Confirm that the habitability limits of the main control room will be maintained in all Phases of an ELAP.	This Confirmatory Item will be addressed during the ongoing audit process.
3.2.4.4.A	Confirm the adequacy of existing lighting and the adequacy of portable lighting to perform FLEX strategy actions.	This Confirmatory Item will be addressed during the ongoing audit process.
3.2.4.4.B	Confirm that upgrades to the site's communications systems have been completed.	This Confirmatory Item will be addressed during the ongoing audit process.

Interim Staff Evaluation Confirmatory Items		
CI #	**Description**	**Status**
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 RRC 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.	This Confirmatory Item will be addressed during the ongoing audit process.
3.4.A	The licensee's plans for the use of off-site resources conform to the minimum capabilities specified in NEI 12-06 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.	This Confirmatory Item will be addressed during the ongoing audit process.

7 Potential Safety Evaluation Impacts

DNC is participating in the ongoing industry effort to develop guidance for the Overall Program Document that will support the NRCs preparation of the Safety Evaluation documenting MPS3's compliance with Order EA-12-049. As this Overall Program Document is developed, potential challenges and impacts will be identified in this section of future Six-Month Status Reports.

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 Strategies', b) a revision to Milestone Task 'Develop Modifications', c) Implement Modifications, d) a revision to Milestone Task 'Develop Strategies/ Contract with RRC', e) a revision to Milestone Task 'Validation Walk-throughs or Demonstrations of FLEX Strategies and Procedures', f) a revision to Milestone Task 'Outage Implementation', g) a revision to Open Item No. 1, h) a revision to Open Item No. 5, i) a revision to Open Item No. 6, j) a revision to Open Item No. 13, and k) a revision to Open Item No.17.

a) **MPS3, Milestone Task 'Develop Strategies':** The revision to the scheduled milestone target completion date allows for completion of the calculation needed to finalize the ventilation strategy for the East MCC/Rod Drive Area at 24' 6" Elevation of the Auxiliary Building.

b) **MPS3, Milestone Task 'Develop Modifications:** The revision to the scheduled target completion date is needed to obtain final approval of the MPS3 electrical modifications design change and to complete minor modifications supporting FLEX strategies (e.g., standpipe, hose adapters, etc.).

c) **MPS3, Milestone Task 'Implement Modifications:** The revision to the scheduled target completion date reflects the current Outage Schedule for MPS3 Refueling Outage R16.

d) **MPS3, Milestone Task 'Develop Strategies/Contract with RRC':** The revision to the scheduled milestone target completion date is consistent with the date the RRC will be fully operational.

e) **MPS3, Milestone Task 'Validation Walk-throughs or Demonstrations of FLEX Strategies and Procedures':** The revision to the scheduled milestone target completion date is needed to allow for completion of the FLEX support guidelines.

f) **MPS3, Milestone Task 'Outage Implementation':** The revision to the scheduled target completion date reflects the current Outage Schedule for MPS3 Refueling Outage R16.

g) **MPS3, Open Item 1:** The Open Item completion date is revised to August 2014. Additional time is required to complete the FLEX Support Guidelines (FSGs) and construction of the permanent BDB Storage Building.

h) **MPS3, Open Item 5:** The Open Item completion date is revised to June 2014. Additional time is required to complete the hydraulic calculations for the Phase 2 strategies using alternate connections and to confirm the fluid-hydraulic-related strategy objectives can be met utilizing the Phase 3 RRC pumps.

i) **MPS3, Open Item 6:** The location for the Millstone Power Station BDB Storage Building has changed. The BDB storage Building will be sited south of the railroad bridge, on the west side of the MPS access road, adjacent to the existing northeast contractor parking lot instead of north of the bridge near the salt shed as previously reported in the August 2013 Six-Month Status Report.

j) **MPS3, Open Item 13:** The Open Item completion date is revised to June 2014. Additional time is required to obtain design specification information on the Phase 3 RRC electrical components and complete the calculations needed to confirm the electrical loading-related strategy objectives can be met with this equipment.

k) **MPS3, Open Item 17:** The Open Item completion date is revised to April 2014. Additional time is required to complete the calculation needed to finalize the ventilation strategy for the East MCC/Rod Drive Area at 24' 6" Elevation of the Auxiliary Building.

9 References

The following references support the updates to the OIP described in this attachment.

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 29, 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. NEI 12-06, "Diverse and Flexible Coping Strategies (FLEX) Implementation Guide," Revision 0, dated August 2012.
4. 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).
5. Calculation 2013-ENG-04501E3, "MP3 BDB Battery Calculation," Rev. 0 dated May 29, 2013.
6. Calculation 97-014, "MP3 AFW System, Determination of AFW Turbine/Pump Speed and AFW System Flow for Steam Generator Pressures of 185 psig, 600 psig, and 125 psig, and Determination of the Turbine Exhaust Pressure," April 2, 1997 through Change Notice No. 3 dated January 28, 2002.
7. Engineering Technical Evaluation ETE-MP-2013-1037, "MP3 Turbine Driven Aux Feedwater Pump Minimum Continuous Operating Speed," dated March 12, 2013.
8. Calculation 13-015, "MP2 & MP3 FLEX Strategy Hydraulic Calculations," Rev. 0.
9. ETE-CPR-2013-0003, "Beyond Design Basis Communications Strategy/Plan," Rev. 0.
10. Calculation MISC-11793, "Evaluation of Long-Term Containment Pressure and Temperature Profiles Following and Extended Loss of AC Power (ELAP)," Rev. 0.
11. Calculation 2013-ENG-04503E3, "Millstone Power Station Unit 3 Beyond Design Basis – FLEX Electrical 4160V, 4840V and 120VAC System Loading Analysis," Rev. 0.
12. URS Geotechnical Investigation and Engineering Report, "FLEX Storage Building Project, Millstone Power Station, Waterford, Connecticut,' dated January 27, 2014.
13. Design Change MPG-13-00010, 'BDB Storage Building/Millstone Power Station/Units 2&3."
14. 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).

15. Calculation MISC-11793, "Evaluation of Long Term Containment Pressure and Temperature Profiles Following Loss of Extended AC Power (ELAP)," Revision 0.

16. 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).

17. "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.

Table 1 – PWR Portable Equipment Phase 2[1] [Open Item 19]

Use and (Potential / Flexibility) Diverse Uses						Performance Criteria	Maintenance
List Portable Equipment	***Core***	***Containment***	***SFP***	***Instrumentation***	***Accessibility***		***Maintenance / Preventive Maintenance Requirements***
BDB High Capacity diesel-driven pump (2) and assoc. hoses and fittings	X	X	X			1200 gpm @ 150 psid	Will follow EPRI template requirements
BDB AFW pump (3) and assoc. hoses and fittings	X					300 gpm @ 500 psid	Will follow EPRI template requirements
BDB RCS Injection pump (2) and assoc. hoses and fittings	X					45 gpm @ 3000 psid	Will follow EPRI template requirements
120/240VAC generators (3) and associated cables, connectors and switchgear				X		23.3 kW	Will follow EPRI template requirements

Table 1 – PWR Portable Equipment Phase 2[1] [Open Item 19]

Use and (Potential / Flexibility) Diverse Uses						Performance Criteria	Maintenance
List Portable Equipment	***Core***	***Containment***	***SFP***	***Instrumentation***	***Accessibility***		***Maintenance / Preventive Maintenance Requirements***
120/240VAC generators (8)[2] and associated cables, connectors and switchgear (to power support equipment)					X	5-6.5 kW	Will follow EPRI template requirements
480VAC generators (3) and associated cables, connectors and switchgear (to re-power battery chargers, inverters, and Vital Buses)		X		X		500 kW	Will follow EPRI template requirements
Portable boric acid batching tank (2)	X					1000 gal	Will follow EPRI template requirements
Light plants (2) + Light strings (15)[2]					X		Will follow EPRI template requirements

Table 1 – PWR Portable Equipment Phase 2[1] [Open Item 19]

Use and (Potential / Flexibility) Diverse Uses						Performance Criteria	Maintenance
List Portable Equipment	***Core***	***Containment***	***SFP***	***Instrumentation***	***Accessibility***		***Maintenance / Preventive Maintenance Requirements***
Front end loader (1)[2]					X		Will follow EPRI template requirements
Tow vehicles (2)[2]	X	X	X		X		Will follow EPRI template requirements
Hose trailer (2) and Utility vehicle (1)[2]	X	X	X		X		Will follow EPRI template requirements
Fans / blowers (10)[2]					X		Will follow EPRI template requirements
Air compressors (6)[2]	X				X		Will follow EPRI template requirements
Fuel truck (1) with 1,100 gal. tank and pumps	X	X	X	X	X		Will follow EPRI template requirements
Fuel carts with transfer pumps (2)[2]	X	X	X	X	X		Will follow EPRI template requirements
Communications equipment[3]	X	X	X	X	X		Will follow EPRI template requirements

Table 1 – PWR Portable Equipment Phase 2[1] [Open Item 19]

Use and (Potential / Flexibility) Diverse Uses						Performance Criteria	Maintenance
List Portable Equipment	***Core***	***Containment***	***SFP***	***Instrumentation***	***Accessibility***		***Maintenance / Preventive Maintenance Requirements***
Misc. debris removal equipment[2]					X		Will follow EPRI template requirements
Misc. Support Equipment[2]					X		Will follow EPRI template requirements
Cables for 4160VAC generator connections	X	X	X	X	X		Will follow EPRI template requirements

NOTES:
1. This table is based on one BDB Storage Building containing equipment for both MPS2 and MPS3.
2. Support equipment. Not required to meet N+1.
3. Quantities are identified in ETE-CPR-2013-0003 that was developed in response to the results of the study performed for Recommendation 9.3 of the 10 CFR 50.54(f) letter dated March 12, 2012.

Table 2 – PWR Portable Equipment Phase 3

Use and (Potential / Flexibility) Diverse Uses									Performance Criteria		Maintenance	Notes
List Portable Equipment	**Quantity Req'd /Unit**	**Quantity Provided / Unit**	**Power**	**Core Cooling**	**Cont. Cooling/ Integrity**	**Access**	**Instrumentation .**	**RCS Inventory**			***Preventative Maintenance Required***	
Medium Voltage Generators	1	1	Jet Turb.	X	X		X		4.16 KV	2 MW	Performed by RRC	(1)
Low Voltage Generators	0	1	Jet Turb.		X		X	X	480VAC	1100 KW	Performed by RRC	(2)
High Pressure Injection Pump	0	1	Diesel					X	3000#	60 GPM	Performed by RRC	(2)
S/G RPV Makeup Pump	0	1	Diesel	X				X	500#	500 GPM	Performed by RRC	(2)
Low Pressure / Medium Flow Pump	0	1	Diesel			X			300#	2500 GPM	Performed by RRC	(2)
Low Pressure / High Flow Pump	1	1	Diesel	X	X				150#	5000 GPM	Performed by RRC	(3)
Lighting Towers	0	1	Diesel			X				40,000 Lu	Performed by RRC	(4)

Table 2 – PWR Portable Equipment Phase 3

Use and (Potential / Flexibility) Diverse Uses									Performance Criteria		Maintenance	Notes
List Portable Equipment	**Quantity Req'd /Unit**	**Quantity Provided / Unit**	**Power**	**Core Cooling**	**Cont. Cooling/ Integrity**	**Access**	**Instrumentation .**	**RCS Inventory**			***Preventative Maintenance Required***	
Diesel Fuel Transfer	0	AR	N/A	X	X	X	X	X		500 Gal	Performed by RRC	(2)
Mobile Water Treatment	0	2	Diesel	X				X		150 GPM	Performed by RRC	(2) (5)
Mobile Boration Skid	0	1	N/A					X		1000 Gal	Performed by RRC	(2)

Note 1 - RRC 4KV generator supplied in support of Phase 3 for Core Cooling, Containment Cooling, and Instrumentation FLEX Strategies.
Note 2 - RRC Generic Equipment – Not required for FLEX Strategy – Provided as Defense-in-Depth.
Note 3 - RRC Low Pressure / High Flow pump supplied in support of Phase 3 for Core Cooling and Containment Cooling FLEX Strategies.
Note 4 - RRC components provided for low light response plans.
Note 5 - Usage dependent on Westinghouse Water Quality Study results.

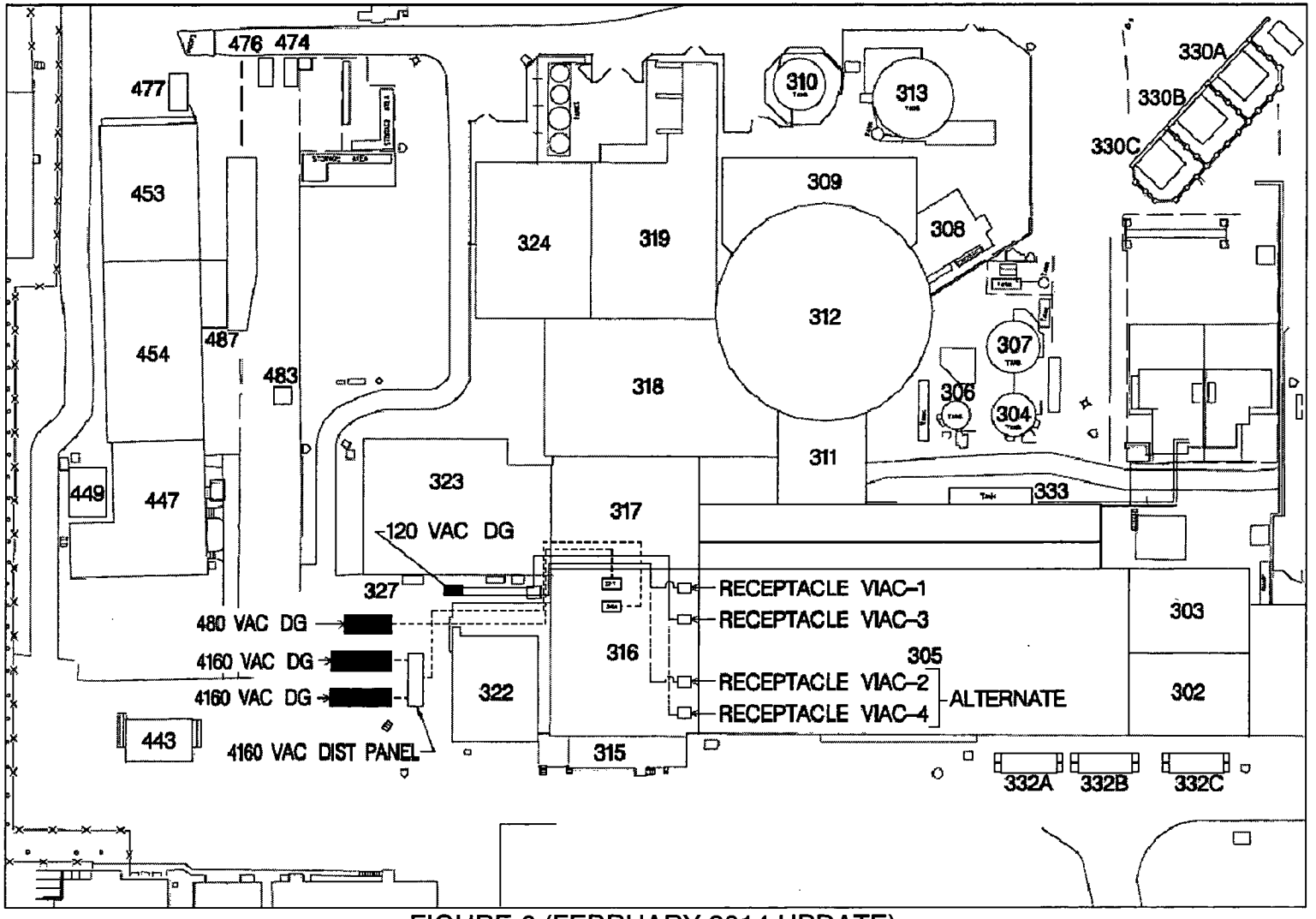
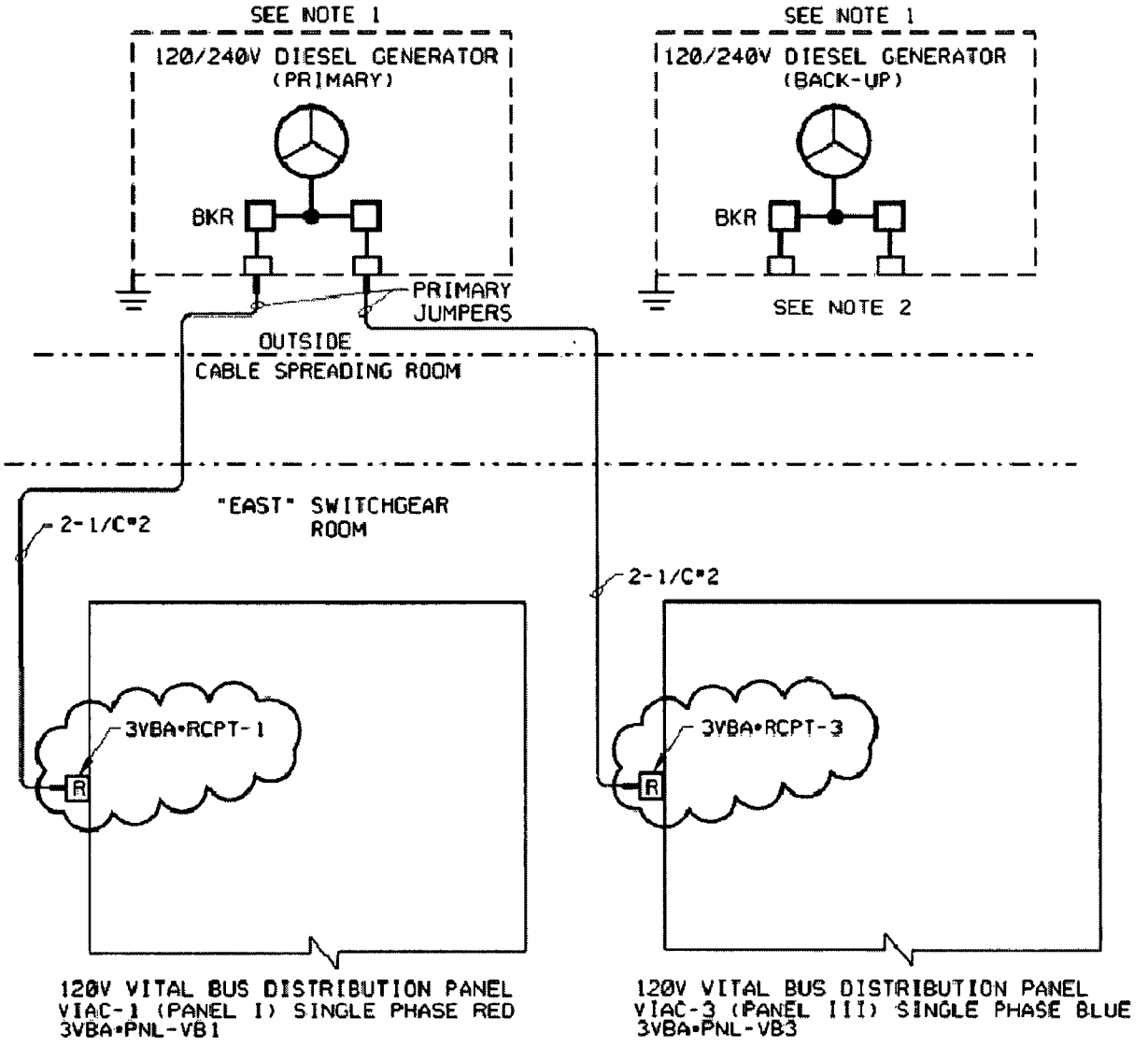


FIGURE 6 (FEBRUARY 2014 UPDATE)
BDB ELECTRICAL GENERATOR DEPLOYMENT LAYOUT
MILLSTONE UNIT 3



NOTES:

1. THE 120/240V GENERATOR CAN BE CONFIGURED USING ANY OF THE THREE GENERATORS MP-BDB-1UA OR MP-BDB-1UB OR MP-BDB-1UC

2. CREDITED CONFIGURATION SHOWN. ALTERNATELY, THE CABLES FROM THE 120/240V PRIMARY OR BACK- UP DIESEL GENERATOR CAN BE ALIGNED, AS REQUIRED, TO POWER VITAL BUSES VIAC-2 (PANEL II) AND VIAC-4 (PANEL IV) VIA 3VBA-RCPT-2 AND 3VBA*RDPT-4, RESPECTIVELY.

KEY:

BDB MODIFICATION

FIGURE 7 (FEBRUARY 2014 UPDATE)
120/240VAC GENERATOR ELECTRICAL CONNECTIONS
MILLSTONE UNIT 3

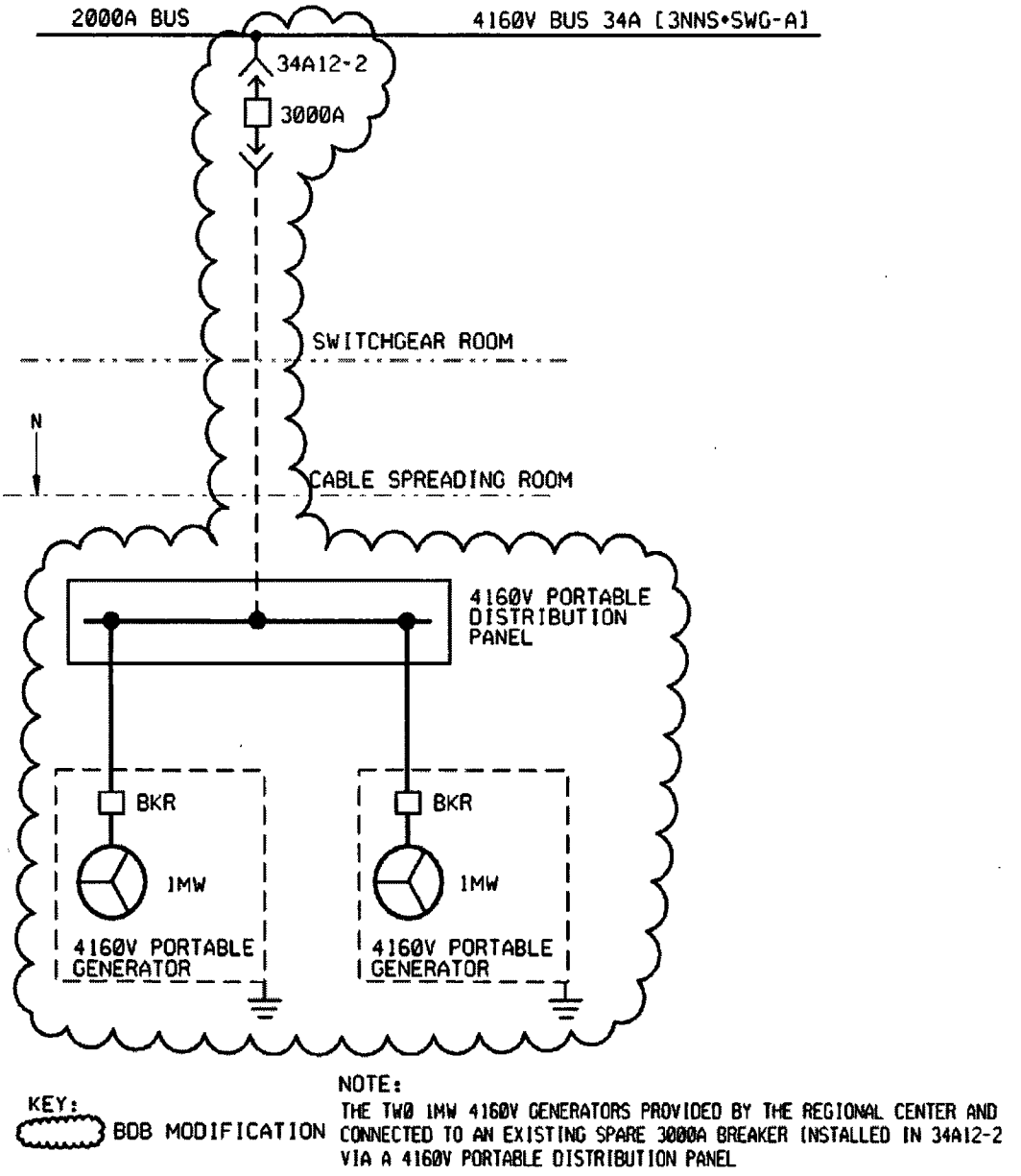


FIGURE 9 (FEBRUARY 2014 UPDATE)
4160VAC GENERATOR ELECTRICAL CONNECTIONS
MILLSTONE UNIT 3

Attachment 2

Overall Integrated Plan Section D

Maintain Containment

Millstone Power Station Unit 3

Dominion Nuclear Connecticut, Inc. (DNC)

D. Maintain Containment	
Determine Baseline coping capability with installed coping[1] modifications not including FLEX modifications, utilizing methods described in Table 3-2 of NEI 12-06: • **Containment Spray** • **Hydrogen igniters (ice condenser containments only)**	
D.1 - PWR Installed Equipment Phase 1:	
Provide a general description of the coping strategies using installed equipment including modifications that are proposed to maintain Containment. Identify methods (Containment spray/Hydrogen igniter) and strategy(ies) utilized to achieve this coping time. The Phase 1 coping strategy for Containment involves verifying Containment isolation per ECA-0.0, Loss of All AC Power, and monitoring Containment temperature and pressure. Evaluations have been performed and conclude that Containment temperature and pressure will remain below design limits and key parameter instruments subject to Containment environment will remain functional for at least seven days. Therefore, actions to reduce Containment temperature and pressure and ensure continued functionality of the key parameters will not be required immediately and will utilize off-site equipment and resources during Phase 3.	
Details:	
D.1.1 - Provide a brief description of Procedures / Strategies / Guidelines	*Confirm that procedure/guidance exists or will be developed to support implementation* Procedural guidance for monitoring Containment pressure is provided by ECA-0.0, Loss of All AC power. Procedural guidance for monitoring Containment temperature will be provided by FSGs. **[Open Item 5]**
D.1.2 - Identify modifications	*List modifications* No plant modifications are required to support implementation of this Phase 1 strategy.

[1] Coping modifications consist of modifications installed to increase initial coping time, i.e. generators to preserve vital instruments or increase operating time on battery powered equipment.

D. Maintain Containment	
D.1.3 - Key Containment Parameters	*List instrumentation credited for this coping evaluation.* Containment Pressure: Containment pressure indication is available in the MCR throughout the event. Containment Temperature - Containment temperature indication is available locally by handheld meter at Containment penetrations associated with the temperature elements 3LMS*TI21A and 3LMS*T121B. **[Open Item 7]**

Notes:
The information provided in this section is based on the following reference(s):

Engineering Technical Evaluation, ETE -CPR-2012-0008, "Beyond Design Basis – FLEX Strategy Overall Integrated Plan Basis Document," Revision 2

Calculation MISC-11793, "Evaluation of Long Term Containment Pressure and Temperature Profiles Following Loss of Extended AC Power (ELAP)," Revision 0.

D. Maintain Containment	
D.2 - PWR Portable Equipment Phase 2:	
Provide a general description of the coping strategies using on-site portable equipment including modifications that are proposed to maintain Containment. Identify methods (Containment spray/hydrogen igniters) and strategy(ies) utilized to achieve this coping time. Evaluations have been performed and conclude that Containment temperature and pressure will remain below design limits and key parameter instruments subject to Containment environment will remain functional for at least seven days. Therefore, actions to reduce Containment temperature and pressure and ensure continued functionality of the key parameters will not be required immediately and will utilize off-site equipment and resources during Phase 3. There is no separate Phase 2 strategy.	
Details:	
D.2.1 - Provide a brief description of Procedures / Strategies / Guidelines	*Confirm that procedure/guidance exists or will be developed to support implementation* None required for Phase 2.
D.2.2 - Identify modifications	*List modifications* None required for Phase 2
D.2.3 - Key Containment Parameters	*List instrumentation credited or recovered for this coping evaluation.* Although no Phase 2 strategy is required, the Phase 1 Containment monitoring instrumentation will continue to be utilized during Phase 2.
D.2.4 - Storage / Protection of Equipment: **Describe storage / protection plan or schedule to determine storage requirements**	
Seismic	*List how equipment is protected or schedule to protect* None required for Phase 2

D. Maintain Containment	
Flooding	*List how equipment is protected or schedule to protect* None required for Phase 2
Severe Storms with High Winds	*List how equipment is protected or schedule to protect* None required for Phase 2
Snow, Ice, and Extreme Cold	*List how equipment is protected or schedule to protect* None required for Phase 2
High Temperatures	*List how equipment is protected or schedule to protect* None required for Phase 2

D.2.5 - Deployment Conceptual Modification		
Strategy	**Modifications**	**Protection of connections**
a. *Identify Strategy including how the equipment will be deployed to the point of use* None required for Phase 2	*Identify modifications* None required for Phase 2	*Identify how the connection is protected* None required for Phase 2

Notes:
The information provided in this section is based on the following reference(s):

Engineering Technical Evaluation, ETE -CPR-2012-0008, "Beyond Design Basis – FLEX Strategy Overall Integrated Plan Basis Document," Revision 2.

Calculation MISC-11793, "Evaluation of Long Term Containment Pressure and Temperature Profiles Following Loss of Extended AC Power (ELAP)," Revision 0.

D. Maintain Containment

D.3 - PWR Portable Equipment Phase 3:

Provide a general description of the coping strategies using phase 3 equipment including modifications that are proposed to maintain Containment. Identify methods (Containment spray/hydrogen igniters) and strategy(ies) utilized to achieve this coping time.

An evaluation has been performed and concludes that Containment temperature and pressure will remain below design limits and key parameter instruments subject to Containment environment will remain functional for at least seven days. To remain within analyzed limits for equipment qualification temperature, the Containment temperature will be procedurally monitored and, if necessary, the temperature will be reduced. This will require the implementation of the Phase 3 Containment cooling strategy such that heat removal from Containment is initiated in a timely manner.

The strategy to reduce Containment temperature is to provide for Containment heat removal through water spray into the Containment atmosphere using the installed Quench Spray System (QSS) pumps, Recirculation Spray System (RSS) pumps, and spray rings. This strategy requires repowering a Class 1E 4160VAC bus using a 4160VAC DG from the Regional Response Center (RRC) and restoration of cooling water flow to the RSS heat exchanger. An alternate strategy is also available which will provide Containment ventilation cooling using the safety-related Containment Air Recirculation Fans.

Primary Containment Cooling Strategy – Containment Recirculation Spray

The 4160VAC DG from the RRC will be aligned to power a Class 1E 4160VAC bus as described in Section F1.3, which will provide power to QSS and Service Water System (SWS) pumps 4kV motors. Flow will initially be established from the RWST to the Containment through the normal QSS flowpath through the spray ring header nozzles. This initial flow will provide heat removal from the Containment atmosphere and fill the Containment sump in preparation for initiation of Containment recirculation spray flow. When the Containment sump level is adequate to support swap over to sump suction, the RSS pumps will be aligned to draw water from the sump and recirculate flow through the RSS heat exchangers and the spray nozzles. SWS flow will be established through the RSS heat exchangers to provide a heat sink. In this manner, Containment atmosphere heat will be rejected to the ultimate heat sink via the sump water recirculation spray flowpath. **[Open Item 5]**

In the event that the Service Water system pumps are unavailable, a portable low pressure/high flow (5,000 gpm) diesel driven pump from the RRC will be utilized to provide water flow from the Niantic Bay to the RSS heat exchangers via connection of the pump discharge to the service water supply header via an adapter attached to the "A" Emergency

D. Maintain Containment	
Diesel Generator (EDG) Service Water heat exchanger inlet end bell located in the Diesel Generator Building. The seismic Category 1 Diesel Generator Building is designed to withstand missiles and high wind. The system connection points are located inside the structure and are protected from extreme cold, ice and snow, and extreme high temperature. Thermal/hydraulic and Containment analyses will be performed to confirm this Containment cooling strategy **[Open Item 5]**. <u>Alternate Containment Cooling Strategy – Containment Ventilation Cooling</u> The 4160VAC DG from the RRC will be aligned to power a Class 1E 4160VAC bus as described in Section F1.3, which will provide power to Reactor Plant Component Cooling Water (RPCCW) and Service Water System (SWS) pumps 4kV motors. A portable 480VAC DG from the BDB Storage Facility will be aligned to power a Class 1E 480VAC bus as described in Section F1.2, which will provide power to a Containment Air Recirculation (CAR) fan motor. Containment ventilation flow will be established by starting the CAR fan with air flow through the CAR fan coil unit and recirculating within the Containment. SWS flow will be established through the RPCCW heat exchanger to provide a heat sink, and RPCCW flow will be established through the CAR fan coil unit and the RPCCW heat exchanger to transfer heat to the SWS. In this manner, Containment atmosphere heat will be rejected to the ultimate heat sink via the recirculation of Containment atmosphere through the CAR fan coil unit. In the event that the SWS pumps are unavailable, cooling water flow to the RPCCW heat exchanger will be established as described for the primary Containment cooling strategy. Thermal/hydraulic and Containment analyses will be performed to support this Containment cooling strategy **[Open Item 5]**.	
Details:	
D.3.1 - Provide a brief description of Procedures / Strategies / Guidelines	*Confirm that procedure/guidance exists or will be developed to support implementation* Site specific procedural guidance governing the Containment cooling strategy will be developed using industry guidance, and will address the necessary steps to align and operate permanent plant equipment, deploy portable pumps and hoses, establish connections, and operate the portable equipment to perform the required function. **[Open Item 7]**

D. Maintain Containment	
D.3.2 - Identify modifications	*List modifications* None required.
D.3.3 - Key Containment Parameters	*List instrumentation credited for this coping evaluation.* Containment Pressure - Containment pressure indication is available in the control room throughout the event. Containment Temperature - Containment temperature indication is available locally by handheld meter at Containment penetrations associated with the temperature elements 3LMS*TI21A and 3LMS*T121B. **[Open Item 7]** Following 120VAC bus re-powering described in Section F1.2, the following instrumentation will be available in the MCR: – SWS Flow Rate – Containment Sump Level – RPCCW Flow Rate – RPCCW Temperature – RSS flow rate – RSS temperature – RSS pressure – QSS flow rate – RWST level

D.3.4 - Deployment Conceptual Modification (Attachment 3 contains Conceptual Sketches)		
Strategy	**Modifications**	**Protection of connections**
a. *Identify Strategy including how the equipment will be deployed to the point of use.* The primary strategy for Containment cooling is to provide Containment recirculation spray flow using installed plant equipment. Therefore, no deployment of equipment is required.	*Identify modifications* None	*Identify how the connection is protected* The SWS connection to provide flow from the portable low pressure/high flow (5,000 gpm) diesel driven pumps from the RRC to the SWS supply header is located in the Diesel Generator Building. The

D. Maintain Containment		
In the event that SWS pumps are unavailable, the cooling water will be provided by a portable low pressure/high flow (5,000 gpm) diesel driven pump deployed from the RRC. The pump will be staged near the Intake Structure with a suction hose routed to the Niantic Bay and the discharge hose routed to inside the Diesel Generator Building to the adapter attached to the "A" Emergency Diesel Generator (EDG) Service Water heat exchanger inlet end bell connection point to provide water to the SWS supply header. See Figure 10. The alternate strategy for Containment cooling is to provide Containment ventilation cooling using installed plant equipment. Therefore, no deployment of equipment is required. See Figure 11.		Diesel Generator Building is a seismic Category 1 structure designed to withstand missiles and high wind. The system connection points are protected from extreme cold, ice and snow, and extreme high temperature.
Notes: The information provided in this section is based on the following reference(s): Engineering Technical Evaluation, ETE -CPR-2012-0008, "Beyond Design Basis – FLEX Strategy Overall Integrated Plan Basis Document," Revision 2.		

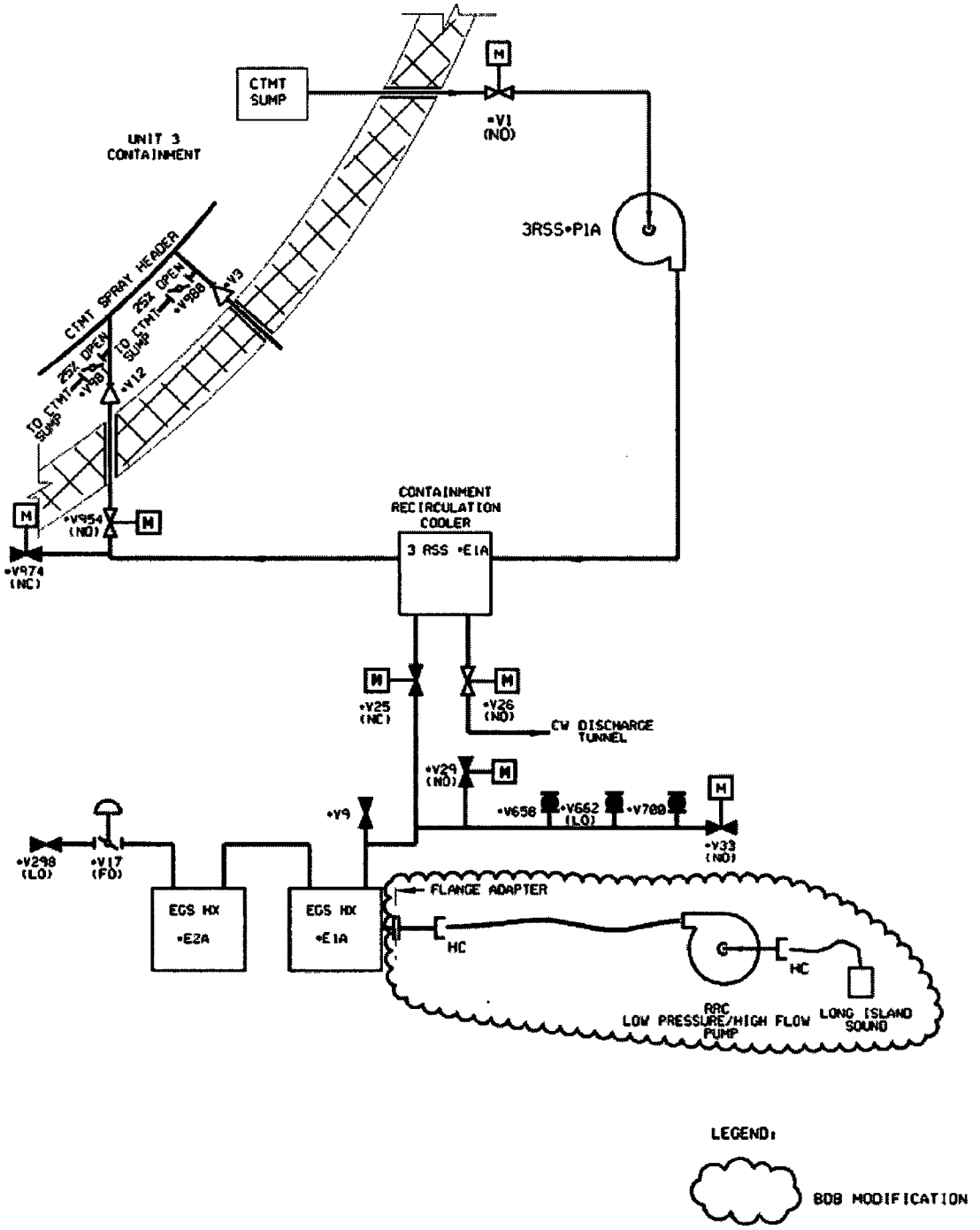


FIGURE 10
CONTAINMENT COOLING
BDB FLEX PRIMARY MECHANICAL CONNECTIONS
MILLSTONE UNIT 3

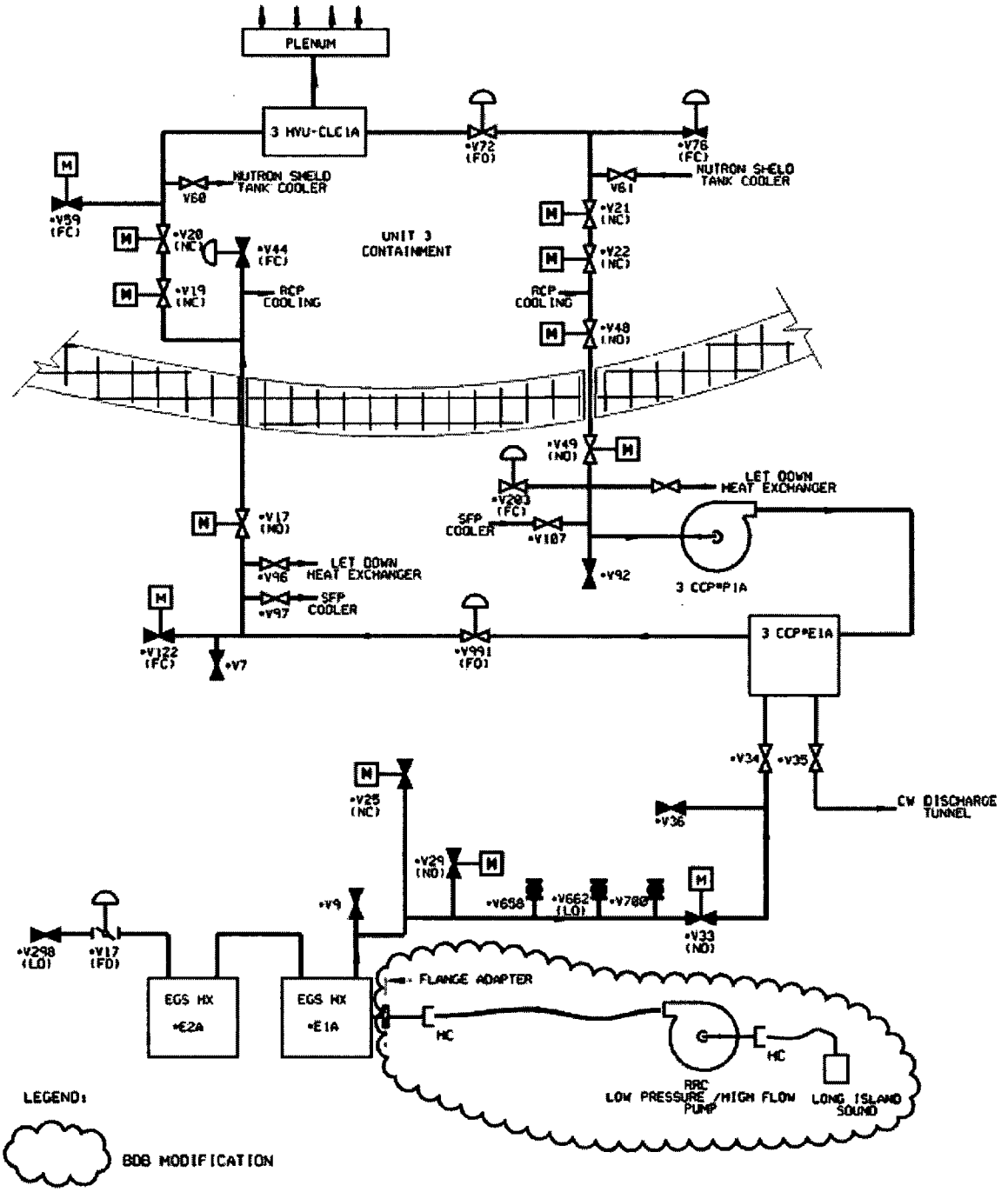


FIGURE 11
CONTAINMENT COOLING
BDB FLEX ALTERNATE MECHANICAL CONNECTIONS
MILLSTONE UNIT 3

Attachment 3

Formal Responses to September 2013 Audit Questions

Millstone Power Station Unit 3

Dominion Nuclear Connecticut, Inc. (DNC)

Response to September 2013 Audit Questions
Millstone Power Station Unit 3

Background

By letter dated February 28, 2013 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13064A265), Dominion Nuclear Connecticut, Inc., (DNC) submitted an Overall Integrated Plan (OIP) in response to the March 12, 2012, U.S. Nuclear Regulatory Commission (NRC) Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049; ADAMS Accession No. ML12056A045) for Millstone Power Station Units 2 and 3 (MPS2 and MPS3), which is consistent with NEI-12-06.

The NRC staff reviewed the February 28, 2013 OIP submittal for MPS3 and conducted an audit of the OIP in September 2013. Some of the information provided during that audit was requested to be included in this letter and is provided below.

NRC Audit Question No. 7

NEI 12-06, Section 6.2.3.3 requires addressing three considerations regarding flood deployment procedures, alternate connection points, and guidance for temporary flood barriers. Dominion did not discuss the need for guidance for the potential deployment of temporary flood barriers and use of extraction pumps, per consideration 3 above. Provide a discussion regarding the potential need for temporary flood barriers and extraction pumps if needed. (Reference Item 3.1.2.3.A)

DNC Response:

Nuclear Energy Institute (NEI) 12-06, "Diverse and Flexible Coping Strategies (FLEX) Implementation Guide," Section 6.2.3.3, consideration 3 addresses the need for guidance for the potential deployment of temporary flood barriers and use of extraction pumps and is addressed as follows:

There is currently no planned deployment of temporary barriers; therefore, guidance for this activity is not needed. The use of extraction/sump pumps is not anticipated. However, if needed to remove water, their use is a routine maintenance activity and would not require specific guidance.

Per the discussion with the NRC Staff during the October 9, 2013 Audit Question review conference call, the following additional information is provided with this response:

Consideration 6 from NEI, Section 6.2.3.2 addresses adequacy of baseline deployment strategies under the conditions associated with a hurricane and storm surge and is addressed as follows:

MPS3 grade elevation is above the Probable Maximum Hurricane (MPH) storm surge and would not be impacted by flooding concerns. Per the specifications for the Beyond-Design-Bases (BDB) diesel powered components, 12 hour fuel tanks will be provided with the BDB components and these components will be fueled while in the BDB Storage Building. Twelve hours is sufficient time to allow the storm conditions to subside and will facilitate refueling of BDB components from available onsite fuel sources when required.

NRC Audit Question No. 8

NEI 12-06, Section 7.3.2 requires addressing measures for hurricane susceptible plants. A review was conducted of Dominion's plan for deployment of FLEX equipment during high wind conditions. Although Dominion discussed some of the concerns related to deployment Dominion did not mention any plans to shut down the plant for a hurricane warning or any plans to pre-stage FLEX equipment for MPS3. Provide a discussion regarding hurricane plans considering the possibility of shutting down the plant and the potential for pre-deployment of FLEX equipment. (Reference Item 3.1.3.2.A)

DNC Response:

Existing MPS3 hurricane preparation procedures require shutdown of the unit based on projected storm surge and wind speeds. Since MPS3 is designated as a "Dry" site, there are no pre-deployment activities or pre-staged equipment required for successful implementation of the FLEX mitigation strategies.

A figure showing the difference in the MPS3 and MPS3 site elevations and the flooding associated with the MPS3 current license basis (CLB) hurricane storm surge stillwater level was also provided during the audit process.

NRC Audit Question No. 23

SOE Action Item 5 indicates that the ELAP/LUHS is declared at 45 minutes, and SOE Action Item 6 indicates that at 50 minutes (5 minutes after the declaration of the ELAP), the operator controls SG atmospheric relief bypass valves and AFW flow locally as an on-going action for cooldown and decay heat removal. The above early initiation of cooldown (5 minutes following ELAP) at 50 minutes appears inconsistent with the information in Item 6 of Attachment 1B (page 106 of the integrated plan) that indicates that based on the analysis of the plant reference case in Section 5.2.1 of the WCAP-17601, plant cooldown begins 2 hours following declaration of the ELAP with cooldown rate of<100 F/hr until the SG pressure reaches 290 psig. Clarify this apparent

inconsistency for cooldown initiation time. Discuss the operator actions required to control SG atmospheric relief bypass valves and AFW flow and justify that all the required operator actions are reasonably achievable within the required time constraint of 50 minutes during the ELAP conditions. Also specify the required cooldown completion time that is supportable by analysis, and discuss the required action to complete the cooldown and justify that the all the required actions can be accomplished within the completion time. (Reference Item 3.2.1.6.D)

DNC Response:

The initiation time of 50 minutes that is listed in Sequence of Events (SOE) Action Item 6 is being revised to a time of 2 hours to provide consistency with the reference plant case provided in Section 5.2.1 of WCAP-17601. That reference case is applicable for MPS3. The correct time for initiation of cooldown is listed in Attachment 1B of the OIP for MPS3. As stated in the sixth line of Attachment 1B, the initiating time for cooldown is at 2 hours with a rate <100 deg F/hr to a steam generator (SG) pressure of 290 psig.

Two (2) hours is considered more than adequate time to dispatch an operator to the Main Steam Valve Building (MSVB), establish communication with the control room and initiate the cooldown. Personnel will be able to access the MSVB and initiate cooldown prior to 2 hours (Refer to Question 24). Steam release from the SGs will be controlled locally within the MSVB using the handwheels installed on the motor-operated SG atmospheric relief bypass valves.

NRC Audit Question No. 24

Discuss the operator actions required to control SG atmospheric relief bypass valves and AFW flow and justify that all the required operator actions are reasonably achievable within the required time constraint of 50 minutes during the ELAP conditions. (Reference Item 3.2.1.6.E)

DNC Response:

The initiation time of 50 minutes that is listed in SOE Action Item 6 is being revised to a time of 2 hours to provide consistency with the reference plant case provided in Section 5.2.1 of WCAP-17601. The time constraint to begin cool down and operate the SG Atmospheric Relief Bypass Valves is 2 hours rather than 50 minutes. In order for operators to control the Atmospheric Relief Bypass Valves, they must enter the MSVB and proceed up the stairs to the location of the valves. The MSVB is located adjacent to the Auxiliary Building and is protected from missile impacts. Analysis has determined that due to the heat up rates of the MSVB, additional actions are needed to ensure entry into the building and/or remote operation of the valves can be accomplished. FSGs will

be developed to ensure safe entry and operation can be accomplished within the required 2 hour period.

Auxiliary Feed Water Flow Control – Operators will be dispatched to the Auxiliary Feedwater (AFW) Pump Room to manually control SG level. The path to the Auxiliary Building, AFW Pump Area, is direct and expected to contain minimal debris. The Turbine Driven AFW (TDAFW) pump speed and flow will initially be controlled from the Main Control Room (MCR) to prevent overfilling of the SGs and will maintain level in the normal band until personnel are stationed in the area of the TDAFW pump to locally control flow. Before load shedding is started, operators will be dispatched to gain local manual control of both the TDAFW pump and the AFW flow isolation valves. The FSG for load shedding will ensure AFW flow is locally controlled prior to the commencement of load shedding activities.

The TDAFW pump will be protected from damage at low flow rates by the installed seismically designed and tornado-generated, missile-protected, recirculation line.

Communications will be conducted using sound powered phones between the Control Room and remote operating locations, such as the MSVB and the AFW Pump Area.

NRC Audit Question No. 43

NEI 12-06, Section 3.2.2, Paragraph (12) provides that: plant procedures/guidance should consider loss of heat tracing effects for equipment required to cope with an ELAP. Alternate steps, if needed, should be identified to supplement planned action. In the integrated plan Dominion did not discuss the effects of loss of power to heat tracing. Provide a discussion and analysis of the effects of the loss of heat tracing for equipment required to cope with an ELAP. (Reference Item 3.2.4.3.A)

DNC Response:

Heat trace is used to provide two protection functions:

- Heat trace is used to maintain highly concentrated soluble boron solutions above the temperature where the soluble boron will precipitate out of solution.

- Heat trace is also used to protect piping systems and components from freezing in extreme cold weather conditions.

The FLEX strategies that have been developed do not depend on highly concentrated soluble boron solutions. The FLEX strategies will use borated water sources with boron concentrations below 4000 PPM; therefore, boron precipitation is not expected to occur.

Additionally, the FLEX strategies have been developed to protect piping systems and components from freezing. Commercially available heat tape and insulation rolls will be maintained in the BDB Storage Building for use on piping systems and components that will be used during an Extended Loss of AC Power (ELAP) event where freezing is a concern in extreme cold weather conditions. In addition, major components being procured for FLEX strategies are being provided with cold weather packages and small electrical generators to power the heat tape circuits to protect the equipment from damage due to extreme cold weather and help assure equipment reliability.

Equipment used for the mixing of borated water in the portable Boric Acid Batch Tanks will include components such as an agitator and a tank heater to facilitate complete dissolution of the boric acid crystals. FLEX Strategies will provide guidance for mixing to maintain concentrations below the solubility limit corresponding to freezing temperatures. This will ensure that boron precipitation during an extreme cold weather event is not a concern.

NRC Audit Question No. 46

NEI 12-06, Section 3.2.2, guideline (6) provides that plant procedures/guidance should identify loads that need to be stripped from the plant DC buses (both Class 1E and non-Class 1E) for the purpose of conserving DC power. Dominion has completed an analysis of the battery capability regarding expected time available with ac power. (See Reference "ETE-CEE-2012-1001"). Results show that with completion of load stripping in 75 minutes, the Class 1E battery life was initially calculated to be 5 hours, but this would require a modification to cross connect batteries. Dominion noted the following on page 61 of the integrated plan "...Procedures currently direct the operators to strip all nonessential DC loads after the unit is stabilized. However, to achieve the extended battery time, additional load stripping may be necessary." Site specific procedural guidance governing load stripping will be developed. (Reference Item 7)" Dominion also noted open item 13 to perform an analysis to develop electrical components performance requirements and confirm electrical loading-related strategy objectives can be met." It is not clear from the discussion provided that Dominion has clearly established the 5 hour estimate of battery life. The licensee is requested to provide the following specific information for review:

a) Provide a discussion and supporting details and analysis completed to show that station batteries can last 5 hours with the appropriate load shedding in the appropriate integrated plan update. (Reference Item 3.2.4.8.A)

b) Provide a detailed list and discussion on the loads that will be shed from the DC bus, the equipment location (or location where the required action needs to be taken), and the required operator actions and the time to complete each action. In your response,

explain which functions are lost as a result of shedding each load and discuss any impact on defense in depth and redundancy.

i. Discuss which components change state when loads are shed and actions needed to mitigate resultant hazards (for example, allowing hydrogen release from the main generator, disabling credited equipment via interlocks, etc.).

ii. Which breakers will operators open as part of the load shed evolutions?

iii. Will the DC breakers to be opened be physically identified by special markings to assist operators manipulating the correct breakers?

c) Provide the minimum DC voltage that must be maintained, and the basis for the minimum voltage on the DC bus, to ensure proper operation of all required electrical equipment.

d) Describe what modification is required if batteries 301A-1 and 301B-1 and 301A-2 and 301B-2 are cross connected. Reference Item 3.2.4.8.A.

DNC Response:

a) ETE-CEE-2012-1001 which documented a battery life of 5 hours has been superseded by a new calculation that documents an extended battery life of 14 hours 19 minutes. The calculation uses the ETAP Battery Discharge Analysis module to determine the performance of the DC system. The battery duty cycle is calculated from load flow calculations, including correction factors for battery temperature and aging, which are applied to the load duty cycles rather than the battery duty cycle or battery capacity. The output records from this module are used to determine the battery terminal voltage and the battery capacity at each time during discharge of the battery.

The extended battery life analysis is based on the approach that isolates the Train B battery and runs the Train A battery on reduced loads until near depletion. At that time, Train B is brought back with reduced loads and Train A is isolated. Accordingly, the extended battery life analysis is based on the following actions:

- Initially, Train A and Train B batteries are both energized; loads consist of both BDB required and non-BDB required loads.

- Starting at 45 minutes from the onset of the ELAP event, the process of isolating Train B and de-energizing Train A loads not required during BDB begins.

- At 55 minutes, Train B is isolated to preserve capacity. The Train B batteries, Battery 2 and Battery 4, are disconnected from the Train B busses at this time. Train A is sufficient to support required BDB loads.

- On or before 75 minutes, Train A loads not required during BDB conditions are de-energized. The two inverters, 3VBA*INV-1 and 3VBA*INV-3, are then the only loads energized on the A Train batteries.

- Train A operates until the voltage or capacity of either Battery 1 or Battery 3 reach limiting values. The process of transferring loads to the Train B batteries takes 30 minutes and, therefore, must start 30 minutes prior to either Train A battery reaching its limiting voltage or capacity.

- Following the re-connection of the Train B batteries, the Train A inverters are de-energized and the two inverters, 3VBA*INV-2 and 3VBA*INV-4, are then the only loads energized on the Train B batteries.

- Train B then operates until voltage or capacity of either Battery 2 or Battery 4 reach limiting values and are considered depleted or until power is restored to the battery chargers.

b) Stripping of DC loads will be performed using FSGs. Lists of DC bus loads to be stripped were provided during the audit process. All breaker/fuse manipulations to be performed are located in either the Train A or Train B Switchgear Rooms in the 4'-6" level of the Control Building. These rooms are accessible from several paths from the Control Room through areas protected from flooding and tornado missile damage. Operators will strip the loads from the Train B battery bus, and strip selected non-BDB loads from the Train A battery bus. The DC load stripping evolution will start 45 minutes after the initiating event and take a total of 30 minutes to complete. The total time from the initiating event to the completion of load stripping is 75 minutes.

Load stripping FSGs will also include the guidance to strip selected 120VAC vital bus loads to preserve the emergency batteries. Breaker/fuse panel manipulations for stripping of vital 120VAC bus loads being powered from the Train A batteries will be performed on the 120VAC Panels VIAC1 and VIAC3, which are located in the East AC Switchgear Room. Breaker/fuse panel manipulations for stripping of vital 120VAC bus loads being powered from the Train B batteries will be performed on the 120 Vital VAC Panels VIAC2 and VIAC4, which are located in the West AC Switchgear Room. Tables providing the 120VAC loads that are to being stripped for buses VIAC1 and VIAC3 (Train A) and VIAC2 and VIAC4 (Train B), respectively, were provided during the audit process. These AC bus load tables were provided to identify the additional loads being stripped to extend the MPS3 Class 1E battery life.

Load stripping will result in the loss of several channels of plant instrumentation. However, this action will leave sufficient channels available for monitoring plant parameters to implement FLEX strategies. Due to the Class 1E battery extension approach taken, when the battery Trains A and B are switched, the channels available for monitoring plant parameters will also switch to the newly powered train. The only DC loads that are not stripped are the feeds to the inverters which supply power to the 120VAC vital buses. Most loads are stripped from the 120VAC vital buses, however, the loads that remain were carefully selected to ensure plant safety functions can be monitored during Phase 1 of an ELAP event using either of the battery trains. Many of the isolated loads are solenoid valves that have no impact on systems important to plant safety.

i. Upon a loss of power, safety related components are designed to fail to their failsafe condition. During the DC load stripping evolution, the components and circuits which are de-energized will not change state in a manner which results in a plant transient or safety hazard. The existing loss of AC power procedural requirement to verify Containment isolation will be performed prior to starting FLEX load stripping activities. Also, the MPS3 main turbine-generator has a separate battery that supplies power to emergency seal oil and lubricating pumps for the main turbine-generator. This battery is not included in the load stripping strategy, nor is it required for any plant safety systems. This battery is designed to provide the necessary turbine-generator loads for 2 hours. As time permits, hydrogen will be vented off the main turbine-generator and then these pumps will be secured. If the non-safety/non-seismic normal DC distribution equipment remains functional during the event, the main generator will be vented using existing plant procedures.

ii. The circuits to be opened and fuses to be pulled as part of the load stripping evolution were described in the tables provided during the audit process for the DC battery bus Trains A and B, AC Panels VIAC1 and VIAC3 and AC panels VIAC2 and VIAC4.

iii. The circuits/fuses to be opened/pulled as part of the load stripping evolution on either the DC battery busses or the 120VAC vital buses have ID numbers and are labeled per plant labeling requirements. At this time, there is no plan to provide any special markings to further identify the breakers. Personnel rely on the proper use of human performance tools, such as procedure use and adherence, and self-checking to ensure the correct breakers are opened/closed.

c) The voltage at the battery terminals must be 1) above the minimum battery voltage, as well as, 2) be sufficient to ensure adequate voltage at the terminal of any BDB required equipment. The four inverters, 3VBA*INV-1, 3VBA*INV-2, 3VBA*INV-3, and 3VBA*INV-4, each require 101 VDC to function properly. For conservatism, an additional 1 VDC was added to the required voltage, yielding 102 VDC as the minimum required voltage at the input of the inverters. The inverter AC output voltage will not

change appreciably over the allowable input voltage range of the inverter, so the BDB required vital AC bus panel loads will have adequate voltage with a minimum of 102 VDC at the terminals of the inverters.

d) There are no cross connections between batteries on MPS3 and none are required to execute the strategy for extended battery life.

NRC Audit Question No. 52

Systems and Equipment for Mitigation Strategies: List the non-safety related installed systems or equipment that are credited in the ELAP analysis supporting the FLEX mitigation strategies. Specify the functions of each system or equipment credited in the ELAP analysis. For all the systems or equipment listed, justify that they are available and reliable to provide the desired functions on demand during the ELAP conditions.

DNC Response:

The non-safety-related equipment taken credit for in the ELAP Analysis consists of the 4160VAC Non-Vital Bus, 34A.

Non-Vital Bus 34A is located in the Switchgear Room at the 4'6" level of the Control Building. As indicated in Table 3.2-1 of the MPS3 FSAR, the Control Building is seismically qualified as well as tornado missile and flood protected. The switchgear in this room is installed to prevent physical interaction during a seismic event. However, since use of the 4160VAC non-vital bus is a Phase 3 action, significant time (days) would be available to repair or bypass the bus should it become damaged as a result of a seismic event.

Additionally, the non-safety-related sound powered phone system installed in Unit 3 will be used for communications following an ELAP event. The system requires no power to operate and would remain intact in seismic structures.

NRC Audit Question No. 70

The licensee states that the alternate strategy for connecting the diesel driven BDB AFW pump is to remove the bonnet off of the SGBD valve. The staff requests the licensee provide more discussion on how operators will accomplish this task, to include tools, chain falls, staging of necessary equipment, complexity of task, and time.

DNC Response:

The disassembly of the steam generator blowdown (SGBD) valves and installation of the valve bonnet adapter to establish the AFW alternate connection will be performed

by augmented staff that will arrive on site approximately 6 hours into the event (see Overall Integrated Plan submittal dated February 28, 2013, Attachment 1A, Sequence of Events Timeline). The required tools, rigging, bonnet hose adapter, bolting and gaskets are being identified and will be stored in the BDB Storage Building.

Per the Sequence of Events Timeline, the BDB AFW pump is deployed at 12-24 hours into the event as a back-up to the installed turbine-driven AFW (TDAFW) pump. At this time, the primary and alternate AFW connections will be evaluated for use and tie-in preparations will be performed. The alternate connection task will be procedurally controlled and will be performed while the BDB AFW pump is staged.

Only manual tools are required for disassembly of the SGBD valve and installation of the valve bonnet adapter. No hydraulic or electric tools are necessary to complete this task.

NRC Audit Question No. 73

The Order requires mitigating beyond-design-basis external events. NEI 12-06, section 4.2 indicates characterization of a hazard for a site includes the functional threats caused by the hazard, e.g., equipment that may be inundated. As part of the discussion of external flooding, the licensee states that seiche-related flooding is not addressed in the FSAR. The Overall Integrated Plan does not discuss the possibility of flooding from a seiche.

The licensee is requested to discuss why a beyond-design-basis external event such as a seiche is not possible on Long Island Sound. If a seiche is possible, please discuss why the licensee does not consider a seiche as a beyond-design-basis external event applicable to MPS3.

DNC Response:

As stated, the MPS3 seiche is not specifically addressed in the FSAR. However, the MPS3 FSAR does include seiche conditions in the evaluation of storm surge, but states that the Probable Maximum Hurricane (PMH) surge is the more significant flooding event at the MPS site. Although this statement is made for MPS3, it is applicable to both units at the MPS site.

Based on the above, DNC does not consider a seiche as a beyond-design-basis external event applicable to MPS3.

NRC Audit Question No. 84

Generic Open Item: The licensees' plans for equipment maintenance and testing which endorses the EPRI industry program for maintenance which is currently under development does not provide reasonable assurance that guidance and strategies developed and implemented under them will conform to the guidance of NEI 12-06, Section 11.5 with respect to maintenance and testing. Please provide details of the EPRI industry program for maintenance and testing of FLEX electrical equipment such as batteries, cables, and diesel generators.

DNC Response:

NEI 12-06 Section 11.5 requires in part:

> "Portable equipment that directly performs a FLEX mitigation strategy for the core, containment, or SFP should be subject to maintenance and testing guidance provided in INPO AP 913, Equipment Reliability Process, to verify proper function. The maintenance program should ensure that the FLEX equipment reliability is being achieved. Standard industry templates (e.g., EPRI) and associated bases will be developed to define specific maintenance and testing ...."

Electric Power Research Institute (EPRI) has completed and has issued "Preventive Maintenance Basis for FLEX Equipment—Project Overview Report" (Report 3002000623). Preventative Maintenance Templates for several of the FLEX Portable diesel pumps and generators have been issued. Additional PM templates are under development for the remaining FLEX equipment. PM templates include activities such as those listed below:

- Periodic Static Inspections – Monthly walkdown
- Fluid analysis (Yearly)
- Periodic operational verifications – Quarterly starts
- Periodic functional verifications with performance tests – Annual 1 hour run with pump flow and head verifications

The EPRI PM templates for FLEX equipment will conform to the guidance of NEI 12-06 providing assurance the FLEX equipment is being properly maintained and tested.

EPRI templates will be used for most equipment. However, in the event EPRI templates are not available, Preventative Maintenance (PM) actions will be developed based on manufacturer provided information/recommendations. Additionally, EPRI templates will be adopted for new pieces of FLEX equipment as they are purchased/received on site.

NRC Audit Question No. 85

Please clarify whether you plan to abide by the Nuclear Energy Institute position paper addressing mitigating strategies in shutdown and refueling modes that is dated September 18, 2013 (ADAMS Accession No. ML13273A514), and which has been endorsed by the NRC staff (ADAMS Accession No. ML13267A382). If not, please clarify how mitigating strategies for shutdown and refueling modes will be addressed and provide justification for the planned approach.

DNC Response:

MPS3 will abide by the NEI position paper entitled "Shutdown / Refueling Modes" addressing mitigating strategies in shutdown and refueling modes that is dated September 18, 2013 and has been endorsed by the NRC staff.