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John A Ventosa  
Site Vice President

NL-14-110

August 27, 2014

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
11545 Rockville Pike, TWFN-2 F1  
Rockville, MD 20852-2738

SUBJECT: Indian Point Energy Center's Third Six-Month Status Report for the Implementation of Order EA-12-049 Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (TAC Nos. MF0744 and MF0745)  
Indian Point Unit Numbers 2 and 3  
Docket Nos. 50-247 and 50-286  
License Nos. DPR-26 and DPR-64

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. 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. Entergy letter to NRC (NL-12-144), 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 29, 2012
5. Entergy letter to NRC (NL-13-042), 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. Entergy letter to NRC (NL-13-110), Indian Point Energy Center's First Six-Month Status Report for the Implementation of Order EA-12-049 Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events

A151  
NRR

- (TAC Nos. MF0744 and MF0745), dated August 27, 2013  
7 Entergy letter to NRC (NL-14-031), Indian Point Energy Center's  
Second Six-Month Status Report for the Implementation of Order  
EA-12-049 Modifying Licenses with Regard to Requirements for  
Mitigation Strategies for Beyond-Design-Basis External Events  
(TAC Nos. MF0744 and MF0745), dated February 27, 2014

Dear Sir or Madam:

On March 12, 2012, the Nuclear Regulatory Commission ("NRC" or "Commission") issued an order (Reference 1) to Entergy. Reference 1 was immediately effective and directs Entergy 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.

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 Entergy initial status report regarding mitigation strategies. Reference 5 provided the Entergy 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. Reference 6 provided the first six-month status report. Reference 7 provided the second six-month status report. The purpose of this letter is to provide the third 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 attached 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.

This letter contains no new regulatory commitments. Should you have any questions regarding this submittal, please contact Mr. Robert Walpole, Manager, Regulatory Affairs at (914) 254-6710.

I declare under penalty of perjury that the foregoing is true and correct; executed on August 27, 2014.

Sincerely,



JAV/sp

Attachment: Indian Point Energy Center's Third Six-Month Status Report for the  
Implementation of Order EA-12-049 Modifying Licenses with Regard to  
Requirements for Mitigation Strategies for Beyond-Design-Basis External  
Events

cc: Mr. Douglas V. Pickett, Senior Project Manager, NRC NRR DORL

Mr. William M. Dean, Regional Administrator, NRC Region 1  
Mr. John Boska, Senior Project Manager, NRC NRR DORL  
NRC Resident Inspectors Office  
Mr. John B. Rhodes., President and CEO, NYSERDA  
Ms. Bridget Frymire, New York State  
Mr. Robert J. Fretz Jr., NRC NRR OE OB  
Mr. Robert L. Dennig, NRC NRR DSS SCVB  
Ms. Jessica A. Kratchman NRC NSIR DPR DDEP IRIB  
Mr. Eric E. Bowman, NRC NRR DPR PGCB  
Ms. Eileen M. Mckenna, NRC NRO DSRA BPTS NRC NRR DSS SCVB

ATTACHMENT TO NL-14-110

INDIAN POINT ENERGY CENTER'S THIRD SIX-MONTH  
STATUS REPORT FOR THE IMPLEMENTATION OF ORDER  
EA-12-049 MODIFYING LICENSES WITH REGARD TO  
REQUIREMENTS FOR MITIGATION STRATEGIES FOR  
BEYOND-DESIGN-BASIS EXTERNAL EVENTS

ENTERGY NUCLEAR OPERATIONS, INC.  
INDIAN POINT NUCLEAR GENERATING UNIT NOS. 2 and 3  
DOCKET NOS. 50-247 and 50-286

**Indian Point Energy Center's Third 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**

Entergy Nuclear Operations, Inc. (Entergy) developed an Overall Integrated Plan (Reference 1) for Indian Point Energy Center (IPEC), documenting the diverse and flexible strategies (FLEX), in response to Reference 2. This attachment provides an update of milestone accomplishments since submittal of the last status report (Reference 5), including any changes to the compliance method, schedule, or need for relief/relaxation and the basis, if any.

## **2 Milestone Accomplishments**

The following milestone(s) have been completed since January 31, 2014, and are current as of July 31, 2014:

- Second Six-Month Status Report — February 2014
- Third Six-Month Status Report — Complete with submission of this document in August 2014
- N-1 Walkdown (Unit 2) – Spring 2014
- Design Engineering (Unit 3) – Spring 2014

## **3 Milestone Schedule Status**

The following provides an update to Attachment 2 of the Overall Integrated Plan. It provides the activity status of each item, and whether the expected completion date has changed. The dates are planning dates subject to change as design and implementation details are developed. The milestone listing includes Unit 2 and Unit 3 sections for unit specific milestones.

These new milestone target completion dates do not impact the Order implementation date.

<b>Milestone</b>	<b>Target Completion Date*</b>	<b>Activity Status</b>	<b>Revised Target Completion Date</b>
<b>Submit Overall Integrated Implementation Plan</b>	Feb 2013	Complete	
<b>Submit Six Month Updates</b>			
Update 1	Aug 2013	Complete	
Update 2	Feb 2014	Complete	
Update 3	Aug 2014	Complete	

<b>Milestone</b>	<b>Target Completion Date*</b>	<b>Activity Status</b>	<b>Revised Target Completion Date</b>
Update 4	Feb 2015	Not Started	
Update 5	Aug 2015	Not Started	
Update 6	Feb 2016	Not Started	
Update 7	Aug 2016	Not Started	
<b>Perform Staffing Analysis</b>	Nov 2014	Started	
<b>Off-site FLEX Equipment</b>			
Develop Strategies with RRC	Oct 2015	Started	
<b>Procedures</b>			
PWROG issues NSSS-specific guidelines	Jan 2014	Complete Issued May 2013	
<b>Validation / Demonstration</b>	May 2016	Not Started	
<b>Submit Completion Report IPEC Unit 3</b>	Jun 2016	Not Started	Spring 2015
<b>Submit Completion Report IPEC Unit 2</b>	Jun 2016	Not Started	
<b>Unit 2 Specific Milestones</b>			
<b>Modifications</b>			
Engineering and Implementation			
N-1 Walkdown (Unit 2)	Spring 2014	Completed	
Design Engineering	Dec 2014	Started	
Unit 2 Implementation Outage	Apr 2016	Not Started	
<b>On-site FLEX Equipment</b>			
Purchase / Procure	Dec 2015	Started	
<b>Off-site FLEX Equipment</b>			
Develop Strategies with RRC	Oct 2015	Started	
<b>Procedures</b>			
Create Indian Point FSG	Oct 2015	Not Started	
Create Maintenance Procedures	Oct 2015	Not Started	
<b>Training:</b>			
Develop Training Plan	Aug 2015	Started	
Implement Training	April 2016	Not Started	

Milestone	Target Completion Date*	Activity Status	Revised Target Completion Date
<b>Unit 3 Specific Milestones</b>			
<b>Modifications</b>			
Engineering and Implementation			
N-1 Walkdown (Unit 3)	Spring 2014	Completed	
Design Engineering	Dec 2014	Completed	
Unit 3 Implementation Outage	Apr 2015	Not Started	
<b>On-site FLEX Equipment</b>			
Purchase / Procure	Dec 2014	Started	
<b>Procedures</b>			
Create Indian Point FSG	Oct 2014	Started	
Create Maintenance Procedures	Oct 2014	Started	
<b>Training:</b>			
Develop Training Plan	Nov 2014	Completed	
Implement Training	Apr 2015	Started	

\* - Target Completion Date is the last submitted date from either the overall integrated plan or previous six-month status reports

## 4 Changes to Compliance Method

In the continuing design development phase of the FLEX project at IPEC, changes have been identified to the compliance strategies as described in the original OIP (Reference 1).

- Pages 16, 17, 28, 39, and 49 of the OIP indicate that portable FLEX equipment will be stored in the existing Unit 1 Chemical Systems Building. The Unit 1 Chemical Systems Building is no longer the selected means of storage for FLEX equipment. An existing structure will be utilized as a robust structure to house the Units 2 and 3 portable FLEX equipment. Modifications will be performed to this building to ensure that it will meet the requirements of NEI 12-06. After modified for FLEX, this building will be referred to as the FLEX Equipment Storage Building (FESB).
- On Page 44 of the OIP, it is stated, "Additional equipment may be required to be powered during this event such as portable lighting and ventilation fans. These are not conveniently powered via the FLEX generator." For IPEC Unit 3 the current strategy is to restore ventilation to the control room and the battery room with the Phase 2 portable generator. Lighting panels for high priority areas (e.g., control building, control room, and some primary auxiliary building rooms) will also be repowered by the Phase 2 portable generator. For IPEC Unit 2, the design analysis is in progress. Restoration of the HVAC to the control room, the

battery room, and lighting panels to high priority areas with the Phase 2 generator is still to be determined.

- The Phase 2 electrical strategy, as described on Pages 44 through 46 of the OIP, has changed such that the FLEX generator primary connection for IPEC Unit 3 will power Bus 5A, and for IPEC Unit 2 will power Bus 2A through a spare breaker in a “plug and play” configuration, with the secondary connections powering Bus 3A and Bus 5A through reconfiguration of terminations.

The Unit 2 electrical strategy is still in design implementation.

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

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

## 6 Open Items from Overall Integrated Plan and Interim Staff Evaluation

The following tables provide a summary and status of any open items documented in the Overall Integrated Plan and any open items or confirmatory items documented in the Interim Staff Evaluation (ISE). A fourth table includes a listing of Audit Questions and the status of each item.

Overall Integrated Plan Open Item	Status
There were no open items documented in the IPEC Overall Integrated Plan	N/A

Interim Staff Evaluation Open Items		Status
3.1.2.A	Review of the licensee's new flooding level evaluation results and its potential impact on the flooding hazard analyses previously provided in their Integrated Plan and during the audit process is identified as an Open Item. If the flooding levels are modified based on the results of this review, it may affect the evaluation of the deployment described in Section 3.1.2.2 of this evaluation.	The initial flooding assessment has been completed for a 500,000 year flood and was submitted to the NRC in Dec 2013. There are currently no major changes in FLEX strategy based on the flooding evaluation. This item is addressed by updated Audit Question (AQ) IPEC-006 response.
3.2.4.7.A	It is noted that NEI 12-06 guidance only credits water supplies that are robust with respect to seismic events, floods, and high winds, and the	The Tank Tornado Wind/Missile Evaluation is complete. This item is



Interim Staff Evaluation Open Items		Status
	associated missiles. The licensee should determine if a water supply for the SGs and RCS would be available after a tornado event by analyzing the tornado characteristics for the site compared to the separation characteristics of the tanks. This is an alternate approach from the strategies identified in NEI 12-06.	addressed by updated AQ IPEC-041 response.

Interim Staff Evaluation Confirmatory Items		Status
3.1.1.2.A	Confirm that at least one connection point for the FLEX AFW pump is accessible and is located inside a building that is seismically robust as described in Consideration 2 of NEI 12-06, Section 5.3.2.	This item is addressed by updated AQ IPEC-036 response*.
3.1.1.2.B	Confirm that the pickup trucks, forklifts or any other equipment that will be used to deploy the portable equipment for implementing FLEX strategies will be reasonably protected from the event as described in Consideration 5 of NEI 12-06, Section 5.3.2.	This item is addressed on updated AQ response spreadsheet on the ePortal.
3.1.1.2.C	Confirm provisions will be made to ensure that access to all required areas will be assured in the event of a power failure as described in Consideration 5 of NEI 12-06, Section 5.3.2.	NRC Confirmatory Action
3.1.1.2.D	Confirm that the licensee has reviewed the deployment paths from the near site storage areas to the site and from the onsite storage areas to the deployment location to verify that these paths are not subject to soil liquefaction concerns as described in Consideration 1 of NEI 12-06, Section 5.3.2.	This item is addressed by updated AQ IPEC-002 response.
3.1.1.3.A	Confirm that the licensee's review of the potential impacts of large internal flooding sources that are not seismically robust and do not require ac power has been completed per consideration 2 of NEI 12-06, Section 5.3.3.	This item is addressed by updated AQ IPEC-004 response*.
3.1.1.4.A	Confirm that the intermediate staging area has been selected and implementing procedures have been developed.	This item is addressed by updated AQ IPEC-005 response.
3.1.2.2.A	Confirm that evaluations address: whether procedures have been established for actions to	NRC Confirmatory Action

Interim Staff Evaluation Confirmatory Items		Status
	be taken upon receipt of a hurricane warning; ensuring that fuel in oil storage tanks would not be inundated or damaged by flooding; and, whether the means (e.g., trucks) for moving FLEX equipment is reasonably protected from the event.	
3.2.1.A	Confirm which analysis performed in WCAP-17601-P is being applied to Indian Point. Also confirm the licensee has adequately justified the use of that analysis by identifying and evaluating the important parameters and assumptions demonstrating that they are representative of Indian Point and appropriate for simulating the ELAP transient.	This item is addressed by updated AQ IPEC-012 response*.
3.2.1.1.A	Confirm that the licensee is using NOTRUMP and has taken into account its limitations. Reliance on the NOTRUMP code for the ELAP analysis of Westinghouse plants is limited to the flow conditions prior to reflux condensation initiation. This includes specifying an acceptable definition for reflux condensation cooling.	In Progress. This item will be addressed by update to AQ IPEC-012 response when Information is available.
3.2.1.3.A	Confirm that the licensee has satisfactorily addressed the applicability of Assumption 4 on page 4-13 of WCAP-17601 which states that decay heat is per ANS 5.1-1979 + 2 sigma, or equivalent. If the ANS 5.1-1979 + 2 sigma model is used in the Indian Point ELAP analysis, address the adequacy of the use of the decay heat model in terms of the plant-specific values of the following key parameters: ( 1) initial power level, (2) fuel enrichment, (3) fuel burnup, (4) effective full power operating days per fuel cycle, (5) number of fuel cycles, if hybrid fuels are used in the core, and (6) fuel characteristics (addressing whether they are based on the beginning of the cycle, middle of the cycle, or end of the cycle). If a different decay heat model is used, describe the specific model and address the adequacy of the model and the analytical results.	This item is addressed by updated AQ IPEC-013 response.
3.2.1.6.A	Confirm that the licensee has finalized its strategy for controlling the RCS pressure to prevent nitrogen from escaping from the safety injection accumulators into the RCS until the	This item is addressed by updated AQ IPEC-035 response*.

Interim Staff Evaluation Confirmatory Items		Status
	isolation valves can be closed.	
3.2.1.8.A	The PWROG submitted to NRC a position paper, dated August 15, 2013, which provides test data regarding boric acid mixing under single-phase natural circulation conditions and outlined applicability conditions intended to ensure that boric acid addition and mixing would occur under conditions similar to those for which boric acid mixing data is available. 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.	This item is addressed by updated AQ IPEC-050 response*.
3.2.1.9.A	Confirm that the licensee has specified the required time for the operator to realign each of the above discussed pumps and confirm that the required times are consistent with the results of the ELAP analysis. Confirm that the licensee discussed the analyses that are used to determine the required flow rate and corresponding total developed head for each of the portable pumps and also to justify that the required capacities of each of the above-discussed portable pumps are adequate to maintain core cooling and sub-criticality during phases 2 and 3 of ELAP. Confirm that the licensee has included a discussion and justification of computer codes/methods and assumptions used in the analyses above.	This item is addressed by updated AQ IPEC-017 response*.
3.2.1.9.B	Confirm that the licensee has provided an evaluation that demonstrates flow through a 2-inch connection will be sufficient to provide adequate flow to maintain the SG level using the alternate SG FLEX pump.	This item is addressed by updated AQ IPEC-036 response*.
3.2.2.A	Confirm that the licensee has satisfactorily explained the strategy to provide a secondary connection for SFP makeup if the building is inaccessible, and explain where these valves are and if access to these valves will be available during an ELAP event.	This item is addressed by updated AQ IPEC-034 response*.
3.2.3.A	Confirm that a containment evaluation has been completed and, based on the results of this evaluation; required actions to ensure	This item is addressed by updated AQ response*.

Interim Staff Evaluation Confirmatory Items		Status
	maintenance of containment integrity and required instrument function will be developed.	
3.2.4.2.A	Confirm that the assessment of the predicted maximum temperatures in rooms with equipment that is required for FLEX strategies during the ELAP demonstrates that the equipment will continue to function as needed.	This item is addressed by updated AQ IPEC-020 response*.
3.2.4.2.B	Confirm that hydrogen concentration in the battery rooms during battery recharging would be maintained at an acceptable level.	This item is addressed by updated AQ IPEC-047 response*.
3.2.4.3.A	Confirm that the need for heat tracing has been evaluated for the BAST and all other equipment necessary to ensure that all FLEX strategies can be implemented successfully.	This item is addressed by updated AQ IPEC-021 response*.
3.2.4.6.A	Confirm that habitability limits will be maintained and/or operator protective measures will be employed in all Phases of an ELAP to ensure operators will be capable of FLEX strategy execution under adverse temperature conditions. Examples of areas of concern are the control room, TDABFW pump room, SFP area, and charging pump room.	This item is addressed by updated AQ IPEC-020 response*.
3.2.4.7.B	Confirm that the licensee has evaluated the acceptability of the missile protection for the Unit 2 BAST.	This item is addressed by updated AQ IPEC-041 response.
3.2.4.9.A	Confirm that method for supplying fuel oil has been finalized. Also confirm that the fuel required for each FLEX piece of equipment has been established and that the total fuel usage has been calculated to demonstrate that sufficient fuel with margin exists on site.	This item is addressed by updated AQ IPEC-025 response*.
3.2.4.10.A	Confirm that analysis of the following aspects of the dc power requirements have been identified and evaluated: <ul style="list-style-type: none"> <li>a. The dc load profile with the required loads for the mitigating strategies to maintain core cooling, containment, and spent fuel pool cooling;</li> <li>b. 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</li> </ul>	This item is addressed by updated AQ IPEC-026 response*.

Interim Staff Evaluation Confirmatory Items		Status
	and the time to complete each action c. The basis for the minimum dc bus voltage that is required to ensure proper operation of all required electrical equipment.	
3.4.A	Confirm that the 480V portable/FLEX generators are adequately sized to supply loads assumed for implementing Phase 2 strategies.	This item is addressed by updated AQ IPEC-031 response*.

\*The response to the ISE Confirmatory Item addresses Unit 3 only. Once the Unit 2 design analysis and evaluations are completed, the responses will be updated to include Unit 2.

Audit Questions	Status	Completion or Target Date
IPEC-002	Updated response available on the ePortal (ISE Confirmatory Item 3.1.1.2.D)	
IPEC-003	Closed*	
IPEC-004	IPEC Unit 3 - Updated response available on the ePortal (ISE Confirmatory Item 3.1.1.3.A)	
	IPEC Unit 2 – In progress - This AQ response will be updated when information is available (ISE Confirmatory Item 3.1.1.3.A)	February 2015
IPEC-005	Updated response available on the ePortal (ISE Confirmatory Item 3.1.1.4.A)	
IPEC-006	Updated response available on the ePortal (ISE Open Item 3.1.2.A)	
IPEC-008	Closed*	
IPEC-009	Updated response available on the ePortal	
IPEC-010	Updated response available on the ePortal	
IPEC-011	Closed*	
IPEC-012	IPEC Unit 3 -Updated response available on the ePortal (ISE Confirmatory Item 3.2.1.A)	
	IPEC Unit 2 – In progress - This AQ response will be updated when information is available (ISE Confirmatory Item 3.2.1.A)	February 2015
	In progress - This AQ response will be updated when information is available (ISE Confirmatory Item 3.2.1.1.A)	February 2015
IPEC-013	Updated response available on the ePortal (ISE Confirmatory Item 3.2.1.3.A)	

<b>Audit Questions</b>	<b>Status</b>	<b>Completion or Target Date</b>
IPEC-014	Closed*	
IPEC-017	IPEC Unit 3 - Updated response available on the ePortal (ISE Confirmatory Item 3.2.1.9.A)	
	IPEC Unit 2 – In progress - This AQ response will be updated when information is available (ISE Confirmatory Item 3.2.1.9.A)	February 2015
IPEC-020	IPEC Unit 3 - Updated response available on the ePortal (ISE Confirmatory Item 3.2.4.2.A)	
	IPEC Unit 2 – In progress - This AQ response will be updated when information is available (ISE Confirmatory Item 3.2.4.2.A)	February 2015
	IPEC Unit 3 - Updated response available on the ePortal (ISE Confirmatory Item 3.2.4.6.A)	
	IPEC Unit 2 – In progress - This AQ response will be updated when information is available (ISE Confirmatory Item 3.2.4.6.A)	February 2015
IPEC-021	IPEC Unit 3 - Updated response available on the ePortal (ISE Confirmatory Item 3.2.4.3.A)	
	IPEC Unit 2 – In progress - This AQ response will be updated when information is available (ISE Confirmatory Item 3.2.4.3.A)	February 2015
IPEC-022	Updated response available on the ePortal	
IPEC-023	Closed*	
IPEC-025	IPEC Unit 3 - Updated response available on the ePortal (ISE Confirmatory Item 3.2.4.9.A)	
	IPEC Unit 2 - In progress - This AQ response will be updated when information is available (ISE Confirmatory Item 3.2.4.9.A)	February 2015
IPEC-026	IPEC Unit 3 - Updated response available on the ePortal (ISE Confirmatory Item 3.2.4.10.A)	
	IPEC Unit 2 - In progress - This AQ response will be updated when information is available (ISE Confirmatory Item 3.2.4.10.A)	February 2015
IPEC-027	Closed*	
IPEC-028	Closed*	
IPEC-029	IPEC Unit 3 - Updated response available on the	

<b>Audit Questions</b>	<b>Status</b>	<b>Completion or Target Date</b>
	ePortal	
	IPEC Unit 2 - In progress- This AQ response will be updated when information is available	February 2015
IPEC-031	IPEC Unit 3 - Updated response available on the ePortal (ISE Confirmatory Item 3.4.A)	
	IPEC Unit 2 - In progress - This AQ response will be updated when information is available (ISE Confirmatory Item 3.4.A)	February 2015
IPEC-032	Closed*	
IPEC-033	IPEC Unit 3 - Updated response available on the ePortal	
	IPEC Unit 2 - In progress- This AQ response will be updated when information is available	February 2015
IPEC-034	IPEC Unit 3 - Updated response available on the ePortal (ISE Confirmatory Item 3.2.2.A)	
	IPEC Unit 2 - In progress - This AQ response will be updated when information is available (ISE Confirmatory Item 3.2.2.A)	February 2015
IPEC-035	IPEC Unit 3 - Updated response available on the ePortal (ISE Confirmatory Item 3.2.1.6.A)	
	IPEC Unit 2 - In progress - This AQ response will be updated when information is available (ISE Confirmatory Item 3.2.1.6.A)	February 2015
IPEC-036	IPEC Unit 3 - Updated response available on the ePortal (ISE Confirmatory Item 3.1.1.2.A)	
	IPEC Unit 2 - In progress - This AQ response will be updated when information is available (ISE Confirmatory Item 3.1.1.2.A)	February 2015
	IPEC Unit 3 - Updated response available on the ePortal (ISE Confirmatory Item 3.2.1.9.B)	
	IPEC Unit 2 - In progress - This AQ response will be updated when information is available (ISE Confirmatory Item 3.2.1.9.B)	February 2015
IPEC-037	Closed*	
IPEC-041	Updated response available on the ePortal (ISE Open Item 3.2.4.7.A)	
	Updated response available on the ePortal (ISE	

<b>Audit Questions</b>	<b>Status</b>	<b>Completion or Target Date</b>
	Confirmatory Item 3.2.4.7.B)	
IPEC-042	IPEC Unit 3 - Updated response available on the ePortal	
	IPEC Unit 2 - In progress- This AQ response will be updated when information is available	February 2015
IPEC-043	IPEC Unit 3 - Updated response available on the ePortal	
	IPEC Unit 2 - In progress - This AQ response will be updated when information is available	February 2015
IPEC-045	IPEC Unit 3 - Updated response available on the ePortal	
	IPEC Unit 2 - In progress - This AQ response will be updated when information is available	February 2015
IPEC-046	IPEC Unit 3 - Updated response available on the ePortal	
	IPEC Unit 2 - In progress - This AQ response will be updated when information is available	February 2015
IPEC-047	IPEC Unit 3 - Updated response available on the ePortal (ISE Confirmatory Item 3.2.4.2.B)	
	IPEC Unit 2 - In progress - This AQ response will be updated when information is available (ISE Confirmatory Item 3.2.4.2.B)	February 2015
IPEC-048	IPEC Unit 3 - Updated response available on the ePortal	
	IPEC Unit 2 - In progress - This AQ response will be updated when information is available	February 2015
IPEC-049a	Updated response available on the ePortal*	
IPEC-049b	IPEC Unit 3 - Updated response available on the ePortal	
	IPEC Unit 2 – In progress - This AQ response will be updated when information is available	February 2015
IPEC-049c	Closed*	
IPEC-049d	Closed*	
IPEC-049e	Closed*	
IPEC-049f	Closed*	



<b>Audit Questions</b>	<b>Status</b>	<b>Completion or Target Date</b>
IPEC-049g	Closed*	
IPEC-049h	Closed*	
IPEC-049i	Updated response available on the ePortal	
IPEC-050	IPEC Unit 3 – Updated response available on the ePortal (ISE Confirmatory Item 3.2.1.8.A)	
	IPEC Unit 2 - In progress - This AQ response will be updated when information is available (ISE Confirmatory Item 3.2.1.8.A)	February 2015
IPEC-051	In progress - This AQ response will be updated when information is available	February 2015

\*Closed indicates that Entergy's response is complete.

## 7 Potential Interim Staff Evaluation Impacts

The following items indicate a change and/or update to the items identified in this section during the 2nd Six-Month Status Report.

1. ISE/TER Section 3.1.1.1, Page 6, Item 3, the TER states "On pages 16, 27, 38 and 46 of the Integrated Plan the licensee stated that the storage location of IPEC's FLEX equipment is the existing Unit 1 Chemical Systems Building." Unit 1 Chemical Systems Building is no longer the selected means of storage for FLEX equipment. Indian Point will utilize an existing structure to house the Units 2 and 3 portable FLEX equipment. Modifications will be made to this structure to comply with the requirements of NEI 12-06. After modified for FLEX, this existing structure will be referred as the FLEX Equipment Storage Building (FESB).
2. ISE/TER Section 3.1.1.2, Page 7 and Section 3.1.2.2, Page 13, the TER states "On page 17 of the Integrated Plan, the licensee specified that deployment from the Unit 1 Chemical Systems Building would necessitate...". Unit 1 Chemical Systems Building is no longer selected/accepted means of storage for FLEX equipment. Indian Point will utilize an existing structure to house the Units 2 and 3 portable FLEX equipment. Modifications will be made to this structure to comply with the requirements of NEI 12-06. After modified for FLEX, this existing structure will be referred as the FLEX Equipment Storage Building (FESB).
3. ISE/TER Section 3.1.4.1, Page 20, the TER states "On pages 17, 27, 39 and 47 of the Integrated Plan, the licensee stated that portable equipment would be maintained in climate controlled storage locations to protect it from snow, ice and extreme cold." A climate controlled storage location for the portable equipment is no longer considered. The current plan is to have one FLEX storage building.. There is no heating or air conditioning system for the selected storage facility. For an extreme cold event, the minimum indoor temperature within the first eight hours following the event is approximately -6°F which is within the plant's design basis low temperature. Equipment which cannot tolerate storage in the low

temperature conditions has been provided with block heaters. The current plan is Diesel Fuel stored with the FLEX equipment will be exposed to the cold temperature of approximately -6°F (as determined in IP-CALC-14-00033) at the end of eight hours following a BDBEE. The plan is that gelling of the diesel fuel will not be a concern following the BDBEE because the fuel procured at Indian Point 2, will conform to a cloud point of 10°F below the regional temperatures provided in ASTM D975-06. The lowest regional temperature (January is considered for conservatism) for the New York area provided in Table X5.1 of ASTM D975 is approximately 3°F (-16°C). Therefore, the fuel procured at IP2 would have a rated cloud point of approximately -7°F. As the rated cloud point is below the temperatures it will see inside the storage building, gelling of the fuel is not a concern.

4. ISE/TER Section 3.2.1.6, Page 32, the TER states "RCS boration is required for shutdown margin at 23.3 hours." The current analysis indicates that time for boration (beyond that provided by SI Accumulators) is 22.6 hours for IPEC Unit 3 and 20.4 hours for IPEC Unit 2.
5. ISE/TER Section 3.2.1.9, Page 35, the TER states "This pump will provide core make-up such that a limited period of two phase natural circulation cooling occurs...." Current strategy for IPEC Unit 3 would prevent the two phase condition from occurring (based on injection need time of 16.11 hrs per WCAP-17601-P Table 5.2.2-1).
6. ISE/TER Section 3.2.4.3, Page 40, the TER states "...the licensee did not adequately address heat tracing." IP-CALC-13-00058 addresses the issue of heat tracing for IPEC Unit 3. Draft calculation IP-CALC-14-00043 addresses the issue of heat tracing for IPEC Unit 2. The preliminary results determine that the tanks are relatively immune to freezing.

## 8 References

The following references support the updates to the Overall Integrated Plan described in this enclosure.

1. Entergy letter to NRC (NL-13-042), 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
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. Entergy letter to NRC (NL-13-110), Indian Point Energy Center's First Six-Month Status Report for the Implementation of Order EA-12-049 Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (TAC Nos. MF0744 and MF0745), dated August 27, 2013
4. NRC letter to Entergy, Indian Point Nuclear Generating Unit Nos. 2 and 3 – Interim Staff Evaluation Relating to Overall Integrated Plan in Response to Order

EA-12-049 (Mitigation Strategies) (TAC Nos. MF0744 and MF0745), dated January 24, 2014

5. Entergy letter to NRC (NL-14-031), Indian Point Energy Center's Second Six-Month Status Report for the Implementation of Order EA-12-049 Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (TAC Nos. MF0744 and MF0745), dated February 27, 2014.