

Order No. EA-12-049

RS-15-217

August 28, 2015

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

Calvert Cliffs Nuclear Power Plant, Unit 1  
Renewed Facility Operating License No. DPR- 53  
NRC Docket No. 50-317

Subject: Fifth 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, "Issuance of Order to Modify Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," dated March 12, 2012
2. NRC Interim Staff Guidance JLD-ISG-2012-01, "Compliance with Order EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," Revision 0, dated August 29, 2012
3. NEI 12-06, "Diverse and Flexible Coping Strategies (FLEX) Implementation Guide," Revision 0, dated August 2012
4. Letter from M. G. Korsnick (CENG) to Document Control Desk (NRC), Initial 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 October 26, 2012
5. Letter from M. G. Korsnick (CENG) to Document Control Desk (NRC), 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
6. Letter from M. G. Korsnick (CENG) to Document Control Desk (NRC), Supplement to 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 March 8, 2013
7. Letter from E. D. Dean (CENG) to Document Control Desk (NRC), Calvert Cliffs Nuclear Power Plant, Units 1 and 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), dated August 27, 2013
8. Letter from M. G. Korsnick (CENG) to Document Control Desk (NRC) – February 2014 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 27, 2014
  9. Letter from M. G. Korsnick (CENG) to Document Control Desk (NRC) – August 2014 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 26, 2014
  10. Letter from M. G. Korsnick (CENG) to Document Control Desk (NRC) – February 2015 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 20, 2015 (RS-15-054)
  11. Letter from J. S. Bowen (NRC) to J. A. Spina (CENG), Calvert Cliffs Nuclear Power Plant, Units 1 and 2 – Interim Staff Evaluation Relating to Overall Integrated Plan in Response to Order EA-12-049, (Mitigation Strategies) (TAC Nos. MF1142 and MF1143), dated December 17, 2013
  12. Letter from J. Paige (NRC) to M. G. Korsnick (CENG), Calvert Cliffs Nuclear Power Plant, Units 1 and 2 – Report for the Audit Regarding Implementation of Mitigating Strategies and Reliable Spent Fuel Pool Instrumentation Related to Orders EA-12-049 and EA-12-051 (TAC Nos. MF1142, MF1143, MF1140, and MF1141), dated February 20, 2015

On March 12, 2012, the Nuclear Regulatory Commission (“NRC” or “Commission”) issued an order (Reference 1) to Exelon Generation Company, LLC (EGC), previously Constellation Energy Nuclear Group, LLC (Exelon, the licensee). Reference 1 was immediately effective and directs EGC to develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities in the event of a beyond-design-basis external event. Specific requirements are outlined in Attachment 2 of Reference 1.

Reference 1 required submission of an initial status report 60 days following issuance of the final interim staff guidance (Reference 2) and an overall integrated plan pursuant to Section IV, Condition C. Reference 2 endorses industry guidance document NEI 12-06, Revision 0 (Reference 3) with clarifications and exceptions identified in Reference 2. Reference 4 provided the EGC initial status report regarding mitigation strategies. References 5 and 6 provided the Calvert Cliffs Nuclear Power Plant, Unit 1 overall integrated plan.

Reference 1 requires submission of a status report at six-month intervals following submittal of the overall integrated plan. Reference 3 provides direction regarding the content of the status reports. References 7, 8, 9, and 10 provided the first, second, third, and fourth six-month status reports, respectively, pursuant to Section IV, Condition C.2, of Reference 1 for Calvert Cliffs Nuclear Power Plant, Unit 1. The purpose of this letter is to provide the fifth six-month status report pursuant to Section IV, Condition C.2, of Reference 1, that delineates progress made in implementing the requirements of Reference 1. The enclosed report provides an update of milestone accomplishments since the last status report, including any changes to the compliance method, schedule, or need for relief and the basis, if any. The enclosed report also



addresses the NRC Interim Staff Evaluation Open and Confirmatory Items contained in Reference 11, and any NRC Audit Report open items contained in Reference 12.

This letter contains no new regulatory commitments. If you have any questions regarding this report, please contact David P. Helker at 610-765-5525.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 28<sup>th</sup> day of August 2015.

Respectfully submitted,



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James Barstow  
Director - Licensing & Regulatory Affairs  
Exelon Generation Company, LLC

Enclosure:

Calvert Cliffs Nuclear Power Plant, Unit 1 Fifth 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

cc: Director, Office of Nuclear Reactor Regulation  
NRC Regional Administrator - Region I  
NRC Senior Resident Inspector – Calvert Cliffs Nuclear Power Plant  
NRC Project Manager, NRR – Calvert Cliffs Nuclear Power Plant  
Ms. Jessica A. Kratchman, NRR/JLD/JPSB, NRC  
Mr. Jeremy S. Bowen, NRR/JLD/JOMB, NRC  
Mr. Jason C. Paige, NRR/JLD/JOMB, NRC  
S. Gray, MD-DNR

**Enclosure**

**Calvert Cliffs Nuclear Power Plant, Unit 1**

**Fifth 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**

(28 pages)

**ENCLOSURE**  
**CCNPP UNIT 1 SIX-MONTH STATUS REPORT (AUGUST 2015)**  
**FOR MITIGATION STRATEGIES FOR BEYOND-DESIGN-BASIS EXTERNAL EVENTS**

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## **1 Introduction**

The Calvert Cliffs Nuclear Power Plant, LLC (CCNPP) Overall Integrated Plan (OIP) was submitted to the Nuclear Regulatory Commission (NRC) in February 2013 (Reference 1), documenting the diverse and flexible strategies (FLEX) in response to NRC Order Number EA-12-049 (Reference 2). Subsequently, a supplement to the CCNPP OIP for FLEX was submitted to the NRC in March 2013 (Reference 3). This enclosure provides an update of milestone accomplishments since the last status report, including any changes to the compliance method, schedule, or need for relief/relaxation and the basis, if any.

With the report of Unit 2 full compliance (Reference 11) July 2, 2015, this six-month update, as well as future updates, will provide the status of Calvert Cliffs Nuclear Power Plant Unit 1 mitigating strategies implementation.

## **2 Milestone Accomplishments**

- Submitted Calvert Cliffs Nuclear Power Plant, [Unit 2] Report of Full Compliance with 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). (7/2015)

## **3 Milestone Schedule Status**

Table 1 provides an update to Attachment 2-1 of the CCNPP OIP (References 1 and 3) for Unit 1 mitigating strategies implementation. It provides the activity status of each item, and whether the expected completion date has changed. The dates are planning dates subject to change as design and implementation details are developed. Any changes to the indicated target completion dates will be reflected in subsequent 6-month status reports.

The following milestone target completion dates have been updated or added since the previous six-month status report. Changes in the completion dates do not impact the Order compliance date.

**Table 1**  
**Status of CCNPP FLEX OIP Milestones**

<b>Milestone</b>	<b>Target Completion Date</b>	<b>Activity Status</b>	<b>Revised Target Completion Date</b>
<b>Submittals and Updates</b>			
Submit 60 Day Status Report	October 2012	Complete	
Submit Overall Integrated Plan	February 2013	Complete	

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**Table 1**  
**Status of CCNPP FLEX OIP Milestones**

<b>Milestone</b>	<b>Target Completion Date</b>	<b>Activity Status</b>	<b>Revised Target Completion Date</b>
Develop Strategies/Contract with the National SAFER Response Center (NSRC)	November 2013	Complete	
1 <sup>st</sup> 6-Month Status Report	August 2013	Complete	
2 <sup>nd</sup> 6-Month Status Report	February 2014	Complete	
3 <sup>rd</sup> 6-Month Status Report	August 2014	Complete	
4 <sup>th</sup> 6-Month Status Report	February 2015	Complete	
Unit 2 FLEX Compliance Letter	May 2015	Complete	July 2015
5 <sup>th</sup> 6-Month Status Report	August 2015	Complete with this submittal	
6 <sup>th</sup> 6-Month Status Report	February 2016	Not Started	
Unit 1 FLEX Compliance Letter	May 2016	Not Started	
Final Integrated Plan (FIP)	December 2016	Not Started	May 2016
<b>Modification Development</b>			
Commence Engineering and Design	October 2014	Complete	
Commence Procurement of Equipment	January 2015	Complete	
Commence Installation of Unit 1 Equipment	December 2014	Started	
Develop Unit 1 Modifications	July 2015	Complete	
Complete Procurement of Equipment	August 2015	Complete	
Complete Unit 1 Engineering and Design	September 2015	Started	
Unit 1 Modification Implementation Outage	April 2016	Not Started	March 2016



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**Table 1  
Status of CCNPP FLEX OIP Milestones**

<b>Milestone</b>	<b>Target Completion Date</b>	<b>Activity Status</b>	<b>Revised Target Completion Date</b>
<b>Procedures and Training</b>			
Develop Training Plan	April 2014	Complete	
Perform Staffing Analysis	October 2014	Complete	
Create Maintenance and Testing Procedures	November 2015	Started	
Unit 1 Procedure Changes Training Material Complete	January 2016	Not Started	
Issue Unit 1 FLEX Support Guidelines (FSG)	March 2016	Not Started	
Unit 1 Walk-throughs or Demonstrations	March 2016	Not Started	
Implement Unit 1 Training	February 2016	Not Started	
Full compliance with EA-12-049 is achieved	November 2016	Not Started	May 2016

#### **4 Changes to Compliance Method**

Exelon proposes an alternate approach to NEI 12-06 Revision 0 for protection of FLEX equipment as stated in Section 5.3.1 (seismic,) Section 7.3.1 (severe storms with high winds), and Section 8.3.1 (impact of snow, ice and extreme cold). This alternate approach will be to store “N” sets of equipment in a fully robust building and the +1 set of equipment in a commercial building. For all hazards scoped in for the site, the FLEX equipment will be stored in a configuration such that no one external event can reasonably fail the site FLEX capability (N).

To ensure that no one external event will reasonably fail the site FLEX capability (N), Exelon will ensure that N equipment is protected in the robust building. To accomplish this, Exelon will develop procedures to address the unavailability allowance as stated in NEI 12-06 Revision 0 Section 11.5.3., (see Maintenance and Testing section below for further details). This section allows for a 90-day period of unavailability. If a piece of FLEX equipment stored in the robust building were to become or found to be unavailable, Exelon will impose a shorter allowed outage time of 45 days. Portable equipment that is expected to be unavailable for more than 45 days or expected to be unavailable during forecast site specific external events (e.g., hurricane), actions will be initiated within 24 hours of this determination to restore the site FLEX capability

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(N) in the robust storage location and implement compensatory measures (e.g., move the +1 piece of equipment into the robust building) within 72 hours where the total unavailability time is not to exceed 45 days. Once the site FLEX capability (N) is restored in the robust storage location, Exelon will enter the 90-day allowed out of service time for the unavailable piece of equipment with an entry date and time from the discovery date and time.

#### Maintenance and Testing

1. The unavailability of equipment and applicable connections that directly performs a FLEX mitigation strategy for core, containment, and SFP should be managed such that risk to mitigating strategy capability is minimized.
  - a. The unavailability of plant equipment is controlled by existing plant processes such as the Technical Specifications. When plant equipment which supports FLEX strategies becomes unavailable, then the FLEX strategy affected by this unavailability does not need to be maintained during the unavailability.
  - b. The required FLEX equipment may be unavailable for 90 days provided that the site FLEX capability (N) is met. If the site FLEX (N) capability is met but not protected for all of the site's applicable hazards, then the allowed unavailability is reduced to 45 days.<sup>[1]</sup>
  - c. If FLEX equipment is likely to be unavailable during forecast site specific external events (e.g., hurricane), appropriate compensatory measures should be taken to restore equivalent capability in advance of the event.
  - d. The duration of FLEX equipment unavailability, discussed above, does not constitute a loss of reasonable protection from a diverse storage location protection strategy perspective.
  - e. If FLEX equipment or connections become unavailable such that the site FLEX capability (N) is not maintained, initiate actions within 24 hours to restore the site FLEX capability (N) and implement compensatory measures (e.g., use of alternate suitable equipment or supplemental personnel) within 72 hours.
  - f. If FLEX equipment or connections to permanent plant equipment required for FLEX strategies are unavailable for greater than 45/90 days, restore the FLEX capability or implement compensatory measures (e.g., use of alternate suitable equipment or supplemental personnel) prior to exceedance of the 45/90 days.

For Section 5.3.1, seismic hazard, Exelon will also incorporate these actions:

- Large portable FLEX equipment such as pumps and power supplies should be secured as appropriate to protect them during a seismic event (i.e., Safe Shutdown Earthquake (SSE) level).

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<sup>[1]</sup> The spare FLEX equipment is not required for the FLEX capability to be met. The allowance of 90-day unavailability is based on a normal plant work cycle of 12 weeks. In cases where the remaining N equipment is not fully protected for the applicable site hazards, the unavailability allowance is reduced to 45 days to match a 6-week short cycle work period. Aligning the unavailability to the site work management program is important to keep maintenance of spare FLEX equipment from inappropriately superseding other more risk-significant work activities.

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- Stored equipment and structures will be evaluated and protected from seismic interactions to ensure that unsecured and/or non-seismic components do not damage the equipment.

For Section 7.3.1, severe storms with high winds, Exelon will also incorporate this action:

- For a 2-unit site, (N+1) of on-site FLEX equipment are required. The plant screens in per Sections 5 through 9 for seismic, flooding, wind (both tornado and hurricane), snow, ice and extreme cold, and high temperatures.
  - To meet Section 7.3.1.1.a, either of the following are acceptable:
  - All required sets (N+1) in a structure(s) that meets the plant's design basis for high wind hazards, or
  - (N) sets in a structure(s) that meets the plant's design basis for high wind hazards and (+1) set stored in a location not protected for a high wind hazard.

For Section 8.3.1, impact of snow, ice and extreme cold, Exelon will also incorporate this action:

- Storage of FLEX equipment will account for the fact that the equipment will need to function in a timely manner. The equipment should be maintained at a temperature within a range to ensure its likely function when called upon. For example, by storage in a heated enclosure or by direct heating (e.g., jacket water, battery, engine block heater, etc.).

Exelon will meet all of the requirements in NEI 12-06 Revision 0 for Section 6.2.3.1 for external flood hazard and Section 9.3.1 for impact of high temperatures.

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

None.

## **6 Open Items from Overall Integrated Plan and Draft Safety Evaluation**

Table 2 provides a summary of the open items documented in the OIP and those added in a subsequent six-month status report, and the status of each item.

Table 3 provides a summary of the open items and confirmatory items documented in the NRC's CCNPP ISE (Reference 9) and the status of each item.

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**Table 2**  
**Status of CCNPP FLEX OIP Open Items**

<b>CCNPP OIP Open Items</b>	<b>Status</b>
1. Add margin to design FLEX components and hard connection points to address future requirements as re-evaluation warrants. Portable FLEX components will be procured commercially	<u>Complete</u>  (Notification provided in Reference 8)
2. Implement a design change to install permanent protected Unit 1 FLEX equipment connection points	<u>Started.</u>  (Notification provided in Reference 6)
3. Evaluate deployment strategies and deployment routes to ensure they are assessed for and address applicable hazards impact.	<u>Complete</u>  (Notification provided in Reference 8)
4. Develop a process for implementation of exceptions for the site security plan or other (license/site specific – 10CFR50.54(x)) requirements of a nature requiring NRC approval will be communicated in a future 6 month update following identification.)	<u>Complete.</u>  (Notification provided in Reference 8)
5. Define implementation routes upon finalizing a location or locations for FLEX equipment storage location(s).	<u>Complete</u>  (Notification provided in Reference 11)
6. Evaluate requirements, options, and develop strategies to provide reasonably protected storage on site for the FLEX portable equipment.	<u>Complete.</u>  (Notification provided in Reference 8)
7. Design and build a protected storage location or locations for the FLEX equipment. Ensure the design meets the requirements of NEI 12-06.	<u>Complete</u>  (Notification provided in Reference 11)
8. Identify analysis needed to develop or support mitigating strategies.	<u>Complete.</u>  (Notification provided in Reference 8)



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<b>CCNPP OIP Open Items</b>	<b>Status</b>
9. Provide an administrative program governing the FLEX deployment strategy, marking of setup locations, including primary and alternate pathways, maintaining the pathways clear, and clearing the pathways.	<u>Complete.</u>  (Notification provided in Reference 11)
10. Determine the location of the CCNPP local staging area, primary and alternate delivery routes, and delivery methods to the proposed onsite laydown areas.	<u>Complete.</u>  (Addressed in Reference 6)
11. Determine schedule for when RRCs will be fully operational.	<u>Complete.</u>  (Addressed in Reference 5)
12. Define criteria for the local staging area by June 2013.	<u>Complete.</u>  (Addressed in Reference 6)
13. Establish a suitable local staging area for portable FLEX equipment to be delivered from the RRC to the site.	<u>Complete.</u>  (Notification provided in Reference 8)
14. Develop site specific SAFER Response Plan (playbook) for delivery of portable FLEX equipment from the RRC to the site.	<u>Complete.</u>  (Notification provided in Reference 11)
15. <u>Original open item text:</u> Implement a design change to replace the 1 ft. diameter wheel with a 3 ft. wheel on each Atmospheric Dump Valve (ADV) chain operator.  <u>Modified open item text:</u> Implement a design change to improve mechanical advantage on each Unit 1 Atmospheric Dump Valve (ADV) chain operator.	<u>Started.</u>
16. Evaluate the feasibility of the WCAP-17601-P recommendation to install a remotely operated RCP CBO return line isolation valve.	<u>Deleted.</u>  (Addressed in Reference 5)
17. Develop a procedure or FSG to perform an early Unit 1 cooldown and depressurization as recommended by WCAP-17601-P.	<u>Started.</u>

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<b>CCNPP OIP Open Items</b>	<b>Status</b>
18. Perform engineering analyses to confirm that CCNPP maintains an adequate level of Shutdown Margin (SDM) for an RCS cooldown to 350°F, to cover a period of at least 72 hours.	<u>Complete.</u>  (Addressed in Reference 6)
19. Implement a design change to re-power the Unit 1 [Safety Injection Tank] SIT level and pressure indicators from a vital 120 VAC instrument bus.	<u>Started.</u>  (Notification provided in Reference 6)
20. Implement a design change to install new leak-tight SIT vent Solenoid Valves (SV) that will allow the vent line pipe caps to remain off.	<u>Deleted.</u>  (Addressed in Reference 5)
21. <u>Original open item text:</u> Implement design changes to install “plug and play” protected hose connections for the portable alternate [Auxiliary Feedwater] AFW pump to AFW on the exterior of the Auxiliary Building west wall with piping run to the 27 ft. East penetration Rooms to connect to the AFW to S/G headers.  <u>Modified open item text:</u> Utilize flexible hose to connect a FLEX pump to a newly installed, dedicated Unit 1 hose connection located on the motor driven AFW pump cross-connect line on the 5 ft. elevation of the Auxiliary Building.	<u>Started.</u>  (Notification provided in Reference 6)
22. Implement a design change to install reliable local level indicators on all of the water storage tanks located in the 11, 12 and 21 CSTs, 11 DWST, and 11 and 12 PWSTs.	<u>Deleted.</u>  (Addressed in Reference 6)
23. Perform an analysis to determine the necessary scope of the DC load shedding strategy.	<u>Complete.</u>  (Notification provided in Reference 8)

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<b>CCNPP OIP Open Items</b>	<b>Status</b>
<p>24. <u>Original open item text:</u>  Implement a design change to clearly identify the set of DC load breakers that will either be left energized or load shed by identifying the selected breakers by their unique numbers and load title.</p> <p><u>Modified open item text:</u>  Clearly identify (label) the DC load breakers that will be opened to extend battery life.</p>	<p><u>Complete</u></p> <p>(Notification provided in Reference 11)</p>
<p>25. Implement a procedure or FSG to perform the DC load shedding.</p>	<p><u>Complete</u></p> <p>(Notification provided in Reference 11)</p>
<p>26. Complete a time-motion study to validate that DC load shedding can be accomplished on each unit in one (1) hour.</p>	<p><u>Complete.</u></p> <p>(Notification provided in Reference 8)</p>
<p>27. <u>Original open item text:</u>  Implement a design change to install an 8-hour Uninterruptible Power Supply (UPS) on the Mansell RCS Level Monitoring System.</p> <p><u>Modified open item text:</u>  Implement a design change to connect a portable diesel generator to the Mansell RCS Level Monitoring System.</p>	<p><u>Complete.</u></p> <p>(Notification provided in Reference 8)</p>
<p>28. Perform engineering analyses and develop strategies for providing RCS make-up and core cooling while in Modes 5 and 6, for all possible RCS conditions, following an ELAP. The analysis should determine the FLEX pump capacity needed to provide adequate flow in all RCS conditions.</p>	<p><u>Complete.</u></p> <p>(Notification provided in Reference 8)</p>
<p>29. Perform an analysis to determine that there is sufficient decay heat generated for TDAFW operation 36 hours after shutdown.</p>	<p><u>Complete.</u></p> <p>(Addressed in Reference 6)</p>
<p>30. Implement a design change to provide dedicated hose connections and piping to the Unit 1 Safety Injection System.</p>	<p><u>Started.</u></p> <p>(Notification provided in Reference 6)</p>

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<b>CCNPP OIP Open Items</b>	<b>Status</b>
31. Develop a Unit 1 procedure or FSG to mimic the AFW makeup strategy described in ERPIP-611, Attachment 1.	<u>Started.</u>
32. Install a design change to add makeup and pump suction hose connections for FLEX pump connection to 12 CST.	<u>Deleted.</u>  (Addressed in Reference 6)
33. Install a design change to replace the 2-½ inch hose connections with 4 inch hose connections at 11 and 21 CSTs, 11 DWST, and 11 and 12 PWSTs.	<u>Deleted.</u>  (Addressed in Reference 5)
34. Install a design change to add hose connection at 11 Refueling Water Storage Tanks (RWT) for makeup and suction for the FLEX pumps.	<u>Started.</u>  (Notification provided in Reference 6)
35. Install design change to add 4" hose connections to the Reactor Coolant Waste Receiver Tanks (RCWRTs) and Reactor Coolant Waste Monitor Tanks (RCWMTs).	<u>Deleted.</u>  (Addressed in Reference 6)
36. Perform an analysis to determine the survivability of the wells as a long-term source of make-up water. Analysis should include any modifications needed to improve the survivability of the associated Well Water System piping and to provide 480 VAC power to the well pumps.	<u>Complete.</u>  (Notification provided in Reference 8)
37. Perform an analysis to determine the long-term effect on the S/Gs from use of water from the [Ultimate Heat Sink] UHS as a cooling medium.	<u>Complete.</u>  (Notification provided in Reference 8)
38. Perform an analysis to determine station battery coping time with DC load shedding. Analysis should consider battery age, battery performance without battery room ventilation, and load and load duration prior to completion of DC load shedding.	<u>Complete</u>  (Notification provided in Reference 11)
39. Track the completion of ECP-11-000293 and -000294, the Reserve Battery distribution system modification that is currently in progress.	<u>Complete.</u>  (Notification provided in Reference 8)



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<b>CCNPP OIP Open Items</b>	<b>Status</b>
40. Develop and implement Unit 1 procedures to supply power to critical instrumentation using primary and alternate methods.	<u>Started.</u>
41. Perform an analysis to determine that the assumed load capacity of the FLEX 480 VAC DG is sufficient to provide power to the selected loads.	<u>Complete.</u>  (Addressed in Reference 7)
42. Implement a design change to connect a FLEX 480 VAC Diesel generator to either of the A or B train 480 VAC load centers on Unit 1 to provide power to the battery chargers and other critical AC equipment.	<u>Started.</u>  (Notification provided in Reference 6)
43. Implement a design change to provide direct connection of a portable 100 kW diesel generator to reactor [Motor Control Centers] MCC 104 to provide power to the inverter backup bus (which can power the 120VAC vital bus), the SIT Outlet [Motor Operated Valves] MOVs, and the AFW Pump Room Vent Fans.	<u>Started.</u>  (Notification provided in Reference 6)
44. Implement a design change to install connection points, conduit, cabling, and transfer switches locally at battery chargers to provide for direct connection from the FLEX 480 VAC DGs.	<u>Deleted.</u>  (Addressed in Reference 5)
45. Perform an analysis to determine the feasibility of the S/G "batch" feeding strategy.	<u>Complete.</u>  (Notification provided in Reference 8)
46. Implement a procedure to connect a 4160 VAC RRC DG to either of the A or B Train 1E 4160 VAC Buses on each unit to provide power for Phase 3.	<u>Complete.</u>  (Notification provided in Reference 11)
47. Develop procedures or FSGs for repower vital 4160 VAC Class 1E buses from RRC FLEX 4KV DGs.	<u>Complete.</u>  (Notification provided in Reference 11)

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<b>CCNPP OIP Open Items</b>	<b>Status</b>
48. Provide modified 4160 VAC breakers for direct RRC DG connection for use in place of the normal 4160 VAC breakers in service for LPSI Pump and SW Pump power supplies.	<u>Deleted.</u>  (Addressed in Reference 6)
49. Implement a design change to power Unit 1 containment dome and reactor cavity temperatures instrumentation from a vital 120 VAC instrument bus.	<u>Started.</u>  (Notification provided in Reference 6)
50. Perform an analysis to determine containment temperature and pressure response over a period of 72 hours. Perform analysis with and without RCS cooldown and with and without restoration of containment air cooling.	<u>Complete.</u>  (Notification provided in Reference 8)
51. Implement a design change to install a hose connection on the A-Train and B-Train [Containment Spray] CS headers in the Auxiliary Building.	<u>Deleted.</u>  (Addressed in Reference 5)
52. Purchase additional special check valve bonnets and store them inside each [Emergency Core Cooling System] ECCS Pump Room.	<u>Deleted.</u>  (Addressed in Reference 7)
53. Perform an analysis to determine the feasibility of providing Containment cooling with CAC Units using an alternate cooling water strategy.	<u>Complete.</u>  (Notification provided in Reference 8)
54. Install hose connections on the Service Water (SRW) supply and return lines to the CAC for connection to a RRC portable heat exchanger.	<u>Deleted.</u>  (Addressed in Reference 6)
55. Implement a design change to install reliable wide range spent fuel pool (SFP) level instrumentation in accordance with NRC Order EA-12-051.	<u>Complete.</u>  (Notification provided in Reference 8)
56. Implement a design change to provide a 6" hose connection to Unit 1 RWT.	<u>Started.</u>  (Notification provided in Reference 6)

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<b>CCNPP OIP Open Items</b>	<b>Status</b>
<p>57. <u>Original open item text:</u>  Implement a design change to provide dedicated hose connections to the SFP Cooling system.</p> <p><u>Modified open item text:</u>  Provide the necessary means (i.e. temporary equipment, tools and procedures) to supply makeup water to the SFP via the SFP cooling system.</p>	<p><u>Complete</u></p> <p>(Notification provided in Reference 11)</p>
58. Develop and implement procedures or FSGs that include the SFP Cooling FLEX makeup flow path.	<p><u>Complete</u></p> <p>(Notification provided in Reference 11)</p>
59. Develop procedures or FSGs that mimic the ERPIP-612 sections for SFP makeup and SFP spray.	<p><u>Complete</u></p> <p>(Notification provided in Reference 11)</p>
60. Implement a design change to install reliable wide range SFP fuel pool level instrumentation in accordance with NRC Order EA-12-051	<p><u>Duplicate Open Item.</u></p> <p>See Open Item # 55</p>
61. Perform an analysis to determine the Control Room temperature response over a period of 72 hours.	<p><u>Complete.</u></p> <p>(Addressed in Reference 7)</p>
62. Perform an analysis to confirm that TDAFW Pump room air temperature remains acceptable over 72 hours of pump operation.	<p><u>Complete.</u></p> <p>(Addressed in Reference 7)</p>
63. Develop primary and alternate strategies for ventilating the TDAFW Pump Room.	<p><u>Complete.</u></p> <p>(Addressed in Reference 5)</p>
64. Perform an analysis to confirm the [Probable Maximum Precipitation] PMP event maximum flood height will not impact the operation of TDAFW or preclude access to the room.	<p><u>Complete.</u></p> <p>(Addressed in Reference 5)</p>
65. Perform an analysis to determine the possible effects of Beyond Design Basis External Events (BDBEEs) on the Turbine Building structure and the potential effect on access to the TDAFW Pump Room.	<p><u>Complete.</u></p> <p>(Addressed in Reference 7)</p>

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<b>CCNPP OIP Open Items</b>	<b>Status</b>
66. Develop an alternate access strategy for access into the TDAFW Pump Room.	<u>Complete.</u>  (Addressed in Reference 7)
67. Perform an analysis to determine the temperature profile over 72 hours in the area around ADV enclosures.	<u>Complete.</u>  (Addressed in Reference 7)
68. Perform an analysis to determine the Cable Spreading Room temperature response over a period of 72 hours.	<u>Complete.</u>  (Addressed in Reference 7)
69. Investigate changing Appendix R lighting batteries to a longer life battery or new battery technology to lengthen the duration of lighting available in vital areas of the plant.	<u>Deleted.</u>  (Addressed in Reference 6)
70. Procure battery operated hardhat mounted lights ("miners" lights) for on-shift and Emergency Response Organization (ERO) personnel.	<u>Complete</u>  (Notification provided in Reference 8)
71. Procure a sufficient quantity of hand-held battery operated lanterns for on-shift and ERO personnel.	<u>Complete</u>  (Notification provided in Reference 8)
72. Procure six (6) portable diesel generator powered exterior lighting units with 30 ft. masts and a minimum 400,000 lumens.	<u>Complete.</u>  (Addressed in Reference 6)
73. Change Appendix R lighting from incandescent to LED to lengthen the duration of lighting available in vital areas of the plant.	<u>Deleted.</u>  (Addressed in Reference 6)
74. Implement a design change to install a protected, backup power supply capable of 24 hours of operation, for the Plant Public Address system. This includes backup power for the individual building speaker network amplifiers.	<u>Deleted.</u>  (Addressed in Reference 8)



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CCNPP OIP Open Items	Status
75. Implement a design change to modify the 800 MHz Radio System to provide protection from external hazards, transmitter and antennas protected from seismic, wind, and wind-driven missiles, including back-up power supply capable of 24 hours operation for the system and repeaters, or install an alternative communication system in lieu of the 800 MHz Radio system.	<u>Complete.</u>  (Notification provided in Reference 8)
76. Implement a design change to modify the Fixed Dedicated Satellite Phone System to provide protection from external hazards, and transmitter and antennas protected from seismic, wind, and wind-driven missiles, including back-up power supply capable of 24 hours operation for the system.	<u>Complete</u>  (Notification provided in Reference 11)
77. Purchase one wheeled and one tracked vehicle with bucket/blade and grapple of sufficient size and load handling capacity to remove debris.	<u>Complete.</u>  (Addressed in Reference 6)
78. Purchase the portable equipment needed to outfit CCNPP Fire Engine 171 for debris removal.	<u>Deleted.</u>  (Addressed in Reference 5)
79. Implement a design change to install a protected alternate means of accessing the UHS for all BDBEEs, including installing necessary modifications to meet required deployment times. The strategy must also address how debris in the UHS will be filtered / strained and how the resulting debris will effect core cooling.	<u>Complete.</u>  (Notification provided in Reference 8)
80. Develop strategies for use of the Control Room and Cable Spreading Room Appendix R Ventilation System during an ELAP.	<u>Deleted.</u>  (Addressed in Reference 7)
81. Perform an analysis to evaluate hydrogen buildup in the battery rooms during charging and the long term room temperature profiles.	<u>Complete.</u>  (Addressed in Reference 7)

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<b>CCNPP OIP Open Items</b>	<b>Status</b>
82. Perform an analysis to determine the Switchgear Room temperature response under the above scenario and assuming various 480 VAC load center and 4160 VAC bus loadings over a period of 72 hours.	<u>Complete.</u>  (Addressed in Reference 7)
83. Perform an analysis to verify the above strategy will provide sufficient air flow to vent steam from the SFP Area.	<u>Complete.</u>  (Addressed in Reference 7)
84. Evaluate the cost of draining 21 Fuel Oil Storage Tank (FOST) and 1A DG FOST and refilling with ultra-low sulfur (<15 ppm) diesel fuel oil.	<u>Deleted.</u>  (Notification provided in Reference 8)
85. <u>Original open item text:</u> Implement a design change to install dedicated FLEX hose connections on 21 FOST, 1A DG FOST, and the 1B, 2A, and 2B DG fuel oil Y-strainers.  <u>Modified open item text:</u> Implement a design change to install dedicated FLEX hose connections on the 21 FOST.	<u>Deleted.</u>  (Notification provided in Reference 8)
86. Provide a permanent, fully protected diesel FOST for refueling the FLEX diesel-driven equipment.	<u>Deleted.</u>  (Addressed in Reference 7)
87. Perform an analysis of the fuel consumption rate for all of the FLEX equipment that could be in operation during an ELAP for a period of 72 hours to determine a conservative refueling interval.	<u>Complete.</u>  (Notification provided in Reference 8)
88. Develop strategies to reduce the transport time for fuel oil loading and delivery.	<u>Complete.</u>  (Notification provided in Reference 8)
89. Purchase the consumables that should be stocked to support at least 24 hours of site operation independent of offsite support.	<u>Complete.</u>  (Notification provided in Reference 8)

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<b>CCNPP OIP Open Items</b>	<b>Status</b>
90. Provide a procedure governing the maintenance and distribution of the consumables that will be stocked to support at least 24 hours of site operation independent of offsite support.	<u>Complete</u>  (Notification provided in Reference 11)
91. Develop a strategy to protect onsite consumables for use after a BDBEE.	<u>Complete</u>  (Notification provided in Reference 11)
92. Develop equipment operating procedures or FSGs, considering vendor technical manual operating procedures, for each of the pieces of portable FLEX equipment that will be procured.	<u>Complete</u>  (Notification provided in Reference 11)
93. Install connection points on Class 1E 4KV Buses for the RRC 4KV portable DG.	<u>Deleted.</u>  (Addressed in Reference 6)
94. <u>Original open item text:</u> Develop procedures or FSG for each of the RRC based strategies and for operation of the equipment provided by the RRC.  <u>Modified open item text:</u> Develop procedures or FSGs for each major National SAFER Response Center (NSRC) based strategy.	<u>Complete.</u>  CCNPP FLEX Support Guidelines (FSGs) provide guidance for connection of the NSRC 4 KV gas turbine generators, 5,000 GPM portable saltwater pumps, and the RCS makeup portable boration skid. NSRC personnel will provide "just in time" training on equipment operation to site equipment operators. Station personnel will then be responsible for extended operation of the NSRC equipment.

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**Table 3**  
**Status of CCNPP Interim Staff Evaluation (ISE) Open and Confirmatory Items**

ISE Open Items	Status
<p>1. <b>ISE Open Item 3.2.1.1.A</b> – The licensee will need to perform a plant specific analysis of RCS cooling and inventory control. If the CENTS code is used, the value of flow quality at the upper region of [Steam Generator] SG tubes for the condition when the RCS makeup pump is required to inject water into the RCS will also need to be submitted, and the licensee should confirm that CENTS is not used outside of any ranges of applicability discussed in the white paper addressing the use of CENTS (e.g., prior to the reflux boiling initiation). If other codes are used for the ELAP analysis, the licensee will need to justify the acceptance of the codes for this use.</p>	<p><u>Complete.</u></p> <p>(Notification provided in Reference 8)</p>
<p>2. <b>ISE Open Item 3.2.1.1.B</b> – The licensee's plan for analysis for core and containment cooling is still under development and CENG will identify additional analysis to support the mitigating strategies. The subjects of the analyses are: maintaining core cooling (e.g., confirm shutdown margin during cooldown, DC load shedding, and adequate steam pressure for TDAFW pump operation), containment temperature and pressure response for containment cooling, and various safety functions regarding ventilation and cooling systems (e.g., for the main control room, TDAFW pump room, cable spreading room, battery rooms, switchgear rooms and the SFP area). Review of these analyses is needed to confirm acceptability of the mitigating strategies.</p>	<p><u>Complete.</u></p> <p>(Addressed in Reference 7)</p>
<p>3. <b>ISE Open Item 3.2.1.8.A</b> – During the audit process, the licensee informed the NRC staff of its intent to abide by the Pressurized-Water Reactor Owners Group (PWROG) generic approach</p>	<p><u>Complete.</u></p> <p>(Notification provided in Reference 8)</p>

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ISE Open Items	Status
<p>regarding boric acid mixing discussed in Section 3.2.1.8 of this report; however, the NRC staff concluded that the August 15, 2013, position paper was not adequately justified and that further information is required.</p>	

ISE Confirmatory Items	Status
<p>1. <b>ISE Confirmatory Item 3.1.1.1.A</b> – On page 8 of the Integrated Plan, the licensee specified that Phase 2 FLEX components will be stored at the site in a location or locations such that they are reasonably protected and that no one external event can reasonably fail the site FLEX capability. Provision will be made for multiple sets of portable on-site equipment stored in diverse locations or through storage in structures designed to reasonably protect from applicable external events. FLEX equipment storage location(s) have not been selected.</p>	<p><u>Complete.</u>  (Notification provided in Reference 8)</p>
<p>2. <b>ISE Confirmatory Item 3.1.1.1.B</b> – The licensee will provide the specific protection requirements described in NEI 12-06 for the applicable hazard.</p>	<p><u>Complete.</u>  (Notification provided in Reference 8)</p>
<p>3. <b>ISE Confirmatory Item 3.1.1.4.A</b> – The licensee has not yet identified the local staging area or described the methods to be used to deliver the equipment to the site for all hazards. The licensee will develop a playbook which will provide the detail necessary to ensure the successful delivery of the portable FLEX equipment from the RRC to the local staging area and from the local staging area to the site.</p>	<p><u>Complete.</u>  (Notification provided in Reference 8 and 11)</p>
<p>4. <b>ISE Confirmatory Item 3.1.2.2.A</b> – The licensee identified two open items; one regarding evaluating deployment strategies and deployment routes to ensure they are assessed for and address applicable hazards impact. The second was to provide an administrative</p>	<p><u>Complete.</u>  (Notification provided in Reference 8 and 11)</p>

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ISE Confirmatory Items	Status
<p>program governing the FLEX deployment strategy, marking of setup locations, including primary and alternate pathways, maintaining the pathways clear, and clearing the pathways.</p>	
<p>5. <b>ISE Confirmatory Item 3.1.2.2.B</b> – Regarding the open items noted in 3.1.2.2.A, evaluations are needed to assure that connection points for portable equipment remain viable for the flooded condition, and that the effects of the maximum storm surge or probable maximum hurricane should be considered in evaluating the adequacy of the baseline deployment strategies.</p>	<p><u>Complete.</u></p> <p>(Notification provided in Reference 8 and 11)</p>
<p>6. <b>ISE Confirmatory Item 3.1.2.2.C</b> – The licensee specified that primary access to the UHS is via the openings in the [Circulating Water] CW Discharge Structure (plant outfall). An alternate UHS location has not been established; however the licensee has identified an open item to implement a design change to install a protected alternate means of accessing the UHS for all BDBEEs, including installing necessary modifications to meet required deployment times. The strategy must also address how debris in the UHS will be filtered and/or strained and how the resulting debris will affect core cooling.</p>	<p><u>Complete.</u></p> <p>(Notification provided in Reference 8)</p>
<p>7. <b>ISE Confirmatory Item 3.1.3.2.A</b> – The licensee specified that CCNPP currently has a varied array of wheeled vehicles, e.g., forklifts, small tractors, and a backhoe, that could be used for debris removal. However, the licensee did not specify if this equipment would be protected from high wind and other hazards.</p>	<p><u>Complete.</u></p> <p>(Notification provided in Reference 7 and 11)</p>
<p>8. <b>ISE Confirmatory Item 3.1.4.2.A</b> – The licensee did not address procurement requirements to ensure that the FLEX equipment can be operated in extreme</p>	<p><u>Complete.</u></p> <p>(Notification provided in Reference 7 and 11)</p>

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ISE Confirmatory Items	Status
hot or cold temperature environments or how hot or cold temperatures will affect manual actions.	
<p>9. <b>ISE Confirmatory Item 3.1.4.2.B</b> – Deployment of FLEX equipment has not been addressed for conditions of snow, ice and extreme cold. The current screening omits a discussion of deployment of FLEX equipment for hazards due to ice blockage or formation of frazil ice on the UHS.</p>	<p><u>Complete.</u></p> <p>(Notification provided in Reference 7)</p>
<p>10. <b>ISE Confirmatory Item 3.2.1.2.A</b> – 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 white paper addressing the RCP seal leakage for CE plants. If the RCP seal leakage rate used in the plant-specific ELAP analysis is less than upper bound expectation for the seal leakage rate discussed in the white paper, justification should be provided.</p>	<p><u>Complete.</u></p> <p>(Notification provided in Reference 7)</p>
<p>11. <b>ISE Confirmatory Item 3.2.1.5.A</b> – The licensee has not provided sufficient analyses to confirm instruments are reliable and accurate in the containment harsh conditions with high moisture levels, temperature and pressure during the ELAP event.</p>	<p><u>Complete.</u></p> <p>(Notification provided in Reference 7)</p>
<p>12. <b>ISE Confirmatory Item 3.2.1.6.A</b> – The following references used as basis for several sequence of events (SOE) Action Time constraints were not available for review: CCN0012-17-STUDY-001, and CCNPP FLEX Strategy Table Top.</p>	<p><u>Complete.</u></p> <p>(Notification provided in Reference 7 and 11)</p>
<p>13. <b>ISE Confirmatory Item 3.2.1.6.B</b> – The licensee has not completed final analysis regarding validation of the action times reported in the Sequence of Events, including any SOE changes that may result from ongoing evaluations for; RCP seal leakage, plant specific CENTS</p>	<p><u>Complete</u></p> <p>(Notification provided in Reference 11)</p>

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ISE Confirmatory Items	Status
analysis, and any revised battery load shed analysis.	
14. <b>ISE Confirmatory Item 3.2.1.7.A</b> –The Generic Concern related to the shutdown and refueling modes, required clarification of CCNPP's approach to demonstrate that the strategies can be implemented in all modes. During the audit, the licensee informed the NRC of their plans to abide by this generic resolution. The implementation of these plans is identified as Confirmatory Item 3.2.1.7.A.	<u>Complete.</u>  (Notification provided in Reference 7 and 11)
15. <b>ISE Confirmatory Item 3.2.1.9.C</b> – During the audit process, the licensee stated that it will provide revised analyses as detailed engineering evaluations are performed for each Phase 3 FLEX component and modification strategy.	<u>Complete.</u>  (Notification provided in Reference 7 and 11)
16. <b>ISE Confirmatory Item 3.2.1.9.D</b> – The licensee provided an open item, to perform engineering analysis to determine that there is sufficient decay heat generated for TDAFW operation 36-hours after shutdown and that the TDAFW pumps can operate reliably provided there is greater than 65 psia steam pressure in one of the SGs.	<u>Complete.</u>  (Addressed in Reference 6)
17. <b>ISE Confirmatory Item 3.2.2.A</b> – The licensee did not discuss the impacts of salt/brackish water on the structures and components of the SFP system, and the fuel. During the audit process the licensee specified that they will perform an analysis to determine the effects of salt/brackish water on the structures and components (including instrumentation) of the SFP system and the stored fuel.	<u>Complete.</u>  (Notification provided in Reference 7)
18. <b>ISE Confirmatory Item 3.2.2.B</b> – The licensee will perform an analysis to verify that the proposed strategy for SFP ventilation will provide sufficient air flow to vent steam from the SFP area, in order to	<u>Complete.</u>  (Notification provided in Reference 8)



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ISE Confirmatory Items	Status
determine whether natural air circulation is sufficient, or forced ventilation provided by FLEX equipment will be required.	
19. <b>ISE Confirmatory Item 3.2.3.A</b> – The licensee specified that an analysis of the Containment response during the ELAP event indicated that the Containment would not require additional cooling. During the audit, the licensee provided a document entitled "CCNPP Containment Analysis" that was based on the GOTHIC code; however, the tabulated results did not match those transmitted in the August 2013 6-month update.	<u>Complete.</u> (Notification provided in Reference 8)
20. <b>ISE Confirmatory Item 3.2.4.1.A</b> – Charging Pump Room ventilation is provided by the non-safety related Auxiliary Building Supply and Exhaust Ventilation System. An evaluation will be performed to determine if the Charging Pumps can meet their mission time without room ventilation.	<u>Complete.</u> (Notification provided in Reference 7)
21. <b>ISE Confirmatory Item 3.2.4.2.A</b> – The licensee identified an open item to perform an analysis to determine the Control Room temperature response over a period of 72 hours.	<u>Complete.</u> (Notification provided in Reference 7)
22. <b>ISE Confirmatory Item 3.2.4.2.B</b> – The licensee identified an open item to develop strategies for use of the Control Room and Cable Spreading Room Appendix R Ventilation System during an ELAP.	<u>Deleted.</u> (Notification provided in Reference 7)
23. <b>ISE Confirmatory Item 3.2.4.2.C</b> – The licensee identified an open item to perform an analysis to evaluate hydrogen buildup in the battery rooms during charging and room temperature profiles.	<u>Complete.</u> (Notification provided in Reference 7)
24. <b>ISE Confirmatory Item 3.2.4.2.D</b> – The licensee identified an open item to perform an analysis to determine the Switchgear Room temperature response	<u>Complete.</u> (Notification provided in Reference 7)

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ISE Confirmatory Items	Status
following the reenergizing of buses and assuming various 480 VAC load center and 4160 VAC bus loadings over a period of 72 hours.	
25. <b>ISE Confirmatory Item 3.2.4.2.E</b> – The West Electrical Penetration Rooms will begin to heat up after the Reactor motor control centers (MCC) are re-energized from the FLEX 480 VAC DGs, therefore, they will need to be evaluated for limiting temperatures for equipment survivability.	<u>Complete.</u>  (Notification provided in Reference 7)
26. <b>ISE Confirmatory Item 3.2.4.4.A</b> – On page 56 of the Integrated Plan, the licensee identified five open items to; 1) investigate changing Appendix R lighting batteries to a longer life battery or new battery technology to lengthen the duration of lighting available in vital areas of the plant, 2) procure battery operated hardhat mounted lights ("miners" lights) for on-shift and emergency response organization (ERO) personnel, 3) to procure a sufficient quantity of hand-held battery operated hardhat lanterns for on-shift and ERO personnel, 4) to procure six (6) portable diesel generator powered exterior lighting units with 30 ft. masts and a minimum 400,000 lumens, and 5) to change Appendix R lighting from incandescent to LED to lengthen the duration of lighting available in vital areas of the plant.	<u>Complete.</u>  (Notification provided in Reference 7)
27. <b>ISE Confirmatory Item 3.2.4.4.B</b> – The NRC staff reviewed the licensee communications assessment and has determined that the assessment for communications is reasonable, and the analyzed existing systems, proposed enhancements, and interim measures will help to ensure that communications are maintained. Confirmation that upgrades to the site's communications systems have been completed will be accomplished at a later date.	<u>Complete.</u>  (Notification provided in Reference 7)

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ISE Confirmatory Items	Status
28. <b>ISE Confirmatory Item 3.2.4.5.A</b> – The licensee has not completed its evaluation of the primary and alternate access points	<u>Complete.</u>  (Notification provided in Reference 8 and 11)
29. <b>ISE Confirmatory Item 3.2.4.6.A</b> – The licensee has identified an open item to perform an analysis to determine the temperature profile over 72 hours in the area around the Atmospheric Dump Valve enclosures.	<u>Complete.</u>  (Notification provided in Reference 7)
30. <b>ISE Confirmatory Item 3.2.4.6.B</b> – The licensee identified an open item to perform an analysis to determine the Cable Spreading Room temperature response over a period of 72 hours.	<u>Complete.</u>  (Notification provided in Reference 7)
31. <b>ISE Confirmatory Item 3.2.4.6.C</b> – The licensee identified two open items to perform an analysis to determine the possible effects of BDBEE on the Turbine Building structure and the potential effect on access to the TDAFW Pump Room, and to develop an alternate access strategy for access into the TDAFW Pump Room.	<u>Complete.</u>  (Notification provided in Reference 7)
32. <b>ISE Confirmatory Item 3.2.4.8.A</b> – The medium voltage 4160VAC generators and the low voltage 480VAC 800kW generators that will arrive from the RRC will have protective devices as specified in AREVA document 51-9199717-000. An evaluation will be performed to verify the internal protection is adequate to protect the 1E buses.	<u>Complete.</u>  (Notification provided in Reference 8)

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ISE Confirmatory Items	Status
<p>33. <b>ISE Confirmatory Item 3.2.4.8.B</b> – One 480VAC/675KVA diesel generator set will be deployed for each unit to connect to one vital 480 VAC Load Center on that unit. The 480VAC/125KVA diesel generators are intended as an alternate strategy to connect to one of two vital reactor MCCs on each unit. The supplied reactor MCC can be cross-connected to the redundant train reactor MCC on that unit. An evaluation to validate the intended use of these diesel generators is pending.</p>	<p><u>Complete.</u></p> <p>(Notification provided in Reference 8)</p>
<p>34. <b>ISE Confirmatory Item 3.2.4.9.A</b> – The licensee identified Open items to perform an analysis of the fuel consumption rate for all of the FLEX equipment that could be in operation during an ELAP for a period of 72 hours to determine a conservative refueling interval, and to develop strategies to reduce the transport time for fuel oil loading and delivery.</p>	<p><u>Complete.</u></p> <p>(Notification provided in Reference 8)</p>
<p>35. <b>ISE Confirmatory Item 3.2.4.10.A</b> – On page 19 of the Integrated Plan, the licensee identified Open Items: to implement a design change to clearly identify the set of [DC] load breakers that will either be left energized or load shed by identifying the selected breakers by their unique numbers and load title; to implement a procedure or FSG to perform the [DC] load shedding; and to complete a time-motion study to validate that DC load shedding can be accomplished on each unit in one hour.</p>	<p><u>Complete</u></p> <p>(Notification provided in Reference 11)</p>
<p>36. <b>ISE Confirmatory Item 3.2.4.10.B</b> – Maintenance of vital 125 VDC power will include aligning the Reserve Battery to one of the four vital 125 VDC buses via bus work and disconnects that are currently being installed under an existing plant modification. This action will extend the coping time for one vital 125 VDC bus to greater than 20 hours. The licensee needs to provide a copy of the</p>	<p><u>Complete.</u></p> <p>(Notification provided in Reference 7)</p>

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<b>ISE Confirmatory Items</b>	<b>Status</b>
analysis/calculations which shows aligning the Reserve Battery to one of the four 125VDC buses can extend the coping time for one vital 125 VDC bus to greater than 20 hours.	
37. <b>ISE Confirmatory Item 3.4.A</b> – 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. The licensee did not address the remaining minimum capabilities of Section 12.2.	<u>Complete.</u>  (Notification provided in Reference 8)

## **7 Potential Draft Safety Evaluation Impacts**

There are no potential impacts to the Draft Safety Evaluation identified at this time.

## **8 References**

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

1. Letter from M. G. Korsnick (CENG) to Document Control Desk (NRC), Overall Integrated Plan for Mitigation Strategies for Beyond-Design-Basis External Events, dated February 28, 2013.
2. NRC Order Number EA-12-049, Order to Modify Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events, dated March 12, 2012.
3. Letter from M. G. Korsnick (CENG) to Document Control Desk (NRC), Supplement to Overall Integrated Plan for Mitigation Strategies for Beyond-Design-Basis External Events, dated March 8, 2013.
4. Letter from M. G. Korsnick (CENG) to Document Control Desk (NRC), Response to NRC Letter on Technical Issues for Resolution Regarding Communication Submittals Associated with Near-Term Task Force Recommendation 9.3, dated February 22, 2013.
5. Letter from E. D. Dean (CENG) to Document Control Desk (NRC), Calvert Cliffs Nuclear Power Plant, Units 1 and 2- Six-Month Status Report in Response to March 12, 2012

**ENCLOSURE**  
**CCNPP UNIT 1 SIX-MONTH STATUS REPORT (AUGUST 2015)**  
**FOR MITIGATION STRATEGIES FOR BEYOND-DESIGN-BASIS EXTERNAL EVENTS**

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- Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049), dated August 27, 2013 (ADAMS Accession No. ML 13254A278)
6. Letter from M. G. Korsnick (CENG) to Document Control Desk (NRC), February 2014 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 27, 2014 (ADAMS Accession No. ML 14069A318)
  7. Letter from M. G. Korsnick (CENG) to Document Control Desk (NRC), August 2014 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 26, 2014 (ADAMS Accession No. ML14241A379)
  8. Letter from M. G. Korsnick (CENG) to Document Control Desk (NRC), February 2015 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 20, 2015 (ADAMS Accession No. ML15078A117)
  9. Letter from J. S. Bowen (NRC) to J. A. Spina (CENG), Calvert Cliffs Nuclear Power Plant, Units 1 and 2 – Interim Staff Evaluation Relating to Overall Integrated Plan in Response to Order EA-12-049 (Mitigation Strategies) (TAC Nos. MF 1142 and MF 1143), dated December 17, 2013
  10. Letter from J. Paige (NRC) to M. G. Korsnick (Exelon Generation), February 2015 Calvert Cliffs Nuclear Power Plant, Units 1 and 2, Report for the Audit Regarding Implementation of Mitigating Strategies and Reliable Spent Fuel Pool Instrumentation Related to Orders EA-12-049 and EA-12-051 (TAC Nos. MF1142, MF1143, MF1140, and MF1141), dated February 20, 2015
  11. Letter from D. P. Helker (Exelon Generation Company, LLC) to Document Control Desk (NRC), July 2015 Report of [Calvert Cliffs Nuclear Power Plant, Unit 2] Full Compliance with March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order EA-12-049) dated July 2, 2015 (ADAMS Accession No. ML15183A235)
  12. NEI 12-06, Diverse and Flexible Coping Strategies (FLEX) Implementation Guide, dated August 2012.