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(b)(5)

Pre-Decisional

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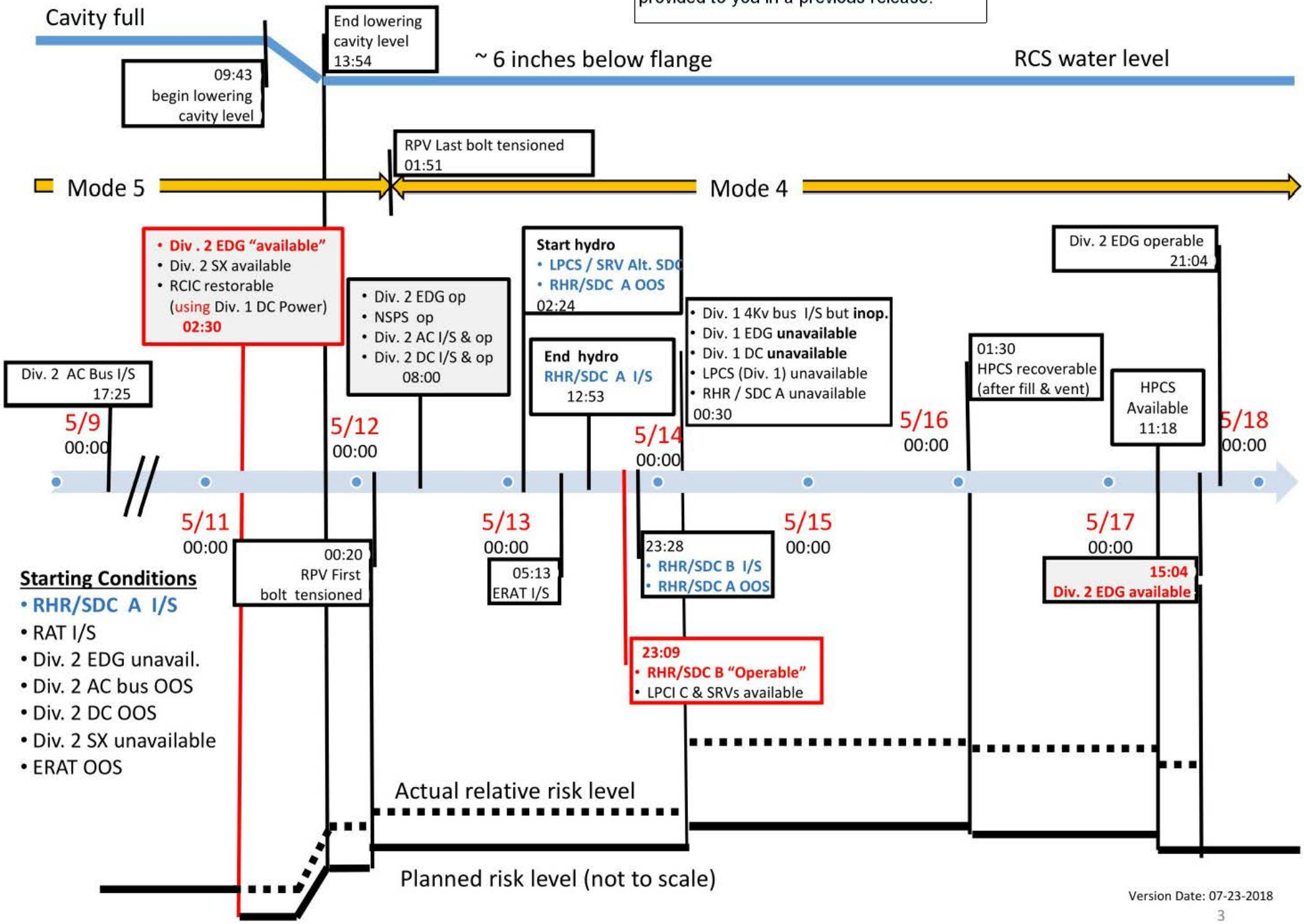
Note to requester: This chart was provided to you in a previous release.



Version Date: 07-23-2018

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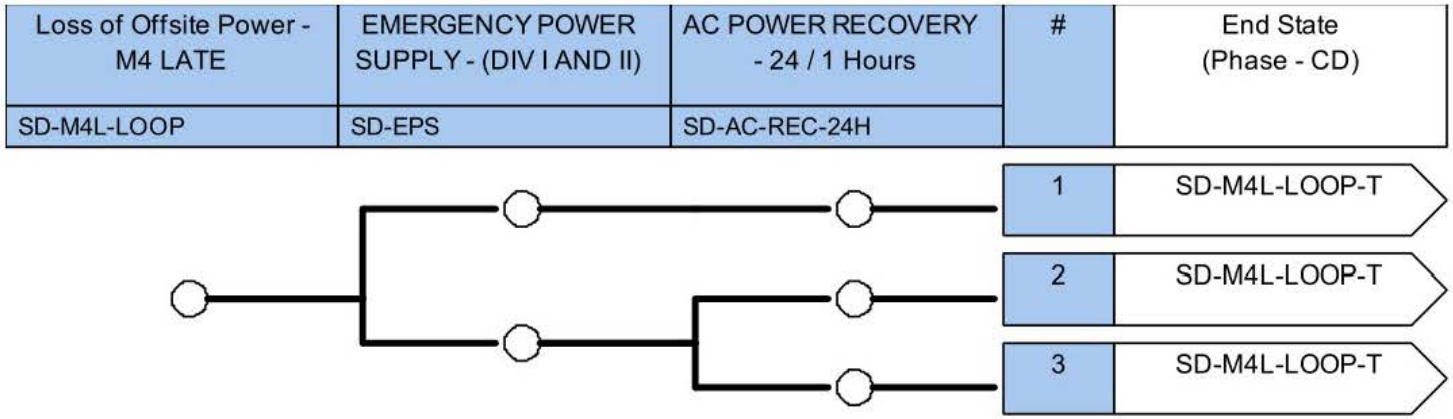
Shutdown LOOP ET



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Note to requester: This chart was provided to you in a previous release.

Shutdown LOOP ET (cont.)

	HEAT REMOVAL USING SDC (no FLEX credit here)	MANUAL REACTOR DEPRESS (include credit for FLEX DC Power)	LOW PRESSURE COOLANT INJECTION (no credit for FLEX here)	ALTERNATE INJECTION - CDS SWS FWS and FLEX	HI PRESSURE INJECTIONS (HCS/CRD)	HEAT REMOVAL USING SUPPRESSION POOL including FLEX	PROVIDE ALTERNATE HEAT REMOVAL PATH	CONTAINMENT VENTING - SD	Electrical Connection Div. 3 to Div. 2	#	End State (Phase - CD)
<DUMMY-FT>	SD-SDC	SD-DEP	SD-LPI	SD-ALT-INJ	SD-HPI	SD-SPC-EXT	SD-ALT-HEAT	SD-CVS	ELEC_XTIE		
										1	OK
						SD-SPC-EXT				7	OK
										8	OK
						SD-SPC-EXT				9	OK
										10	OK
										11	CD-SD
						SD-SPC-EXT				12	OK
										13	OK
						SD-SPC-EXT				14	OK
										15	OK
										16	CD-SD
										17	OK
										18	CD-SD
						SD-SPC-EXT				19	OK
										20	OK
						SD-SPC-EXT				21	OK
										22	OK
										23	CD-SD
										24	OK
										25	CD-SD

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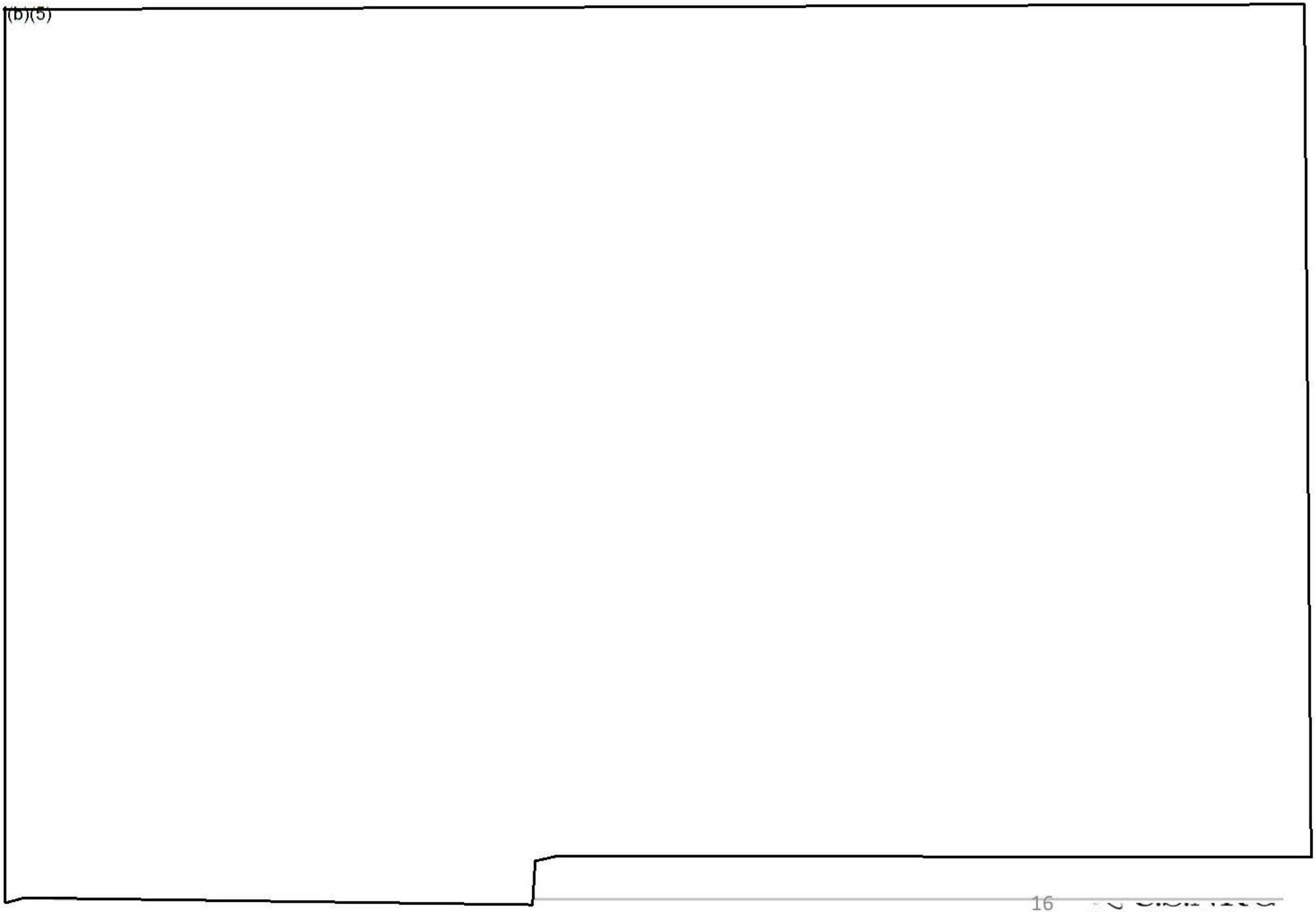

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NRC FORM 762
(9-2005)

February 7, 2019

MEMO TO: Ken Riemer, Chief, Reactor Project Branch 1

FROM: Jim Heller, Office Allegation Coordinator, EICS

SUBJECT: **1st arb for RIII-2019-A-0004 (Clinton)**

On 1/17/19 and 1/28/19 Laura Kozak provided ARB packages indicating the licensee violated 10CFR50.9, "Completeness and Accuracy of Information," in that information provided by the licensee during a regulatory conference was not complete and accurate in all material respects. Laura indicated the incomplete and inaccurate information could influence a significant regulatory decision by attempting to persuade NRC to not proceed with an escalated enforcement action.

I have added this allegation to the agenda for the ARB that will be conducted on Monday (2/11/19) at 10:30 in the IRC

Jim Clay has obtained a bridge line/passcode. These are 888-455-2586/ [redacted] (b)(6)

cc w/enclosures:
ARB Copy

Paul Meyer; Jay Bigoness; Marjorie Zerth; Aaron Glass

Jamnes Cameron; James Heller; James Clay; Paul Pelke; Sarah Bakhsh; Jared Heck; Kenneth Lambert

Laura Kozak; Ken Riemer; Chuck Phillips; Bruce Bartlett; Jack Rutkowski

Licensee: Clinton - Exelon Generation Company, LLC
Docket No. 50–461
License No. NPF–62
Assigned Division/Branch: DRP 1

ARB Board Membership: Lara (CHAIR) Meyer (OI) /Heck (RC) /Cameron (EICS) /Paul Pelke (OAC) /Lambert (EICS) /Heller (OAC) / Kozak (SRA)/ Hanna (SRA)/ Riemer (BC RB1)/ Phillips (RB1)/ Bartlett (RB2)/ Sanchez (Clinton SRI) /Orlikowski /O'Brien/ Giessner/

Purpose: Initial ARB to discuss the evaluation plan

GENERIC CONCERNS: If Yes Explain:

OI ACCEPTANCE: YES NO (Priority: **HIGH** NORMAL LOW)

Basis for OI Priority**: HIGH per Exhibit 16 (page 316) and section 5.7.a.5(i)(1) 3rd bullet on page 192 of the allegation manual dated 12/22/16 states, in part, that any individual knowingly proving incomplete and inaccurate information to the NRC with the purpose of influencing a significant regulatory decision.**

OI has Accepted Concern 1 at a high priority Signature _____

MINUTES PROVIDED TO: Kozak/ Meyer/ Heck/ Riemer/ SRI for Clinton

ACKNOWLEDGMENT LETTER: PRINT IN FINAL __ REVISE _____ **N/A_X___**

REQUEST FOR EVALUATION: A. Licensee YES ____ 10 CFR 2.390____**NO X___**
B. State of YES ____ **NO __X__**
C. DOE YES _____ **NO __X__**

date received	01/28/2019	due date of 1st ARB	02/27/2019
due date of ACK Ltr	02/27/2019	date - 90 days old	04/28/2019
date - 120 days old	05/28/2019	date - 150 days old	06/27/2019
date - 180 days old	07/27/2019	date - 360 days old	01/23/2020
projected date for the 5 yr statue of limitation			01/28/2024

COMMENTS: NRC identified

_____ _____
Allegation Review Board Chair Date

Concern No. 1: Region III is concerned that during a regulatory conference conducted on November 30, 2018, Exelon Generation Company, LLC (EGC) provided incomplete and inaccurate information with the purpose of influencing a significant regulatory decision by attempting to persuade NRC to not proceed with an escalated enforcement action.

In a regulatory conference, EGC presented a position that the outcome of the NRC's significance determination process should be Green rather than White, in part, because of NRC's assumption about operators declaring an Extended Loss of AC Power (ELAP) at one hour into a Station Blackout (SBO) event was flawed. EGC stated that 28 SROs from other stations (including non-Exelon) were given CPS procedures and scenarios that recreated the postulated scenarios and that all SROs stated that they remain in the LOOP procedure and not enter ELAP. The NRC subsequently determined that at least eight SROs stated that they would enter ELAP.

The incomplete and inaccurate information was provided in support of and during a public regulatory conference held in the RIII office.

Regulatory Basis: 10 CFR 50.9(a) "Completeness and accuracy of information" requires, in part, that information provided to the Commission by a licensee shall be complete and accurate in all material respects.

The NRC issued "Errata—Clinton Power Station - NRC Inspection Report 05000461/2018051 and Preliminary White Finding on November 6, 2018. This inspection report identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," and Technical Specification 3.8.2, Condition B.3, for the licensee's failure to follow multiple procedures that affected quality. This resulted in the unavailability and inoperability of the Division 2 Emergency Diesel Generator (EDG) when it was relied upon for plant safety. During part of the time that the Division 2 EDG was unavailable the Division 1 EDG was already out of service for planned maintenance. This condition was considered in a risk evaluation of a postulated scenario where during the period when neither EDG was available, a loss of offsite power would have resulted in a station blackout (SBO) condition that could have resulted in a long-term loss of the ability to cool the reactor core. This finding was preliminarily determined to be White, a finding of low to moderate safety significance. In accordance with NRC Inspection Manual Chapter 0609, the NRC offered EGC the opportunity to attend a regulatory conference to present its perspective on the facts and assumptions the NRC used to arrive at the finding and assess its significance.

EGC attended a regulatory conference on November 30, 2018. Beginning on page 11 of the regulatory conference presentation, EGC provided a perspective on NRC's postulated scenario (i.e., the long-term loss of the ability to cool the reactor core). On page 15 of the presentation, EGC provided an overview of station response to a SBO. EGC's presentation of the station response discussed the same power recovery methods to mitigate the event as described in the NRC's preliminary significance determination (i.e., restore offsite power, align Div 2 DG to start, Div 3 DG cross-tie to Div 2 bus, and FLEX). For the station to implement FLEX, an extended loss of AC power (ELAP) must be declared. The NRC determined that licensee procedures and training direct operators to determine if an ELAP exists at 1 hour. If ELAP is declared, the SBO procedure is exited, and the ELAP procedure is entered. This action

complicates further Division 2 EDG recovery and is influential to the NRC's preliminary significance determination as described in the NRC inspection report.

To support a position that operators would not declare ELAP, EGC states on page 18 of the presentation that 28 SROs from other stations (including non-Exelon) were given CPS procedures and scenarios that recreated the postulated scenario, and that all SROs stated that they remain in the LOOP procedure and not enter ELAP. This is the information that is not accurate or complete.

On December 4, 2018 the NRC requested the completed surveys and other documentation. On December 14, 2018, EGC provided the requested information.

EGC provided the following information and questions to 28 SROs in the survey:

> Initial Conditions:
> Unit is in OPCON 4
> Reactor Level is 85"
> D-11 D/G is tagged OOS for maintenance
>
> At T=0 Under voltage alarms are received on the 101 and 201 busses indicating a loss of off-site power.
>
> At T= 10 sec D-12 failure to start annunciator is received in the MCR. The PRO identifies that the D-12 D/G fails to start and dispatches an EO to the D/G.
>
> At T=15 minutes the EO calls the MCR and states that he found both starting air receiver outlet valves CLOSED for the D-12 D/G.
>
> Answer the following 3 questions:
>
> 1. Do you declare an ELAP at t=1 hr.?
> 2. Assume same initial conditions, but EO makes the same report at T=55 min?
> 3. Assume same initial conditions, but EO makes the same report at t=4 hours?

Questions 1 and 2 described conditions during which the starting air receiver outlet valves are found closed prior to 1 hour, which represents successful restoration of the Division 2 EDG. ELAP would not exist given these conditions and all SROs responded that they would not declare ELAP. The conditions in Questions 1 and 2 are not relevant to the NRC's preliminary significance determination, or to the licensee's risk evaluation, since the conditions represent successful recovery of the Division 2 EDG which should result in injection prior to coolant reaching the top of active fuel. The NRC's SDP estimates the risk (i.e., frequency) of all postulated scenarios that result in the loss of the ability to cool the core. The core damage scenarios represent various combinations of failure events. In this SDP, the risk is dominated by the failure of the power recovery methods. Successful recovery scenarios do not result in core damage and do not contribute to the risk of the finding.

Question 3 provides the only set of conditions in the survey that are relevant to the postulated core damage scenario. For these conditions, the starting air receiver outlet valves are not found in the closed position prior to 1 hour. Eight of the SROs stated in

response to Question 3 that they would declare ELAP at the 1-hour mark given the stated conditions.

The regulatory conference is the last step in the inspection process in determining the significance of a finding. The NRC does not expect to conduct significant additional inquiry regarding the best available information at this stage of the process. EGC was clearly aware of the NRC assumption regarding ELAP declaration at 1 hour if the EDG air start valves had not been identified as the cause of the failure to start. Statements made by SROs regarding this assumption represent material information that is potentially influential to the risk evaluation. Given that EGC was in possession of the SRO survey results at the time of the regulatory conference, the NRC should determine if EGC deliberately omitted discussing the eight SRO responses that ELAP would be declared at 1 hour, thus providing incomplete information to the NRC either through careless disregard or in deliberate violation of requirements.

Information regarding the decision to declare ELAP at 1 hour is important to the risk analysis and the preliminary significance determination because it potentially impacts the human reliability analysis, the estimated change in risk, and ultimately the plant's performance as determined by the NRC action matrix.

The enforcement manual, Part II, section 1.5.1 provides guidance on whether the inaccuracy or omission is material. The guidance states that information is material is whether a reasonable NRC reviewer would *consider* the information in reaching the decision and does not depend on whether the NRC actually relied on a particular statement. The inaccurate and incomplete information provided by EGC at the November 30, 2018 regulatory conference is clearly material to this issue as NRC reviewers must consider this information when reaching a final significance determination.

Assessment of safety significance of this concern:

The failure to provide complete and accurate information potentially impacted the ability of the NRC to perform its regulatory oversight function. Willful violations are of particular concern because the NRC's regulatory program is based on licensees and their contractors, employees, and agents acting with integrity and communicating with candor. A violation may be considered more significant than the underlying noncompliance if it includes indications of willfulness. Violations with willful aspects will typically be considered for escalated enforcement (i.e., SL I, II, or III). The term "willfulness" as used in the Enforcement Policy refers to conduct involving either a careless disregard for requirements or a deliberate violation of requirements or falsification of information. In determining the significance of a violation involving willfulness, the NRC will consider such factors as the position, training, experience level, and responsibilities of the person involved in the violation and the economic or other advantage, if any, gained because of the violation. In this case, Enforcement Policy Section 6.9.c.1 and Section 6.9.c.2 contain the following examples for a SL III violation:

> Section 6.9.c.1: Inaccurate or incomplete information is provided or maintained. If this information had been completely and accurately provided or maintained, it would likely have caused the NRC to reconsider a regulatory position or undertake a substantial further inquiry.

Section 6.9.c.2: A withholding of information or a failure to make a required report occurs. If this information had been provided or the report been made, it would likely have caused the NRC to reconsider a regulatory position or undertake a substantial further inquiry.

Security-related Concern Category: I II III **Not Applicable**

I. Action Evaluation: The following method of resolution is recommended (circle):
   A. Send to Licensee Requesting Response in 30 Days.
   B. Priority RIII Follow up and Closure Memo to OAC
   C. Follow up During Routine Inspection Within _____ Days and Closure Memo to OAC
   D. Discrimination (Complete & Attach MD 8.8 Exhibit 3)
      1. Offer ADR.
      2. Reason why ADR should not be offered
      3. Priority for the OI investigation if ADR is not used: HIGH/NORMAL/LOW Recommended Basis:
   E. All other OI referrals. Priority for the OI investigation: HIGH per Exhibit 16 (page 316) and section 5.7.a.5(i)(1) 3rd bullet on page 192 of the allegation manual dated 12/22/16 states, in part, that any individual knowingly proving incomplete and inaccurate information to the NRC with the purpose of influencing a significant regulatory decision.
   F. Outside NRC's Jurisdiction. Describe Basis Below.
   G. Too General for Follow-up. Describe Basis Below.
   H. Other.

   Responsible for Action -

II. **Special Considerations/Instructions - - Information required by the allegation manual on pages 188 to 190 at paragraph 5.7.a.5(g)** :

A. A summary of the concern.

It appears that on November 30, 2018, Exelon Generation Company, LLC (EGC) knowingly provided incomplete and inaccurate information to NRC with the purpose of influencing a significant regulatory decision (i.e., attempted to persuade NRC to not proceed with an escalated enforcement action). The incomplete and inaccurate information was provided to the Commission by senior Exelon executives including:

- Brad Fewell, Senior Vice President, Regulatory Affairs and General Counsel
- Scot Greenlee, Senior Vice President, Engineering and Technical Support
- Brad Kapellas, Plant Manager
- Gene Kelly, Senior Manager, Risk Management
- Johnny Weissinger, Director, Operations
- Ted Stoner, Site Vice President

- Mike Antonelli, a Clinton SRO, attended the regulatory conference, sat at the table with the managers and executives, and was involved in the discussions but did not present the material in the slides.

Other Exelon executives, staff and contractors attended the meeting, sat in the audience and participated in the discussion. Several other Exelon or Exelon contractors were involved in discussions with NRC staff regarding this issue during the development of the preliminary significance determination prior to the regulatory conference.

The EGC staff, managers, and executives involved in the regulatory conference are trained in how to correctly provide complete and accurate information to the Commission. EGC staff and contractors who interacted with NRC staff during the development of the preliminary significance determination would have understood that SRO statements regarding declaring ELAP at 1 hour would be relevant information to the NRC in discussing the assumption regarding ELAP in the preliminary significance determination.

B. **A draft NOV for the technical issue alleged to involve wrongdoing, with an associated color and/or Severity Level**;

10 CFR 50.9(a) "Completeness and accuracy of information" requires, in part, that information provided to the Commission by a licensee shall be complete and accurate in all material respects.

Contrary to the above, EGC did not provide complete and accurate information at a public regulatory conference with the NRC staff in the Region III office on November 30, 2018. Specifically, ECG stated both verbally and in a slide presentation that 28 SROs from other stations (including non-Exelon) stated that they would remain in the LOOP procedure and NOT enter ELAP when given CPS procedures and scenarios that recreated the postulated scenario. However, upon review of the SRO statements, NRC determined that at least eight SROs stated that they would enter ELAP under certain postulated scenarios. The failure to provide complete and accurate information regarding SRO statements about entry into ELAP had the potential to impact the NRC's final significance determination of this inspection finding, potentially lowering the significance from a preliminary determination of White (e.g., low to moderate) to Green (e.g., very low safety significance).

This is a Severity Level III violation.

The following statements were provided in the surveys that were not provided at the regulatory conference:

- "**Yes, declare an ELAP at the 1 hour mark**. At that point, there is no action taken that can assure that some AC power can be restored within the 4 hour coping time (emphasis added)."

- "**Yes, though this should have been declared within the hour** with no report of why the D/G was unable to be restored within the 4 hour coping time (emphasis added)."

- "**Yes, I would have already declared ELAP**. **Within the 1 hour** loss of AC the Shift manager is continuously assessing for if we are going to get power back and if it will be back within 4 hours. Since I would have already passed the IF/THEN in the procedure, I would be in CPS4306.01 which takes precedence to restoring the EDG (emphasis added)."

- "**Actions per E-1 should have already been suspended at T=1 hr** when the high assurance of restoration standard was missed. **Operators already missed entry into ELAP** and this should be performed as soon as they realize that the time limit was missed. At T=4 hours the coping time will be exceeded. Division 2 will not be available until T=6 hours (emphasis added)."

- "In this case at **Time T=1 hr** I don't know of a success path that would restore my AC power. Therefore, **I would prioritize and execute the ELAP actions at T=1 hou**r in accordance with the direction of SBO (emphasis added)."

- "Yes: **An ELAP should have already been declared at the 1-hour mark** when there were no action in progress that would provide a high assurance of restoring a diesel or off-site source. While this might still be a case where the quickest path to an energized bus is via the D2 D-G, but your procedure leaves no other option (emphasis added)."

- "**ELAP – The decision needs to be made at or before the 1 hour into the event**. Information is not received about restoration capability until long after the one hour time limit (emphasis added)."

- "Yes. **At this point ELAP should already have been declared** and there is no chance of recovering D/G within 4 hour recovery time (emphasis added)."

C. All associated documents to support the validity of the violation (e.g., license conditions, licensee's procedures, etc.) for inclusion in the allegation file;

All associated documents have been provided as an attachment.

D. An explanation of the circumstances and rationale for concluding that a specific indication of wrongdoing is or is not present.

The Allegations Manual, Section 5.7.a.5(a) states that wrongdoing consists of either a willful violation of regulatory requirements through deliberate action or a violation resulting from careless disregard of regulatory requirements (examples:

… providing false or inaccurate information in an effort to influence an NRC decision related to the license….). In the November 30 regulatory conference and in the slide presentation, Exelon stated that all SROs would remain in the LOOP procedure and not enter ELAP based on survey results. The NRC requested the completed surveys on December 4. The surveys were provided on December 14. A review of the SRO survey results shows that the November 30 presentation was not accurate or complete in all material respects.

The regulatory conference is the last step in the inspection process in determining the significance of a finding. The NRC does not expect to conduct significant additional inquiry regarding the best available information at this stage of the process. It appears the licensee omitted and possibly deliberately withheld information at the regulatory conference when they did not disclose the full results of the surveys. EGC was clearly aware of the NRC assumption regarding ELAP declaration at 1 hour if the EDG air start valves had not been identified as the cause of the failure to start. Statements made by SROs regarding this assumption represent material information that is potentially influential to the risk evaluation. Given that EGC was in possession of the SRO survey results at the time of the regulatory conference, the NRC should determine if EGC deliberately omitted discussing the eight SRO responses that ELAP would be declared at 1 hour, thus providing incomplete information to the NRC either through careless disregard or in deliberate violation of requirements.

If the NRC had the omitted information at the regulatory conference, the NRC would have undertaken substantial further inquiry into the matter in a public forum with the licensee, allowing both the public and the NRC participants to have a full understanding of the information available to the licensee that is potentially influential to the outcome of the regulatory decision on significance.

Information regarding the decision to declare ELAP at 1 hour is important to the risk analysis and the preliminary significance determination because it potentially impacts the human reliability analysis, the estimated change in risk, and ultimately the plant's performance as determined by the NRC action matrix.

The enforcement manual, Part II, section 1.5.1 provides guidance on whether the inaccuracy or omission is material. The guidance states that information is material is whether a reasonable NRC reviewer would *consider* the information in reaching the decision, and does not depend on whether the NRC actually relied on a particular statement.

E. If known, a summary of the licensee's evaluation of the issue and any corrective actions taken or planned.

The licensee is unaware that a violation of 10 CFR 50.9 is being considered by the ARB/Enforcement Process.

F. The likely enforcement outcome if the concern is substantiated.

The likely enforcement outcome is a Severity Level III 50.9 violation.

The failure to provide complete and accurate information impacted the ability of the NRC to perform its regulatory oversight function. Willful violations are of particular concern because the NRC's regulatory program is based on licensees and their contractors, employees, and agents acting with integrity and communicating with candor. A violation may be considered more significant than the underlying noncompliance if it includes indications of willfulness. Violations with willful aspects will typically be considered for escalated enforcement (i.e., SL I, II, or III). The term "willfulness" as used in the Enforcement Policy refers to conduct involving either a careless disregard for requirements or a deliberate violation of requirements or falsification of information. In determining the significance of a violation involving willfulness, the NRC will consider such factors as the position, training, experience level, and responsibilities of the person involved in the violation and the economic or other advantage, if any, gained because of the violation. In this case, Enforcement Policy Section 6.9.c.1 and Section 6.9.c.2 contain the following examples for a SL III violation:

Section 6.9.c.1: Inaccurate or incomplete information is provided or maintained. If this information had been completely and accurately provided or maintained, it would likely have caused the NRC to reconsider a regulatory position or undertake a substantial further inquiry.

Section 6.9.c.2: A withholding of information or a failure to make a required report occurs. If this information had been provided or the report been made, it would likely have caused the NRC to reconsider a regulatory position or undertake a substantial further inquiry.

G. If referral to OI is recommended, a clear indication of those individuals who would be considered the subjects of the investigation.

The Exelon individuals who attended the regulatory conference would be subjects of the investigation.

Allegations Manual Section 5.7.a.5(i), OI Prioritization Guidance, states that Individuals responsible for evaluating an allegation should come to the ARB meeting prepared to discuss the investigative priority of the allegation concern and the rationale for the priority of the issue, assuming that the allegation concern is true. Allegations Manual Section 5.7.a.5(i)(1) High Priority, provides the following examples of circumstances prompting a high-priority investigation:

- Any individual knowingly providing incomplete and inaccurate information to NRC or a licensee with the purpose of influencing a significant regulatory decision, such as a favorable restart decision, operability decision, issuance of a license amendment, not proceeding with an escalated enforcement action, or issuance of a notice of enforcement discretion.

Therefore, the staff recommends that the OI investigation priority should be high.

III. At the 2/11/19 arb:

- **J Lara highlighted there has been many points of view, expressed at different time, to different groups of RIII personnel on the opinion that Exelon provided incomplete and inaccurate information during the regulatory conference about a D/G that was inoperable due to starting air being isolated. J Lara said: (1) the purpose of the ARB was to discuss the many points of views associated with the information provided during the regulatory conference; (2) once the points of view are discussed, he will place the ARB on hold to give the RIII senior management team the opportunity to evaluate the differencing points of views; and (3) the ARB will be reconvened to make the final discussion.**

- **L Kozak discussed the incomplete and inaccurate information provided to the NRC on 11/30/18; how the information could effect the NRC conclusion; the information required by the allegation manual to determine if an OI investigation is warranted in response to an allegation of wrongdoing (see paragraph II above).**

- **J Heck discussed his assessment of the draft NOV (see paragraph V below)** (b)(5) [redacted] **In addition L Kozak discussed her response (see paragraph VI) below to J Heck assessment**

- **J Cameron and J Heck discussed the enforcement manual direction for determining if a verbal statement can trip the 50.9 threshold. In that the information provided during the conference and in the written response does not appear to be persuasive to change our enforcement outcome.**

- **J Heller questioned which process (allegation or regulatory conference) are we in at this time. During the regulatory conference several members of the RIII staff requested background information to understand a data point on a slide. The licensee provided the information; however, we have not reengaged the licensee to determine what they believe the background information is telling them and what they believe it should be telling the NRC. If the purpose of the regulatory conference is to obtain a common understanding of the issue and the supporting information then it may be necessary to discuss the information via a regulatory conference phone call before providing the issue to OI.**

- **L Kozak asked about the guidance to not ask more questions if one believes the licensee has providing incomplete and inaccurate information. J Heller stated if an inspector believes asking more questions could hinder OI evidence trail then we would engage OI and obtain guidance if it is appropriate to ask additional questions. P Meyer stated that OI does not object if RIII wants to ask additional and**

clarifying questions to determine what the licensee meant by the bullet and the surveys.

- **It was highlighted that the SERP to determine the final safety significance of the inoperable Diesel Generator caused by an isolated starting air is scheduled for Thursday (2/14/19). J Heller asked if the SERP should be placed on hold until we determine if the licensee willfully provided inaccurate and incomplete information. The consensus was the safety significance would not change if the 50.9 violation was substantiated and therefore both could proceed.**

- **J Lara thanked everyone for their participation and closed the ARB**

IV. At the 2/xx/19 arb:

- **J Lara provided a big picture overview of the information discussed at the 2/11/19 ARB. J Lara stated the senior management team has met and determine we will close the loop on the additional information by calling the licensee to determine why the survey questions addressed the three times and determine why the slides only addressed the actions for question 1 and 2. In addition since the consensus for the 2/11/19 ARB was the safety significance would not change if the 50.9 violation was substantiated the arb will not recommend a referral to OI based on speculation of what may have happen since our actions demonstrated we would question the data point.**

V. Jared Heck's assessment of the 10CFR50.9 issue

From: Heck, Jared
Sent: Thursday, February 07, 2019 9:02 AM
To: Heller, James <James.Heller@nrc.gov>; Cameron, Jamnes <Jamnes.Cameron@nrc.gov>
Subject: FW: Your Q re 50.9, Clinton Reg Conference

From: Heck, Jared
Sent: Wednesday, February 06, 2019 4:18 PM
To: Lara, Julio <Julio.Lara@nrc.gov>; Kozak, Laura <Laura.Kozak@nrc.gov>
Subject: Your Q re 50.9, Clinton Reg Conference

Julio and Laura,

You had earlier asked if I could attempt to draft a potential 50.9 violation based on the information you presented coming out of the Clinton regulatory conference and subsequent Exelon submittal dated December 14, 2018. As we have previously discussed, my legal opinion is (b)(5)

(b)(5)

(b)(5)

Jared K. Heck
Regional Counsel
U.S. NRC Region III
Tel. 630-829-9653

Draft 50.9 Violation

(b)(5)

VI. Laura Kozak response to Jared Heck's assessment of the 10CFR50.9 issue

From: Kozak, Laura
Sent: Friday, February 08, 2019 1:58 PM
To: Heck, Jared <Jared.Heck@nrc.gov>; Lara, Julio <Julio.Lara@nrc.gov>
Subject: RE: Your Q re 50.9, Clinton Reg Conference

Jared

Thanks for doing this. I appreciate it and it helps me understand what else I need to communicate about this issue. Let me share a few points about your thoughts.

Exelon did not tell us about the surveys before the regulatory conference. The regulatory conference presentation was provided a week before the conference. But other than that, we were not informed about the surveys.

I don't believe the surveys are irrelevant. My miscommunication on this point. I think a survey question about declaring ELAP if the valves are found is not relevant. I think the subject matter is relevant and the omitted information is important to the discussion of the significance of the issue.

I think we can point to the meaning of "postulated scenario", although this has been difficult to communicate. I will continue to work on this. I know that it is not simple, but much of what we do is not always easy or clear and we have to consider the context. I think we sometimes need to pursue the harder but more meaningful issues. Having discussed this with the licensee for months prior to the regulatory conference I am

confident that their staff and at least some of the managers understood the postulated scenario and were aware of the full survey results. I believe other portions of the presentation convey that they understand the postulated scenario. I am concerned that Exelon purposefully did not disclose these results in the public conference, attempting to influence the outcome.

As you and I discussed, I almost did not ask for the completed surveys. We discuss many things during the course of an SDP and we often simply take the licensee's word on something. I had no reason to suspect that information had been omitted from the presentation and I almost asked for just a copy of the survey vs. the actual completed surveys.

Laura

From: Heller, James
Sent: Friday, February 08, 2019 3:21 PM
To: Kozak, Laura <Laura.Kozak@nrc.gov>
Subject: RE: Your Q re 50.9, Clinton Reg Conference

Will do and I will add to the file and incorporate into the minutes

From: Kozak, Laura
Sent: Friday, February 08, 2019 2:14 PM
To: Heller, James <James.Heller@nrc.gov>
Subject: FW: Your Q re 50.9, Clinton Reg Conference

Jim

Can you add my response to Jared's email to the ARB file?

Thanks
Laura

From: Kozak, Laura
Sent: Friday, February 08, 2019 1:58 PM
To: Heck, Jared <Jared.Heck@nrc.gov>; Lara, Julio <Julio.Lara@nrc.gov>
Subject: RE: Your Q re 50.9, Clinton Reg Conference

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believe other portions of the presentation convey that they understand the postulated scenario. I am concerned that Exelon purposefully did not disclose these results in the public conference, attempting to influence the outcome.

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Laura

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Sent: Wednesday, February 06, 2019 4:18 PM
To: Lara, Julio <Julio.Lara@nrc.gov>; Kozak, Laura <Laura.Kozak@nrc.gov>
Subject: Your Q re 50.9, Clinton Reg Conference

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(b)(5) is

(b)(5)

(b)(5)

Jared K. Heck
Regional Counsel
U.S. NRC Region III
Tel. 630-829-9653

U.S. NUCLEAR REGULATORY COMMISSION

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NRC FORM 762
(9-2005)

February 19, 2019

MEMO TO: Ken Riemer, Chief, Reactor Project Branch 1

FROM: Jim Heller, Office Allegation Coordinator, EICS

SUBJECT: **1st arb for RIII-2019-A-0004 (Clinton)**

On 1/17/19 and 1/28/19 Laura Kozak provided ARB packages indicating the licensee violated 10CFR50.9, "Completeness and Accuracy of Information," in that information provided by the licensee during a regulatory conference was not complete and accurate in all material respects. Laura indicated the incomplete and inaccurate information could influence a significant regulatory decision by attempting to persuade NRC to not proceed with an escalated enforcement action.

This package was discussed at the ARBs conducted on 2/11/19 and the ARB to be conducted on 2/19/19.

cc w/enclosures:
ARB Copy

Paul Meyer; Jay Bigoness; Marjorie Zerth; Aaron Glass

Jamnes Cameron; James Heller; James Clay; Paul Pelke; Sarah Bakhsh; Jared Heck; Kenneth Lambert

Laura Kozak; Ken Riemer; Chuck Phillips; Bruce Bartlett; Jack Rutkowski

Licensee: Clinton - Exelon Generation Company, LLC
Docket No. 50–461
License No. NPF–62
Assigned Division/Branch: DRP 1

ARB MEMBERSHIP:

Present at the 02/11/19 ARB - - Lara (CHAIR) /Meyer (OI) /Heck (RC) /Cameron (EICS) /Paul Pelke (OAC) /Lambert (EICS) /Heller (OAC) /Kozak (SRA) /Hanna (SRA) /Riemer (BC RB1) /Phillips (RB1) /Bartlett (RB2) /Sanchez (Clinton SRI) /Orlikowski /O'Brien /Giessner

Present at the 02/19/19 ARB - - Lara (CHAIR) /Glass (OI) /Woerner (OI) /Heck (RC) /Cameron (EICS) /Paul Pelke (OAC) /Heller (OAC) /Hanna (SRA) /Riemer (BC RB1) /Sanchez (Clinton SRI) /Orlikowski /

Purpose: Initial ARB to discuss the evaluation plan

GENERIC CONCERNS: If Yes Explain:

OI ACCEPTANCE: YES NO (Priority: **HIGH** NORMAL LOW)

Basis for OI Priority: **HIGH per Exhibit 16 (page 316) and section 5.7.a.5(i)(1) 3rd bullet on page 192 of the allegation manual dated 12/22/16 states, in part, that any individual knowingly proving incomplete and inaccurate information to the NRC with the purpose of influencing a significant regulatory decision.**

OI has Accepted Concern 1 at a high priority Signature _____

MINUTES PROVIDED TO: Kozak/ Meyer/ Heck/ Riemer/ SRI for Clinton
ACKNOWLEDGMENT LETTER: PRINT IN FINAL __ REVISE _____ **N/A_X___**
REQUEST FOR EVALUATION: A. Licensee YES ____ 10 CFR 2.390____**NO X___**
B. State of YES ____ **NO __X__**
C. DOE YES _____ **NO __X__**

date received	01/28/2019	due date of 1st ARB	02/27/2019
due date of ACK Ltr	02/27/2019	date - 90 days old	04/28/2019
date - 120 days old	05/28/2019	date - 150 days old	06/27/2019
date - 180 days old	07/27/2019	date - 360 days old	01/23/2020
projected date for the 5 yr statue of limitation			01/28/2024

COMMENTS: NRC identified

/RA J. Lara/ **2/19/19**

Allegation Review Board Chair Date

Concern No. 1: Region III is concerned that during a regulatory conference conducted on November 30, 2018, Exelon Generation Company, LLC (EGC) provided incomplete and inaccurate information with the purpose of influencing a significant regulatory decision by attempting to persuade NRC to not proceed with an escalated enforcement action.

In a regulatory conference, EGC presented a position that the outcome of the NRC's significance determination process should be Green rather than White, in part, because of NRC's assumption about operators declaring an Extended Loss of AC Power (ELAP) at one hour into a Station Blackout (SBO) event was flawed. EGC stated that 28 SROs from other stations (including non-Exelon) were given CPS procedures and scenarios that recreated the postulated scenarios and that all SROs stated that they remain in the LOOP procedure and not enter ELAP. The NRC subsequently determined that at least eight SROs stated that they would enter ELAP.

The incomplete and inaccurate information was provided in support of and during a public regulatory conference held in the RIII office.

Regulatory Basis: 10 CFR 50.9(a) "Completeness and accuracy of information" requires, in part, that information provided to the Commission by a licensee shall be complete and accurate in all material respects.

The NRC issued "Errata—Clinton Power Station - NRC Inspection Report 05000461/2018051 and Preliminary White Finding on November 6, 2018. This inspection report identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," and Technical Specification 3.8.2, Condition B.3, for the licensee's failure to follow multiple procedures that affected quality. This resulted in the unavailability and inoperability of the Division 2 Emergency Diesel Generator (EDG) when it was relied upon for plant safety. During part of the time that the Division 2 EDG was unavailable the Division 1 EDG was already out-of-service for planned maintenance. This condition was considered in a risk evaluation of a postulated scenario where during the period when neither EDG was available, a loss of offsite power would have resulted in a station blackout (SBO) condition that could have resulted in a long-term loss of the ability to cool the reactor core. This finding was preliminarily determined to be White, a finding of low to moderate safety significance. In accordance with NRC Inspection Manual Chapter 0609, the NRC offered EGC the opportunity to attend a regulatory conference to present its perspective on the facts and assumptions the NRC used to arrive at the finding and assess its significance.

EGC attended a regulatory conference on November 30, 2018. Beginning on page 11 of the regulatory conference presentation, EGC provided a perspective on NRC's postulated scenario (i.e., the long-term loss of the ability to cool the reactor core). On page 15 of the presentation, EGC provided an overview of station response to a SBO. EGC's presentation of the station response discussed the same power recovery methods to mitigate the event as described in the NRC's preliminary significance determination (i.e., restore offsite power, align Div 2 DG to start, Div 3 DG cross-tie to Div 2 bus, and FLEX). For the station to implement FLEX, an extended loss of AC power (ELAP) must be declared. The NRC determined that licensee procedures and training direct operators to determine if an ELAP exists at 1 hour. If ELAP is declared, the SBO procedure is exited, and the ELAP procedure is entered. This action

complicates further Division 2 EDG recovery and is influential to the NRC's preliminary significance determination as described in the NRC inspection report.

To support a position that operators would not declare ELAP, EGC states on page 18 of the presentation that 28 SROs from other stations (including non-Exelon) were given CPS procedures and scenarios that recreated the postulated scenario, and that all SROs stated that they remain in the LOOP procedure and not enter ELAP. This is the information that is not accurate or complete.

On December 4, 2018, the NRC requested the completed surveys and other documentation. On December 14, 2018, EGC provided the requested information.

EGC provided the following information and questions to 28 SROs in the survey:

> Initial Conditions:
> Unit is in OPCON 4
> Reactor Level is 85"
> D-11 D/G is tagged OOS for maintenance
>
> At T=0 Under voltage alarms are received on the 101 and 201 busses indicating a loss of off-site power.
>
> At T= 10 sec D-12 failure to start annunciator is received in the MCR. The PRO identifies that the D-12 D/G fails to start and dispatches an EO to the D/G.
>
> At T=15 minutes the EO calls the MCR and states that he found both starting air receiver outlet valves CLOSED for the D-12 D/G.
>
> Answer the following 3 questions:
>
> 1. Do you declare an ELAP at t=1 hr.?
> 2. Assume same initial conditions, but EO makes the same report at T=55 min?
> 3. Assume same initial conditions, but EO makes the same report at t=4 hours?

Questions 1 and 2 described conditions during which the starting air receiver outlet valves are found closed prior to 1 hour, which represents successful restoration of the Division 2 EDG. ELAP would not exist given these conditions and all SROs responded that they would not declare ELAP. The conditions in Questions 1 and 2 are not relevant to the NRC's preliminary significance determination, or to the licensee's risk evaluation, since the conditions represent successful recovery of the Division 2 EDG which should result in injection prior to coolant reaching the top of active fuel. The NRC's SDP estimates the risk (i.e., frequency) of all postulated scenarios that result in the loss of the ability to cool the core. The core damage scenarios represent various combinations of failure events. In this SDP, the risk is dominated by the failure of the power recovery methods. Successful recovery scenarios do not result in core damage and do not contribute to the risk of the finding.

Question 3 provides the only set of conditions in the survey that are relevant to the postulated core damage scenario. For these conditions, the starting air receiver outlet valves are not found in the closed position prior to 1 hour. Eight of the SROs stated in

response to Question 3 that they would declare ELAP at the 1 hour mark given the stated conditions.

The regulatory conference is the last step in the inspection process in determining the significance of a finding. The NRC does not expect to conduct significant additional inquiry regarding the best available information at this stage of the process. EGC was clearly aware of the NRC assumption regarding ELAP declaration at 1 hour if the EDG air start valves had not been identified as the cause of the failure to start. Statements made by SROs regarding this assumption represent material information that is potentially influential to the risk evaluation. Given that EGC was in possession of the SRO survey results at the time of the regulatory conference, the NRC should determine if EGC deliberately omitted discussing the eight SRO responses that ELAP would be declared at 1 hour, thus providing incomplete information to the NRC either through careless disregard or in deliberate violation of requirements.

Information regarding the decision to declare ELAP at 1 hour is important to the risk analysis and the preliminary significance determination because it potentially impacts the human reliability analysis, the estimated change in risk, and ultimately the plant's performance as determined by the NRC action matrix.

The enforcement manual, Part II, section 1.5.1 provides guidance on whether the inaccuracy or omission is material. The guidance states that information is material is whether a reasonable NRC reviewer would *consider* the information in reaching the decision and does not depend on whether the NRC actually relied on a particular statement. The inaccurate and incomplete information provided by EGC at the November 30, 2018 regulatory conference is clearly material to this issue as NRC reviewers must consider this information when reaching a final significance determination.

Assessment of safety significance of this concern:

The failure to provide complete and accurate information potentially impacted the ability of the NRC to perform its regulatory oversight function. Willful violations are of particular concern because the NRC's regulatory program is based on licensees and their contractors, employees, and agents acting with integrity and communicating with candor. A violation may be considered more significant than the underlying noncompliance if it includes indications of willfulness. Violations with willful aspects will typically be considered for escalated enforcement (i.e., SL I, II, or III). The term "willfulness" as used in the Enforcement Policy refers to conduct involving either a careless disregard for requirements or a deliberate violation of requirements or falsification of information. In determining the significance of a violation involving willfulness, the NRC will consider such factors as the position, training, experience level, and responsibilities of the person involved in the violation and the economic or other advantage, if any, gained because of the violation. In this case, Enforcement Policy Section 6.9.c.1 and Section 6.9.c.2 contain the following examples for a SL III violation:

> Section 6.9.c.1: Inaccurate or incomplete information is provided or maintained. If this information had been completely and accurately provided or maintained, it would likely have caused the NRC to reconsider a regulatory position or undertake a substantial further inquiry.

Section 6.9.c.2: A withholding of information or a failure to make a required report occurs. If this information had been provided or the report been made, it would likely have caused the NRC to reconsider a regulatory position or undertake a substantial further inquiry.

Security-related Concern Category: I II III **Not Applicable**

I. Action Evaluation: The following method of resolution is recommended (circle):
   A. Send to Licensee Requesting Response in 30 Days.
   B. Priority RIII Follow up and Closure Memo to OAC
   C. Follow up During Routine Inspection Within _____ Days and Closure Memo to OAC
   D. Discrimination (Complete & Attach MD 8.8 Exhibit 3)
      1. Offer ADR.
      2. Reason why ADR should not be offered
      3. Priority for the OI investigation if ADR is not used: HIGH/NORMAL/LOW Recommended Basis:
   E. All other OI referrals. Priority for the OI investigation: HIGH per Exhibit 16 (page 316) and section 5.7.a.5(i)(1) 3rd bullet on page 192 of the allegation manual dated 12/22/16 states, in part, that any individual knowingly proving incomplete and inaccurate information to the NRC with the purpose of influencing a significant regulatory decision.
   F. Outside NRC's Jurisdiction. Describe Basis Below.
   G. Too General for Follow-up. Describe Basis Below.
   H. Other.

   Responsible for Action -

II. **Special Considerations/Instructions - - Information required by the allegation manual on pages 188 to 190 at paragraph 5.7.a.5(g)** :

A. A summary of the concern.

It appears that on November 30, 2018, Exelon Generation Company, LLC (EGC) knowingly provided incomplete and inaccurate information to NRC with the purpose of influencing a significant regulatory decision (i.e., attempted to persuade NRC to not proceed with an escalated enforcement action). The incomplete and inaccurate information was provided to the Commission by senior Exelon executives including:

- Brad Fewell, Senior Vice President, Regulatory Affairs and General Counsel
- Scot Greenlee, Senior Vice President, Engineering and Technical Support
- Brad Kapellas, Plant Manager
- Gene Kelly, Senior Manager, Risk Management
- Johnny Weissinger, Director, Operations
- Ted Stoner, Site Vice President

- Mike Antonelli, a Clinton SRO, attended the regulatory conference, sat at the table with the managers and executives, and was involved in the discussions but did not present the material in the slides.

Other Exelon executives, staff and contractors attended the meeting, sat in the audience and participated in the discussion. Several other Exelon or Exelon contractors were involved in discussions with NRC staff regarding this issue during the development of the preliminary significance determination prior to the regulatory conference.

The EGC staff, managers, and executives involved in the regulatory conference are trained in how to correctly provide complete and accurate information to the Commission. EGC staff and contractors who interacted with NRC staff during the development of the preliminary significance determination would have understood that SRO statements regarding declaring ELAP at 1 hour would be relevant information to the NRC in discussing the assumption regarding ELAP in the preliminary significance determination.

B. **A draft NOV for the technical issue alleged to involve wrongdoing, with an associated color and/or Severity Level**;

10 CFR 50.9(a) "Completeness and accuracy of information" requires, in part, that information provided to the Commission by a licensee shall be complete and accurate in all material respects.

Contrary to the above, EGC did not provide complete and accurate information at a public regulatory conference with the NRC staff in the Region III office on November 30, 2018. Specifically, ECG stated both verbally and in a slide presentation that 28 SROs from other stations (including non-Exelon) stated that they would remain in the LOOP procedure and NOT enter ELAP when given CPS procedures and scenarios that recreated the postulated scenario. However, upon review of the SRO statements, NRC determined that at least eight SROs stated that they would enter ELAP under certain postulated scenarios. The failure to provide complete and accurate information regarding SRO statements about entry into ELAP had the potential to impact the NRC's final significance determination of this inspection finding, potentially lowering the significance from a preliminary determination of White (e.g., low to moderate) to Green (e.g., very low safety significance).

This is a Severity Level III violation.

The following statements were provided in the surveys that were not provided at the regulatory conference:

- "**Yes, declare an ELAP at the 1 hour mark**. At that point, there is no action taken that can assure that some AC power can be restored within the 4-hour coping time (emphasis added)."

- "**Yes, though this should have been declared within the hour** with no report of why the D/G was unable to be restored within the 4-hour coping time (emphasis added)."

- "**Yes, I would have already declared ELAP**. **Within the 1 hour** loss of AC the Shift manager is continuously assessing for if we are going to get power back and if it will be back within 4 hours. Since I would have already passed the IF/THEN in the procedure, I would be in CPS4306.01 which takes precedence to restoring the EDG (emphasis added)."

- "**Actions per E-1 should have already been suspended at T=1 hr** when the high assurance of restoration standard was missed. **Operators already missed entry into ELAP** and this should be performed as soon as they realize that the time limit was missed. At T=4 hours the coping time will be exceeded. Division 2 will not be available until T=6 hours (emphasis added)."

- "In this case at **Time T=1 hr** I don't know of a success path that would restore my AC power. Therefore, **I would prioritize and execute the ELAP actions at T=1 hou**r in accordance with the direction of SBO (emphasis added)."

- "Yes: **An ELAP should have already been declared at the 1-hour mark** when there were no action in progress that would provide a high assurance of restoring a diesel or off-site source. While this might still be a case where the quickest path to an energized bus is via the D2 D-G, but your procedure leaves no other option (emphasis added)."

- "**ELAP – The decision needs to be made at or before the 1 hour into the event**. Information is not received about restoration capability until long after the one hour time limit (emphasis added)."

- "Yes. **At this point ELAP should already have been declared** and there is no chance of recovering D/G within 4-hour recovery time (emphasis added)."

C. All associated documents to support the validity of the violation (e.g., license conditions, licensee's procedures, etc.) for inclusion in the allegation file;

All associated documents have been provided as an attachment.

D. An explanation of the circumstances and rationale for concluding that a specific indication of wrongdoing is or is not present.

The Allegations Manual, Section 5.7.a.5(a) states that wrongdoing consists of either a willful violation of regulatory requirements through deliberate action or a violation resulting from careless disregard of regulatory requirements (examples:

… providing false or inaccurate information in an effort to influence an NRC decision related to the license….). In the November 30 regulatory conference and in the slide presentation, Exelon stated that all SROs would remain in the LOOP procedure and not enter ELAP based on survey results. The NRC requested the completed surveys on December 4. The surveys were provided on December 14. A review of the SRO survey results shows that the November 30 presentation was not accurate or complete in all material respects.

The regulatory conference is the last step in the inspection process in determining the significance of a finding. The NRC does not expect to conduct significant additional inquiry regarding the best available information at this stage of the process. It appears the licensee omitted and possibly deliberately withheld information at the regulatory conference when they did not disclose the full results of the surveys. EGC was clearly aware of the NRC assumption regarding ELAP declaration at 1 hour if the EDG air start valves had not been identified as the cause of the failure to start. Statements made by SROs regarding this assumption represent material information that is potentially influential to the risk evaluation. Given that EGC was in possession of the SRO survey results at the time of the regulatory conference, the NRC should determine if EGC deliberately omitted discussing the eight SRO responses that ELAP would be declared at 1 hour, thus providing incomplete information to the NRC either through careless disregard or in deliberate violation of requirements.

If the NRC had the omitted information at the regulatory conference, the NRC would have undertaken substantial further inquiry into the matter in a public forum with the licensee, allowing both the public and the NRC participants to have a full understanding of the information available to the licensee that is potentially influential to the outcome of the regulatory decision on significance.

Information regarding the decision to declare ELAP at 1 hour is important to the risk analysis and the preliminary significance determination because it potentially impacts the human reliability analysis, the estimated change in risk, and ultimately the plant's performance as determined by the NRC action matrix.

The enforcement manual, Part II, section 1.5.1 provides guidance on whether the inaccuracy or omission is material. The guidance states that information is material is whether a reasonable NRC reviewer would *consider* the information in reaching the decision, and does not depend on whether the NRC actually relied on a particular statement.

E. If known, a summary of the licensee's evaluation of the issue and any corrective actions taken or planned.

The licensee is unaware that a violation of 10 CFR 50.9 is being considered by the ARB/Enforcement Process.

F. The likely enforcement outcome if the concern is substantiated.

The likely enforcement outcome is a Severity Level III 50.9 violation.

The failure to provide complete and accurate information impacted the ability of the NRC to perform its regulatory oversight function. Willful violations are of particular concern because the NRC's regulatory program is based on licensees and their contractors, employees, and agents acting with integrity and communicating with candor. A violation may be considered more significant than the underlying noncompliance if it includes indications of willfulness. Violations with willful aspects will typically be considered for escalated enforcement (i.e., SL I, II, or III). The term "willfulness" as used in the Enforcement Policy refers to conduct involving either a careless disregard for requirements or a deliberate violation of requirements or falsification of information. In determining the significance of a violation involving willfulness, the NRC will consider such factors as the position, training, experience level, and responsibilities of the person involved in the violation and the economic or other advantage, if any, gained because of the violation. In this case, Enforcement Policy Section 6.9.c.1 and Section 6.9.c.2 contain the following examples for a SL III violation:

Section 6.9.c.1: Inaccurate or incomplete information is provided or maintained. If this information had been completely and accurately provided or maintained, it would likely have caused the NRC to reconsider a regulatory position or undertake a substantial further inquiry.

Section 6.9.c.2: A withholding of information or a failure to make a required report occurs. If this information had been provided or the report been made, it would likely have caused the NRC to reconsider a regulatory position or undertake a substantial further inquiry.

G. If referral to OI is recommended, a clear indication of those individuals who would be considered the subjects of the investigation.

The Exelon individuals who attended the regulatory conference would be subjects of the investigation.

Allegations Manual Section 5.7.a.5(i), OI Prioritization Guidance, states that Individuals responsible for evaluating an allegation should come to the ARB meeting prepared to discuss the investigative priority of the allegation concern and the rationale for the priority of the issue, assuming that the allegation concern is true. Allegations Manual Section 5.7.a.5(i)(1) High Priority, provides the following examples of circumstances prompting a high-priority investigation:

- Any individual knowingly providing incomplete and inaccurate information to NRC or a licensee with the purpose of influencing a significant regulatory decision, such as a favorable restart decision, operability decision, issuance of a license amendment, not proceeding with an escalated enforcement action, or issuance of a notice of enforcement discretion.

Therefore, the staff recommends that the OI investigation priority should be high.

III. At the 2/11/19 arb:

- **J Lara highlighted there has been many points of view, expressed at different time, to different groups of RIII personnel on the opinion that Exelon provided incomplete and inaccurate information during the regulatory conference about a D/G that was inoperable due to starting air being isolated. J Lara said: (1) the purpose of the ARB was to discuss the many points of views associated with the information provided during the regulatory conference; (2) once the points of view are discussed, he will place the ARB on hold to give the RIII senior management team the opportunity to evaluate the differencing points of views; and (3) the ARB will be reconvened to make the final discussion.**

- **L Kozak discussed the incomplete and inaccurate information provided to the NRC on 11/30/18; how the information could affect the NRC conclusion; the information required by the allegation manual to determine if an OI investigation is warranted in response to an allegation of wrongdoing (see paragraph II above).**

- **J Heck discussed his assessment of the draft NOV (see paragraph V below)** (b)(5) [redacted] **In addition L Kozak discussed her response (see paragraph VI) below to J Heck assessment**

- **J Cameron and J Heck discussed the enforcement manual direction for determining if a verbal statement can trip the 50.9 threshold. In that the information provided during the conference and in the written response does not appear to be persuasive to change our enforcement outcome.**

- **J Heller questioned which process (allegation or regulatory conference) are we in at this time. During the regulatory conference, several members of the RIII staff requested background information to understand a data point on a slide. The licensee provided the information; however, we have not reengaged the licensee to determine what they believe the background information is telling them and what they believe it should be telling the NRC. If the purpose of the regulatory conference is to obtain a common understanding of the issue and the supporting information then it may be necessary to discuss the information via a regulatory conference phone call before providing the issue to OI.**

- **L Kozak asked about the guidance to not ask more questions if one believes the licensee has providing incomplete and inaccurate information. J Heller stated if an inspector believes asking more questions could hinder OI evidence trail then we would engage OI and obtain guidance if it is appropriate to ask additional questions. P Meyer stated that OI does not object if RIII wants to ask additional and**

clarifying questions to determine what the licensee meant by the bullet and the surveys.

- **It was highlighted that the SERP to determine the final safety significance of the inoperable Diesel Generator caused by an isolated starting air is scheduled for Thursday (2/14/19). J Heller asked if the SERP should be placed on hold until we determine if the licensee willfully provided inaccurate and incomplete information. The consensus was the safety significance would not change if the 50.9 violation was substantiated and therefore both could proceed.**

- **J Lara thanked everyone for their participation and closed the ARB.**

IV. At the 2/19/19 arb:

- **J Lara provided a big picture overview of the information discussed at the 2/11/19 ARB. J Lara stated he met with the RA/DRA to summarize the ARB discussion, including diverse views from the various staff members at the ARB. In particular, he briefed (1) the view that the information provided by the licensee was part of the "in-process" deliberation and hence had not impacted the regulatory decision; (2) advice from the regional counsel that a 10 CFR 50.9 violation was not clearly evident and hence in his view could not supported; and (3) the thought on whether Region III should re-engage the licensee in discussions to better understand the apparent discrepancy between information provided at the regulatory conference and in written material and the answers to survey question #3. J. Lara did not recommend further discussions with the licensee on this latter point as it would not affect the advice of regional counsel** (b)(5) (b)(5)

- **RA/DRA support J. Lara's decision to not pursue a 10 CFR 50.9 violation. L. Kozak, the sponsor of this allegation, was not present at the ARB. J. Lara stated that he had briefed L. Kozak on the ARB decision to not pursue a 10 CFR 50.9 violation. In addition, since the consensus for the 2/11/19 ARB was the safety significance would not change if the 50.9 violation was substantiated the arb will not recommend a referral to OI based on speculation of what may happen since our actions demonstrated we would question the data point.**

V. Jared Heck's assessment of the 10 CFR 50.9 issue

From: Heck, Jared
Sent: Thursday, February 07, 2019 9:02 AM
To: Heller, James <James.Heller@nrc.gov>; Cameron, Jamnes <Jamnes.Cameron@nrc.gov>
Subject: FW: Your Q re 50.9, Clinton Reg Conference

From: Heck, Jared
Sent: Wednesday, February 06, 2019 4:18 PM
To: Lara, Julio <Julio.Lara@nrc.gov>; Kozak, Laura <Laura.Kozak@nrc.gov>
Subject: Your Q re 50.9, Clinton Reg Conference

Julio and Laura,

You had earlier asked if I could attempt to draft a potential 50.9 violation based on the information you presented coming out of the Clinton regulatory conference and subsequent Exelon submittal dated December 14, 2018. As we have previously discussed, my legal opinion is (b)(5)

(b)(5)

(b)(5)

Jared K. Heck
Regional Counsel
U.S. NRC Region III
Tel. 630-829-9653

Draft 50.9 Violation

(b)(5)

VI. Laura Kozak response to Jared Heck's assessment of the 10CFR50.9 issue

From: Kozak, Laura
Sent: Friday, February 08, 2019 1:58 PM
To: Heck, Jared <Jared.Heck@nrc.gov>; Lara, Julio <Julio.Lara@nrc.gov>
Subject: RE: Your Q re 50.9, Clinton Reg Conference

Jared

Thanks for doing this. I appreciate it and it helps me understand what else I need to communicate about this issue. Let me share a few points about your thoughts.

Exelon did not tell us about the surveys before the regulatory conference. The regulatory conference presentation was provided a week before the conference. But other than that, we were not informed about the surveys.

I don't believe the surveys are irrelevant. My miscommunication on this point. I think a survey question about declaring ELAP if the valves are found is not relevant. I think the subject matter is relevant and the omitted information is important to the discussion of the significance of the issue.

I think we can point to the meaning of "postulated scenario", although this has been difficult to communicate. I will continue to work on this. I know that it is not simple, but much of what we do is not always easy or clear and we have to consider the context. I think we sometimes need to pursue the harder but more meaningful issues. Having discussed this with the licensee for months prior to the regulatory conference I am confident that their staff and at least some of the managers understood the postulated scenario and were aware of the full survey results. I believe other portions of the presentation convey that they understand the postulated scenario. I am concerned that Exelon purposefully did not disclose these results in the public conference, attempting to influence the outcome.

As you and I discussed, I almost did not ask for the completed surveys. We discuss many things during the course of an SDP and we often simply take the licensee's word on something. I had no reason to suspect that information had been omitted from the presentation and I almost asked for just a copy of the survey vs. the actual completed surveys.

Laura

U.S. NUCLEAR REGULATORY COMMISSION

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NRC FORM 762
(9-2005)

From: Lara, Julio
Sent: Thursday, March 14, 2019 3:00 PM
To: Heller, James <James.Heller@nrc.gov>
Subject: 190004 1st arb revision 2.docx

Jim,

Pls review as appropriate and finalize.

Thanks
Julio

February 19, 2019

MEMO TO: Ken Riemer, Chief, Reactor Project Branch 1

FROM: Jim Heller, Office Allegation Coordinator, EICS

SUBJECT: **1st arb for RIII-2019-A-0005 (Clinton)**

On 1/17/19 and 1/28/19 Laura Kozak provided ARB packages indicating the licensee violated 10CFR50.9, "Completeness and Accuracy of Information," in that information provided by the licensee during a regulatory conference was not complete and accurate in all material respects. Laura indicated the incomplete and inaccurate information could influence a significant regulatory decision by attempting to persuade NRC to not proceed with an escalated enforcement action.

This package was discussed at the ARBs conducted on 2/11/19 and the ARB to be conducted on 2/19/19.

cc w/enclosures:
ARB Copy

Paul Meyer; Jay Bigoness; Marjorie Zerth; Aaron Glass

Jamnes Cameron; James Heller; James Clay; Paul Pelke; Sarah Bakhsh; Jared Heck; Kenneth Lambert

Laura Kozak; Ken Riemer; Chuck Phillips; Bruce Bartlett; Jack Rutkowski

Licensee: Clinton - Exelon Generation Company, LLC
Docket No. 50–461
License No. NPF–62
Assigned Division/Branch: DRP 1

ARB MEMBERSHIP:

Present at the 02/11/19 ARB - - Lara (CHAIR) /Meyer (OI) /Heck (RC) /Cameron (EICS) /Paul Pelke (OAC) /Lambert (EICS) /Heller (OAC) /Kozak (SRA) /Hanna (SRA) /Riemer (BC RB1) /Phillips (RB1) /Bartlett (RB2) /Sanchez (Clinton SRI) /Orlikowski /O'Brien /Giessner

Present at the 02/19/19 ARB - - Lara (CHAIR) /Glass (OI) /Woerner (OI) /Heck (RC) /Cameron (EICS) /Paul Pelke (OAC) /Heller (OAC) /Hanna (SRA) /Riemer (BC RB1) /Sanchez (Clinton SRI) /Orlikowski /

Purpose: Initial ARB to discuss the evaluation plan

GENERIC CONCERNS: If Yes Explain:

OI ACCEPTANCE: YES NO (Priority: **HIGH** NORMAL LOW)

Basis for OI Priority: **HIGH per Exhibit 16 (page 316) and section 5.7.a.5(i)(1) 3rd bullet on page 192 of the allegation manual dated 12/22/16 states, in part, that any individual knowingly proving incomplete and inaccurate information to the NRC with the purpose of influencing a significant regulatory decision.**

OI has Accepted Concern 1 at a high priority Signature _____

MINUTES PROVIDED TO: Kozak/ Meyer/ Heck/ Riemer/ SRI for Clinton
ACKNOWLEDGMENT LETTER: PRINT IN FINAL __ REVISE _____ **N/A_X___**
REQUEST FOR EVALUATION: A. Licensee YES ____ 10 CFR 2.390____**NO X___**
B. State of YES ____ **NO __X__**
C. DOE YES _____ **NO __X__**

date received	01/28/2019	due date of 1st ARB	02/27/2019
due date of ACK Ltr	02/27/2019	date - 90 days old	04/28/2019
date - 120 days old	05/28/2019	date - 150 days old	06/27/2019
date - 180 days old	07/27/2019	date - 360 days old	01/23/2020
projected date for the 5 yr statue of limitation			01/28/2024

COMMENTS: NRC identified

/RA J. Lara/ **2/19/19**

_____ _____
Allegation Review Board Chair Date

Concern No. 1: Region III is concerned that during a regulatory conference conducted on November 30, 2018, Exelon Generation Company, LLC (EGC) provided incomplete and inaccurate information with the purpose of influencing a significant regulatory decision by attempting to persuade NRC to not proceed with an escalated enforcement action.

In a regulatory conference, EGC presented a position that the outcome of the NRC's significance determination process should be Green rather than White, in part, because of NRC's assumption about operators declaring an Extended Loss of AC Power (ELAP) at one hour into a Station Blackout (SBO) event was flawed. EGC stated that 28 SROs from other stations (including non-Exelon) were given CPS procedures and scenarios that recreated the postulated scenarios and that all SROs stated that they remain in the LOOP procedure and not enter ELAP. The NRC subsequently determined that at least eight SROs stated that they would enter ELAP.

The incomplete and inaccurate information was provided in support of and during a public regulatory conference held in the RIII office.

Regulatory Basis: 10 CFR 50.9(a) "Completeness and accuracy of information" requires, in part, that information provided to the Commission by a licensee shall be complete and accurate in all material respects.

The NRC issued "Errata—Clinton Power Station - NRC Inspection Report 05000461/2018051 and Preliminary White Finding on November 6, 2018. This inspection report identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," and Technical Specification 3.8.2, Condition B.3, for the licensee's failure to follow multiple procedures that affected quality. This resulted in the unavailability and inoperability of the Division 2 Emergency Diesel Generator (EDG) when it was relied upon for plant safety. During part of the time that the Division 2 EDG was unavailable the Division 1 EDG was already out-of-service for planned maintenance. This condition was considered in a risk evaluation of a postulated scenario where during the period when neither EDG was available, a loss of offsite power would have resulted in a station blackout (SBO) condition that could have resulted in a long-term loss of the ability to cool the reactor core. This finding was preliminarily determined to be White, a finding of low to moderate safety significance. In accordance with NRC Inspection Manual Chapter 0609, the NRC offered EGC the opportunity to attend a regulatory conference to present its perspective on the facts and assumptions the NRC used to arrive at the finding and assess its significance.

EGC attended a regulatory conference on November 30, 2018. Beginning on page 11 of the regulatory conference presentation, EGC provided a perspective on NRC's postulated scenario (i.e., the long-term loss of the ability to cool the reactor core). On page 15 of the presentation, EGC provided an overview of station response to a SBO. EGC's presentation of the station response discussed the same power recovery methods to mitigate the event as described in the NRC's preliminary significance determination (i.e., restore offsite power, align Div 2 DG to start, Div 3 DG cross-tie to Div 2 bus, and FLEX). For the station to implement FLEX, an extended loss of AC power (ELAP) must be declared. The NRC determined that licensee procedures and training direct operators to determine if an ELAP exists at 1 hour. If ELAP is declared, the SBO procedure is exited, and the ELAP procedure is entered. This action

complicates further Division 2 EDG recovery and is influential to the NRC's preliminary significance determination as described in the NRC inspection report.

To support a position that operators would not declare ELAP, EGC states on page 18 of the presentation that 28 SROs from other stations (including non-Exelon) were given CPS procedures and scenarios that recreated the postulated scenario, and that all SROs stated that they remain in the LOOP procedure and not enter ELAP. This is the information that is not accurate or complete.

On December 4, 2018, the NRC requested the completed surveys and other documentation. On December 14, 2018, EGC provided the requested information.

EGC provided the following information and questions to 28 SROs in the survey:

> Initial Conditions:
> Unit is in OPCON 4
> Reactor Level is 85"
> D-11 D/G is tagged OOS for maintenance
>
> At T=0 Under voltage alarms are received on the 101 and 201 busses indicating a loss of off-site power.
>
> At T= 10 sec D-12 failure to start annunciator is received in the MCR. The PRO identifies that the D-12 D/G fails to start and dispatches an EO to the D/G.
>
> At T=15 minutes the EO calls the MCR and states that he found both starting air receiver outlet valves CLOSED for the D-12 D/G.
>
> Answer the following 3 questions:
>
> 1. Do you declare an ELAP at t=1 hr.?
> 2. Assume same initial conditions, but EO makes the same report at T=55 min?
> 3. Assume same initial conditions, but EO makes the same report at t=4 hours?

Questions 1 and 2 described conditions during which the starting air receiver outlet valves are found closed prior to 1 hour, which represents successful restoration of the Division 2 EDG. ELAP would not exist given these conditions and all SROs responded that they would not declare ELAP. The conditions in Questions 1 and 2 are not relevant to the NRC's preliminary significance determination, or to the licensee's risk evaluation, since the conditions represent successful recovery of the Division 2 EDG which should result in injection prior to coolant reaching the top of active fuel. The NRC's SDP estimates the risk (i.e., frequency) of all postulated scenarios that result in the loss of the ability to cool the core. The core damage scenarios represent various combinations of failure events. In this SDP, the risk is dominated by the failure of the power recovery methods. Successful recovery scenarios do not result in core damage and do not contribute to the risk of the finding.

Question 3 provides the only set of conditions in the survey that are relevant to the postulated core damage scenario. For these conditions, the starting air receiver outlet valves are not found in the closed position prior to 1 hour. Eight of the SROs stated in

response to Question 3 that they would declare ELAP at the 1 hour mark given the stated conditions.

The regulatory conference is the last step in the inspection process in determining the significance of a finding. The NRC does not expect to conduct significant additional inquiry regarding the best available information at this stage of the process. EGC was clearly aware of the NRC assumption regarding ELAP declaration at 1 hour if the EDG air start valves had not been identified as the cause of the failure to start. Statements made by SROs regarding this assumption represent material information that is potentially influential to the risk evaluation. Given that EGC was in possession of the SRO survey results at the time of the regulatory conference, the NRC should determine if EGC deliberately omitted discussing the eight SRO responses that ELAP would be declared at 1 hour, thus providing incomplete information to the NRC either through careless disregard or in deliberate violation of requirements.

Information regarding the decision to declare ELAP at 1 hour is important to the risk analysis and the preliminary significance determination because it potentially impacts the human reliability analysis, the estimated change in risk, and ultimately the plant's performance as determined by the NRC action matrix.

The enforcement manual, Part II, section 1.5.1 provides guidance on whether the inaccuracy or omission is material. The guidance states that information is material is whether a reasonable NRC reviewer would *consider* the information in reaching the decision and does not depend on whether the NRC actually relied on a particular statement. The inaccurate and incomplete information provided by EGC at the November 30, 2018 regulatory conference is clearly material to this issue as NRC reviewers must consider this information when reaching a final significance determination.

Assessment of safety significance of this concern:

The failure to provide complete and accurate information potentially impacted the ability of the NRC to perform its regulatory oversight function. Willful violations are of particular concern because the NRC's regulatory program is based on licensees and their contractors, employees, and agents acting with integrity and communicating with candor. A violation may be considered more significant than the underlying noncompliance if it includes indications of willfulness. Violations with willful aspects will typically be considered for escalated enforcement (i.e., SL I, II, or III). The term "willfulness" as used in the Enforcement Policy refers to conduct involving either a careless disregard for requirements or a deliberate violation of requirements or falsification of information. In determining the significance of a violation involving willfulness, the NRC will consider such factors as the position, training, experience level, and responsibilities of the person involved in the violation and the economic or other advantage, if any, gained because of the violation. In this case, Enforcement Policy Section 6.9.c.1 and Section 6.9.c.2 contain the following examples for a SL III violation:

> Section 6.9.c.1: Inaccurate or incomplete information is provided or maintained. If this information had been completely and accurately provided or maintained, it would likely have caused the NRC to reconsider a regulatory position or undertake a substantial further inquiry.

Section 6.9.c.2: A withholding of information or a failure to make a required report occurs. If this information had been provided or the report been made, it would likely have caused the NRC to reconsider a regulatory position or undertake a substantial further inquiry.

Security-related Concern Category: I II III **Not Applicable**

I. Action Evaluation: The following method of resolution is recommended (circle):
   A. Send to Licensee Requesting Response in 30 Days.
   B. Priority RIII Follow up and Closure Memo to OAC
   C. Follow up During Routine Inspection Within _____ Days and Closure Memo to OAC
   D. Discrimination (Complete & Attach MD 8.8 Exhibit 3)
      1. Offer ADR.
      2. Reason why ADR should not be offered
      3. Priority for the OI investigation if ADR is not used: HIGH/NORMAL/LOW Recommended Basis:
   E. All other OI referrals. Priority for the OI investigation: HIGH per Exhibit 16 (page 316) and section 5.7.a.5(i)(1) 3rd bullet on page 192 of the allegation manual dated 12/22/16 states, in part, that any individual knowingly proving incomplete and inaccurate information to the NRC with the purpose of influencing a significant regulatory decision.
   F. Outside NRC's Jurisdiction. Describe Basis Below.
   G. Too General for Follow-up. Describe Basis Below.
   H. Other.

   Responsible for Action -

II. **Special Considerations/Instructions - - Information required by the allegation manual on pages 188 to 190 at paragraph 5.7.a.5(g)** :

A. A summary of the concern.

It appears that on November 30, 2018, Exelon Generation Company, LLC (EGC) knowingly provided incomplete and inaccurate information to NRC with the purpose of influencing a significant regulatory decision (i.e., attempted to persuade NRC to not proceed with an escalated enforcement action). The incomplete and inaccurate information was provided to the Commission by senior Exelon executives including:

- Brad Fewell, Senior Vice President, Regulatory Affairs and General Counsel
- Scot Greenlee, Senior Vice President, Engineering and Technical Support
- Brad Kapellas, Plant Manager
- Gene Kelly, Senior Manager, Risk Management
- Johnny Weissinger, Director, Operations
- Ted Stoner, Site Vice President

- Mike Antonelli, a Clinton SRO, attended the regulatory conference, sat at the table with the managers and executives, and was involved in the discussions but did not present the material in the slides.

Other Exelon executives, staff and contractors attended the meeting, sat in the audience and participated in the discussion. Several other Exelon or Exelon contractors were involved in discussions with NRC staff regarding this issue during the development of the preliminary significance determination prior to the regulatory conference.

The EGC staff, managers, and executives involved in the regulatory conference are trained in how to correctly provide complete and accurate information to the Commission. EGC staff and contractors who interacted with NRC staff during the development of the preliminary significance determination would have understood that SRO statements regarding declaring ELAP at 1 hour would be relevant information to the NRC in discussing the assumption regarding ELAP in the preliminary significance determination.

B. **A draft NOV for the technical issue alleged to involve wrongdoing, with an associated color and/or Severity Level**;

10 CFR 50.9(a) "Completeness and accuracy of information" requires, in part, that information provided to the Commission by a licensee shall be complete and accurate in all material respects.

Contrary to the above, EGC did not provide complete and accurate information at a public regulatory conference with the NRC staff in the Region III office on November 30, 2018. Specifically, ECG stated both verbally and in a slide presentation that 28 SROs from other stations (including non-Exelon) stated that they would remain in the LOOP procedure and NOT enter ELAP when given CPS procedures and scenarios that recreated the postulated scenario. However, upon review of the SRO statements, NRC determined that at least eight SROs stated that they would enter ELAP under certain postulated scenarios. The failure to provide complete and accurate information regarding SRO statements about entry into ELAP had the potential to impact the NRC's final significance determination of this inspection finding, potentially lowering the significance from a preliminary determination of White (e.g., low to moderate) to Green (e.g., very low safety significance).

This is a Severity Level III violation.

The following statements were provided in the surveys that were not provided at the regulatory conference:

- "**Yes, declare an ELAP at the 1 hour mark**. At that point, there is no action taken that can assure that some AC power can be restored within the 4-hour coping time (emphasis added)."

- "**Yes, though this should have been declared within the hour** with no report of why the D/G was unable to be restored within the 4-hour coping time (emphasis added)."

- "**Yes, I would have already declared ELAP**. **Within the 1 hour** loss of AC the Shift manager is continuously assessing for if we are going to get power back and if it will be back within 4 hours. Since I would have already passed the IF/THEN in the procedure, I would be in CPS4306.01 which takes precedence to restoring the EDG (emphasis added)."

- "**Actions per E-1 should have already been suspended at T=1 hr** when the high assurance of restoration standard was missed. **Operators already missed entry into ELAP** and this should be performed as soon as they realize that the time limit was missed. At T=4 hours the coping time will be exceeded. Division 2 will not be available until T=6 hours (emphasis added)."

- "In this case at **Time T=1 hr** I don't know of a success path that would restore my AC power. Therefore, **I would prioritize and execute the ELAP actions at T=1 hou**r in accordance with the direction of SBO (emphasis added)."

- "Yes: **An ELAP should have already been declared at the 1-hour mark** when there were no action in progress that would provide a high assurance of restoring a diesel or off-site source. While this might still be a case where the quickest path to an energized bus is via the D2 D-G, but your procedure leaves no other option (emphasis added)."

- "**ELAP – The decision needs to be made at or before the 1 hour into the event**. Information is not received about restoration capability until long after the one hour time limit (emphasis added)."

- "Yes. **At this point ELAP should already have been declared** and there is no chance of recovering D/G within 4-hour recovery time (emphasis added)."

C. All associated documents to support the validity of the violation (e.g., license conditions, licensee's procedures, etc.) for inclusion in the allegation file;

All associated documents have been provided as an attachment.

D. An explanation of the circumstances and rationale for concluding that a specific indication of wrongdoing is or is not present.

The Allegations Manual, Section 5.7.a.5(a) states that wrongdoing consists of either a willful violation of regulatory requirements through deliberate action or a violation resulting from careless disregard of regulatory requirements (examples:

… providing false or inaccurate information in an effort to influence an NRC decision related to the license….). In the November 30 regulatory conference and in the slide presentation, Exelon stated that all SROs would remain in the LOOP procedure and not enter ELAP based on survey results. The NRC requested the completed surveys on December 4. The surveys were provided on December 14. A review of the SRO survey results shows that the November 30 presentation was not accurate or complete in all material respects.

The regulatory conference is the last step in the inspection process in determining the significance of a finding. The NRC does not expect to conduct significant additional inquiry regarding the best available information at this stage of the process. It appears the licensee omitted and possibly deliberately withheld information at the regulatory conference when they did not disclose the full results of the surveys. EGC was clearly aware of the NRC assumption regarding ELAP declaration at 1 hour if the EDG air start valves had not been identified as the cause of the failure to start. Statements made by SROs regarding this assumption represent material information that is potentially influential to the risk evaluation. Given that EGC was in possession of the SRO survey results at the time of the regulatory conference, the NRC should determine if EGC deliberately omitted discussing the eight SRO responses that ELAP would be declared at 1 hour, thus providing incomplete information to the NRC either through careless disregard or in deliberate violation of requirements.

If the NRC had the omitted information at the regulatory conference, the NRC would have undertaken substantial further inquiry into the matter in a public forum with the licensee, allowing both the public and the NRC participants to have a full understanding of the information available to the licensee that is potentially influential to the outcome of the regulatory decision on significance.

Information regarding the decision to declare ELAP at 1 hour is important to the risk analysis and the preliminary significance determination because it potentially impacts the human reliability analysis, the estimated change in risk, and ultimately the plant's performance as determined by the NRC action matrix.

The enforcement manual, Part II, section 1.5.1 provides guidance on whether the inaccuracy or omission is material. The guidance states that information is material is whether a reasonable NRC reviewer would *consider* the information in reaching the decision, and does not depend on whether the NRC actually relied on a particular statement.

E. If known, a summary of the licensee's evaluation of the issue and any corrective actions taken or planned.

The licensee is unaware that a violation of 10 CFR 50.9 is being considered by the ARB/Enforcement Process.

F. The likely enforcement outcome if the concern is substantiated.

The likely enforcement outcome is a Severity Level III 50.9 violation.

The failure to provide complete and accurate information impacted the ability of the NRC to perform its regulatory oversight function. Willful violations are of particular concern because the NRC's regulatory program is based on licensees and their contractors, employees, and agents acting with integrity and communicating with candor. A violation may be considered more significant than the underlying noncompliance if it includes indications of willfulness. Violations with willful aspects will typically be considered for escalated enforcement (i.e., SL I, II, or III). The term "willfulness" as used in the Enforcement Policy refers to conduct involving either a careless disregard for requirements or a deliberate violation of requirements or falsification of information. In determining the significance of a violation involving willfulness, the NRC will consider such factors as the position, training, experience level, and responsibilities of the person involved in the violation and the economic or other advantage, if any, gained because of the violation. In this case, Enforcement Policy Section 6.9.c.1 and Section 6.9.c.2 contain the following examples for a SL III violation:

Section 6.9.c.1: Inaccurate or incomplete information is provided or maintained. If this information had been completely and accurately provided or maintained, it would likely have caused the NRC to reconsider a regulatory position or undertake a substantial further inquiry.

Section 6.9.c.2: A withholding of information or a failure to make a required report occurs. If this information had been provided or the report been made, it would likely have caused the NRC to reconsider a regulatory position or undertake a substantial further inquiry.

G. If referral to OI is recommended, a clear indication of those individuals who would be considered the subjects of the investigation.

The Exelon individuals who attended the regulatory conference would be subjects of the investigation.

Allegations Manual Section 5.7.a.5(i), OI Prioritization Guidance, states that Individuals responsible for evaluating an allegation should come to the ARB meeting prepared to discuss the investigative priority of the allegation concern and the rationale for the priority of the issue, assuming that the allegation concern is true. Allegations Manual Section 5.7.a.5(i)(1) High Priority, provides the following examples of circumstances prompting a high-priority investigation:

- Any individual knowingly providing incomplete and inaccurate information to NRC or a licensee with the purpose of influencing a significant regulatory decision, such as a favorable restart decision, operability decision, issuance of a license amendment, not proceeding with an escalated enforcement action, or issuance of a notice of enforcement discretion.

Therefore, the staff recommends that the OI investigation priority should be high.

III. At the 2/11/19 arb:

- **J Lara highlighted there has been many points of view, expressed at different time, to different groups of RIII personnel on the opinion that Exelon provided incomplete and inaccurate information during the regulatory conference about a D/G that was inoperable due to starting air being isolated. J Lara said: (1) the purpose of the ARB was to discuss the many points of views associated with the information provided during the regulatory conference; (2) once the points of view are discussed, he will place the ARB on hold to give the RIII senior management team the opportunity to evaluate the differencing points of views; and (3) the ARB will be reconvened to make the final discussion.**

- **L Kozak discussed the incomplete and inaccurate information provided to the NRC on 11/30/18; how the information could affect the NRC conclusion; the information required by the allegation manual to determine if an OI investigation is warranted in response to an allegation of wrongdoing (see paragraph II above).**

- **J Heck discussed his assessment of the draft NOV (see paragraph V below)** (b)(5) [redacted] **In addition L Kozak discussed her response (see paragraph VI) below to J Heck assessment**

- **J Cameron and J Heck discussed the enforcement manual direction for determining if a verbal statement can trip the 50.9 threshold. In that the information provided during the conference and in the written response does not appear to be persuasive to change our enforcement outcome.**

- **J Heller questioned which process (allegation or regulatory conference) are we in at this time. During the regulatory conference, several members of the RIII staff requested background information to understand a data point on a slide. The licensee provided the information; however, we have not reengaged the licensee to determine what they believe the background information is telling them and what they believe it should be telling the NRC. If the purpose of the regulatory conference is to obtain a common understanding of the issue and the supporting information then it may be necessary to discuss the information via a regulatory conference phone call before providing the issue to OI.**

- **L Kozak asked about the guidance to not ask more questions if one believes the licensee has providing incomplete and inaccurate information. J Heller stated if an inspector believes asking more questions could hinder OI evidence trail then we would engage OI and obtain guidance if it is appropriate to ask additional questions. P Meyer stated that OI does not object if RIII wants to ask additional and**

clarifying questions to determine what the licensee meant by the bullet and the surveys.

- It was highlighted that the SERP to determine the final safety significance of the inoperable Diesel Generator caused by an isolated starting air is scheduled for Thursday (2/14/19). J Heller asked if the SERP should be placed on hold until we determine if the licensee willfully provided inaccurate and incomplete information. The consensus was the safety significance would not change if the 50.9 violation was substantiated and therefore both could proceed.

- J Lara thanked everyone for their participation and closed the ARB.

IV. At the 2/19/19 arb:

- J Lara provided a big picture overview of the information discussed at the 2/11/19 ARB. J Lara stated he met with the RA/DRA to summarize the ARB discussion, including diverse views from the various staff members at the ARB. In particular, he briefed (1) the view that the information provided by the licensee was part of the "in-process" deliberation and hence had not impacted the regulatory decision; (2) advice from the regional counsel [redacted] (b)(5) (b)(5) [redacted] and (3) the thought on whether Region III should re-engage the licensee in discussions to better understand the apparent discrepancy between information provided at the regulatory conference and in written material and the answers to survey question #3. J. Lara did not recommend further discussions with the licensee on this latter point as it would not affect the advice of regional counsel on the merits of a potential 10 CFR 50.9 violation.

  Additional information with respect to decision to not pursue a potential 10CFR50.9 violation (provided by ARB Chair J. Lara on March 14, 2019).

  During the ARB discussions, some staff viewed the information provided at the Regulatory conference, and subsequent correspondence, as "in-process" and part of the expected give-an-take with licensees and therefore, pursuit of a 50.9 violation was not appropriate. ARB chair did not share the view that enforcement program guidance precluded such a strategy. Specifically, enforcement policy guidance 6.9.c.1 discussed inaccurate or incomplete information which would have likely caused the NRC to undertake substantial further inquiry, and ARB Chair believed this provision could potentially apply to this case.

  Additional points of differing view related to whether there was clarity with respect to the "postulated scenario" and interpretation of licensee

(b)(5)

survey comments. In this regard, regional counsel [redacted]

[redacted]

(b)(5)

Accordingly, the regional counsel advised the ARB Chair [redacted] (b)(5)

(b)(5) [redacted]

(b)(5) [redacted] The ARB Chair concluded that, notwithstanding the differing views on this case, pursuit of such enforcement action was not appropriate, [redacted] (b)(5)

(b)(5) [redacted]

- **RA/DRA support J. Lara's decision to not pursue a 10 CFR 50.9 violation. L. Kozak, the sponsor of this allegation, was not present at the ARB. J. Lara stated that he had briefed L. Kozak on the ARB decision to not pursue a 10 CFR 50.9 violation. In addition, since the consensus for the 2/11/19 ARB was the safety significance would not change if the 50.9 violation was substantiated the arb will not recommend a referral to OI based on speculation of what may happen since our actions demonstrated we would question the data point.**

V. Jared Heck's assessment of the 10 CFR 50.9 issue

From: Heck, Jared
Sent: Thursday, February 07, 2019 9:02 AM
To: Heller, James <James.Heller@nrc.gov>; Cameron, Jamnes <Jamnes.Cameron@nrc.gov>
Subject: FW: Your Q re 50.9, Clinton Reg Conference

From: Heck, Jared
Sent: Wednesday, February 06, 2019 4:18 PM
To: Lara, Julio <Julio.Lara@nrc.gov>; Kozak, Laura <Laura.Kozak@nrc.gov>
Subject: Your Q re 50.9, Clinton Reg Conference

Julio and Laura,

You had earlier asked if I could attempt to draft a potential 50.9 violation based on the information you presented coming out of the Clinton regulatory conference and subsequent Exelon submittal dated December 14, 2018. As we have previously discussed, my legal opinion is (b)(5)

(b)(5)

[redacted]

(b)(5)

Jared K. Heck
Regional Counsel
U.S. NRC Region III

Tel. 630-829-9653

Draft 50.9 Violation

(b)(5)

VI. Laura Kozak response to Jared Heck's assessment of the 10CFR50.9 issue

From: Kozak, Laura
Sent: Friday, February 08, 2019 1:58 PM
To: Heck, Jared <Jared.Heck@nrc.gov>; Lara, Julio <Julio.Lara@nrc.gov>
Subject: RE: Your Q re 50.9, Clinton Reg Conference

Jared

Thanks for doing this. I appreciate it and it helps me understand what else I need to communicate about this issue. Let me share a few points about your thoughts.

Exelon did not tell us about the surveys before the regulatory conference. The regulatory conference presentation was provided a week before the conference. But other than that, we were not informed about the surveys.

I don't believe the surveys are irrelevant. My miscommunication on this point. I think a survey question about declaring ELAP if the valves are found is not relevant. I think the subject matter is relevant and the omitted information is important to the discussion of the significance of the issue.

I think we can point to the meaning of "postulated scenario", although this has been difficult to communicate. I will continue to work on this. I know that it is not simple, but much of what we do is not always easy or clear and we have to consider the context. I think we sometimes need to pursue the harder but more meaningful issues. Having discussed this with the licensee for months prior to the regulatory conference I am confident that their staff and at least some of the managers understood the postulated scenario and were aware of the full survey results. I believe other portions of the presentation convey that they understand the postulated scenario. I am concerned that

Exelon purposefully did not disclose these results in the public conference, attempting to influence the outcome.

As you and I discussed, I almost did not ask for the completed surveys. We discuss many things during the course of an SDP and we often simply take the licensee's word on something. I had no reason to suspect that information had been omitted from the presentation and I almost asked for just a copy of the survey vs. the actual completed surveys.

Laura

U.S. NUCLEAR REGULATORY COMMISSION

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NRC FORM 762
(9-2005)

March 15, 2019

MEMO TO: Ken Riemer, Chief, Reactor Project Branch 1

FROM: Jim Heller, Office Allegation Coordinator, EICS

SUBJECT: **1st arb for RIII-2019-A-0005 (Clinton)**

On 1/17/19 and 1/28/19 Laura Kozak provided ARB packages indicating the licensee violated 10CFR50.9, "Completeness and Accuracy of Information," in that information provided by the licensee during a regulatory conference was not complete and accurate in all material respects. Laura indicated the incomplete and inaccurate information could influence a significant regulatory decision by attempting to persuade NRC to not proceed with an escalated enforcement action.

This package was discussed at the ARBs conducted on 2/11/19 and 2/19/19. The ARB Chairman revised the 2/19/19 ARB minutes on 3/14/19

cc w/enclosures:
ARB Copy

Paul Meyer; Jay Bigoness; Marjorie Zerth; Aaron Glass

Jamnes Cameron; James Heller; James Clay; Paul Pelke; Sarah Bakhsh; Jared Heck; Kenneth Lambert

Laura Kozak; Ken Riemer; Chuck Phillips; Bruce Bartlett; Jack Rutkowski

Licensee: Clinton - Exelon Generation Company, LLC
Docket No. 50–461
License No. NPF–62
Assigned Division/Branch: DRP 1

ARB MEMBERSHIP:

Present at the 02/11/19 ARB - - Lara (CHAIR) /Meyer (OI) /Heck (RC) /Cameron (EICS) /Paul Pelke (OAC) /Lambert (EICS) /Heller (OAC) /Kozak (SRA) /Hanna (SRA) /Riemer (BC RB1) /Phillips (RB1) /Bartlett (RB2) /Sanchez (Clinton SRI) /Orlikowski /O'Brien /Giessner

Present at the 02/19/19 ARB - - Lara (CHAIR) /Glass (OI) /Woerner (OI) /Heck (RC) /Cameron (EICS) /Paul Pelke (OAC) /Heller (OAC) /Hanna (SRA) /Riemer (BC RB1) /Sanchez (Clinton SRI) /Orlikowski /

Purpose: Initial ARB to discuss the evaluation plan

GENERIC CONCERNS: If Yes Explain:

OI ACCEPTANCE: YES NO (Priority: **HIGH** NORMAL LOW)

Basis for OI Priority: **HIGH per Exhibit 16 (page 316) and section 5.7.a.5(i)(1) 3rd bullet on page 192 of the allegation manual dated 12/22/16 states, in part, that any individual knowingly proving incomplete and inaccurate information to the NRC with the purpose of influencing a significant regulatory decision.**

OI has Accepted Concern 1 at a high priority Signature _____

MINUTES PROVIDED TO: Lara/Kozak/Meyer/Heck/Riemer/ SRI for Clinton
ACKNOWLEDGMENT LETTER: PRINT IN FINAL __ REVISE _____ **N/A_X___**
REQUEST FOR EVALUATION: A. Licensee YES ____ 10 CFR 2.390____**NO X___**
B. State of YES ____ **NO __X__**
C. DOE YES _____ **NO __X__**

date received	01/28/2019	due date of 1st ARB	02/27/2019
due date of ACK Ltr	02/27/2019	date - 90 days old	04/28/2019
date - 120 days old	05/28/2019	date - 150 days old	06/27/2019
date - 180 days old	07/27/2019	date - 360 days old	01/23/2020
projected date for the 5 yr statue of limitation			01/28/2024

COMMENTS: NRC identified - - This ARB package was discussed at the ARBs conducted on 2/11/19 and 2/19/19. The ARB Chairman revised the 2/19/19 ARB minutes on 3/14/19. I (Jim Heller) incorporated the revision as section V, ARB minutes modified on 3/14/19, on pages 13 & 14. ***/RA J. Heller/ 3/15/19***

/RA J. Lara/ ***3/18/19***

_____ _____
Allegation Review Board Chair Date

Concern No. 1: Region III is concerned that during a regulatory conference conducted on November 30, 2018, Exelon Generation Company, LLC (EGC) provided incomplete and inaccurate information with the purpose of influencing a significant regulatory decision by attempting to persuade NRC to not proceed with an escalated enforcement action.

In a regulatory conference, EGC presented a position that the outcome of the NRC's significance determination process should be Green rather than White, in part, because of NRC's assumption about operators declaring an Extended Loss of AC Power (ELAP) at one hour into a Station Blackout (SBO) event was flawed. EGC stated that 28 SROs from other stations (including non-Exelon) were given CPS procedures and scenarios that recreated the postulated scenarios and that all SROs stated that they remain in the LOOP procedure and not enter ELAP. The NRC subsequently determined that at least eight SROs stated that they would enter ELAP.

The incomplete and inaccurate information was provided in support of and during a public regulatory conference held in the RIII office.

Regulatory Basis: 10 CFR 50.9(a) "Completeness and accuracy of information" requires, in part, that information provided to the Commission by a licensee shall be complete and accurate in all material respects.

The NRC issued "Errata—Clinton Power Station - NRC Inspection Report 05000461/2018051 and Preliminary White Finding on November 6, 2018. This inspection report identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," and Technical Specification 3.8.2, Condition B.3, for the licensee's failure to follow multiple procedures that affected quality. This resulted in the unavailability and inoperability of the Division 2 Emergency Diesel Generator (EDG) when it was relied upon for plant safety. During part of the time that the Division 2 EDG was unavailable the Division 1 EDG was already out-of-service for planned maintenance. This condition was considered in a risk evaluation of a postulated scenario where during the period when neither EDG was available, a loss of offsite power would have resulted in a station blackout (SBO) condition that could have resulted in a long-term loss of the ability to cool the reactor core. This finding was preliminarily determined to be White, a finding of low to moderate safety significance. In accordance with NRC Inspection Manual Chapter 0609, the NRC offered EGC the opportunity to attend a regulatory conference to present its perspective on the facts and assumptions the NRC used to arrive at the finding and assess its significance.

EGC attended a regulatory conference on November 30, 2018. Beginning on page 11 of the regulatory conference presentation, EGC provided a perspective on NRC's postulated scenario (i.e., the long-term loss of the ability to cool the reactor core). On page 15 of the presentation, EGC provided an overview of station response to a SBO. EGC's presentation of the station response discussed the same power recovery methods to mitigate the event as described in the NRC's preliminary significance determination (i.e., restore offsite power, align Div 2 DG to start, Div 3 DG cross-tie to Div 2 bus, and FLEX). For the station to implement FLEX, an extended loss of AC power (ELAP) must be declared. The NRC determined that licensee procedures and training direct operators to determine if an ELAP exists at 1 hour. If ELAP is declared, the SBO procedure is exited, and the ELAP procedure is entered. This action

complicates further Division 2 EDG recovery and is influential to the NRC's preliminary significance determination as described in the NRC inspection report.

To support a position that operators would not declare ELAP, EGC states on page 18 of the presentation that 28 SROs from other stations (including non-Exelon) were given CPS procedures and scenarios that recreated the postulated scenario, and that all SROs stated that they remain in the LOOP procedure and not enter ELAP. This is the information that is not accurate or complete.

On December 4, 2018, the NRC requested the completed surveys and other documentation. On December 14, 2018, EGC provided the requested information.

EGC provided the following information and questions to 28 SROs in the survey:

> Initial Conditions:
> Unit is in OPCON 4
> Reactor Level is 85"
> D-11 D/G is tagged OOS for maintenance
>
> At T=0 Under voltage alarms are received on the 101 and 201 busses indicating a loss of off-site power.
>
> At T= 10 sec D-12 failure to start annunciator is received in the MCR. The PRO identifies that the D-12 D/G fails to start and dispatches an EO to the D/G.
>
> At T=15 minutes the EO calls the MCR and states that he found both starting air receiver outlet valves CLOSED for the D-12 D/G.
>
> Answer the following 3 questions:
>
> 1. Do you declare an ELAP at t=1 hr.?
> 2. Assume same initial conditions, but EO makes the same report at T=55 min?
> 3. Assume same initial conditions, but EO makes the same report at t=4 hours?

Questions 1 and 2 described conditions during which the starting air receiver outlet valves are found closed prior to 1 hour, which represents successful restoration of the Division 2 EDG. ELAP would not exist given these conditions and all SROs responded that they would not declare ELAP. The conditions in Questions 1 and 2 are not relevant to the NRC's preliminary significance determination, or to the licensee's risk evaluation, since the conditions represent successful recovery of the Division 2 EDG which should result in injection prior to coolant reaching the top of active fuel. The NRC's SDP estimates the risk (i.e., frequency) of all postulated scenarios that result in the loss of the ability to cool the core. The core damage scenarios represent various combinations of failure events. In this SDP, the risk is dominated by the failure of the power recovery methods. Successful recovery scenarios do not result in core damage and do not contribute to the risk of the finding.

Question 3 provides the only set of conditions in the survey that are relevant to the postulated core damage scenario. For these conditions, the starting air receiver outlet valves are not found in the closed position prior to 1 hour. Eight of the SROs stated in

response to Question 3 that they would declare ELAP at the 1 hour mark given the stated conditions.

The regulatory conference is the last step in the inspection process in determining the significance of a finding. The NRC does not expect to conduct significant additional inquiry regarding the best available information at this stage of the process. EGC was clearly aware of the NRC assumption regarding ELAP declaration at 1 hour if the EDG air start valves had not been identified as the cause of the failure to start. Statements made by SROs regarding this assumption represent material information that is potentially influential to the risk evaluation. Given that EGC was in possession of the SRO survey results at the time of the regulatory conference, the NRC should determine if EGC deliberately omitted discussing the eight SRO responses that ELAP would be declared at 1 hour, thus providing incomplete information to the NRC either through careless disregard or in deliberate violation of requirements.

Information regarding the decision to declare ELAP at 1 hour is important to the risk analysis and the preliminary significance determination because it potentially impacts the human reliability analysis, the estimated change in risk, and ultimately the plant's performance as determined by the NRC action matrix.

The enforcement manual, Part II, section 1.5.1 provides guidance on whether the inaccuracy or omission is material. The guidance states that information is material is whether a reasonable NRC reviewer would *consider* the information in reaching the decision and does not depend on whether the NRC actually relied on a particular statement. The inaccurate and incomplete information provided by EGC at the November 30, 2018 regulatory conference is clearly material to this issue as NRC reviewers must consider this information when reaching a final significance determination.

Assessment of safety significance of this concern:

The failure to provide complete and accurate information potentially impacted the ability of the NRC to perform its regulatory oversight function. Willful violations are of particular concern because the NRC's regulatory program is based on licensees and their contractors, employees, and agents acting with integrity and communicating with candor. A violation may be considered more significant than the underlying noncompliance if it includes indications of willfulness. Violations with willful aspects will typically be considered for escalated enforcement (i.e., SL I, II, or III). The term "willfulness" as used in the Enforcement Policy refers to conduct involving either a careless disregard for requirements or a deliberate violation of requirements or falsification of information. In determining the significance of a violation involving willfulness, the NRC will consider such factors as the position, training, experience level, and responsibilities of the person involved in the violation and the economic or other advantage, if any, gained because of the violation. In this case, Enforcement Policy Section 6.9.c.1 and Section 6.9.c.2 contain the following examples for a SL III violation:

> Section 6.9.c.1: Inaccurate or incomplete information is provided or maintained. If this information had been completely and accurately provided or maintained, it would likely have caused the NRC to reconsider a regulatory position or undertake a substantial further inquiry.

Section 6.9.c.2: A withholding of information or a failure to make a required report occurs. If this information had been provided or the report been made, it would likely have caused the NRC to reconsider a regulatory position or undertake a substantial further inquiry.

Security-related Concern Category: I II III **Not Applicable**

I. Action Evaluation: The following method of resolution is recommended (circle):
   A. Send to Licensee Requesting Response in 30 Days.
   B. Priority RIII Follow up and Closure Memo to OAC
   C. Follow up During Routine Inspection Within _____ Days and Closure Memo to OAC
   D. Discrimination (Complete & Attach MD 8.8 Exhibit 3)
      1. Offer ADR.
      2. Reason why ADR should not be offered
      3. Priority for the OI investigation if ADR is not used: HIGH/NORMAL/LOW Recommended Basis:
   E. All other OI referrals. Priority for the OI investigation: HIGH per Exhibit 16 (page 316) and section 5.7.a.5(i)(1) 3rd bullet on page 192 of the allegation manual dated 12/22/16 states, in part, that any individual knowingly proving incomplete and inaccurate information to the NRC with the purpose of influencing a significant regulatory decision.
   F. Outside NRC's Jurisdiction. Describe Basis Below.
   G. Too General for Follow-up. Describe Basis Below.
   H. Other.

   Responsible for Action -

II. **Special Considerations/Instructions - - Information required by the allegation manual on pages 188 to 190 at paragraph 5.7.a.5(g)** :

A. A summary of the concern.

It appears that on November 30, 2018, Exelon Generation Company, LLC (EGC) knowingly provided incomplete and inaccurate information to NRC with the purpose of influencing a significant regulatory decision (i.e., attempted to persuade NRC to not proceed with an escalated enforcement action). The incomplete and inaccurate information was provided to the Commission by senior Exelon executives including:

- Brad Fewell, Senior Vice President, Regulatory Affairs and General Counsel
- Scot Greenlee, Senior Vice President, Engineering and Technical Support
- Brad Kapellas, Plant Manager
- Gene Kelly, Senior Manager, Risk Management
- Johnny Weissinger, Director, Operations
- Ted Stoner, Site Vice President

- Mike Antonelli, a Clinton SRO, attended the regulatory conference, sat at the table with the managers and executives, and was involved in the discussions but did not present the material in the slides.

Other Exelon executives, staff and contractors attended the meeting, sat in the audience and participated in the discussion. Several other Exelon or Exelon contractors were involved in discussions with NRC staff regarding this issue during the development of the preliminary significance determination prior to the regulatory conference.

The EGC staff, managers, and executives involved in the regulatory conference are trained in how to correctly provide complete and accurate information to the Commission. EGC staff and contractors who interacted with NRC staff during the development of the preliminary significance determination would have understood that SRO statements regarding declaring ELAP at 1 hour would be relevant information to the NRC in discussing the assumption regarding ELAP in the preliminary significance determination.

B. **A draft NOV for the technical issue alleged to involve wrongdoing, with an associated color and/or Severity Level**;

10 CFR 50.9(a) "Completeness and accuracy of information" requires, in part, that information provided to the Commission by a licensee shall be complete and accurate in all material respects.

Contrary to the above, EGC did not provide complete and accurate information at a public regulatory conference with the NRC staff in the Region III office on November 30, 2018. Specifically, ECG stated both verbally and in a slide presentation that 28 SROs from other stations (including non-Exelon) stated that they would remain in the LOOP procedure and NOT enter ELAP when given CPS procedures and scenarios that recreated the postulated scenario. However, upon review of the SRO statements, NRC determined that at least eight SROs stated that they would enter ELAP under certain postulated scenarios. The failure to provide complete and accurate information regarding SRO statements about entry into ELAP had the potential to impact the NRC's final significance determination of this inspection finding, potentially lowering the significance from a preliminary determination of White (e.g., low to moderate) to Green (e.g., very low safety significance).

This is a Severity Level III violation.

The following statements were provided in the surveys that were not provided at the regulatory conference:

- "**Yes, declare an ELAP at the 1 hour mark**. At that point, there is no action taken that can assure that some AC power can be restored within the 4-hour coping time (emphasis added)."

- "**Yes, though this should have been declared within the hour** with no report of why the D/G was unable to be restored within the 4-hour coping time (emphasis added)."

- "**Yes, I would have already declared ELAP**. **Within the 1 hour** loss of AC the Shift manager is continuously assessing for if we are going to get power back and if it will be back within 4 hours. Since I would have already passed the IF/THEN in the procedure, I would be in CPS4306.01 which takes precedence to restoring the EDG (emphasis added)."

- "**Actions per E-1 should have already been suspended at T=1 hr** when the high assurance of restoration standard was missed. **Operators already missed entry into ELAP** and this should be performed as soon as they realize that the time limit was missed. At T=4 hours the coping time will be exceeded. Division 2 will not be available until T=6 hours (emphasis added)."

- "In this case at **Time T=1 hr** I don't know of a success path that would restore my AC power. Therefore, **I would prioritize and execute the ELAP actions at T=1 hou**r in accordance with the direction of SBO (emphasis added)."

- "Yes: **An ELAP should have already been declared at the 1-hour mark** when there were no action in progress that would provide a high assurance of restoring a diesel or off-site source. While this might still be a case where the quickest path to an energized bus is via the D2 D-G, but your procedure leaves no other option (emphasis added)."

- "**ELAP – The decision needs to be made at or before the 1 hour into the event**. Information is not received about restoration capability until long after the one hour time limit (emphasis added)."

- "Yes. **At this point ELAP should already have been declared** and there is no chance of recovering D/G within 4-hour recovery time (emphasis added)."

C. All associated documents to support the validity of the violation (e.g., license conditions, licensee's procedures, etc.) for inclusion in the allegation file;

All associated documents have been provided as an attachment.

D. An explanation of the circumstances and rationale for concluding that a specific indication of wrongdoing is or is not present.

The Allegations Manual, Section 5.7.a.5(a) states that wrongdoing consists of either a willful violation of regulatory requirements through deliberate action or a violation resulting from careless disregard of regulatory requirements (examples:

… providing false or inaccurate information in an effort to influence an NRC decision related to the license….). In the November 30 regulatory conference and in the slide presentation, Exelon stated that all SROs would remain in the LOOP procedure and not enter ELAP based on survey results. The NRC requested the completed surveys on December 4. The surveys were provided on December 14. A review of the SRO survey results shows that the November 30 presentation was not accurate or complete in all material respects.

The regulatory conference is the last step in the inspection process in determining the significance of a finding. The NRC does not expect to conduct significant additional inquiry regarding the best available information at this stage of the process. It appears the licensee omitted and possibly deliberately withheld information at the regulatory conference when they did not disclose the full results of the surveys. EGC was clearly aware of the NRC assumption regarding ELAP declaration at 1 hour if the EDG air start valves had not been identified as the cause of the failure to start. Statements made by SROs regarding this assumption represent material information that is potentially influential to the risk evaluation. Given that EGC was in possession of the SRO survey results at the time of the regulatory conference, the NRC should determine if EGC deliberately omitted discussing the eight SRO responses that ELAP would be declared at 1 hour, thus providing incomplete information to the NRC either through careless disregard or in deliberate violation of requirements.

If the NRC had the omitted information at the regulatory conference, the NRC would have undertaken substantial further inquiry into the matter in a public forum with the licensee, allowing both the public and the NRC participants to have a full understanding of the information available to the licensee that is potentially influential to the outcome of the regulatory decision on significance.

Information regarding the decision to declare ELAP at 1 hour is important to the risk analysis and the preliminary significance determination because it potentially impacts the human reliability analysis, the estimated change in risk, and ultimately the plant's performance as determined by the NRC action matrix.

The enforcement manual, Part II, section 1.5.1 provides guidance on whether the inaccuracy or omission is material. The guidance states that information is material is whether a reasonable NRC reviewer would *consider* the information in reaching the decision, and does not depend on whether the NRC actually relied on a particular statement.

E. If known, a summary of the licensee's evaluation of the issue and any corrective actions taken or planned.

The licensee is unaware that a violation of 10 CFR 50.9 is being considered by the ARB/Enforcement Process.

F. The likely enforcement outcome if the concern is substantiated.

The likely enforcement outcome is a Severity Level III 50.9 violation.

The failure to provide complete and accurate information impacted the ability of the NRC to perform its regulatory oversight function. Willful violations are of particular concern because the NRC's regulatory program is based on licensees and their contractors, employees, and agents acting with integrity and communicating with candor. A violation may be considered more significant than the underlying noncompliance if it includes indications of willfulness. Violations with willful aspects will typically be considered for escalated enforcement (i.e., SL I, II, or III). The term "willfulness" as used in the Enforcement Policy refers to conduct involving either a careless disregard for requirements or a deliberate violation of requirements or falsification of information. In determining the significance of a violation involving willfulness, the NRC will consider such factors as the position, training, experience level, and responsibilities of the person involved in the violation and the economic or other advantage, if any, gained because of the violation. In this case, Enforcement Policy Section 6.9.c.1 and Section 6.9.c.2 contain the following examples for a SL III violation:

Section 6.9.c.1: Inaccurate or incomplete information is provided or maintained. If this information had been completely and accurately provided or maintained, it would likely have caused the NRC to reconsider a regulatory position or undertake a substantial further inquiry.

Section 6.9.c.2: A withholding of information or a failure to make a required report occurs. If this information had been provided or the report been made, it would likely have caused the NRC to reconsider a regulatory position or undertake a substantial further inquiry.

G. If referral to OI is recommended, a clear indication of those individuals who would be considered the subjects of the investigation.

The Exelon individuals who attended the regulatory conference would be subjects of the investigation.

Allegations Manual Section 5.7.a.5(i), OI Prioritization Guidance, states that Individuals responsible for evaluating an allegation should come to the ARB meeting prepared to discuss the investigative priority of the allegation concern and the rationale for the priority of the issue, assuming that the allegation concern is true. Allegations Manual Section 5.7.a.5(i)(1) High Priority, provides the following examples of circumstances prompting a high-priority investigation:

- Any individual knowingly providing incomplete and inaccurate information to NRC or a licensee with the purpose of influencing a significant regulatory decision, such as a favorable restart decision, operability decision, issuance of a license amendment, not proceeding with an escalated enforcement action, or issuance of a notice of enforcement discretion.

Therefore, the staff recommends that the OI investigation priority should be high.

III. At the 2/11/19 arb:

- **J Lara highlighted there has been many points of view, expressed at different time, to different groups of RIII personnel on the opinion that Exelon provided incomplete and inaccurate information during the regulatory conference about a D/G that was inoperable due to starting air being isolated. J Lara said: (1) the purpose of the ARB was to discuss the many points of views associated with the information provided during the regulatory conference; (2) once the points of view are discussed, he will place the ARB on hold to give the RIII senior management team the opportunity to evaluate the differencing points of views; and (3) the ARB will be reconvened to make the final discussion.**

- **L Kozak discussed the incomplete and inaccurate information provided to the NRC on 11/30/18; how the information could affect the NRC conclusion; the information required by the allegation manual to determine if an OI investigation is warranted in response to an allegation of wrongdoing (see paragraph II above).**

- **J Heck discussed his assessment of the draft NOV (see paragraph VI below)** (b)(5) [redacted] **In addition L Kozak discussed her response (see paragraph VII) below to J Heck assessment.**

- **J Cameron and J Heck discussed the enforcement manual direction for determining if a verbal statement can trip the 50.9 threshold. In that the information provided during the conference and in the written response does not appear to be persuasive to change our enforcement outcome.**

- **J Heller questioned which process (allegation or regulatory conference) are we in at this time. During the regulatory conference, several members of the RIII staff requested background information to understand a data point on a slide. The licensee provided the information; however, we have not reengaged the licensee to determine what they believe the background information is telling them and what they believe it should be telling the NRC. If the purpose of the regulatory conference is to obtain a common understanding of the issue and the supporting information then it may be necessary to discuss the information via a regulatory conference phone call before providing the issue to OI.**

- **L Kozak asked about the guidance to not ask more questions if one believes the licensee has providing incomplete and inaccurate information. J Heller stated if an inspector believes asking more questions could hinder OI evidence trail then we would engage OI and obtain guidance if it is appropriate to ask additional questions. P Meyer stated that OI does not object if RIII wants to ask additional and**

clarifying questions to determine what the licensee meant by the bullet and the surveys.

- It was highlighted that the SERP to determine the final safety significance of the inoperable Diesel Generator caused by an isolated starting air is scheduled for Thursday (2/14/19). J Heller asked if the SERP should be placed on hold until we determine if the licensee willfully provided inaccurate and incomplete information. The consensus was the safety significance would not change if the 50.9 violation was substantiated and therefore both could proceed.

- J Lara thanked everyone for their participation and closed the ARB.

IV. At the 2/19/19 arb:

- J Lara provided a big picture overview of the information discussed at the 2/11/19 ARB. J Lara stated he met with the RA/DRA to summarize the ARB discussion, including diverse views from the various staff members at the ARB. In particular, he briefed (1) the view that the information provided by the licensee was part of the "in-process" deliberation and hence had not impacted the regulatory decision; (2) advice from the regional counsel (b)(5) (b)(5) and (3) the thought on whether Region III should re-engage the licensee in discussions to better understand the apparent discrepancy between information provided at the regulatory conference and in written material and the answers to survey question #3. J. Lara did not recommend further discussions with the licensee on this latter point as it would not affect the advice of regional counsel (b)(5) (b)(5)

- RA/DRA supported J. Lara's decision to not pursue a 10 CFR 50.9 violation. L. Kozak, the sponsor of this allegation, was not present at the ARB. J. Lara stated that he had briefed L. Kozak on the ARB decision to not pursue a 10 CFR 50.9 violation. In addition, since the consensus for the 2/11/19 ARB was the safety significance would not change if the 50.9 violation was substantiated the arb will not recommend a referral to OI based on speculation of what may happen since our actions demonstrated we would question the data point.

V. ARB minutes modified on 3/14/19:

Additional information with respect to decision to not pursue a potential 10CFR50.9 violation (provided by ARB Chair J. Lara on March 14, 2019).

During the ARB discussions, some staff viewed the information provided at the Regulatory conference, and subsequent correspondence, as

"in-process" and part of the expected give-an-take with licensees and therefore, pursuit of a 50.9 violation was not appropriate. ARB chair did not share the view that enforcement program guidance precluded such a strategy. Specifically, enforcement policy guidance 6.9.c.1 discussed inaccurate or incomplete information which would have likely caused the NRC to undertake substantial further inquiry, and ARB Chair believed this provision could potentially apply to this case.

Additional points of differing view related to whether there was clarity with respect to the "postulated scenario" and interpretation of licensee survey comments. In this regard, regional counsel (b)(5)

(b)(5)

Accordingly, the regional counsel advised the ARB Chair that, (b)(5)

(b)(5)

(b)(5) **The ARB Chair concluded that, notwithstanding the differing views on this case, pursuit of such enforcement action was not appropriate, in large part,** (b)(5)

VI. Jared Heck's assessment of the 10 CFR 50.9 issue

From: Heck, Jared
Sent: Thursday, February 07, 2019 9:02 AM
To: Heller, James <James.Heller@nrc.gov>; Cameron, Jamnes <Jamnes.Cameron@nrc.gov>
Subject: FW: Your Q re 50.9, Clinton Reg Conference

From: Heck, Jared
Sent: Wednesday, February 06, 2019 4:18 PM
To: Lara, Julio <Julio.Lara@nrc.gov>; Kozak, Laura <Laura.Kozak@nrc.gov>
Subject: Your Q re 50.9, Clinton Reg Conference

Julio and Laura,

You had earlier asked if I could attempt to draft a potential 50.9 violation based on the information you presented coming out of the Clinton regulatory conference and subsequent Exelon submittal dated December 14, 2018. As we have previously discussed, my legal opinion is (b)(5)

(b)(5)

(b)(5)

Jared K. Heck
Regional Counsel
U.S. NRC Region III

Tel. 630-829-9653

Draft 50.9 Violation

(b)(5)

VII. Laura Kozak response to Jared Heck's assessment of the 10CFR50.9 issue

From: Kozak, Laura
Sent: Friday, February 08, 2019 1:58 PM
To: Heck, Jared <Jared.Heck@nrc.gov>; Lara, Julio <Julio.Lara@nrc.gov>
Subject: RE: Your Q re 50.9, Clinton Reg Conference

Jared

Thanks for doing this. I appreciate it and it helps me understand what else I need to communicate about this issue. Let me share a few points about your thoughts.

Exelon did not tell us about the surveys before the regulatory conference. The regulatory conference presentation was provided a week before the conference. But other than that, we were not informed about the surveys.

I don't believe the surveys are irrelevant. My miscommunication on this point. I think a survey question about declaring ELAP if the valves are found is not relevant. I think the subject matter is relevant and the omitted information is important to the discussion of the significance of the issue.

I think we can point to the meaning of "postulated scenario", although this has been difficult to communicate. I will continue to work on this. I know that it is not simple, but much of what we do is not always easy or clear and we have to consider the context. I think we sometimes need to pursue the harder but more meaningful issues. Having discussed this with the licensee for months prior to the regulatory conference I am confident that their staff and at least some of the managers understood the postulated scenario and were aware of the full survey results. I believe other portions of the presentation convey that they understand the postulated scenario. I am concerned that

Exelon purposefully did not disclose these results in the public conference, attempting to influence the outcome.

As you and I discussed, I almost did not ask for the completed surveys. We discuss many things during the course of an SDP and we often simply take the licensee's word on something. I had no reason to suspect that information had been omitted from the presentation and I almost asked for just a copy of the survey vs. the actual completed surveys.

Laura

Please provide the following:

Ops Self-Assessments

- Configuration Control (2664637) 9/14/2016
- Configuration Control (4026575) 9/28/2017
- Clearance and Tagging Program (4047433) 11/30/2017
- Operator Fundamentals (4042011) 2/22/2018

Want a copy of OP-AA-108-103.

Want a copy of daily orders for the month of May 2018.

MD 8.3 Evaluation
Decision Documentation for Reactive Inspection
(Deterministic and Risk Criteria Analyzed)

PLANT: Clinton	EVENT DATE: 05/17/2018	DETERMINISTIC CRITERIA EVALUATION DATE: 5/21/2018

Brief Description of the Significant Operational Event or Degraded Condition:

On May 9 at 1725, a clearance order for the Division 2 emergency diesel generator (EDG) was removed following a Division 2 bus outage. This clearance order directed the Division 2 EDG air reservoir outlet valves remain closed to prevent the Division 2 EDG from starting since the safety-related service water to the EDG remained out of service. Restoration of the Division 2 EDG and the reservoir isolation valves was tracked via a control room log entry. On May 11, the service water system was restored and the Division 2 EDG was declared available with operability occurring on May 12. Two days later, the Division 1 EDG was declared inoperable for planned maintenance. On May 17, an equipment operator discovered the Division 2 EDG had not been appropriately returned to an available and operable status because the air reservoir outlet valves remained in the closed position. This resulted in the licensee being in Mode 5 and Mode 4 without an operable EDG and a licensee unplanned red shutdown safety condition.

Y/N	DETERMINISTIC CRITERIA
N	a. Involved operations that exceeded, or were not included in the design bases of the facility
	Remarks:
N	b. Involved a major deficiency in design, construction, or operation having potential generic safety implications
	Remarks:
N	c. Led to a significant loss of integrity of the fuel, primary coolant pressure boundary, or primary containment boundary of a nuclear reactor
	Remarks:
Y	d. Led to the loss of a safety function or multiple failures in systems used to mitigate an actual event (b)(5)
	Remarks: (b)(5)

N	e. Involved possible adverse generic implications
	Remarks:
N	f. Involved significant unexpected system interactions
	Remarks:
N	g. Involved repetitive failures or events involving safety-related equipment or deficiencies in operations
	Remarks:
Y	h. Involved questions or concerns pertaining to licensee operational performance
	(b)(5) Remarks: [redacted] (b)(5)

CONDITIONAL RISK ASSESSMENT	
RISK ANALYSIS BY: L. Kozak	RISK ANALYSIS DATE: May 18, 2018

Brief Description of the Basis for the Assessment (may include assumptions, calculations, references, peer review, or comparison with licensee's results):

(b)(5)

Risk Insights: (b)(5)

(b)(5)

The following assumptions were made:

(b)(5)

(b)(5)

The estimated conditional core damage probability (CCDP) is _E-6___ and places the risk in the range of a special inspection and no additional inspection.

RESPONSE DECISION

USING THE ABOVE INFORMATION AND OTHER KEY ELEMENTS OF CONSIDERATION AS APPROPRIATE, DOCUMENT THE RESPONSE DECISION TO THE EVENT OR CONDITION, AND THE BASIS FOR THAT DECISION

(b)(5)

DECISION AND DETAILS OF THE BASIS FOR THE DECISION:
(b)(5)

BRANCH CHIEF: Karla Stoedter	DATE:
SRA: Laura Kozak	DATE:
DIVISION DIRECTOR: Patrick Louden	DATE:
DIVISION DIRECTOR: Kenneth O'Brien	DATE:
ADAMS ACCESSION NUMBER: EVENT NOTIFICATION REPORT NUMBER (as applicable): EN 53409	

Note to preparer: If the decision was NOT to perform a reactive inspection, you must complete the rest of the form to fully document the basis for not performing a reactive inspection.

Internal Distribution List is at the end of this document.

Decision Documentation for Reactive Inspection (Deterministic-only Criteria Analyzed)		
PLANT:	EVENT DATE:	EVALUATION DATE:
Brief Description of the Significant Operational Event or Degraded Condition:		

REACTOR SAFETY	
Y/N	**IIT Deterministic Criteria**
	Led to a Site Area Emergency
	Remarks:
	Exceeded a safety limit of the licensee's technical specifications
	Remarks:
	Involved circumstances sufficiently complex, unique, or not well enough understood, or involved safeguards concerns, or involved characteristics the investigation of which would best serve the needs and interests of the Commission
	Remarks:
Y/N	**SI Deterministic Criteria**
	Significant failure to implement the emergency preparedness program during an actual event, including the failure to classify, notify, or augment onsite personnel
	Remarks:
	Involved significant deficiencies in operational performance which resulted in degrading, challenging, or disabling a safety system function or resulted in placing the plant in an unanalyzed condition for which available risk assessment methods do not provide an adequate or reasonable estimate of risk.
	Remarks:

RADIATION SAFETY	
Y/N	**IIT Deterministic Criteria**

	Led to a significant radiological release (levels of radiation or concentrations of radioactive material in excess of 10 times any applicable limit in the license or 10 times the concentrations specified in 10 CFR Part 20, Appendix B, Table 2, when averaged over a year) of byproduct, source, or special nuclear material to unrestricted areas
	Remarks:
	Led to a significant occupational exposure or significant exposure to a member of the public. In both cases, "significant" is defined as five times the applicable regulatory limit (except for shallow-dose equivalent to the skin or extremities from discrete radioactive particles)
	Remarks:
	Involved the deliberate misuse of byproduct, source, or special nuclear material from its intended or authorized use, which resulted in the exposure of a significant number of individuals
	Remarks:
	Involved byproduct, source, or special nuclear material, which may have resulted in a fatality
	Remarks:
	Involved circumstances sufficiently complex, unique, or not well enough understood, or involved safeguards concerns, or involved characteristics the investigation of which would best serve the needs and interests of the Commission
	Remarks:
Y/N	**AIT Deterministic Criteria**
	Led to a radiological release of byproduct, source, or special nuclear material to unrestricted areas that resulted in occupational exposure or exposure to a member of the public in excess of the applicable regulatory limit (except for shallow-dose equivalent to the skin or extremities from discrete radioactive particles)
	Remarks:
	Involved the deliberate misuse of byproduct, source, or special nuclear material from its intended or authorized use and had the potential to cause an exposure of greater than 5 rem to an individual or 500 mrem to an embryo or fetus
	Remarks:
	Involved the failure of radioactive material packaging that resulted in external radiation levels exceeding 10 rads/hr or contamination of the packaging exceeding 1000 times the applicable limits specified in 10 CFR 71.87
	Remarks:

	Involved the failure of the dam for mill tailings with substantial release of tailings material and solution off site
	Remarks:

Y/N	SI Deterministic Criteria
	May have led to an exposure in excess of the applicable regulatory limits, other than via the radiological release of byproduct, source, or special nuclear material to the unrestricted area; specifically • occupational exposure in excess of the regulatory limits in 10 CFR 20.1201 • exposure to an embryo/fetus in excess of the regulatory limits in 10 CFR 20.1208 • exposure to a member of the public in excess of the regulatory limits in 10 CFR 20.1301
	Remarks:
	May have led to an unplanned occupational exposure in excess of 40 percent of the applicable regulatory limit (excluding shallow-dose equivalent to the skin or extremities from discrete radioactive particles)
	Remarks:
	Led to unplanned changes in restricted area dose rates in excess of 20 rem per hour in an area where personnel were present or which is accessible to personnel
	Remarks:
	Led to unplanned changes in restricted area airborne radioactivity levels in excess of 500 DAC in an area where personnel were present or which is accessible to personnel and where the airborne radioactivity level was not promptly recognized and/or appropriate actions were not taken in a timely manner
	Remarks:
	Led to an uncontrolled, unplanned, or abnormal release of radioactive material to the unrestricted area • for which the extent of the offsite contamination is unknown; or, • that may have resulted in a dose to a member of the public from loss of radioactive material control in excess of 25 mrem (10 CFR 20.1301(e)); or, • that may have resulted in an exposure to a member of the public from effluents in excess of the ALARA guidelines contained in Appendix I to 10 CFR Part 50
	Remarks:

	Led to a large (typically greater than 100,000 gallons), unplanned release of radioactive liquid inside the restricted area that has the potential for ground-water, or offsite, contamination
	Remarks:
	Involved the failure of radioactive material packaging that resulted in external radiation levels exceeding 5 times the accessible area dose rate limits specified in 10 CFR Part 71, or 50 times the contamination limits specified in 49 CFR Part 173
	Remarks:
	Involved an emergency or non-emergency event or situation, related to the health and safety of the public or on-site personnel or protection of the environment, for which a 10 CFR 50.72 report has been submitted that is expected to cause significant, heightened public or government concern
	Remarks:

SAFEGUARDS/SECURITY	
Y/N	**IIT Deterministic Criteria**
	Involved circumstances sufficiently complex, unique, or not well enough understood, or involved safeguards concerns, or involved characteristics the investigation of which would best serve the needs and interests of the Commission
	Remarks:
	Failure of licensee significant safety equipment or adverse impact on licensee operations as a result of a safeguards initiated event (e.g., tampering).
	Remarks:
	Actual intrusion into the protected area.
	Remarks:
Y/N	**AIT Deterministic Criteria**
	Involved a significant infraction or repeated instances of safeguards infractions that demonstrate the ineffectiveness of facility security provisions
	Remarks:
	Involved repeated instances of inadequate nuclear material control and accounting provisions to protect against theft or diversions of nuclear material
	Remarks:
	Confirmed tampering event involving significant safety or security equipment
	Remarks:

	Substantial failure in the licensee's intrusion detection or package/personnel search procedures which results in a significant vulnerability or compromise of plant safety or security
	Remarks:
Y/N	**SI Deterministic Criteria**
	Involved inadequate nuclear material control and accounting provisions to protect against theft or diversion, as evidenced by inability to locate an item containing special nuclear material (such as an irradiated rod, rod piece, pellet, or instrument)
	Remarks:
	Involved a significant safeguards infraction that demonstrates the ineffectiveness of facility security provisions
	Remarks:
	Confirmation of lost or stolen weapon
	Remarks:
	Unauthorized, actual non-accidental discharge of a weapon within the protected area
	Remarks:
	Substantial failure of the intrusion detection system (not weather related)
	Remarks:
	Failure to the licensee's package/personnel search procedures which results in contraband or an unauthorized individual being introduced into the protected area
	Remarks:
	Potential tampering of vandalism event involving significant safety or security equipment where questions remain regarding licensee performance/response or a need exists to independently assess the licensee's conclusion that tampering or vandalism was not a factor in the condition(s) identified
	Remarks:

RESPONSE DECISION

USING THE ABOVE INFORMATION AND OTHER KEY ELEMENTS OF CONSIDERATION AS APPROPRIATE, DOCUMENT THE RESPONSE DECISION TO THE EVENT OR CONDITION, AND THE BASIS FOR THAT DECISION
DECISION AND DETAILS OF THE BASIS FOR THE DECISION:

BRANCH CHIEF:	DATE:
SRA:	DATE:
DIVISION DIRECTOR:	DATE:
DIVISION DIRECTOR:	DATE:
ADAMS ACCESSION NUMBER: EVENT NOTIFICATION REPORT NUMBER (as applicable):	

Distribution: (to be inserted by division/branch secretaries)

MD 8.3 Evaluation
Decision Documentation for Reactive Inspection
(Deterministic and Risk Criteria Analyzed)

PLANT: Clinton	EVENT DATE: 05/11/2018	DETERMINISTIC CRITERIA EVALUATION DATE: 5/18/2018

Brief Description of the Significant Operational Event or Degraded Condition:

On May 9 at 1725, a clearance order for the Division 2 emergency diesel generator (EDG) was removed following a Division 2 bus outage. This clearance order directed the Division 2 EDG air reservoir outlet valves remain closed to prevent the Division 2 EDG from starting since the safety-related service water to the EDG remained out of service. Restoration of the Division 2 EDG and the reservoir isolation valves was tracked via a control room log entry. On May 11, the service water system was restored and the Division 2 EDG was declared available with operability occurring on May 12. Two days later, the Division 1 EDG was declared inoperable for planned maintenance. On May 17, an equipment operator discovered the Division 2 EDG had not been appropriately returned to an available and operable status because the air reservoir outlet valves remained in the closed position. This resulted in the licensee being in Mode 5 and Mode 4 without an operable EDG and a licensee unplanned red shutdown safety condition.

Y/N	DETERMINISTIC CRITERIA
N	a. Involved operations that exceeded, or were not included in the design bases of the facility
	Remarks:
N	b. Involved a major deficiency in design, construction, or operation having potential generic safety implications
	Remarks:
N	c. Led to a significant loss of integrity of the fuel, primary coolant pressure boundary, or primary containment boundary of a nuclear reactor
	Remarks:
Y	d. Led to the loss of a safety function or multiple failures in systems used to mitigate an actual event (b)(5)
	Remarks: (b)(5)
N	e. Involved possible adverse generic implications
	Remarks:

(b)(5)

N	f. Involved significant unexpected system interactions
	Remarks:
N	g. Involved repetitive failures or events involving safety-related equipment or deficiencies in operations
	Remarks:
Y	h. Involved questions or concerns pertaining to licensee operational performance
	Remarks: (b)(5) (b)(5)

(b)(5)

CONDITIONAL RISK ASSESSMENT	
RISK ANALYSIS BY: L. Kozak	RISK ANALYSIS DATE: May 18, 2018

Brief Description of the Basis for the Assessment (may include assumptions, calculations, references, peer review, or comparison with licensee's results):

(b)(5)

(b)(5)

The following assumptions were made:

(b)(5)

(b)(5)

The estimated conditional core damage probability (CCDP) is _E-6___ and places the risk in the range of a special inspection and no additional inspection.

RESPONSE DECISION	
USING THE ABOVE INFORMATION AND OTHER KEY ELEMENTS OF CONSIDERATION AS APPROPRIATE, DOCUMENT THE RESPONSE DECISION TO THE EVENT OR CONDITION, AND THE BASIS FOR THAT DECISION	
DECISION AND DETAILS OF THE BASIS FOR THE DECISION:	
BRANCH CHIEF: Karla Stoedter	DATE:
SRA: Laura Kozak	DATE:
DIVISION DIRECTOR: Patrick Louden	DATE:
DIVISION DIRECTOR: Kenneth O'Brien	DATE:
ADAMS ACCESSION NUMBER: EVENT NOTIFICATION REPORT NUMBER (as applicable): EN 53409	

Decision Documentation for Reactive Inspection (Deterministic-only Criteria Analyzed)		
PLANT: Clinton	EVENT DATE: 5/11/2018	EVALUATION DATE: 5/18/2018

Brief Description of the Significant Operational Event or Degraded Condition: On May 9 at 1725, a clearance order for the Division 2 emergency diesel generator (EDG) was removed following a Division 2 bus outage. This clearance order directed the Division 2 EDG air reservoir outlet valves remain closed to prevent the Division 2 EDG from starting since the safety-related service water to the EDG remained out of service. Restoration of the Division 2 EDG and the reservoir isolation valves was tracked via a control room log entry. On May 11, the service water system was restored and the Division 2 EDG was declared available with operability occurring on May 12. Two days later, the Division 1 EDG was declared inoperable for planned maintenance. On May 17, an equipment operator discovered the Division 2 EDG had not been appropriately returned to an available and operable status because the air reservoir outlet valves remained in the closed position. This resulted in the licensee being in Mode 5 and Mode 4 without an operable EDG and a licensee unplanned red shutdown safety condition.

REACTOR SAFETY	
Y/N	**IIT Deterministic Criteria**
N	Led to a Site Area Emergency
	Remarks:
N	Exceeded a safety limit of the licensee's technical specifications
	Remarks:
N	Involved circumstances sufficiently complex, unique, or not well enough understood, or involved safeguards concerns, or involved characteristics the investigation of which would best serve the needs and interests of the Commission
	Remarks:
Y/N	**SI Deterministic Criteria**
N	Significant failure to implement the emergency preparedness program during an actual event, including the failure to classify, notify, or augment onsite personnel
	Remarks:
Y	Involved significant deficiencies in operational performance which resulted in degrading, challenging, or disabling a safety system function or resulted in placing the plant in an unanalyzed condition for which available risk assessment methods do not provide an adequate or reasonable estimate of risk.

(b)(5)

	Remarks:
	(b)(5)

(b)(5)

RADIATION SAFETY	
Y/N	**IIT Deterministic Criteria**
N	Led to a significant radiological release (levels of radiation or concentrations of radioactive material in excess of 10 times any applicable limit in the license or 10 times the concentrations specified in 10 CFR Part 20, Appendix B, Table 2, when averaged over a year) of byproduct, source, or special nuclear material to unrestricted areas
	Remarks:
N	Led to a significant occupational exposure or significant exposure to a member of the public. In both cases, "significant" is defined as five times the applicable regulatory limit (except for shallow-dose equivalent to the skin or extremities from discrete radioactive particles)
	Remarks:
N	Involved the deliberate misuse of byproduct, source, or special nuclear material from its intended or authorized use, which resulted in the exposure of a significant number of individuals
	Remarks:
N	Involved byproduct, source, or special nuclear material, which may have resulted in a fatality
	Remarks:
N	Involved circumstances sufficiently complex, unique, or not well enough understood, or involved safeguards concerns, or involved characteristics the investigation of which would best serve the needs and interests of the Commission
	Remarks:
Y/N	**AIT Deterministic Criteria**

N	Led to a radiological release of byproduct, source, or special nuclear material to unrestricted areas that resulted in occupational exposure or exposure to a member of the public in excess of the applicable regulatory limit (except for shallow-dose equivalent to the skin or extremities from discrete radioactive particles)
	Remarks:
N	Involved the deliberate misuse of byproduct, source, or special nuclear material from its intended or authorized use and had the potential to cause an exposure of greater than 5 rem to an individual or 500 mrem to an embryo or fetus
	Remarks:
N	Involved the failure of radioactive material packaging that resulted in external radiation levels exceeding 10 rads/hr or contamination of the packaging exceeding 1000 times the applicable limits specified in 10 CFR 71.87
	Remarks:
N	Involved the failure of the dam for mill tailings with substantial release of tailings material and solution off site
	Remarks:

Y/N	SI Deterministic Criteria
N	May have led to an exposure in excess of the applicable regulatory limits, other than via the radiological release of byproduct, source, or special nuclear material to the unrestricted area; specifically • occupational exposure in excess of the regulatory limits in 10 CFR 20.1201 • exposure to an embryo/fetus in excess of the regulatory limits in 10 CFR 20.1208 • exposure to a member of the public in excess of the regulatory limits in 10 CFR 20.1301
	Remarks:
N	May have led to an unplanned occupational exposure in excess of 40 percent of the applicable regulatory limit (excluding shallow-dose equivalent to the skin or extremities from discrete radioactive particles)
	Remarks:
N	Led to unplanned changes in restricted area dose rates in excess of 20 rem per hour in an area where personnel were present or which is accessible to personnel
	Remarks:

N	Led to unplanned changes in restricted area airborne radioactivity levels in excess of 500 DAC in an area where personnel were present or which is accessible to personnel and where the airborne radioactivity level was not promptly recognized and/or appropriate actions were not taken in a timely manner
	Remarks:
N	Led to an uncontrolled, unplanned, or abnormal release of radioactive material to the unrestricted area • for which the extent of the offsite contamination is unknown; or, • that may have resulted in a dose to a member of the public from loss of radioactive material control in excess of 25 mrem (10 CFR 20.1301(e)); or, • that may have resulted in an exposure to a member of the public from effluents in excess of the ALARA guidelines contained in Appendix I to 10 CFR Part 50
	Remarks:
N	Led to a large (typically greater than 100,000 gallons), unplanned release of radioactive liquid inside the restricted area that has the potential for ground-water, or offsite, contamination
	Remarks:
N	Involved the failure of radioactive material packaging that resulted in external radiation levels exceeding 5 times the accessible area dose rate limits specified in 10 CFR Part 71, or 50 times the contamination limits specified in 49 CFR Part 173
	Remarks:
N	Involved an emergency or non-emergency event or situation, related to the health and safety of the public or on-site personnel or protection of the environment, for which a 10 CFR 50.72 report has been submitted that is expected to cause significant, heightened public or government concern
	Remarks:

SAFEGUARDS/SECURITY	
Y/N	**IIT Deterministic Criteria**
N	Involved circumstances sufficiently complex, unique, or not well enough understood, or involved safeguards concerns, or involved characteristics the investigation of which would best serve the needs and interests of the Commission
	Remarks:
N	Failure of licensee significant safety equipment or adverse impact on licensee operations as a result of a safeguards initiated event (e.g., tampering).
	Remarks:

N	Actual intrusion into the protected area.
	Remarks:
Y/N	**AIT Deterministic Criteria**
N	Involved a significant infraction or repeated instances of safeguards infractions that demonstrate the ineffectiveness of facility security provisions
	Remarks:
N	Involved repeated instances of inadequate nuclear material control and accounting provisions to protect against theft or diversions of nuclear material
	Remarks:
N	Confirmed tampering event involving significant safety or security equipment
	Remarks:
N	Substantial failure in the licensee's intrusion detection or package/personnel search procedures which results in a significant vulnerability or compromise of plant safety or security
	Remarks:
Y/N	**SI Deterministic Criteria**
N	Involved inadequate nuclear material control and accounting provisions to protect against theft or diversion, as evidenced by inability to locate an item containing special nuclear material (such as an irradiated rod, rod piece, pellet, or instrument)
	Remarks:
N	Involved a significant safeguards infraction that demonstrates the ineffectiveness of facility security provisions
	Remarks:
N	Confirmation of lost or stolen weapon
	Remarks:
N	Unauthorized, actual non-accidental discharge of a weapon within the protected area
	Remarks:
N	Substantial failure of the intrusion detection system (not weather related)
	Remarks:

N	Failure to the licensee's package/personnel search procedures which results in contraband or an unauthorized individual being introduced into the protected area
	Remarks:
N	Potential tampering of vandalism event involving significant safety or security equipment where questions remain regarding licensee performance/response or a need exists to independently assess the licensee's conclusion that tampering or vandalism was not a factor in the condition(s) identified
	Remarks:

RESPONSE DECISION	
USING THE ABOVE INFORMATION AND OTHER KEY ELEMENTS OF CONSIDERATION AS APPROPRIATE, DOCUMENT THE RESPONSE DECISION TO THE EVENT OR CONDITION, AND THE BASIS FOR THAT DECISION	
DECISION AND DETAILS OF THE BASIS FOR THE DECISION:	
BRANCH CHIEF: Karla Stoedter	DATE:
SRA: Laura Kozak	DATE:
DIVISION DIRECTOR: Patrick Louden	DATE:
DIVISION DIRECTOR: Kenneth O'Brien	DATE:
ADAMS ACCESSION NUMBER: EVENT NOTIFICATION REPORT NUMBER (as applicable):	

Distribution: (to be inserted by division/branch secretaries)

MD 8.3 Evaluation
Decision Documentation for Reactive Inspection
(Deterministic and Risk Criteria Analyzed)

PLANT: Clinton	EVENT DATE: 05/11/2018	DETERMINISTIC CRITERIA EVALUATION DATE: 5/18/2018

Brief Description of the Significant Operational Event or Degraded Condition:

On May 9 at 1725, a clearance order for the Division 2 emergency diesel generator (EDG) was removed following a Division 2 bus outage. This clearance order directed the Division 2 EDG air reservoir outlet valves remain closed to prevent the Division 2 EDG from starting since the safety-related service water to the EDG remained out of service. Restoration of the Division 2 EDG and the reservoir isolation valves was tracked via a control room log entry. On May 11, the service water system was restored and the Division 2 EDG was declared available with operability occurring on May 12. Two days later, the Division 1 EDG was declared inoperable for planned maintenance. On May 17, an equipment operator discovered the Division 2 EDG had not been appropriately returned to an available and operable status because the air reservoir outlet valves remained in the closed position. This resulted in the licensee being in Mode 5 and Mode 4 without an operable EDG and a licensee unplanned red shutdown safety condition.

Y/N	DETERMINISTIC CRITERIA
N	a. Involved operations that exceeded, or were not included in the design bases of the facility
	Remarks:
N	b. Involved a major deficiency in design, construction, or operation having potential generic safety implications
	Remarks:
N	c. Led to a significant loss of integrity of the fuel, primary coolant pressure boundary, or primary containment boundary of a nuclear reactor
	Remarks:
Y	d. Led to the loss of a safety function or multiple failures in systems used to mitigate an actual event
	Remarks: (b)(5)

(b)(5)

(b)(5)

N	e. Involved possible adverse generic implications
	Remarks:
N	f. Involved significant unexpected system interactions
	Remarks:
N	g. Involved repetitive failures or events involving safety-related equipment or deficiencies in operations
	Remarks:
Y	h. Involved questions or concerns pertaining to licensee operational performance
	Remarks: (b)(5)

(b)(5)

(b)(5)

(b)(5)

CONDITIONAL RISK ASSESSMENT	
RISK ANALYSIS BY: L. Kozak	RISK ANALYSIS DATE: May 18, 2018

Brief Description of the Basis for the Assessment (may include assumptions, calculations, references, peer review, or comparison with licensee's results):
(b)(5)
The following assumptions were made:
(b)(5)

(b)(5)

(b)(5)

(b)(5)

(b)(5)

The estimated conditional core damage probability (CCDP) is _E-6___ and places the risk in the range of a special inspection and no additional inspection.

RESPONSE DECISION

USING THE ABOVE INFORMATION AND OTHER KEY ELEMENTS OF CONSIDERATION AS APPROPRIATE, DOCUMENT THE RESPONSE DECISION TO THE EVENT OR CONDITION, AND THE BASIS FOR THAT DECISION

DECISION AND DETAILS OF THE BASIS FOR THE DECISION:

BRANCH CHIEF: Karla Stoedter	DATE:
SRA: Laura Kozak	DATE:
DIVISION DIRECTOR: Patrick Louden	DATE:

DIVISION DIRECTOR: Kenneth O'Brien	DATE:
ADAMS ACCESSION NUMBER: EVENT NOTIFICATION REPORT NUMBER (as applicable): EN 53409	

Decision Documentation for Reactive Inspection (Deterministic-only Criteria Analyzed)		
PLANT: Clinton	EVENT DATE: 5/11/2018	EVALUATION DATE: 5/18/2018
Brief Description of the Significant Operational Event or Degraded Condition: On May 9 at 1725, a clearance order for the Division 2 emergency diesel generator (EDG) was removed following a Division 2 bus outage. This clearance order directed the Division 2 EDG air reservoir outlet valves remain closed to prevent the Division 2 EDG from starting since the safety-related service water to the EDG remained out of service. Restoration of the Division 2 EDG and the reservoir isolation valves was tracked via a control room log entry. On May 11, the service water system was restored and the Division 2 EDG was declared available with operability occurring on May 12. Two days later, the Division 1 EDG was declared inoperable for planned maintenance. On May 17, an equipment operator discovered the Division 2 EDG had not been appropriately returned to an available and operable status because the air reservoir outlet valves remained in the closed position. This resulted in the licensee being in Mode 5 and Mode 4 without an operable EDG and a licensee unplanned red shutdown safety condition.		

REACTOR SAFETY	
Y/N	**IIT Deterministic Criteria**
N	Led to a Site Area Emergency
	Remarks:
N	Exceeded a safety limit of the licensee's technical specifications
	Remarks:
N	Involved circumstances sufficiently complex, unique, or not well enough understood, or involved safeguards concerns, or involved characteristics the investigation of which would best serve the needs and interests of the Commission
	Remarks:
Y/N	**SI Deterministic Criteria**
N	Significant failure to implement the emergency preparedness program during an actual event, including the failure to classify, notify, or augment onsite personnel

	Remarks:
Y	Involved significant deficiencies in operational performance which resulted in degrading, challenging, or disabling a safety system function or resulted in placing the plant in an unanalyzed condition for which available risk assessment methods do not provide an adequate or reasonable estimate of risk.
	Remarks: (b)(5)
	(b)(5)

(b)(5) (b)(5)

RADIATION SAFETY	
Y/N	**IIT Deterministic Criteria**
N	Led to a significant radiological release (levels of radiation or concentrations of radioactive material in excess of 10 times any applicable limit in the license or 10 times the concentrations specified in 10 CFR Part 20, Appendix B, Table 2, when averaged over a year) of byproduct, source, or special nuclear material to unrestricted areas
	Remarks:
N	Led to a significant occupational exposure or significant exposure to a member of the public. In both cases, "significant" is defined as five times the applicable regulatory limit (except for shallow-dose equivalent to the skin or extremities from discrete radioactive particles)
	Remarks:
N	Involved the deliberate misuse of byproduct, source, or special nuclear material from its intended or authorized use, which resulted in the exposure of a significant number of individuals
	Remarks:
N	Involved byproduct, source, or special nuclear material, which may have resulted in a fatality
	Remarks:

N	Involved circumstances sufficiently complex, unique, or not well enough understood, or involved safeguards concerns, or involved characteristics the investigation of which would best serve the needs and interests of the Commission
	Remarks:
Y/N	**AIT Deterministic Criteria**
N	Led to a radiological release of byproduct, source, or special nuclear material to unrestricted areas that resulted in occupational exposure or exposure to a member of the public in excess of the applicable regulatory limit (except for shallow-dose equivalent to the skin or extremities from discrete radioactive particles)
	Remarks:
N	Involved the deliberate misuse of byproduct, source, or special nuclear material from its intended or authorized use and had the potential to cause an exposure of greater than 5 rem to an individual or 500 mrem to an embryo or fetus
	Remarks:
N	Involved the failure of radioactive material packaging that resulted in external radiation levels exceeding 10 rads/hr or contamination of the packaging exceeding 1000 times the applicable limits specified in 10 CFR 71.87
	Remarks:
N	Involved the failure of the dam for mill tailings with substantial release of tailings material and solution off site
	Remarks:

Y/N	**SI Deterministic Criteria**
N	May have led to an exposure in excess of the applicable regulatory limits, other than via the radiological release of byproduct, source, or special nuclear material to the unrestricted area; specifically • occupational exposure in excess of the regulatory limits in 10 CFR 20.1201 • exposure to an embryo/fetus in excess of the regulatory limits in 10 CFR 20.1208 • exposure to a member of the public in excess of the regulatory limits in 10 CFR 20.1301
	Remarks:
N	May have led to an unplanned occupational exposure in excess of 40 percent of the applicable regulatory limit (excluding shallow-dose equivalent to the skin or extremities from discrete radioactive particles)

	Remarks:
N	Led to unplanned changes in restricted area dose rates in excess of 20 rem per hour in an area where personnel were present or which is accessible to personnel
	Remarks:
N	Led to unplanned changes in restricted area airborne radioactivity levels in excess of 500 DAC in an area where personnel were present or which is accessible to personnel and where the airborne radioactivity level was not promptly recognized and/or appropriate actions were not taken in a timely manner
	Remarks:
N	Led to an uncontrolled, unplanned, or abnormal release of radioactive material to the unrestricted area • for which the extent of the offsite contamination is unknown; or, • that may have resulted in a dose to a member of the public from loss of radioactive material control in excess of 25 mrem (10 CFR 20.1301(e)); or, • that may have resulted in an exposure to a member of the public from effluents in excess of the ALARA guidelines contained in Appendix I to 10 CFR Part 50
	Remarks:
N	Led to a large (typically greater than 100,000 gallons), unplanned release of radioactive liquid inside the restricted area that has the potential for ground-water, or offsite, contamination
	Remarks:
N	Involved the failure of radioactive material packaging that resulted in external radiation levels exceeding 5 times the accessible area dose rate limits specified in 10 CFR Part 71, or 50 times the contamination limits specified in 49 CFR Part 173
	Remarks:
N	Involved an emergency or non-emergency event or situation, related to the health and safety of the public or on-site personnel or protection of the environment, for which a 10 CFR 50.72 report has been submitted that is expected to cause significant, heightened public or government concern
	Remarks:

SAFEGUARDS/SECURITY	
Y/N	**IIT Deterministic Criteria**
N	Involved circumstances sufficiently complex, unique, or not well enough understood, or involved safeguards concerns, or involved characteristics the investigation of which would best serve the needs and interests of the Commission

	Remarks:
N	Failure of licensee significant safety equipment or adverse impact on licensee operations as a result of a safeguards initiated event (e.g., tampering).
	Remarks:
N	Actual intrusion into the protected area.
	Remarks:
Y/N	**AIT Deterministic Criteria**
N	Involved a significant infraction or repeated instances of safeguards infractions that demonstrate the ineffectiveness of facility security provisions
	Remarks:
N	Involved repeated instances of inadequate nuclear material control and accounting provisions to protect against theft or diversions of nuclear material
	Remarks:
N	Confirmed tampering event involving significant safety or security equipment
	Remarks:
N	Substantial failure in the licensee's intrusion detection or package/personnel search procedures which results in a significant vulnerability or compromise of plant safety or security
	Remarks:
Y/N	**SI Deterministic Criteria**
N	Involved inadequate nuclear material control and accounting provisions to protect against theft or diversion, as evidenced by inability to locate an item containing special nuclear material (such as an irradiated rod, rod piece, pellet, or instrument)
	Remarks:
N	Involved a significant safeguards infraction that demonstrates the ineffectiveness of facility security provisions
	Remarks:
N	Confirmation of lost or stolen weapon
	Remarks:
N	Unauthorized, actual non-accidental discharge of a weapon within the protected area

	Remarks:
N	Substantial failure of the intrusion detection system (not weather related)
	Remarks:
N	Failure to the licensee's package/personnel search procedures which results in contraband or an unauthorized individual being introduced into the protected area
	Remarks:
N	Potential tampering of vandalism event involving significant safety or security equipment where questions remain regarding licensee performance/response or a need exists to independently assess the licensee's conclusion that tampering or vandalism was not a factor in the condition(s) identified
	Remarks:

RESPONSE DECISION	
USING THE ABOVE INFORMATION AND OTHER KEY ELEMENTS OF CONSIDERATION AS APPROPRIATE, DOCUMENT THE RESPONSE DECISION TO THE EVENT OR CONDITION, AND THE BASIS FOR THAT DECISION	
DECISION AND DETAILS OF THE BASIS FOR THE DECISION:	
BRANCH CHIEF: Karla Stoedter	DATE:
SRA: Laura Kozak	DATE:
DIVISION DIRECTOR: Patrick Louden	DATE:
DIVISION DIRECTOR: Kenneth O'Brien	DATE:
ADAMS ACCESSION NUMBER: EVENT NOTIFICATION REPORT NUMBER (as applicable):	

Distribution: (to be inserted by division/branch secretaries)

DIRS Areas of Disagreement/Discussion for Clinton Follow-up SERP (EA-18-104)

(b)(5)

(b)(5)

(b)(5)

~~INTERNAL USE ONLY~~ Contact: K. Stoedter, RIII

CLINTON– SDP DETAILED RISK ASSESSMENT
UNAVAILABILITY OF DIVISION 2 EMERGENCY DIESEL GENERATOR

PERFORMANCE DEFICIENCY – LOW TO MODERATE SAFETY SIGNIFICANCE (WHITE)

The licensee failed to perform activities affecting quality in accordance with prescribed procedures and work instructions as required by 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," that resulted in the unavailability of the Division 2 EDG when it was relied upon for plant safety. Specifically, the inspectors identified six separate procedures or work instructions the licensee failed to follow which led to the concurrent inoperability of both emergency diesel generators.

EXPOSURE PERIOD

The Division 2 EDG was unavailable for over 6 days. Both divisions were unavailable for 3.5 days, while the unit was in mode 4. The inspectors identified six separate procedures or work instructions the licensee failed to follow which led to the concurrent inoperability of both emergency diesel generators.

DOMINANT CORE DAMAGE SEQUENCES

(b)(5)

INFLUENTIAL ASSUMPTIONS

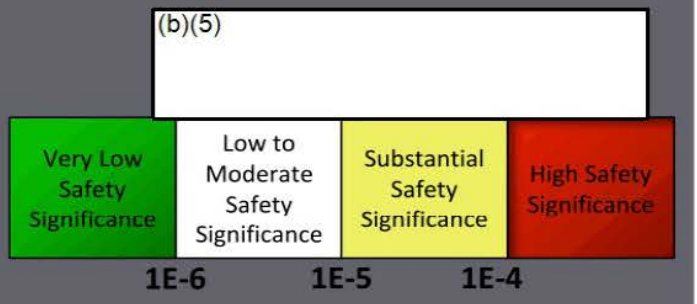
(b)(5)

LICENSEE'S PERSPECTIVE OF THE ISSUE

The licensee concluded the finding was Green with a quantitative risk estimate of E-8. The main differences between the NRC and the licensee results are differences in human error probability estimates. The licensee's perspective is that time, resources and urgency of the diesel recovery provide high assurance of diesel generator recovery.

UNCERTAINTY AND SENSITIVITY ANALYSES

(b)(5)



Key Messages

The result of the evaluation is the preliminary significance determination. The NRC's evaluation is based on reasonable and realistic assumptions and has considered the licensee's perspectives to date. If new information is provided, it will be evaluated for impact on the significance before a final significance determination is made.

(b)(5)

Punch List

Item	Description	Responsible Person	Resolution	Status
1	Change first top event on ET to <DUMMY-FT>	Mitman		Complete
2	There are currently 3 FLEX injection methods. Do I need to add more?	Mitman		
3	Fix SD-CVS ET top event	Mitman		
4	Add manual (is not dependent on electrical power) method to vent containment	Mitman		
5	Should I credit opening primary containment airlock as a method to vent PC?	Mitman		
6	Add method to power SRVs using B5b diesel using CPS 4303.01P004. Modify FT: DEP-SS.	Mitman		
7	Should I credit B5b fire pump as injection method?	Mitman		
8	Should I modify ET to credit low pressure injection without depressurization (prior to boiling)? This is only feasible if procedures direct operator to establish letdown path, which currently we have no evidence of! This would require second set of HEPs with shorter time available.	Mitman		
9	Should offsite power non-recovery probability be based on battery life or 24 hours?	Mitman		
10	Revisit Div. 2 EDG non-recovery probability	Mitman		
11	Revisit offsite power non-recovery probability	Mitman	(b)(5)	
12	Consider solving all ET top event FTs using success criteria	Mitman		Complete for now
13	Find issue with RCIC support system FT	Kozak		
14	Ask Bob Buell to check for model FT renaming errors	Mitman		complete
15	**Sensitivity Cases:** a Set HEPs to Exelon values b Decrease HEPs by factor of 0.1 c Increased Div. 2 EDG recovery probability d No FLEX credit and non-recovery probabilities based on 24 hours e Case using single dependent HEP for injection methods instead of indep. HEPs f	Mitman		
16	HEP ADS-XHE-XM-MDEPR has a value of 5E-4 from at-power model. Check to see if this is appropriate for SD	Mitman		
17	Compare FLEX DG FS/FR/TM values to Exelon values	Mitman		
18	Compare FLEX diesel driven pump FS/FR/TM values to Exelon values	Mitman		
19	Add HEPs for FLEX disel driven pump transportation and T&M	Mitman		
20	FT: SD-SDC Make sure there is no transfer to Alter SDC which is an artifact of the Grand Gulf model	Mitman		
21	Re-look at HEP times available: My recollection is that TTUC is about 24 hours at low ressure and about 10 hours at high pressure (this time delta makes sense because of the lower heat capacity at ~1000 psig). The implication is that low pressure sequences will have about 24 to core uncovery while high pressure sequences will have half the time.	Mitman	(b)(5)	
22	Division 3 cross-tie dependence on DC power			complete for now
23	Consider late recovery of EDG			
24	Consider extra time for FLEX - SPC since it is dependent on successful FLEX injection			
25	Containment venting - consider extra time and late injection probability		Need info from licensee	
26	Consider B5b for SRVs/depressurization function			
27	Add FLEX breakers			complete
28	Consider time for FLEX electrical - licensee used 0.1, we used 0.25			
29	Consider FLEX FTR 0.2, even one injection substantially extends TTC			
30	HPCS availability - 3 perios, 1.6 days recoverable in 4 hours, 4 hours available, the rest non-recoverable			
31	Check SF pump availability		need info from licensee	
32	Given time available in shutdown, consider repair of FLEX generator if it doesn't work			

Notes

Items

1	Division 1 electrical system powers outboard containment isolation valves. Div. 2 powers inboard valves.
	Div. 3 to Div. 2 crosstie: The required lockout resets cannot be performed with AC and DC power (per discussion between SRI and licensee). AC power will be available on Div. 3 if the EDG is running. DC power on Div. 3 should be available. However, DC power will be available on Div. 2 after the Div. 2 battery depletes - this assumes that FLEX
2	electrical has failed.
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ET Top Name	Top Logic	FT* Quantification	Comments
SD-SDC	delete term	1.00	(b)(5)
SD-DEP	system logic	0.31	
SD-LPI	system logic	1.00	
SD-ALT-INJ	delete term	0.39	
SD-HPI	delete term	0.73	
SD-SPC-EXT	delete term	0.64	(b)(5)
SD-ALT-HEAT	delete term	0.01	
SD-CVS	delete term	1.00	
ELEC_XTIE	delete term	0.53	

* all FTs quantified after setting Flag Set = ETF-MF-LOOP

Options on setting the ET Top logic "Process Flag"

Delete Term	(b)(5)
System Logic (I)	
Deveoped Event (W)	

Clinton Identification Credit Talking Points July 2017

Background: The Clinton SIT team recently reviewed an issue where the Division 1 and Division 2 EDGs were discovered to be inoperable and unavailable concurrently during the May 2018 refueling outage. The EDG inoperability was found by an individual on operator rounds approximately 6.5 days after the condition occurred.

(b)(5)

IMC 0612, Step 03.05 defines licensee-identified findings/violations as items that are identified as a result of deliberate observation by licensee personnel and are entered into the CAP. Examples of deliberate observations that result in licensee-identified issues include operator rounds.

IMC 0612, Step 03.17 defines self-revealed findings/violations as those identified as a result of a condition that become apparent through a readily detectable degradation in material condition, capability, or functionality of equipment or plant operations; and (2) does not meet the definition of licensee-identified or NRC-identified. Examples include those revealed through: obvious equipment and piping failures; identification of large quantities of fluids in areas where one would not normally expect such a condition, etc.

Purpose:

(b)(5)

Basis Related Information:

- (b)(5)
- Block 5 of IMC 0612, Appendix B, states that a measure of subjectivity is anticipated and accepted when making decisions regarding identification credit. **To make these determinations, inspectors and regional staff should consider not only the definitions of these terms, but also past experience, related precedents, and the over-arching regulatory message that the determination could send.**
- (b)(5)

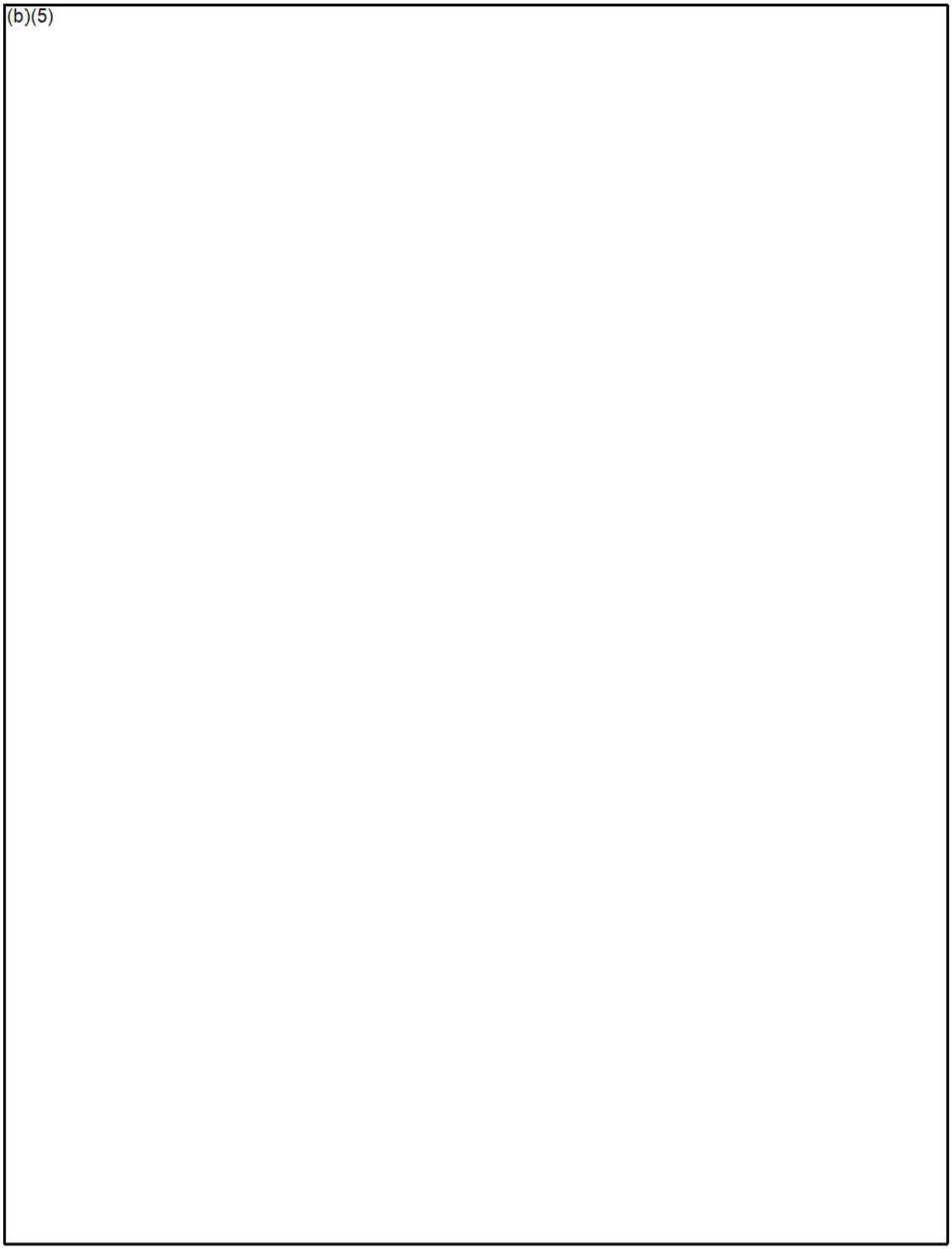
- (b)(5)

Final Significance Determination

(b)(5)

(b)(5)

(b)(5)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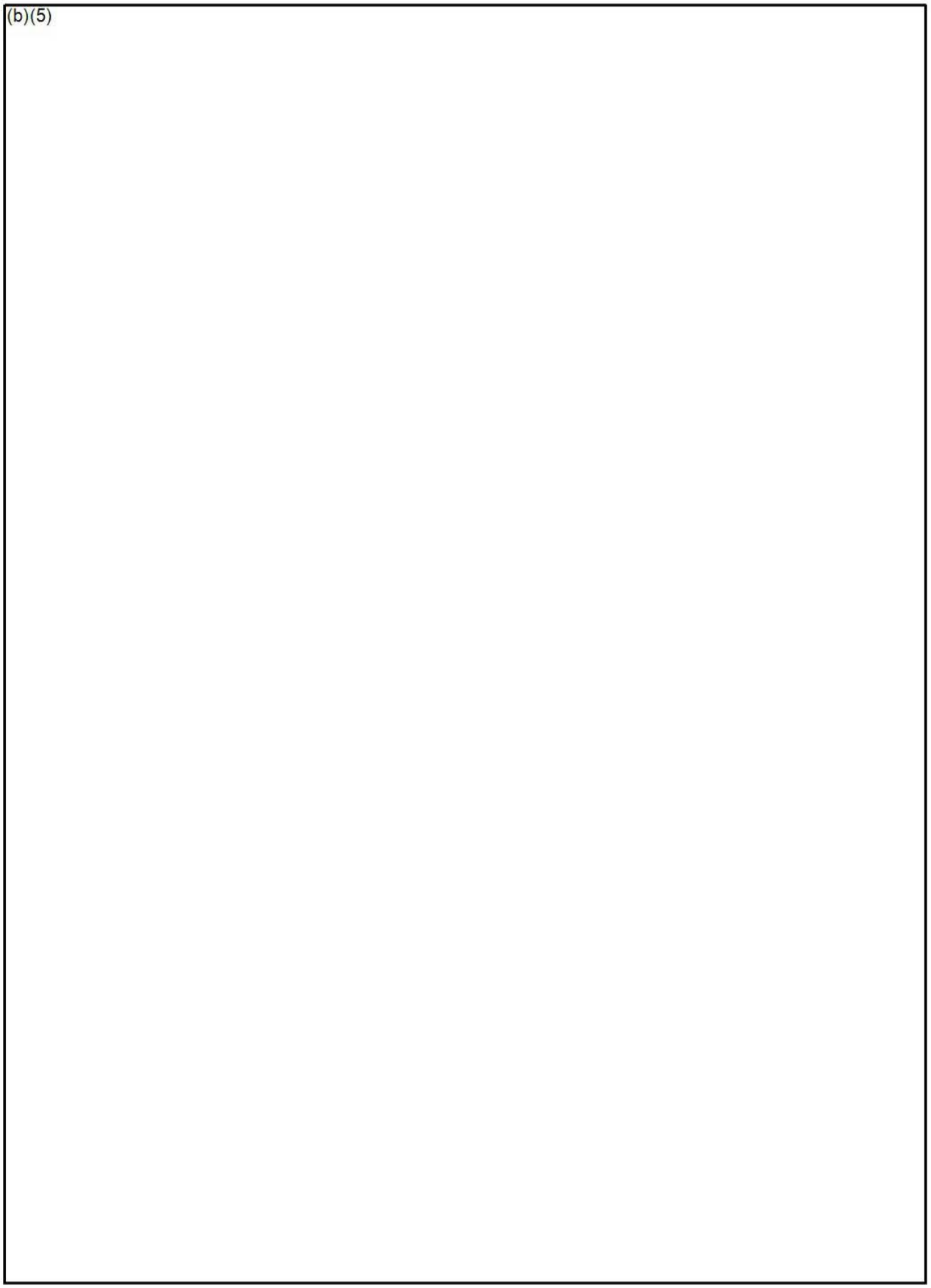
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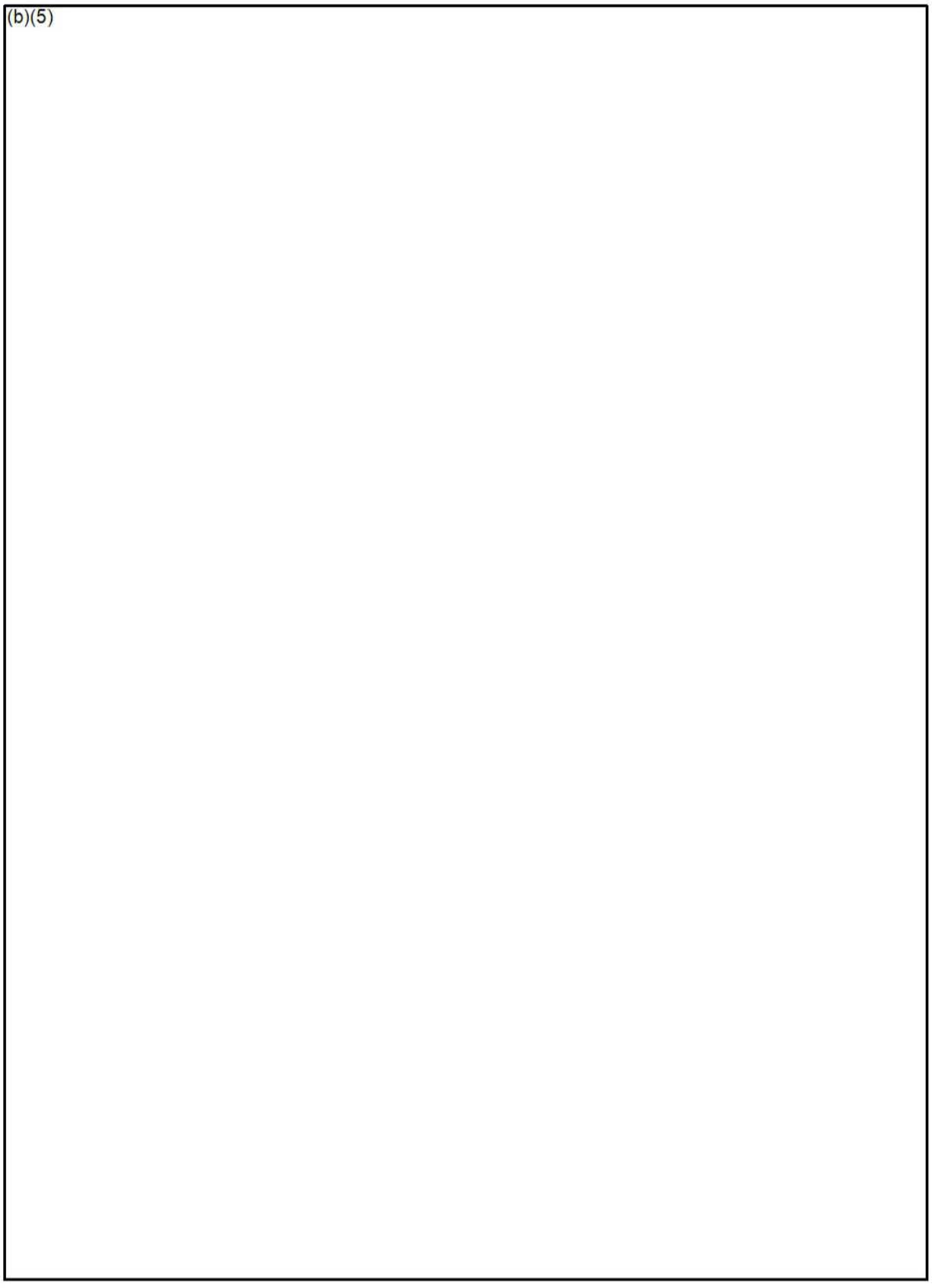
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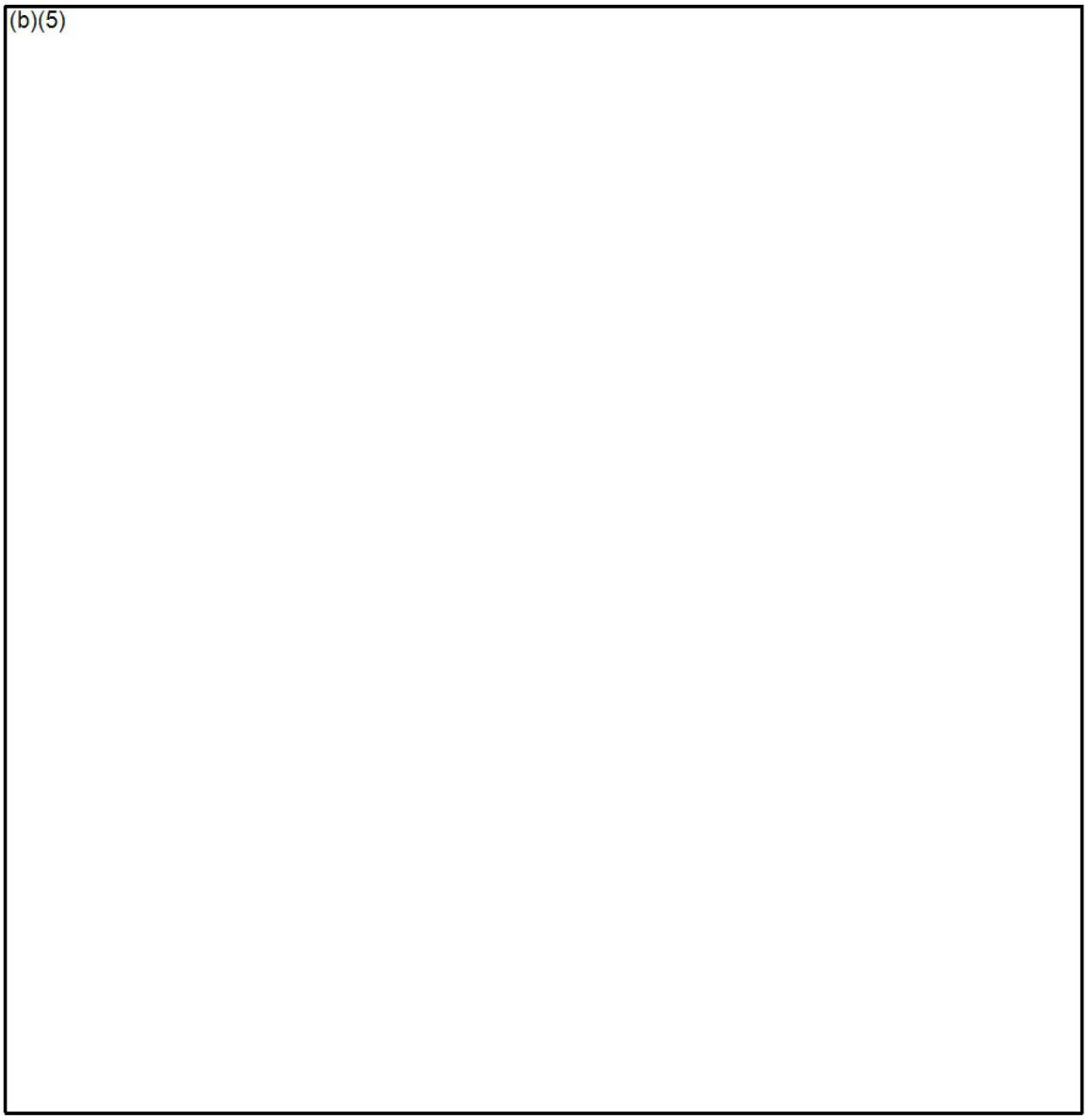

(b)(5)

DRA Areas of Disagreement/Discussion for Clinton Follow-up SERP (EA-18-104)

(b)(5)

Questions from email:

1. I'm assuming the Division 1 EDG was available until they took it out of service for the Division 1 outage window. **This is correct.**

2. Were they crediting the Division 2 EDG as available on May 11 for shutdown safety purposes? We will need copies of their shutdown safety profile from May 11 until yesterday when they restored the Division 2 EDG. This may be important since any risk assessment will also consider Division 1 EDG failures and the need to rely on Division 2. **They did declare Division 2 EDG available for shutdown safety.**

3. Has there been any change the time to boil since May 11? Please provide a copy of the time to boil procedure. **There was a significant change when they transitioned to Mode 4 on Saturday May 12th. (9.9 hours down to 5 hours) After this the time to boil has been slowly trending down (5 hours to 4.7 hours).**

4. Were they moving fuel on May 11 or any time after this date? **No, fuel moves were completed on May 8th.**

5. Were there any control room alarms or local EDG panel alarms that would have provided an indication the air receiver outlet valves were closed? This could also include an EDG trouble alarm. **There are no alarms associated with these valves being in the closed position.**

6. If the EDG had been demanded and failed to start, would procedures specifically direct operators to check the air system and allow for recovery of the EDG?

(b)(5)

CPS 4200.01; Loss of AC Power; Revision 25a, Step 4.2.4.11 states, "Verify DG auto start actions per CPS 3506.01 (DG) including SX pump start and lineup configuration."

CPS 3506.01; Division 2 Diesel Generator Operations; Revision 38, Step 8.1.1 Placing DG 1A(1B)[1C] in STANDBY states, "For Div 1 (2) [3] DG, perform per 3506.01P001 (2) [3] Division 1 (2) [3] Diesel Generator Operations." This procedure 3506.01P002; Division 2 Diesel Generator Operations; Revision 3a, does say to check the air receiver outlet valves in Step 2.2.6, but there is nothing that specifically directs an operator to this step from another procedure.

CPS 3506.01; Division 2 Diesel Generator Operations; Step 3.1 Manual Start of DG 1B states, "Perform DG 1B Pre-start Checks per CPS 3506.01C002. There are no actions in CPS 3506.01C002 pre-start checks that verifies the DG starting air lineup down to the level of the air receiver outlet valves.

So they will probably state Step 4.2.4.11 would lead them to verify the air start configuration, though it doesn't exactly say that.

7. Was HPCS and its DG available? (this information will probably be on the shutdown safety assessment) **The Division 3 Diesel Generator was available but the High Pressure Core Spray pump was not available until May 17 @ 2:47pm.**

8. Were they using/staging/crediting portable or FLEX diesels as any kind of compensatory measure for having an EDG out of service? **They did not stage the FLEX equipment but have stated in their logs that they would be able to use it if necessary.**

Timeline:

May 9 @ 5:25pm	The control room logged the clearance order on the Division 1 Diesel Generator had been removed but the DG remained in maintenance lockout pending restoration of the Division 2 Shutdown Service Water SOW. It also stated, restoration per 3506.01P002 would need to be performed to restore Division 2 DG to standby. (The residents searched the logs and did not find an entry stating this action had been performed.)
May 11 @3:30am	The overall shutdown risk included in the logs stated both Division 1 and 2 Diesel Generators were available.
May 11 @ 6:50am	The Division 2 Diesel Generator was logged as being available and in standby.
May 12 @ 1:30am	Plant Entered Mode 4
May 14 @ 12:45am	The licensee entered the Division 1 outage window.
May 17 @ 3:00pm	The licensee identified the Division 2 air receiver outlet valves were closed, and therefore the Division 2 Diesel Generator was inoperable and unavailable. **(Both Division 1/2 DGs OOS)**
May 17 @ 3:45pm	The licensee restored the Division 2 Diesel Generator to available.

Other Information:

- The change in shutdown risk associated with this condition was:
    - Electric: From Yellow to Red due to no onsite power sources available
    - Spent Fuel Pool Cooling: From Green to Orange due to one Fuel Pool Cooling method available and NOT capable of being supplied by an on-site power source.

    - Decay Heat Removal: From Yellow to Orange due to one SDC loop with no on-site power source.
- At the time this condition was discovered RHR ‘B’ was the in-service train for shutdown cooling and RHR ‘C’, in conjunction with the SRVs, was the alternate method of shutdown cooling. The Division 2 DG being inoperable meant neither method had an available on-site power source.
- The licensee initiated a prompt investigation for this issues, they also issued a Mode 2 restraint until plant walk downs, verifying other safety systems had been appropriately restored, is completed. The licensee is projecting completion by 1900 today.

INSPECTION RESULTS

Failure to Identify a Condition Adverse to Quality that Rendered the Division 2 DG Inoperable			
Cornerstone	Significance	Cross-cutting Aspect	Report Section
Mitigating Systems	(b)(5) Closed	(b)(5)	IP#
Introduction: (b)(5)			

Description:

On May 11, 2018, at 0230, the licensee declared the Division 2 diesel generator (DG) available following the removal of a clearance order supporting maintenance; at 0800 on the same day, the licensee declared the Division 2 DG operable. The Division 2 DG was later put into a protected status for maintenance on the Division 1 DG, when the Division 2 DG would be the only source of emergency power available to the station. On May 17, at 1503, an equipment operator on rounds found the two starting air receiver isolation valves, 1DG160 and 1DG161, in the closed position, which prevented starting air from reaching the Division 2 DG, and the licensee declared the Division 2 DG inoperable and unavailable.

Investigation into this issue identified that following the removal of the clearance order on the Division 2 DG, the licensee failed to perform a valve lineup that placed the DG in an available and operable condition; the valve lineup would have opened valves 1DG160 and 1DG161, the starting air receiver tanks isolation valves. After the licensee declared the Division 2 DG available on May 11, the licensee performed area rounds checks of the Division 2 DG room at least once per shift. From May 11 through May 17, five different equipment operators performed 'C' Area Rounds checks, which included the D2 DG room. On May 17, at approximately 1735, a sixth equipment operator identified isolation valves 1DG160 and 1DG161 were in the closed position and reported them to the control room.

The inspectors conducted interviews with licensee personnel, reviewed the licensee's procedure for operator rounds, toured the D2 DG room, and concluded that it was reasonably within the licensee's ability to identify the condition of the D2 DG prior to return to service and during several opportunities following return to service, during normal equipment operator rounds. During a tour of the diesel room, the inspectors noted the relative large size of the air receiver isolation valves (2 inch ball valves with a handle approximately 6 inches long) that were located in plain sight – at knee level while standing on the platform adjacent to the air receivers. The inspectors also noted that there were two indications for air manifold pressures on each of the two local DG panels in D2 DG room.
4138790
The inspectors also noted that procedure OP-AA-102-102, "General Area Checks and Operator Field Rounds," Revision 15, states, in part:

3.2 Equipment Operators (EOs) are responsible for:

3.2.5. Validating parameters through multiple, independent means, avoiding undue focus on any single indicator.

4.4.4. **PERFORM** the General Area Checks while conducting rounds. Area checks may include, but are **not** limited to the following:

…

– Gauges, meters, **and** indications within normal bands

…

4.4.7. **PERFORM** Equipment Checks to monitor equipment condition. Equipment checks may include, but are **not** limited to the following:

…

– Suction, discharge, **and** recirculation flowpaths available

– Suction **and** discharge pressure normal

…

4.4.8. **PERFORM** the Operator Field Rounds.

1. **VALIDATE** parameters through multiple, independent means, avoiding undue focus on any single indicator…

(b)(5)

Corrective Actions: The licensee placed valves 1DG160 and 1DG161 into their correct position and performed a valve lineup of the Division 2 DG system. Subsequent corrective actions included adding the DG air start manifold pressure indications to the 'C' Area Rounds points log.

Corrective Action Reference: IR 4138790

Performance Assessment:

(b)(5)

Performance Deficiency:

(b)(5)

(b)(5)

Screening:

(b)(5)

(b)(5) Significance:

(b)(5)

(b)(5) Cross-cutting Aspect:

(b)(5)

(b)(5)

Enforcement:

(b)(5)

(b)(5) Contrary to the above,

(b)(5)

(b)(5) Disposition:

(b)(5)

Exit Meeting Notes

Messages

1. Things are done differently here than at other Midwest Exelon sites.
    - Leaving valves/switches in the as-found condition when clearing an OOS
    - Someone other than the US making operability calls

2. Not following or not following the intent of procedures seems to be systemic.
    - Tracking via log entry
    - Bolting procedure
    - Status files – we don't follow the procedure because we don't follow the procedure
    - CPS 1052.01 says to follow a procedure that was retired 11 years ago.
    - Independent verification

3. Supervisors don't seem to be verifying the information they get from others. Questioning attitude.
    - SRO 3 made availability determination based on word of mouth from SRO 2 that work was completed.
    - SRO 2 made an operability decision based on a log entry from SRO 3 that the EDG was available.
    - HPCS

Charter Items

1. Develop a complete sequence of events related to the inoperability and unavailability of the Division 1 and Division 2 AC power systems from May 9 through May 17, 2018. The chronology should include plant mode changes, changes in the electrical power, decay heat removal and inventory control shutdown safety/risk areas.

2. Understand the increased shutdown risk condition which existed when no emergency AC power sources were available for a period of approximately 3.5 days. Review the planned shutdown safety configuration compared to the actual configuration that existed. Understand the licensee's ability to respond to and mitigate a loss of offsite power event given the unavailability of both onsite emergency AC power sources. Phillips

-Div 2 EDG unavailable for 6+ days
-For 3.5 days, both EDGs unavailable
-Div 3 available but HPCS pump not available but potentially recoverable
-Did not identify any other plant conditions that deviated from the Shutdown Risk Plan

Ability to respond to and mitigate a LOOP event:

- Reviewed Loss of AC, Loss of SDC, and some FLEX procedures
    - Plant in SBO after LOOP
    - Div 2 EDG was recoverable. Operators would respond to the failure to start and could be successful in restoring the EDG and RHR-SDC to source on Div 2.
    - Several ways to respond to the event:
        - Declaration of ELAP

- Cross Div 3 to Div 2
- Low pressure injection w/fire pumps and use of SRVs

3. Review the licensee's cause analysis efforts and determine if the evaluation's level of detail is commensurate with the significance of the problem. Phillips

(b)(5) [redacted]

I interviewed Caroline, some of the RC team members, reviewed your RC instructions.

4. Determine the probable cause(s) for the unavailability of the Division 1 and Division 2 EDGs during the 2018 refueling outage. All

Performance Assessment:

(b)(5) Performance Deficiency: [redacted]

[redacted] (b)(5)

(b)(5) Screening: [redacted]

[redacted] (b)(5)

(b)(5) Significance: [redacted]

[redacted] (b)(5)

(b)(5) Cross-cutting Aspect: [redacted]

[redacted] (b)(5)

Enforcement:

(b)(5) Violation:

(b)(5)

Disposition: This violation is to be determined.

5. Understand whether there were any deficiencies in operator training (both licensed and non-licensed operators) which contributed to the EDG unavailability and the failure to identify the condition across multiple operating shifts. Murray

The inspectors reviewed training materials and had discussions with training management about the training program related to the event for the previous two years. Training related to configuration control, including clearance and tagging processes used at CPS, was given in formal classroom training sessions during initial training for equipment operators (EOs), reactor operators (ROs), and senior reactor operators (SROs). Additional training on the implementation of configuration control procedures is given during qualifications and continuing training as "on-the-job" training. Passport is the software program used at CPS for implementing the clearance and tagging program. Similar to configuration control, the licensee gives initial training to operators on the use of Passport, and additional training related to Passport is considered on-the-job training. The inspectors did not identify any formal continuing training related to configuration control and clearance and tagging processes that was conducted in the previous two years. The inspectors determined that the initial training material reviewed covered the requirements of station administrative procedures for configuration control. However, based on inspector discussions with SROs and members of the root cause team, the inspectors determined that SROs believed that component configuration was allowed to be tracked in the logs; this practice had been normalized at CPS. This normal practice of tracking configuration of components in the narrative log was not in accordance with any procedural guidance reviewed by the inspectors.

The knowledge gap between what was allowed by approved processes and procedures versus the actual methods and standards that CPS had been implementing was addressed in immediate station corrective actions that were implemented following this event. Corrective actions taken and planned are discussed in section XXXX.

Additionally, the inspectors reviewed training materials and held discussions with training management related to training of equipment operators related to plant tours and general area observations (i.e. "operator rounds"). The inspectors confirmed the equipment operators are given both initial and

continuing training related to operator rounds performance standards. Inspector reviews and discussion with training management indicated a thorough training program related to operator rounds.

Operator rounds not being completed properly is a finding
Operator rounds being inadequate is a violation of TS 5.4.1

6. Evaluate the licensee's compliance with, and adequacy of, procedural guidance for performing system alignments, controlling equipment configuration, performing equipment tag-outs and control room log keeping as it pertains to the cause(s) of the event. Draper

   The inspectors identified several examples of situations where procedures and work instructions that were in place at the time of the event were not followed.

   - Clearance Order 139455 contained a Special Instruction that directed the operators to restore the Division 2 diesel generator to standby per procedure 3506.01P002, "Division 2 Diesel Generator Operations." The senior reactor operator closed the CO without performing 3506.01P002.

   - OP-AA-108-106, "Equipment Return to Service," Step 4.3, required that "if equipment will not be restored to the Equipment Line-up/Restoration position or the original condition, then another approved equipment status control mechanism shall be used to document equipment status (i.e. Equipment Status Tag, administrative clearance/tagout). OP-AA-108-101, "Control of Equipment and System Status," shall be used to document abnormal equipment configuration and shall be immediately applied following equipment restoration.

     An approved equipment status control mechanism was not used. The senior reactor operator entered the need to perform procedure 3506.01P002 in the operations narrative logs.

   - OP-AA-109-101, "Clearance and Tagging," Step 10.2.1, required that if a lift position is determined to be different from the normal lineup position for the present plant condition and not tracked by another C/O or procedure, then Shift Management shall be notified and equipment tracking initiated.

     The lift positions for 1DG160 and 1DG161 were closed, which is not the normal lineup position for the plant condition, but equipment tracking via an approved equipment status control mechanism was not used.

   - OP-AA-108-106, "Equipment Return to Service," Step 4.4.9, required shift management to confirm applicable operating procedures are complete and any equipment line-ups directed to be completed by the operating procedures are completed prior to declaring equipment or systems Operable.

     The SRO declared the Division 2 DG operable without verifying that procedure 3506.01P002 had been completed.

   - OP-AA-108-106, "Equipment Return to Service," Step 4.4.14 required shift management to confirm that equipment has been walked down as appropriate to verify that it can be safely operated to fulfill its design function.

     The SRO declared the Division 2 DG operable without confirming that the Division 2 DG had been walked down to verify it can be operated to fulfill its design function.

- OP-AA-108-103, "Locked Equipment Program," Step 4.1.5 required that if the licensee positions a component other than indicated on the locked equipment checklist or approved procedure, then the component shall be controlled in accordance with OP-AA-108-101, "Control of Equipment and System Status.

  When valves 1DG160 and 1DG161 were no longer being controlled by the CO, they were no longer being controlled in accordance with OP-AA-108-101, and no longer meeting the OP-AA-108-103 requirement.

- CPS 1401.09, "Control of Systems and Equipment Status," Step 3.5.1 required the licensee to utilize the System Status File to track the status of plant systems and to maintain the System Status File in binders and/or a designated file drawer.

  The licensee has discontinued use of the System Status File and instead uses various electronic databases.

Log keeping errors were identified, but they did not appear to contribute to the event.

7. Evaluate licensee planned and completed corrective actions following the EDG event to the extent possible and assess if prior opportunities (e.g., surveillances, maintenance, and self or nuclear oversight assessments) existed to have identified the problem at an earlier point in time. Murray

   Corrective actions:

   - -Operations Director memos sent to the operations shift managers related to accountability and procedure use and adherence. These memos, which were required to be acknowledged by all operations department personnel and briefed by the operations shift managers, covered various administrative procedural requirements including: procedure use and adherence, control of plant equipment, stop work criteria, operations decision making, operability procedure requirements.
   - -Face to face discussions with Operations Department leaders and the Operations Director.
   - -Just-in-time training was given to all operations on the requirments of HU-AA-104, Procedure Use and Adherence.
   - -Changed the clearance and tagging methodology to include signed restoration steps. Restoration steps were previously included as restoration instruction "notes." These notes were expected to be completed as a procedure, however, the clearance order was allowed to be closed without documenting these restoration steps had been completed.
   - -Created a "procedure-in-Progress" program – procedure number
   - -Three Day Stand-down with all station personnel – covered case studies and learnings form the event
   - -Revised the equipment operator rounds points to include logging emergency diesel generator starting air pressures down-stream of the air tank isolation valves.
   - -Operations shift managers are reviewing logs and at least two completed procedures at the end-of-each shift.
   - -root cause is in progress
   - -performing training assessments - operator training will included procedural compliance
   - -equipment operator training on general area checks and operator rounds

8. Determine whether recent internal and external operating experience involving configuration control, risk management and oversight of activities were appropriately evaluated and determine the adequacy of any corrective actions planned or completed. Phillips

Corrective actions from the previous event were ineffective.

Performance Assessment:

(b)(5) Performance Deficiency:

(b)(5)

(b)(5) Screening:

(b)(5)

(b)(5) Significance:

(b)(5)

(b)(5) Cross-cutting Aspect:

(b)(5)

Enforcement:

(b)(5) Violation:

(b)(5)

(b)(5) Contrary to the above,

(b)(5)

Disposition: This violation is to be determined an NCV.

Review of the Grand Gulf event that occurred on September 23, 2016, is scheduled under IR 4108876 but not due for completion until July 13, 2018.

9. Continually evaluate the complexity and significance of the event to determine if the circumstances warrant escalation of the inspection to an augmented inspection team. Phillips

10. Identify any lessons learned from the Special Inspection, and prepare a feedback form on recommendations for improving reactor oversight process (ROP) baseline inspection procedures. All

Clinton SIT June 2018

1. **ADMIN**: Who is my licensee contact? Caroline Joseph 815-217-4600, Cell [redacted] (b)(6)
2. Arrange for parking.
   - Me
   - Laura
   - Team member 1
   - Team member 2
   - Jeff Mitman – HQ SD Risk
   - Pat
3. We need WIFI passwords.
4. (b)(5) [redacted]
   a. [redacted] (b)(5)
   b.
5. Get external OE from Karla ☐
6. Set up an inspection report ☐

7. **Documents**: Copy of timeline
   - What was the status of DC power?
   - Could RCIC have been used if the plant heated up?
   - When did they go from mode 5 to mode 4?
   - What was the status of the electrical buses?
   - When was the ERAT taken out and returned to Service?
8. Copy of any statements provided and the names of everybody involved. (Develop safety-culture questions)
9. ~~Org Chart~~
10. ~~Org Chart of who was in OCC on day and nights and what were the operating crew makeups~~
11. ~~Condition reports associated with the issue~~.
12. ~~Copy of the control room~~ and EO logs from the time the initial OOS was hung on Division 2 until it was discovered and the risk was reevaluated to Red.
13. ~~Operator Log procedure~~
14. ~~Equipment OOS procedure~~
15. Copies of the Turnover sheets for EO, RO, SROs during the time period.
16. Shift turnover procedure.
17. ~~Copy of the promp~~ Who wrote the prompt?
18. ~~Equipment Status Tag procedure~~
19. ~~Loss of AC power procedure~~
20. ~~Any procedures that would be used is LOSP occurred during the Div 1 outage (e.g. SBO, Flex, Abnormal, diesel recovery)~~

21. ~~List of Operations/NOS audits/self-assessments for the last 2 years~~
22. rounds procedure – What if anything has the licensee done about this going so long without being recognized by the rounds operator?
23. Equipment alignment checklists filled out due to corrective actions
24. ~~CR for CO2 tank issue – An evaluation was performed to determine the cause of the CO2 tank outlet valve being left in a position different from its required position. The review concluded that the last time the valve was manipulated was per a clearance order that was hung to support generator inspections during the last refueling outage. The clearance was removed on 5/24/16 and the incorrect valve position discovered on 9/22/16. (IR 2718753)~~

25. Marked up electrical drawings of the status of Both DIV 1 and Div 2 AC and DC from the time DIV 1 was taken out of service.

26. ~~Copy of OP-AA-108-112~~

27. **What are we looking for**:

(b)(5)

28. Does Laura need anything else?

- Exelon Position Paper, EXC-WP-03,"FLEX Guidance for Shutdown/Refueling Modes," Rev 1,
- ~~The shutdown safety procedure, step 4.15 discusses the use of FLEX to minimize or "eliminate" risk. It refers to OU-AA-103, step 4.8. When you get a chance could you forward a copy of that procedure?~~
- Go over assumptions on SDP

- Is RCS Head vent large enough
- Could licensee inject with DFP & were SRVs available
- Status of DC power
- Could RCIC have been used if plant heated up
- Has the licensee used the simulator to figure out how this would have played out.
- Does flex go to both Div 1 and Div 2?

Notes

Note 1
From: Rodriguez, Lionel
Sent: Thursday, May 17, 2018 11:02 PM
To: Stoedter, Karla <Karla.Stoedter@nrc.gov>
Cc: Sanchez Santiago, Elba <Elba.SanchezSantiago@nrc.gov>
Subject: Update on Div. 2 EDG Unavailability during Outage

Hello,

Based on a quick discussion w/ Richard Champley (Senior License Holder), and a search of the Operations Logs, it appears the Air Start Receiver valves were shut for the Division 2 EDG on 5/5/18 during the planned Division 2 System Outage Window through a Clearance Order (C/O 139455). The 1DG160 and 1DG161 valves (Air Receiver Outlet Valves) were supposed to have been restored to their required position during the Final Clear of the Clearance Order by implementation of the Division 2 EDG restoration procedure to standby (3506.01P002). On 5/9/18, the Clearance Order was cleared, but because the Division 2 SX system had not yet been restored the Division 2 EDG was not restored to its standby configuration. This was recognized, and a log entry was generated to track completion of that. It appears to me that the log entry was lost in the shuffle. On 5/11/18, the Division 2 SX system was restored and a separate correction log entry was made which stated the Division 2 EDG was available and in standby.

On 5/14/18 they commenced their Division 1 System Outage Window and began protecting the Division 2 EDG.

We will continue to feed you more information as we get it.

Lionel Rodriguez
Clinton Acting Resident Inspector

Note 2 TS

AC Sources—Shutdown
3.8.2

3.8 ELECTRICAL POWER SYSTEMS

3.8.2 AC Sources—Shutdown

LCO 3.8.2 The following AC electrical power sources shall be OPERABLE:

a. One qualified circuit between the offsite transmission network and the onsite Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.10, "Distribution Systems—Shutdown";

b. One diesel generator (DG) capable of supplying one division of the Division 1 or 2 onsite Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.10; and

c. One qualified circuit, other than the circuits in LCO 3.8.2.a, between the offsite transmission network and the Division 3 onsite Class 1E AC electrical power distribution subsystem, or the Division 3 DG capable of supplying the Division 3 onsite Class 1E AC electrical power distribution subsystem, when the High Pressure Core Spray System is OPERABLE for compliance with LCO 3.5.1, "ECCS—Shutdown."

APPLICABILITY: MODES 4 and 5,
During movement of irradiated fuel assemblies in the primary or secondary containment.

AC Sources—Shutdown
3.8.2

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. LCO Item b not met.	B.1 Suspend CORE ALTERATIONS.	Immediately
	AND	
	B.2 Suspend movement of irradiated fuel assemblies in primary and secondary containment.	Immediately
	AND	
	B.3 Initiate action to suspend OPDRVs.	Immediately
	AND	
	B.4 Initiate action to restore required DG to OPERABLE status.	Immediately

Note 3 Preliminary Timeline

May 9 @ 5:25pm The control room logged the clearance order on the Division 1 Diesel Generator had been removed but the DG remained in maintenance lockout pending restoration of the Division 2 Shutdown Service Water SOW. It also stated, restoration per 3506.01P002 would need to be performed to restore Division 2 DG to standby. (The residents searched the logs and did not find an entry stating this action had been performed.)

May 11 @3:30am The overall shutdown risk included in the logs stated both Division 1 and 2 Diesel Generators were available.

May 11 @ 6:50am The Division 2 Diesel Generator was logged as being available and in standby.

May 12 @ 1:30am Plant Entered Mode 4

May 14 @ 12:45am The licensee entered the Division 1 outage window.

May 17 @ 3:00pm The licensee identified the Division 2 air receiver outlet valves were closed, and therefore the Division 2 Diesel Generator was inoperable and unavailable. **(Both Division 1/2 DGs OOS)**

May 17 @ 3:45pm The licensee restored the Division 2 Diesel Generator to available.

Other Information:

- The change in shutdown risk associated with this condition was:
  - Electric: From Yellow to Red due to no onsite power sources available
  - Spent Fuel Pool Cooling: From Green to Orange due to one Fuel Pool Cooling method available and NOT capable of being supplied by an on-site power source.
  - Decay Heat Removal: From Yellow to Orange due to one SDC loop with no on-site power source.

- At the time this condition was discovered RHR ‘B’ was the in-service train for shutdown cooling and RHR ‘C’, in conjunction with the SRVs, was the alternate method of shutdown cooling. The Division 2 DG being inoperable meant neither method had an available on-site power source.
- The licensee initiated a prompt investigation for this issues, they also issued a Mode 2 restraint until plant walk downs, verifying other safety systems had been appropriately restored, is completed. The licensee is projecting completion by 1900 today.

Note 4

Internal operating experience.

Assign #: 10					**AR #: 02718753**
Aff Fac:	Clinton	**Assign Type:**	ACIT	**Status:**	COMPLETE
Priority:		**Assigned To:**	ANTOMK	**Due Date:**	10/28/2016
Schedule Ref:		**Prim Grp:**	A5110OPCE	**Orig Due Date:**	10/28/2016
Unit Condition:		**Sec Grp:**			
Assignment Details					
Subject/Description:	Tailgate to all ops crews the requirements of OP-AA-101-1 03, Locked equipment program. Document results and create any additional actions if needed.				
Assignment Completion					
In Progress Notes:	A daily order is being issued to all ops crews discussing the requirements from the locked valve program. MKA 10/27/16				
Completion Notes:	See inprogress notes				

	Issue	IR #	Licensee's Response	Resolution	Notes
1	OU-CL-104 p.29 Says no on-site source available is Red Also 1 offsite and 1 onsite source available to the same Div is orange. Why weren't they orange.				
2	OU-CL-104 p. 12 When either Div 1 or Div 2 Bus is de-energized the other Bus Will have its associated DG and two off-site sources available unless approved by the SSRB per OU-AA-103 Att 1 Want the approval.				
3	OU-CL-104 p. 12 Electric Power Orange risk is not allowed step 4.5.3.10				
4	OU-CL-104 p. 12 Step 4.5.3.7 Div. 1 or Div 2 is always available			NCV	

Clinton SIT Div 1 & 2 EDGs Unavailable

MAY 17, 2018

Overview

1. Licensee made a host of human performance errors resulting in both Div 1 and Div 2 EDGs becoming unavailable at the same time.

2. The error was **obvious** and went unnoticed for days.

3. This resulted in a Red shutdown risk condition.

Clinton 4160 VAC Electrical Distribution

Non Responsive

Non Responsive

Event Timeline

- On May 9, 2018, Clinton Power Station (CPS), Unit 1, was in Mode 5 during Refueling Outage C1R18. The reactor cavity was filled, and at 9:36 p.m. the Division 2 4160 Volt alternating current (Vac) bus (1B1) was energized from the reserve auxiliary transformer (RAT) to end a scheduled bus 1B1 maintenance window. The Division 1 AC distribution system, Division 1 EDG, and residual heat removal (RHR) 'A' system were operable during the 1B1 bus outage and remained operable upon restoration of bus 1B1.

Event Timeline

- The Division 2 EDG had been inoperable and unavailable as a result of the 1B1 bus outage. At 5:25 p.m., Clearance Order (C/O) 139455 was removed from the Division 2 EDG as part of 1B1 restoration activities. This C/O included a Special Instruction that stated "Restore Div 2 DG [diesel generator] to standby per CPS 3506.01P002 [Division 2 Diesel Generator Operations; Revision 3a] in conjunction with C/O removal." **The inspectors found procedure CPS 3506.01P002 was not performed in conjunction with the C/O closure.**

Event Timeline

- Instead, a senior reactor operator (SRO 1) placed a note in the control room log stating CPS 3506.01P002 needed to be performed after restoration of the Division 2 shutdown service water (SX) system. Because CPS 3506.01P002 was not completed as part of the C/O closure, the position of the Division 2 EDG air receiver isolation valves was being controlled by the control room log entry instead of through an approved licensee process. By not completing CPS 3506.01P002 at that time, Division 2 EDG air receiver isolation valves (1DG160 and 1DG161) were left shut. Following the closure of the C/O, this log entry was the only method the licensee used to track the need to restore the Division 2 EDG to standby per CPS 3506.01P002

Cultural Difference

- Exelon plants in the Midwest reposition a valve, install a fuse, or reposition a switch when the OOS Card is cleared.

- Clinton Station repositions a valve, installs a fuse, or repositions a switch **after** the OOS Card is cleared using a lineup procedure.

Violation

- Operators failed to perform CPS 3506.01P002, "Division 2 Diesel Generator Operations," in conjunction with the removal of C/O 139455 as required by the C/O restoration instructions on May 9, 2018.

Violation

- Operators failed to perform OP–AA–108–103, "Locked Equipment Program," Revision 2, Step 4.1.5, which stated, "If plant conditions require a locked component to be positioned in a manner other than that indicated on the locked equipment checklist or approved procedure, then UNLOCK and REPOSITION equipment in accordance with OP–AA–108–101, 'Control of Equipment and System Status.'" Valves 1DG160 and 1DG161 were normally locked open valves.
- Licensee procedure OP–AA–108–101, "Control of Equipment and System Status," Revision 14, Step 4.1.1.1, stated, "Utilize an ACPS [abnormal component positioning sheet] for aligning equipment outside of routine operations. For situations, excluding routine operation, where a component, system, or structure is required to be placed in a position differing from its normal lineup, the alignment must be done utilizing an Abnormal Component Position Sheet. The ACPS will document proper evaluation, performance and restoration of the alignment, ensuring plant configuration control is maintained."

Violation

- Procedure OP–AA–109–101, "Clearance and Tagging," Revision 12, Step 10.2.1 stated, "If a lift position is determined to be different from the normal lineup position for the present plant condition and not tracked by another C/O or procedure, then the Shift Management shall be notified and equipment tracking initiated."

Event Timeline

- On May 10, 2018, during the day shift, a senior reactor operator (SRO 2) directed a non-licensed operator to perform **a portion** of CPS 3506.01P002 to restore fuses for the Division 2 EDG lubrication system, which had previously been removed from service prior to the 1B1 bus maintenance. When the non-licensed operator had completed the **partial** procedure, SRO 2 had already turned over duties to a different senior reactor operator (SRO 3), so the non-licensed operator returned the partial completed procedure to SRO 3. Even though the complete CPS 3506.01P002 procedure had not been performed, **SRO 3 believed that all activities required to restore the Division 2 EDG had been completed.**

Event Timeline

- On May 11, 2018, at 2:30 a.m., SRO 3 declared the Division 2 EDG **available** after Division 2 SX was restored and made available. **At this time, the Division 2 EDG starting air valves (1DG160 and 1DG161) remained closed, isolating starting air from the EDG air start motors, making the EDG unable to start on any demand signal.**
- On May 11, 2018, at 5:10 a.m., the licensee installed the reactor cavity gate in preparation for cavity drain down and reactor head installation. The cavity drain began at 9:43 a.m. and was completed at 1:54 p.m. The licensee began tensioning the reactor head studs at 12:20 a.m. on May 12, 2018, and completed tensioning the studs at 1:51 a.m., at which time operations department personnel declared the Unit in Mode 4.

Event Timeline

- On May 12, 2018, at 8:00 a.m., the licensee completed OP–AA–108–106, “Equipment Return to Service,” Revision 5, for the Division 2 Nuclear System Protection System (NSPS), Division 2 essential switchgear cooling (VX), Division 2 direct current (DC), and Division 2 EDG, and declared each of these systems operable. The licensee did not perform post-maintenance testing on the Division 2 EDG as no maintenance was performed on the EDG.
-

Violation

- Operators failed to perform OP–AA–108–106, "Equipment Return to Service," Revision 5, Step 4.3, which required that "if equipment will not be restored to the Equipment Line-up/Restoration position or the original condition, then another approved equipment status control mechanism shall be used to document equipment status (i.e. Equipment Status Tag, administrative clearance/tagout). Procedure OP–AA–108–101, 'Control of Equipment and System Status,' shall be used to document abnormal equipment configuration and shall be immediately applied following equipment restoration."
- In addition, neither Step 4.4.9 of OP–AA–108–106 which stated, "Applicable Operating Procedures are complete and any equipment line-ups directed to be completed by the Operating Procedures are completed," nor Step 4.4.14, which stated, "The system/equipment has been walked down as appropriate to verify that it can be safely operated to fulfill its design function," were completed as required.

Preliminary Risk Results

		Notes	BE Adjusted	Old BE Value	New BE Value	Delta CDF Results
Base Case						3.8E-06
Sensitivity Cases:						
1	Div. 2 EDG available (i.e., no PD)		EPS-DGN-FS-DGB	TRUE (1.0)	2.86E-03	5.4E-07
2	Div. 2 EDG non-recovery based on INL data (88%)		EPS-XHE-LR-NR10H	2.0E-02	8.80E-01	1.7E-05
3	Div. 2 EDG non-recovery based Exelon estimate	Note that using Exelon's values reduces the CDF to less than the no PD case because the NRP is lower than the base EDG failure probability	EPS-XHE-LR-NR10H	2.0E-02	5.0E-03	**1.0E-07**
4	HPCS pump available during entire 3.5 day exposure time		HCS-XHE-XR-MDP	TRUE (1.0)	False (0.0)	6.2E-07
5	Single HEP for all injection methods		Multiple BE	5.3E-05	1.0E-03	3.5E-06
6	Decrease RCIC HEP to 0.1		SD-XHE-XM-FRCIC	7.5E-01	1.0E-01	3.7E-06
7	Decrease FLEX Electrical HEP to Exelon value to 0.1		SD-XHE-XM-FELEC	2.5E-01	1.0E-01	2.4E-06
8	Reduce all FLEX HEPS by factor of 10		Multiple BE	Various	Decrease by 10X	6.7E-08
9	Set all FLEX HEPs to False (0.0)		Multiple BE	Various	False (0.0)	2.5E-08
10	Increase all FLEX HEPs by Factor of 2	Increase RCIC value from 0.75 to 1.0	Multiple BE	Various	Increase by 2X	2.9E-05

Event Timeline

- On May 13, 2018, the emergency reserve auxiliary transformer (ERAT) (which had been unavailable since May 5, 2018, at 5:03 p.m.), the second source of offsite power to the 4160 Vac safety-related buses, was declared available at 5:15 a.m. At 11:09 p.m., RHR 'B' was declared operable for shutdown cooling mode, and at 11:28 p.m., RHR 'A' was secured and RHR 'B' was started in shutdown cooling mode.

Event Timeline

- On May 14, 2108, at 12:30 a.m., since the licensee was unaware that the Division 2 EDG was inoperable and unavailable due to its inability to start caused by the 1DG160 and 1DG161 valves being closed, the licensee began a scheduled maintenance window for the Division 1 4160 Vac bus (1A1). As a result of taking bus 1A1 out of service, the Division 1 EDG was declared inoperable and unavailable along with other equipment powered from bus 1A1, including the low pressure core spray (LPCS) and RHR 'A' systems.

Event Timeline

- On May 16, 2018, at 1:30 a.m., the licensee completed filling and venting the high pressure core spray (HPCS) system following an extended maintenance window.
- On May 17, 2018, at 11:18 a.m., operations declared HPCS available, and after post-maintenance testing of the system on May 18, 2018, at 6:21 p.m., HPCS was declared operable.

Event Timeline

- On May 17, 2018, at 3:03 p.m., **a non-licensed operator performing shift rounds identified that the Division 2 EDG Air Receiver Isolation Valves (1DG160 and 1DG161) were closed and reported this condition to the control room.** The licensee declared the Division 2 EDG inoperable and unavailable and investigated the condition. The licensee restored the valves to the open position and declared the Division 2 EDG available at 3:45 p.m. After the licensee performed OP–AA–108–106, the licensee declared the Division 2 EDG operable at 9:04 p.m.

Event Timeline

- The inspectors determined that non-licensed operators on rounds had at least **12 separate** opportunities to identify that the 2B EDG air isolation valves were in the wrong position between May 11 and May 17.

Violation

- The inspectors determined that the licensee's failure to promptly identify that the Division 2 EDG air start receiver isolation valves were not in the correct position was a performance deficiency.

(b)(5)

(b)(5)

. The inspectors also noted that there were two indications for air manifold pressures on each of the two local EDG panels in the Division 2 EDG room. At the time of the event these air manifold pressure gages read zero psig which was a clear indication that there was no starting air pressure available to the Division 2 EDG.

Violation

- Performance Deficiency: The inspectors determined that the licensee's failure to include the Division 2 EDG air start manifold pressures in the 'C' area rounds points was a performance deficiency

Findings

- Multiple Examples of failing to Follow Procedure.
- Failure to Identify A Condition Adverse to Quality.
- Equipment Operator's Rounds Points had Inadequate Acceptance Criteria

Identification Credit

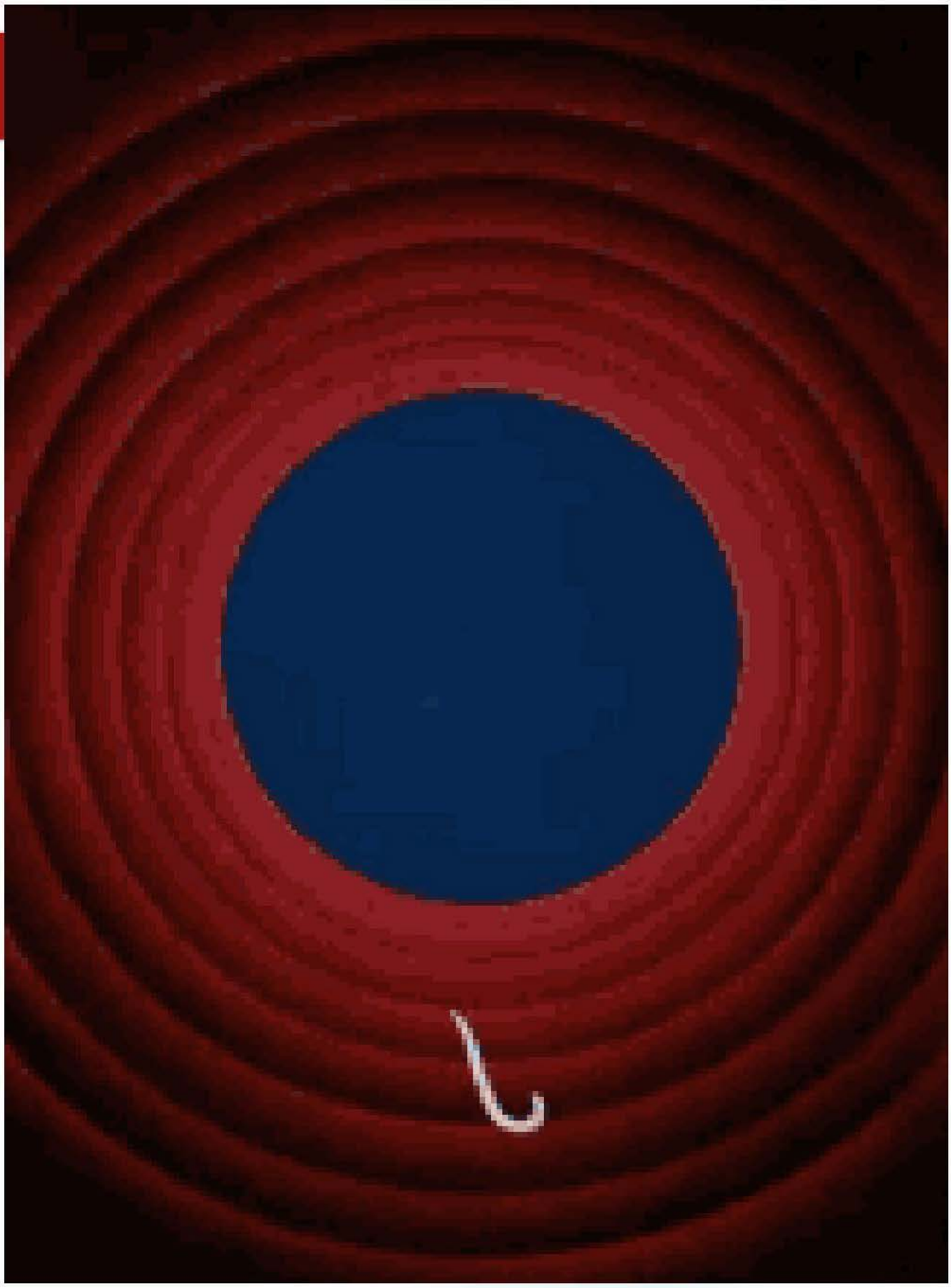
- Block 5 of IMC 0612, Appendix B, states that a measure of subjectivity is anticipated and accepted when making decisions regarding identification credit. **To make these determinations, inspectors and regional staff should consider not only the definitions of these terms, but also past experience, related precedents, and the over-arching regulatory message that the determination could send.**
- (b)(5)

Identification Credit

- (b)(5)

Inspector Takeaways

- **Lots of little things eventually become big things.**
- **The Obvious isn't always so Obvious.**
- **What are the rounds operators actually looking at?**



Normally, items found by the licensee while conducting operator rounds would be considered licensee identified in accordance with IMC 0612, “Issue Screening.” However, Block 5 of IMC 0612, Appendix B, states that past experience, related precedents and the over-arching regulatory message should be considered when determining a finding’s identification credit. After careful consideration of the above items, the inspectors characterized the finding as self-revealing to align with the NRC’s over-arching message regarding the need for improved operations department performance.

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EA-18-104

Mr. Bryan C. Hanson
Senior VP, Exelon Generation Company, LLC
President and CNO, Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: CLINTON POWER STATION - NRC INSPECTION REPORT 05000461/2018051 AND PRELIMINARY WHITE FINDING

Dear Mr. Hanson:

On August 3, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Clinton Power Station, Unit 1

This letter transmits (*or* "discusses") [*describe the enclosed supporting documentation if included (Enclosure)*] a finding that has preliminarily been determined to be White. A finding with low to moderate increased safety significance that may require additional NRC inspections. As described in this letter, on May 17, 2018, an Apparent Violation of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," and Technical Specification 3.8.2, Condition B.3, were self-revealed for the licensee's failure to follow multiple procedures that affected quality. This resulted in the unavailability and inoperability of the Division 2 Emergency Diesel Generator when it was relied upon for plant safety. With the Division 1 Emergency Diesel Generator already out of service for planned maintenance a loss of offsite power would have resulted in a station blackout condition that could have resulted in a long term loss of the ability to cool the reactor core. This finding was assessed based on the best available information, using the applicable Significance Determination Process (SDP). The final resolution of this finding will be conveyed in separate correspondence.

{*Add either in the body of the letter, or as an attachment to the letter,* [the basis for the staff's significance determination]. *Include in this discussion* [important assumptions used in the staff's evaluation and other information that will clearly identify to the licensee the basis for the staff's preliminary significance determination, with the objective of promoting a common understanding of the significance of the finding]. *If the preliminary determination is Greater than Green and additional information is required to make a final determination,* [request additional information from the licensee necessary for the staff in making its final determination]. *Do not include information that may be proprietary or SUNSI.*}

{*Where applicable,* [describe the licensee's compensatory measure(s) taken while long term corrective action is being implemented. {*If an apparent violation is associated with the finding, include:* " The licensee's corrective actions included…The finding is also an apparent violation of NRC requirements and is being considered for escalated enforcement action in accordance with the Enforcement Policy, which can be found on the NRC's Web site at http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html."}
In accordance with NRC Inspection Manual Chapter 0609, we intend to complete our evaluation using the best available information and issue our final determination of safety significance within 90 days of the date of this letter. The significance determination process encourages an

open dialogue between the NRC staff and the licensee; however, the dialogue should not impact the timeliness of the staff's final determination.

Before we make a final decision on this matter, we are providing you with an opportunity to (1) attend a Regulatory Conference where you can present to the NRC your perspective on the facts and assumptions the NRC used to arrive at the finding and assess its significance, or (2) submit your position on the finding to the NRC in writing. If you request a Regulatory Conference, it should be held within 40 days of the receipt of this letter and we encourage you to submit supporting documentation at least one week prior to the conference in an effort to make the conference more efficient and effective. The focus of the Regulatory Conference is to discuss the significance of the finding and not necessarily the root cause(s) or corrective action(s) associated with the finding. If a Regulatory Conference is held, it will be open for public observation. If you decide to submit only a written response, such submittal should be sent to the NRC within 40 days of your receipt of this letter. If you decline to request a Regulatory Conference or to submit a written response, you relinquish your right to appeal the final SDP determination, in that by not doing either, you fail to meet the appeal requirements stated in the Prerequisite and Limitation sections of Attachment 2 of NRC Inspection Manual Chapter 0609.

If you choose to send a response, it should be clearly marked as a "Response to (An) Apparent Violation(s); (EA-18–104)" and should include for the apparent violation(s): (1) the reason for the apparent violation(s) or, if contested, the basis for disputing the apparent violation(s); (2) the corrective steps that have been taken and the results achieved; (3) the corrective steps that will be taken; and (4) the date when full compliance will be achieved. Your response should be submitted under oath or affirmation and may reference or include previously docketed correspondence, if the correspondence adequately addresses the required response. Additionally, your response should be sent to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Center, Washington, DC 20555-0001 with a copy to [Branch Chief Name, Title], U.S. Nuclear Regulatory Commission, Region [#], [Address] within 40 days of the date of this letter. If an adequate response is not received within the time specified or an extension of time has not been granted by the NRC, the NRC will proceed with its enforcement decision or schedule a Regulatory Conference.

Please contact Ms. Karla Stoedter at 630–829–9731, and in writing within 10 days from the issue date of this letter to notify the NRC of your intentions. If we have not heard from you within 10 days, we will continue with our significance determination and enforcement decision. The final resolution of this matter will be conveyed in separate correspondence.

Because the NRC has not made a final determination in this matter, no Notice of Violation is being issued for these inspection findings at this time. In addition, please be advised that the characterization of the apparent violation described above may change as a result of further NRC review."}

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room and in the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html

Sincerely,

Last Revised or Reviewed: July 2017

Patrick L. Louden, Director
Division of Reactor Projects

Docket No. 50–461
License No. NPF–62
Enclosure(s): Inspection Report No. 05000461/2018051

EA-18-104

Mr. Bryan C. Hanson
Senior VP, Exelon Generation Company, LLC
President and CNO, Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: CLINTON POWER STATION - NRC INSPECTION REPORT 05000461/2018051 AND PRELIMINARY WHITE FINDING

Dear Mr. Hanson:

On August 3, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Clinton Power Station, Unit 1

This letter transmits a finding that has preliminarily been determined to be White. A finding with low to moderate increased safety significance that may require additional NRC inspections. As described in this letter, on May 17, 2018, an Apparent Violation of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," and Technical Specification 3.8.2, Condition B.3, were self-revealed for the licensee's failure to follow multiple procedures that affected quality. This resulted in the unavailability and inoperability of the Division 2 Emergency Diesel Generator when it was relied upon for plant safety. With the Division 1 Emergency Diesel Generator already out of service for planned maintenance a loss of offsite power would have resulted in a station blackout condition that could have resulted in a long term loss of the ability to cool the reactor core. This finding was assessed based on the best available information, using the applicable Significance Determination Process (SDP). Included in the body of the enclosed inspection report is the basis for the staff's preliminary determination of significance. The final resolution of this finding will be conveyed in separate correspondence.

The licensee's corrective actions included (1) communicating accountability and emphasis on procedure use and adherence; (2) just in time training to all operations department staff on the procedure use requirements; (3) conducting a three-day stand down to discuss case studies and lessons learned; and (4) revising the equipment operator round points to include the EDG starting air manifold pressures.The finding is also an apparent violation of NRC requirements and is being considered for escalated enforcement action in accordance with the Enforcement Policy, which can be found on the NRC's Web site at http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html."}

In accordance with NRC Inspection Manual Chapter 0609, we intend to complete our evaluation using the best available information and issue our final determination of safety significance within 90 days of the date of this letter. The significance determination process encourages an open dialogue between the NRC staff and the licensee; however, the dialogue should not impact the timeliness of the staff's final determination.

Before we make a final decision on this matter, we are providing you with an opportunity to (1) attend a Regulatory Conference where you can present to the NRC your perspective on the facts and assumptions the NRC used to arrive at the finding and assess its significance, or (2)

submit your position on the finding to the NRC in writing. If you request a Regulatory Conference, it should be held within 40 days of the receipt of this letter and we encourage you to submit supporting documentation at least one week prior to the conference in an effort to make the conference more efficient and effective. The focus of the Regulatory Conference is to discuss the significance of the finding and not necessarily the root cause(s) or corrective action(s) associated with the finding. If a Regulatory Conference is held, it will be open for public observation. If you decide to submit only a written response, such submittal should be sent to the NRC within 40 days of your receipt of this letter. If you decline to request a Regulatory Conference or to submit a written response, you relinquish your right to appeal the final SDP determination, in that by not doing either, you fail to meet the appeal requirements stated in the Prerequisite and Limitation sections of Attachment 2 of NRC Inspection Manual Chapter 0609.

If you choose to send a response, it should be clearly marked as a "Response to (An) Apparent Violation(s); (EA-18–104)" and should include for the apparent violation(s): (1) the reason for the apparent violation(s) or, if contested, the basis for disputing the apparent violation(s); (2) the corrective steps that have been taken and the results achieved; (3) the corrective steps that will be taken; and (4) the date when full compliance will be achieved. Your response should be submitted under oath or affirmation and may reference or include previously docketed correspondence, if the correspondence adequately addresses the required response. Additionally, your response should be sent to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Center, Washington, DC 20555-0001 with a copy to K. Stoedter, Chief, Branch 1, Division of Reactor Projects, U.S. Nuclear Regulatory Commission, Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532-4352, within 40 days of the date of this letter. If an adequate response is not received within the time specified or an extension of time has not been granted by the NRC, the NRC will proceed with its enforcement decision or schedule a Regulatory Conference.

Please contact Ms. Karla Stoedter at 630–829–9731, and in writing within 10 days from the issue date of this letter to notify the NRC of your intentions. If we have not heard from you within 10 days, we will continue with our significance determination and enforcement decision. The final resolution of this matter will be conveyed in separate correspondence.

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Sincerely,

Patrick L. Louden, Director
Division of Reactor Projects

Docket No. 50–461
License No. NPF–62

Enclosure(s): Inspection Report No. 05000461/2018051

U.S. NUCLEAR REGULATORY COMMISSION
REGION III

Docket Numbers:	50–461
License Numbers:	NPF–62
Report Numbers:	05000461/2018051
Enterprise Identifier:	I-2018-051-0000
Licensee:	Exelon Generation Company, LLC
Facility:	Clinton Power Station
Location:	Clinton, IL
Dates:	August 3 through September 20, 2018
Inspectors:	C. Phillips, Project Engineer L. Kozak, Senior Reactor Analyst J. Mittman, Senior Risk and ?? Analyst
Approved by:	K. Stoedter, Chief Branch 1 Division of Reactor Projects

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) completed the preliminary significance determination associated with an apparent violation in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to https://www.nrc.gov/reactors/operating/oversight.html for more information. Findings and violations being considered in the NRC's assessment are summarized in the table below.

List of Findings and Violations

Failure to Follow Multiple Procedures			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Preliminary White AV 05000461/2018050–01 Open EA–18–104	[H.2] – Human Performance, Field Presence	93812–Special Inspection
On August 23, 2018, the NRC issued Inspection Report 05000461/2018050 which discussed a self-revealed finding with a To-Be-Determined (TBD) significance and an associated Apparent Violation of Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," and Technical Specification 3.8.2, Condition B.3. The issue involved the licensee's failure to follow multiple procedures that affected quality which resulted in the unavailability and inoperability of the Division 2 Emergency Diesel Generator when it was relied upon for plant safety.			

Additional Tracking Items

None

INSPECTION SCOPE

Inspections were conducted using the appropriate portions of the inspection procedure (IP) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

OTHER ACTIVITIES—TEMPORARY INSTRUCTIONS, INFREQUENT AND ABNORMAL

93812—Special Inspection

The purpose of this inspection was to complete the preliminary significance determination for an apparent violation 10 CFR Part 50, Appendix B, Criterion V documented in NRC Special Inspection Report 05000461/2018050.

INSPECTION RESULTS

93812—Special Inspection

Failure to Follow Multiple Procedures			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Preliminary White AV 05000461/2018050–01 Open EA–18–104	[H.2] – Human Performance, Field Presence	93812–Special Inspection

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Description:

On April 30, 2018, the licensee shut down the reactor as part of a scheduled refueling outage. During the outage, the licensee performed maintenance on the Division 2 electrical system which required the Division 2 emergency diesel generator (EDG) to be removed from service. From May 9-11, 2018, the licensee completed activities to restore the Division 2 EDG to service. Due to the failure to follow multiple procedures (as discussed in NRC Inspection Report 05000461/2018050), the Division 2 EDG was not restored to an operable status because operations personnel had not repositioned starting air valves 1DG160 and 1DG161

from the closed position to the open position. With the starting air valves in the closed position, the Division 2 EDG was unable to start if needed.

On May 14, 2018, at 12:30 a.m., since the licensee was unaware that the Division 2 EDG was inoperable and unavailable due to its inability to start caused by the 1DG160 and 1DG161 valves being closed, the licensee began a scheduled maintenance window for the Division 1 4160 Vac bus (1A1). As a result of taking bus 1A1 out of service, the Division 1 EDG was declared inoperable.

On May 17, 2018, at 3:03 p.m., a non-licensed operator performing shift rounds identified the 1DG160 and 1DG161 valves were closed and reported this condition to the control room. The licensee declared the Division 2 EDG inoperable, investigated the condition, and subsequently returned the Division 2 EDG to an operable status.

Corrective Actions: The licensee initiated several corrective actions including (1) communicating accountability and emphasis on procedure use and adherence; (2) just in time training to all operations department staff on the procedure use requirements; (3) conducting a three-day stand down to discuss case studies and lessons learned; and (4) revising the equipment operator round points to include the EDG starting air manifold pressures.

Corrective Action Reference: Action Request (AR) 4138790, "Division 2 DG Air Receiver Found Isolated Rounds," dated May 17, 2018.

Performance Assessment:

Performance Deficiency: The licensee failed to perform activities affecting quality in accordance with prescribed procedures and work instructions as required by 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," that resulted in the unavailability of the Division 2 EDG when it was relied upon for plant safety.

Screening: The inspectors determined the performance deficiency was more than minor because it adversely affected the configuration control attribute of the Mitigating Systems Cornerstone and its objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to follow station procedures/work instructions resulted in the unavailability of the Division 2 EDG when it was relied upon for plant safety in a shutdown condition.

Significance: The inspectors evaluated the finding against the guidance of IMC 0609 Appendix G, Attachment 1, "Shutdown Operations Significance Determination Process Phase 1 Initial Screening and Characterization of Findings." The finding impacted the Mitigating Systems Cornerstone, specifically the Electric Power Availability Safety Function. The finding represented a loss of system safety function for the EDGs for greater than its TS 3.8.2, Condition B.3, allowed outage time of Immediately which required a phase 2 Appendix G evaluation.

The phase 2 evaluation was conducted using IMC 0609 Appendix G, Attachment 3, and "Phase 2 Significance Determination Process Template for BWR during Shutdown." A Region III senior reactor analyst (SRA) completed the phase 2 evaluation and concluded that a phase 3, or detailed risk evaluation, would be needed to refine the phase 2 evaluation.

Summary from Special Inspection Report

The detailed risk evaluation (DRE) covered a 6.5 day period when the Division 2 Emergency Diesel Generator (DG) was inadvertently unavailable during a refueling outage.

The Division 2 DG had been inoperable and unavailable as part of planned Division 2 480 VAC electrical distribution and Emergency Service Water (SX) systems maintenance activities. When the Division 2 systems work was completed and the systems restored on May 11, 2018 (at 2:30 am), operators incorrectly declared the Division 2 DG available. At this time, the Division 2 DG starting air isolation valves (1DG160 and 1DG161) remained closed, which would prevent starting air from reaching the DG air start motors, making the DG inoperable, unavailable and non-functional because it would not and could not be started on any demand signal.

On May 14, 2018, at 12:30 am, as the licensee was unaware that the Division 2 DG was unavailable, the licensee began a scheduled maintenance window on the Division 1 480 VAC bus 1A1. As a result of taking the bus out of service, the Division 1 DG was declared inoperable. At this time neither Division 1 nor 2 DG was functional

On May 17, 2018, at 3:03 pm, a non-licensed operator performing shift rounds identified the 1DG160 and 1DG161 valves were inappropriately closed and reported this condition to the control room. The licensee declared the Division 2 DG inoperable and investigated the condition. The licensee restored the valves to the open position and declared the Division 2 DG available at 3:45 pm. After the licensee performed OP-AA-108-106, the licensee declared the Division 2 DG operable at 9:04 pm.

During the 6.5 day period Division 2 DG was not operable, available or functional as the licensee expected. During the 3.5 day period from May 14th to May 17th, neither the Division 1 nor 2 DG was available to deal with a Loss of Offsite Power (LOOP) if one occurred.

As described in inspection report 2018050, a Phase 1 Significance Determination Process (SDP) screening and a phase 2 SDP evaluation were completed for the finding using the guidance of IMC 0609 Appendix G, "Shutdown Operations Significance Determination Process". As a result, the NRC determined that a detailed risk evaluation was needed to further evaluate recovery strategies. These strategies included 1) restoration of the Division 2 Emergency Diesel Generator (EDG), 2) plant-specific mitigating system strategies such as the Division 3 cross-tie to Division 2, 3) use of FLEX, and 4) the recovery of offsite power. As a result the inspection report initially characterized the significance of this finding as "to be determined."

Summary of Preliminary (Phase 3) Significance Determination

The Clinton SPAR model, revision 8.54 was modified to add a Shutdown Mode 4 Loss of Offsite Power (LOOP) event tree based on the existing Grand Gulf shutdown SPAR model. The model was further modified to use Clinton specific system fault trees and to incorporate diesel generator recovery, FLEX electrical, FLEX suppression pool cooling, FLEX injection, potential recovery of high pressure core spray (HPCS) pump, potential recovery of reactor core isolation cooling (RCIC), potential use of alternate injection systems such as installed fire pumps, B.5.b fire pumps, B.5.b reactor depressurization methods, manual containment venting capability, offsite power recovery, and the potential cross-tie of the Division 3 diesel generator to Division 2 electrical distribution system. Human error probabilities in addition to

equipment failure probabilities were added for all actions requiring manual alignment and operation.

The detailed risk evaluation considers the many different core cooling methods potentially available. However, the results indicate that successful mitigation of the event relies on operator action to restore AC power by one of several methods – DG 2 recovery, FLEX electrical, Division 3 to Division 2 cross-tie, or offsite power recovery. The analysis is complex since mitigation of a LOOP event in the degraded condition significantly relies on operator action. The risk results are driven by human error.

None of the many operator actions modeled to mitigate the postulated LOOP/SBO event were assumed to be resource limited. This is in recognition that the plant was in a refueling outage with extra operations, maintenance and engineering staff available. Few of the many actions modeled to mitigate the postulated LOOP/SBO were assumed to be limited by time available. However, the overall sequence was modeled assuming operators have one hour to recover the Division 2 diesel generator before an extended loss of AC power (ELAP) is declared. Once ELAP is declared, operators will pursue the FLEX method to re-power Division 2. If FLEX fails, the Division 3 cross-tie, will be attempted. For the dominant core damage sequence, the time to core damage is approximately13 hours, this was considered to be adequate time with some margin, but not extra or expansive time, given the level of manual effort required and the number of concurrent methods of mitigation that were modeled.

The finding exposure time that was quantitatively assessed was the 3.5 day period that both emergency diesel generators were unavailable. The full exposure time was approximately 6.5 days. However, the risk results are dominated by the 3.5 days when neither diesel was available.

The result of the detailed risk evaluation is a finding of low to moderate safety significance (White). The best estimate change (i.e., delta) in core damage frequency for the 3.5 day period, using reasonable and realistic assumptions, was estimated to be 3.8E-6 per year. The dominant sequence was a loss of offsite power, failure to recover the Division 2 EDG leading to an Extended Loss of AC Power (ELAP) declaration, failure to maintain the reactor depressurized, failure to inject at high pressure, and the failure to cross-tie the Division 4KV bus to the Division 2 4kV bus. Sensitivity evaluations were performed to understand the influence of important assumptions. The results of the sensitivity evaluations showed a range of outcomes from very low safety significance (green) to substantial safety significance (yellow). The sensitivity evaluations were used to confirm the best estimate outcome – low to moderate (White) safety significance. See Table 1.

Cross-cutting Aspect: As discussed in Inspection Report 05000461/2018050, the finding had a cross-cutting aspect in the Field Presence component of the Human Performance cross-cutting area. (H.2)

Enforcement:

Apparent Violation: Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality be prescribed by documented procedures of a type appropriate to the circumstances and be accomplished in accordance with these procedures.

Clearance Order 139455 instructions required the performance of CPS 3506.01P002,

"Division 2 Diesel Generator Operations," Revision 3a, in conjunction with the removal of out-of-service tags on May 9, 2018.

Procedure OP–AA–108–103, "Locked Equipment Program," Revision 2, Step 4.1.5, stated, "If plant conditions require a locked component to be positioned in a manner other than that indicated on the locked equipment checklist or approved procedure, then UNLOCK and REPOSITION equipment in accordance with OP–AA–108–101, "Control of Equipment and System Status." Procedure OP–AA–108–101, "Control of Equipment and System Status," Revision 14, Step 4.1.1.1, stated, "Utilize an ACPS for aligning equipment outside of routine operations."

Procedure OP–AA–108–106, "Equipment Return to Service," Revision 5, Step 4.3, required that "if equipment will not be restored to the Equipment Line-up/Restoration position or the original condition, then another approved equipment status control mechanism shall be used to document equipment status (i.e. Equipment Status Tag, administrative clearance/tagout). Procedure OP–AA–108–101, 'Control of Equipment and System Status,' shall be used to document abnormal equipment configuration and shall be immediately applied following equipment restoration."

Procedure OP–AA–108–106, "Equipment Return to Service," Revision 5, Step 4.4.9, which stated, "Applicable Operating procedures are complete and any equipment line-ups directed to be completed by the Operating Procedures are completed."

Procedure OP–AA–108–106, "Equipment Return to Service," Revision 5, Step 4.4.14, stated, "The system/equipment has been walked down as appropriate to verify that it can be safely operated to fulfill its design function."

Procedure OP–AA–109–101, "Clearance and Tagging," Revision 12, Step 10.2.1 stated, "If a lift position is determined to be different from the normal lineup position for the present plant condition and not tracked by another C/O or procedure, then the Shift Management shall be notified and equipment tracking initiated."

Technical Specification 3.8.2, "AC Sources-Shutdown," Condition B.3, states, in part, that an inoperable EDG be restored to an operable status immediately.

Between May 9 and May 17, 2018, the licensee apparently failed to:

Perform CPS 3506.01P002, "Division 2 Diesel Generator Operations," Revision 3a, in conjunction with the removal of C/O 139455 as required by the C/O restoration instructions.

Perform OP–AA–108–103, "Locked Equipment Program," Revision 2, Step 4.3, valves 1DG160 and 1DG161 were normally locked open valves and an ACPS was not utilized to track valve status.

Perform OP–AA–108–106, "Equipment Return to Service," Revision 5, Step 4.3, when valves 1DG160 and 1DG161 were left in an abnormal position an approved equipment status control mechanism was not used to track equipment status.

Perform OP–AA–108–106, "Equipment Return to Service," Revision 5, Step 4.4.9, when the equipment was declared operable the applicable operating procedure CPS 3506.01P002 had not been completed and equipment line-ups directed to be completed by the operating

procedures were not completed.

Perform OP–AA–108–106, "Equipment Return to Service," Revision 5, Step 4.4.14, when the system was declared operable without being walked down.

Perform OP–AA–109–101, "Clearance and Tagging," Revision 12, Step 10.2.1, when the lift position was different from the normal lineup for the present plant condition and equipment tracking was not initiated.

Additionally, because the licensee was not aware of the EDG's inoperability the required action in TS 3.8.2, Condition B.3 was not followed.

EXIT MEETINGS AND DEBRIEFS

The inspectors confirmed that proprietary information was controlled to protect from public disclosure. No proprietary information was documented in this report.

- On September 24, 2018, risk analysts presented the preliminary significance assessment results to Mr. T. Stoner, Clinton Power Station, Site Vice President and other members of the licensee staff during an exit meeting.

DOCUMENTS REVIEWED

93812—Special Inspection

######### 20:14

######### Day Shift
######### 12:31

######### 14:52

######### 00:29

######### 17:40

######### Day Shift

######### 19:16

######### 2:30

######### 3:30
######### 1:51
######### 8:00

######### 6:08

######### 23:09

######### 0:30
######### 15:11
######### 11:18

######### 15:03

######### 15:45

######### 16:12

######### 19:03
######### 21:04
######### 22:02

Plant is in mode 5 operation
Commenced first hang of C/O 145877 and 145878, which secures and drains the division 2 shutdown service water system. Step 1 of these Clearance Orders is to perform procedure CPS 3211.01 section 8.3.4 which removes the Division 2 Shutdown Service Water system from service and places the division 2 Emergency Diesel Generator Maintenance switch in Maintenance (Lockout). This makes the division 2 DG INOPERABLE and UNAVAILABLE. No diesel generator components were tagged per these C/Os.
Electrical team performes CPS 3514.01C006 (4160V Bus 1B1 Bus Outage) step 5.2.30 which directs partial performance of CPS 3506.01 to remove F6/F6-1 fuses and secure the Division 2 DG lubrication system. This is a pre-requisite for the division 2 vital bus outage.
De-energized division 2 AC vital bus (4160V Bus 1B1) per CPS 3514.01C006

Completed hanging C/O 143955 (C1R18 4.16KV BUS 1B1 OUTAGE (AP-1B1))for the 4160V Bus 1B1 bus outage. This C/O closed 1DG160 and 1DG161, Division 2 DG Air Receiver "A" Outlet and "B" Outlet respectively and prevented the division 2 DG from starting as a requirement for personnel protection.
Completed hanging C/O 145843 for division 2 shutdown service water system outage window, which also requires the maintenance switch in Maintenance (Lockout).
Completed final clear of C/O 143955. This restored 1DG160 and 1DG161 to the CLOSED position per 3506.01V001. A log entry was made specifying that the procedure 3506.01P002 needs to be performed to return the diesel generator to standby. 3506.01P002 is the procedure which restores the diesel generator starting air system and opens 1DG160/1DG161
Ops Electrical team partially performs 3506.01P002 to restore the fuses and lubrication system which were previously removed from service per 3514.01C006 (4160V Bus 1B1 Bus Outage). This was performed in accordance with restoration from 3514.01C006 (4160V Bus 1B1 Bus Outage).
Completed final clear of C/O 145843 for the water side of the C1R18 - DIV 2 SX SYSTEM OUTAGE 1E12F014B AND 1E12F068B.
Completed partial clears of C/Os 145877 and 145878 along with fill and vent of div 2 SX system. Div 2 DG was declared AVAILABLE. Valves 1DG160 and 1DG161 were still CLOSED at this time and would not be identified until 5/17/18 at 17:25.
Commenced installation of Rx cavity gate. RHR-B remains INOPERABLE due to min flow line replacement. Entered ITS LCO 3.9.9 A.1 for one shutdown cooling system INOPERABLE to verify an alternate decay heat removal system is available (LPCS feed and bleed through SRVs and SF/FC heat exchanger cooling for the suppression pool).
Entered Mode 4 operation.
Division 2 diesel generator was declared OPERABLE.
ERAT feed is now AVAILABLE but remains INOPERABLE with the ERAT Static Var Compensators out of service.
RHR-B is now OPERABLE. Current system lineup is RHR-A/B/C and LPCS all OPERABLE. HPCS is INOPERABLE and UNAVAILABLE. **Div 1 DG is OPERABLE** and div 2 DG is logged as OPERABLE. RAT offsite power feed is OPERABLE. ERAT power feed is energized and available, but is INOPERABLE.
RHR-A and LCPS is INOPERABLE and UNAVAILABLE for system outage window. Alternate decay heat removal is now RHR-C feed and bleed with SRVs and SF/FC heat exchangers for suppression pool cooling.
ERAT SVC was placed in service. ERAT remains INOPERABLE but AVAILABLE awaiting PMT.
HPCS and div 3 DG are now AVAILABLE.

Area operator reports that 1DG160 and 1DG161 were found in the CLOSED position. Div 2 DG is declared INOPERABLE and UNAVAILABLE. Entered LCO actions for 3.5.2 (RPV Water Inventory Control) for no OPERABLE ECCS pumps and DRAIN TIME < 36 hours but > 8 hours. Required actions for LCO 3.5.2 C.1/C.2/C.3 all MET. Entered LCO 3.8.2 actions (all actions met at time of entry). DRAIN TIME was due to RHR letdown valves throttled for < 50 gpm of letdown from the reactor coolant system (motor operated valves / fail as is on loss of power).
Performed 3506.01P002 section 2.2 only to place the Div 2 DG Air start system in service. Div 2 DG is now AVAILABLE.
Verified 3506.01P002 section 2.1 through 2.5 were all SAT and that all Div 2 DG support systems were in their required lineup.
Entered ITS LCO 3.5.2 Action B.1 to establish an injection system powered by onsite power. Action met with HPCS AVAILABLE for injection powered by the Div 3 DG.
Division 2 diesel generator was declared OPERABLE.
Transmitted ENS 534409 for this event.

The ERAT became unavailable on 5/5 at 17:03

May 14 @ 12:45am The licensee entered the Division 1 outage window.

From:	Phillips, Charles
To:	Sanchez Santiago, Elba; Kozak, Laura; Murray, Robert; Draper, Jason
Subject:	My current notes
Date:	Tuesday, June 19, 2018 3:12:43 PM
Attachments:	Clinton SIT June 2018.docx

These are my electronic notes they are also on the S drive, these should bring you up to speed (or at least my speed) quickly:

First are the things I've requested – lined out means I have it

Then I have some notes

Finally at the end is a table of issues I'm following.

Clinton SIT June 2018

1. **ADMIN**: Who is my licensee contact? Caroline Joseph 815-217-4600, Cell [redacted] (b)(6)
2. ~~Arrange for parking~~.
   - Me
   - Laura
   - Rob Murray
   - Jason Draper
   - Jeff Mitman – HQ SD Risk
   - Pat
   - Prema
3. ~~We need WIFI passwords~~.
4. [redacted] (b)(5)
5. Get external OE from Karla
6. ~~Set up an inspection report~~

7. **Documents**: Copy of timeline
   - What was the status of DC power?
   - Could RCIC have been used if the plant heated up?
   - ~~When did they go from mode 5 to mode 4?~~
   - What was the status of the electrical buses?
   - ~~When was the ERAT taken out and returned to Service?~~
8. Copy of any statements provided and the names of everybody involved. (Develop safety-culture questions)
9. ~~Org Chart~~
10. ~~Org Chart of who was in OCC on day and nights and what were the operating crew makeups~~
11. ~~Condition reports associated with the issue~~.
12. ~~Copy of the control room~~ and EO logs from the time the initial OOS was hung on Division 2 until it was discovered and the risk was reevaluated to Red.
13. ~~Operator Log procedure~~
14. ~~Equipment OOS procedure~~
15. Copies of the Turnover sheets for EO, RO, SROs during the time period.
16. ~~Shift turnover procedure~~.
17. ~~Copy of the promp~~ Who wrote the prompt?
18. ~~Equipment Status Tag procedure~~
19. ~~Loss of AC power procedure~~
20. ~~Any procedures that would be used is LOSP occurred during the Div 1 outage (e.g. SBO, Flex, Abnormal, diesel recovery)~~
21. ~~List of Operations/NOS audits/self-assessments for the last 2 years~~
22. ~~rounds procedure –~~ What if anything has the licensee done about this going so long without being recognized by the rounds operator?
23. ~~Equipment alignment checklists filled out due to corrective actions~~
24. ~~CR for CO2 tank issue – An evaluation was performed to determine the cause of the CO2 tank outlet valve being left in a position different from its required position. The review concluded that the last time the valve was manipulated was per a clearance order that was hung to support generator inspections during the last refueling outage. The clearance was removed on 5/24/16 and the incorrect valve position discovered on 9/22/16. (IR 2718753)~~

25. Marked up electrical drawings of the status of Both DIV 1 and Div 2 AC and DC from the time DIV 1 was taken out of service.

~~26. Copy of OP-AA-108-112~~

27. (b)(5)

(b)(5)

28. Root Cause team lead interview – Scheduled

~~29. Root Cause procedures~~

30. These reports:

Non Responsive

(b)(5)

31. (b)(5)

(b)(5)

32. Does Laura need anything else?

- Exelon Position Paper, EXC-WP-03,"FLEX Guidance for Shutdown/Refueling Modes," Rev 1,

- ~~The shutdown safety procedure, step 4.15 discusses the use of FLEX to minimize or "eliminate" risk. It refers to OU-AA-103, step 4.8. When you get a chance could you forward a copy of that procedure?~~
- Go over assumptions on SDP
  - Is RCS Head vent large enough
  - Could licensee inject with DFP & were SRVs available
  - Status of DC power
  - Could RCIC have been used if plant heated up
  - Has the licensee used the simulator to figure out how this would have played out.
  - Does flex go to both Div 1 and Div 2?

Notes

Note 1

From: Rodriguez, Lionel
Sent: Thursday, May 17, 2018 11:02 PM
To: Stoedter, Karla <Karla.Stoedter@nrc.gov>
Cc: Sanchez Santiago, Elba <Elba.SanchezSantiago@nrc.gov>
Subject: Update on Div. 2 EDG Unavailability during Outage

Hello,

Based on a quick discussion w/ Richard Champley (Senior License Holder), and a search of the Operations Logs, it appears the Air Start Receiver valves were shut for the Division 2 EDG on 5/5/18 during the planned Division 2 System Outage Window through a Clearance Order (C/O 139455). The 1DG160 and 1DG161 valves (Air Receiver Outlet Valves) were supposed to have been restored to their required position during the Final Clear of the Clearance Order by implementation of the Division 2 EDG restoration procedure to standby (3506.01P002). On 5/9/18, the Clearance Order was cleared, but because the Division 2 SX system had not yet been restored the Division 2 EDG was not restored to its standby configuration. This was recognized, and a log entry was generated to track completion of that. It appears to me that the log entry was lost in the shuffle. On 5/11/18, the Division 2 SX system was restored and a separate correction log entry was made which stated the Division 2 EDG was available and in standby.

On 5/14/18 they commenced their Division 1 System Outage Window and began protecting the Division 2 EDG.

We will continue to feed you more information as we get it.

Lionel Rodriguez
Clinton Acting Resident Inspector

Note 2 TS

Not moving fuel

Note 3

Initial log entry

05/05/2018 13:00	Commenced hanging first hang checklist 001 for C/O 145843 for the Division 2 SX SOW and repair of the 1E12F014B and 1E12F068B valves. For this C/O Division 2 SX will be drained per CPS 3211.01. This makes Division 2 SX INOPERABLE. No ITS entry is required as SX is not required in modes 4 and 5 per LCO 3.7.1. However, this is a Mode 2 restraint as well as a restraint to Secondary Containment Operability due to SX system valves open for draining or venting inside secondary containment. After restoration from the clearance, division 2 SX will need fill and vent per CPS 3211.01.[Bulpitt, Patrick Joseph, MISC]
05/06/2018 00:31	Completed hanging C/O 145843. Placed holders lock on clearance order until draining is verified to be sufficient for start of work.[Tapia, Manuel J, MISC]
05/09/2018 17:25	C/O 139455 (Div 2 Bus Outage) has been removed from Div 2 DG. Div 2 DG remains in maintenance lockout pending restoration of Div 2 SX SOW. Restoration pre 3506.01P002 will need to be performed to restore Div 2 DG to standby.[Griffin, Michael J, MISC]

<u>Note 4</u>

Condition found log entry

Rd Dc Op S O R F MR Type	Date	Entry
	05/17/2018 15:03	Received a call from "C" area operator who identified that valves 1DG160 and 1DG161 are SHUT. These are the div 2 DG air start receivers. Sent a peer check out in the field with 3506.01P002 Div 2 Diesel Generator Operation procedure to verify valves and positions for DG air start system lineup, and return it to standby.

With 1DG160 and 1DG161 SHUT, Div 2 diesel generator is INOPERABLE. Div 1 DG is presently INOPERABLE for div 1 4160V 1A1 partial bus outage.

Enter the following ITS LCO actions:

LCO 3.8.2 B.1 -- Suspend Core Alterations (Action Met, no core alts in progress)
LCO 3.8.2 B.2 -- Suspend movement of irradiated fuel in the primary and secondary containment immediately (Action met, no fuel irradiated fuel movement in progress)
LCO 3.8.2 B.3 -- Initiate action to restore required DG to OPERABLE immediately. Action in progress.

LCO 3.0.6 safety function determination and support/supported evaluation as follows:

Evaluated LCO 3.5.2 for DRAIN TIME and ECCS OPERABILITY. With no ECCS pump powered by an OPERABLE on-site power source LCO 3.5.2 is not MET. With RHR-B in shutdown cooling and letdown mode and the RHR shutdown cooling isolations not powered by an OPERABLE on-site power source, evaluated DRAIN TIME. Based on current makeup flow rates to the reactor, the current DRAIN TIME is evaluated at 10.2 hours.

Entered the following LCO actions:
LCO 3.3.5.2 A.1 - Enter the condition in the table
LCO 3.3.5.2 B.1 - Declare associated penetration flowpath incapable of auto isolation (RT/RHR) IMMEDIATELY (action met)
LCO 3.3.5.2 B.2 - Calculate DRAIN TIME IMMEDIATELY (action met)
LCO 3.5.2 A.1 - Restore required ECCS injection / spray subsystem to OPERABLE in 4 hours. (Due at 19:03).
LCO 3.5.2 C.1 - Verify secondary containment can be set within DRAIN TIME by 19:03 (Action met - secondary CTMT can be set, reviewed 1409.01 and secondary containment restraints)
LCO 3.5.2 C.2 - Verify secondary containment penetrations can be set within DRAIN TIME by 19:03 (Action met - secondary CTMT can be set, reviewed 1409.01 and secondary containment restraints)
LCO 3.5.2 C.3 - Verify standby gas treatment can be set within DRAIN TIME by 19:03 (Action met - SBGT 'B' is capable of manual start from the MCR)

ITS Evaluation by: Antonelli / Staber

Reviewed plant risk. Currently div 3 DG, RAT, and ERAT electric power sources are AVAILABLE. There is no defined condition in OU-CL-104 for this condition with either div 1/2 not having both onsite and offsite power, but div 3 onsite DG available.

15:39 -- Discussed with shutdown safety manager (Westbrook) who agreed this is not a defined condition. The shutdown safety manager review of paragon trees initially classifies this condition as outage risk RED. Protected high pressure core spray, div 3 AC/DC/DG/SX. Notified security (Drick) of change in system availability and protected equipment status. Westbrook is commencing an emergent SSRB per OU-AA-104. Per recommendation by Westbrook reviewed FLEX equipment deployment per 4306.01P017, and based on currently available resources, FLEX could be deployed prior to time to boil or DRAIN TIME and utilized for inventory control or decay heat removal. [Antonelli, Michael K, CRS]

<u>Note 5</u> Preliminary Timeline

May 5 @ 17:03	The ERAT became unavailable.
May 9 @ 5:25pm	The control room logged the clearance order on the Division 1 Diesel Generator had been removed but the DG remained in maintenance lockout pending restoration of the Division 2 Shutdown Service Water SOW. It also stated, restoration per 3506.01P002 would need to be performed to restore Division 2 DG to standby. (The residents searched the logs and did not find an entry stating this action had been performed.)
May 11 @3:30am	The overall shutdown risk included in the logs stated both Division 1 and 2 Diesel Generators were available. The Rx cavity gate was installed. When exactly did drain down commence?
May 11 @ 6:50am	The Division 2 Diesel Generator was logged as being available and in standby.

May 12 @ 1:30am Plant Entered Mode 4

May 13 @ 6:08 ERAT is Available

May 14 @ 12:45am The licensee entered the Division 1 outage window.

May 17 @ 3:00pm The licensee identified the Division 2 air receiver outlet valves were closed, and therefore the Division 2 Diesel Generator was inoperable and unavailable. **(Both Division 1/2 DGs unavailable)**

May 17 @ 3:45pm The licensee restored the Division 2 Diesel Generator to available.

Other Information:

- The change in shutdown risk associated with this condition was:
  - Electric: From Yellow to Red due to no onsite power sources available
  - Spent Fuel Pool Cooling: From Green to Orange due to one Fuel Pool Cooling method available and NOT capable of being supplied by an on-site power source.
  - Decay Heat Removal: From Yellow to Orange due to one SDC loop with no on-site power source.
- At the time this condition was discovered RHR 'B' was the in-service train for shutdown cooling and RHR 'C', in conjunction with the SRVs, was the alternate method of shutdown cooling. The Division 2 DG being inoperable meant neither method had an available on-site power source.
- The licensee initiated a prompt investigation for this issues, they also issued a Mode 2 restraint until plant walk downs, verifying other safety systems had been appropriately restored, is completed. The licensee is projecting completion by 1900 today.

Note 4

Internal operating experience.

Assign #: 10					AR #: 02718753
Aff Fac:	Clinton	**Assign Type:**	ACIT	**Status:**	COMPLETE
Priority:		**Assigned To:**	ANTOMK	**Due Date:**	10/28/2016
Schedule Ref:		**Prim Grp:**	A5110OPCE	**Orig Due Date:**	10/28/2016
Unit Condition:		**Sec Grp:**			

Assignment Details

Subject/Description: Tailgate to all ops crews the requirements of OP-AA-101-1 03, Locked equipment program. Document results and create any additional actions if needed.

Assignment Completion

In Progress Notes: A daily order is being issued to all ops crews discussing the requirements from the locked valve program. MKA 10/27/16

Completion Notes: See inprogress notes

	Issue	IR #	Licensee's Response	Resolution	Notes
1	OU-CL-104 p.29 Says no on-site source available is Red Also 1 offsite and 1 onsite source available to the same Div is orange. Why weren't they orange.				In mode 5 with cavity flooded 1 onsite and 1 offsite source is Yellow. Licensee planned to have 2 EDG and 1 offsite prior to Rx Cavity drain down.
2	OU-CL-104 p. 12 When either Div 1 or Div 2 Bus is de-energized the other Bus Will have its associated DG and two off-site sources available unless approved by the SSRB per OU-AA-103 Att 1 Want the approval.				
3	OU-CL-104 p. 12 Electric Power Orange risk is not allowed step 4.5.3.10				
4	OU-CL-104 p. 12 Step 4.5.3.7 Div. 1 or Div 2 is always available			NCV	
5	1CO017 Tank Outlet Valve found Closed There was no finding associated with this issue.	IR2718753			Spoke with John Robbins about this. Need to see plant fire protection report.
6	OP-AA-108-103, Locked Equipment Program Step 4.1.5. **If** plant conditions require a locked component to be positioned in a manner other than that indicated on the locked equipment checklist or approved procedure, **then UNLOCK** and **REPOSITION** equipment in accordance with OP-AA-108-101, "Control of Equipment and System Status". OP AA-108-101 Step				

	4.1.1. Use of ACPS and EST(s) 1. Utilize an ACPS for aligning equipment outside of routine operations. For situations, excluding routine operation, where a component, system, or structure is required to be placed in a position differing from its normal lineup, the alignment must be done utilizing an Abnormal Component Position Sheet. The ACPS will document proper evaluation, performance and restoration of the alignment, ensuring plant configuration control is maintained. 4.1.2.4 4. Utilize EST(s) in conjunction with the ACPS to flag the component(s) left in an abnormal position. The ACPS is used to document approvals, positioning and restoration of these component(s). The EST(s) identify the temporary status of the equipment positions at the point of control.				
7	4.11. **Post Outage Report** 4.11.1. Upon completion of a refueling outage and for other outages as determined by the SSRB, a post outage report will be **PREPARED** and **ISSUED** to the Work Management Director. 4.11.2. The report content will consist of a **COMPARISON** of planned KSF status (from the shutdown safety plan) to actual KSF status, **IDENTIFICATION** of unplanned entries into status YELLOW, ORANGE, or RED and **IDENTIFICATION** of unplanned unavailability of equipment important to shutdown safety during periods when the equipment was needed to support a KSF. 1. Provide a count of unplanned safety status changes that are characterized as due to an HU/THU error.				
8	TS 3.8.2		No	N/A	Get applicability clarified
9	What if anything has the licensee done about this going so long without being recognized by the rounds operator?				

From: Phillips, Charles
To: Sanchez Santiago, Elba; Kozak, Laura; Draper, Jason
Subject: TS 3.8.2
Date: Tuesday, June 19, 2018 11:19:56 AM
Attachments: image001.jpg

(b)(5)

Note to requester: The missing image on this page is on the following page.

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.2 AC Sources—Shutdown

BASES

BACKGROUND

A description of the AC sources is provided in the Bases for LCO 3.8.1, "AC Sources—Operating."

APPLICABLE SAFETY ANALYSES

The OPERABILITY of the minimum AC sources during MODES 4 and 5 and during movement of irradiated fuel assemblies in the primary and secondary containment ensures that:

a. The unit can be maintained in the shutdown or refueling condition for extended periods;

b. Sufficient instrumentation and control capability is available for monitoring and maintaining the unit status; and

c. Adequate AC electrical power is provided to mitigate events postulated during shutdown, such as an inadvertent draindown of the vessel or a fuel handling accident.