

Byron 2

1Q/2012 Plant Inspection Findings

Initiating Events

Significance:  Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Structural Steel Beam Missing Fireproofing Materials

The inspectors identified a finding of very low safety significance (Green) and an associated NCV of Byron Operating License Condition 2.E when fireproofing material on a structural beam in the 2A Safety Injection (SI) Pump Room was identified as missing. As part of their immediate corrective actions, the licensee implemented compensatory measures that included hourly fire watches until fireproofing of the steel beam was subsequently completed.

Inspection Report# : [2012002](#) (*pdf*)

Mitigating Systems

Significance:  Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Incomplete Component Cooling Water System and Essential Service Water System Code Examinations

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR 50.55a(g)(4) when licensee personnel failed to perform system leakage testing in a timely manner as required by Section XI of the ASME Code following modification activities that added piping and associated welds between Unit 1 and Unit 2 CC and SX systems. The licensee performed the required leakage tests which were all found to be acceptable.

Inspection Report# : [2012002](#) (*pdf*)

Significance:  Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Control the Operating Status of Eight New Valves Affecting Two Safety Related Systems

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR Part 50, App B, Criterion XIV, "Inspection, Test, and Operating Status," when licensee personnel failed to control the operating status of eight manual isolation valves that were installed as part of a modification. The licensee placed temporary identification tags on the valves and initiated a clearance order to control the position of these valves.

Inspection Report# : [2012002](#) (*pdf*)

Significance:  Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY VOIDED SECTIONS OF AF PIPING

The inspectors identified a finding of very low safety significance (Green) and associated NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," when licensee personnel failed to identify non-conforming conditions associated with voided piping within the Unit 1 and Unit 2 safety-related diesel driven auxiliary feedwater (AF) systems (i.e., between the AF 006B and 017B valves.) These sections of piping had been historically voided until they were recently re-design to be filled and maintained filled with water to address a NRC identified 10 CFR Part 50, Appendix B, Criterion III, "Design Control" Green non-cited violation (NCV). The licensee entered this issue

into their corrective action program as IR 1296819, IR 1292337, and IR 1295760. Corrective actions include instituting a Operations standing order, replacement of the Unit 1 AF drain valve, and a capping the Unit 2 AF drain valve.

The inspectors determined that the failure to identify the voided sections of AF piping prior to and following the inspector's observations and interactions with licensee staff and management was a performance deficiency. The inspectors determined that the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of findings," Table 4a for the Mitigation Systems cornerstone. Specifically, the inspectors answered yes to question 1; design or qualification deficiency confirmed not to result in a loss of operability or functionality. This conclusion was reached after conservatively assuming that both sections of piping were completely voided and after reviewing tests performed by the licensee in response to the previously documented design control violation. This finding was associated with a cross-cutting aspect in the Human Performance, Resources component H.2(c). Specifically, the licensee did not have adequate procedures to ensure that these sections of piping were maintained filled with water. (Section 1R15)

Inspection Report# : [2011005](#) (*pdf*)

Significance:  Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

HIGH ENERGY LINE BREAK OPEERABILITY EVALUATION

The inspectors identified that the licensee did not meet multiple Operability Determination Process standards after identifying a non-conservative condition related to assumed closure times for hazard barrier dampers separating the turbine building from various safety-related rooms within the Auxiliary Building. The wall between these two building that house the dampers are commonly referred to as the "L-wall." The issues raised by the inspectors during their review of the Operability Evaluation (Revision 1 and Revision 2) resulted in the station: re-evaluating the non-conservative condition against aspects of the current licensing basis not previously considered, including applicable affected extent of condition room areas, and evaluating multiple common mode failures that the station had not previously considered under this review. In addition to the issues with the Operability Evaluation, the inspectors identified that applicable station calculations of record did not assume the correct licensing basis single failure. The licensee entered these issues into the their Corrective Action Program as IR 1184258, IR 1237133, IR 1238611, IR 1240295, IR 1244251, and IR 1276895. Corrective actions included two revisions of the Operability Evaluation, an assignment to reconstitute the applicable design basis calculation records, and plans to re-design "L-wall" HELB ventilation barriers to restore compliance.

This performance deficiency was determined to be more than minor because it was similar to the "not minor if" aspect of NRC Manual Chapter 0612, Appendix E, "Example of Minor Issues" example "3j" and dissimilar from the "minor because" aspect of this example to reasonably conclude that the finding was associated with the Mitigating Systems Design Control attribute and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The inspectors determined that the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," Table 4a, for the Mitigating Systems Cornerstone. The inspectors answered "No" to all of the Mitigating Systems Cornerstone questions in Table 4a of IMC 0609.04, and, as a result, the finding screened as having very low safety significance (Green). This finding has a cross-cutting aspect in the Corrective Action Program component of the Problem Identification and Resolution cross-cutting area [P.1(c)] since the licensee failed to adequately evaluate a non-conforming condition associated with hazard barrier closure times. As a result, the licensee would not have implemented effective corrective actions to resolve the non-conformance. (Section 1R15)

Inspection Report# : [2011005](#) (*pdf*)

Significance:  Sep 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO IDENTIFY ELEVATED RISK STATUS

The inspectors identified a finding of very low safety significance (Green) and an associated NCV of 10 CFR 50.65,

“Requirements for Monitoring the Effectiveness of Maintenance at Nuclear power Plants,” when licensee personnel failed to accurately assess plant risk during maintenance activities. The inspectors determined that the licensee failed to identify and take actions required to address an increase in risk when the Unit 2 Component Cooling Water (CC) heat exchanger was removed from service. Specifically, for 0.6 days the Unit 2 CC heat exchanger was removed from service and the plant remained in a Green risk status although the licensee's maintenance risk management procedure prescribed that a Yellow risk status be entered and that certain Risk Management Actions (RMAs) be taken. Upon identification and notification by the NRC inspectors, licensee personnel revised the plant risk status from Green to Yellow and took the appropriate RMAs. The issue was entered into the licensee's corrective action program as Issue Report (IR) 1262639.

The performance deficiency was determined to be more than minor because it was associated with the Human Performance attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The performance deficiency was also determined to be more than minor because the finding was similar to IMC 0609, Appendix E, Example 7.e, and resulted in actual plant risk being in a higher risk category established by the licensee than had been previously declared. The Byron Standardized Plant Analysis Risk (SPAR) model Version 8.18 and SAPHIRE model Version 8.0.7.17 was used to calculate an Incremental Core Damage Probability Deficit (ICDPD) for the condition of the Unit 2 CC heat exchanger being unavailable for 0.6 days. The result was an ICDPD of less than $5E-7$. Based on the analysis, the finding was determined to be of very low safety significance (Green). This finding had a cross-cutting aspect in the Work Control component of the Human Performance cross-cutting area [H.3.(a)] because the licensee failed to appropriately incorporate risk insights when the Unit 2 CC heat exchanger was removed from service. (Section 1R13)

Inspection Report# : [2011004](#) (*pdf*)

Significance: SL-IV Sep 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

MODIFICATION OF THE AUXILIARY FEEDWATER SYSTEM WITHOUT PRIOR NRC APPROVAL

The inspectors identified a Severity Level IV NCV of 10 CFR 50.59, “Changes, Tests, and Experiments,” when licensee personnel failed to obtain a license amendment prior to implementing a proposed change to the plant that resulted in a more than minimal increase in the likelihood of occurrence of a malfunction of a structure, system or component important to safety previously evaluated in the Updated Final Safety Analysis Report (UFSAR). Specifically, the licensee performed a modification to the facility that permitted the Unit 1 and Unit 2 “A” Auxiliary Feedwater (AF) trains to be shared between units and the 10 CFR 50.59 evaluation that was performed reached the erroneous conclusion that prior NRC approval was not required. The licensee issued a Standing Order to modify the Emergency Operating Procedure which governed the use of the modification and planned to submit a License Amendment Request (LAR) to the NRC for this design change. The issue was entered into the licensee's corrective action program as IR 1257908.

The violation was determined to be more than minor because the inspectors determined that the change required prior NRC approval. Violations of 10 CFR 50.59 are dispositioned using the traditional enforcement process because they are considered to be violations that potentially impede or impact the regulatory process. In accordance with Section 6.1.d.2 of the NRC Enforcement Policy, this violation is categorized as Severity Level IV because the resulting changes were evaluated by the SDP as having very low safety significance. (Section 4OA2.3)

The associated performance deficiency is tracked as item 2011-004-03.

Inspection Report# : [2011004](#) (*pdf*)

Significance:  Sep 30, 2011

Identified By: NRC

Item Type: FIN Finding

MODIFICATION OF THE AUXILIARY FEEDWATER SYSTEM WITHOUT PRIOR NRC APPROVAL

The inspectors identified a finding of very low safety significance (Green) when licensee personnel failed to obtain a license amendment prior to implementing a proposed change to the plant that resulted in a more than minimal increase in the likelihood of occurrence of a malfunction of a structure, system or component important to safety previously evaluated in the Updated Final Safety Analysis Report (UFSAR). Specifically, the licensee performed a modification

to the facility that permitted the Unit 1 and Unit 2 “A” Auxiliary Feedwater (AF) trains to be shared between units and the 10 CFR 50.59 evaluation that was performed reached the erroneous conclusion that prior NRC approval was not required. The licensee issued a Standing Order to modify the Emergency Operating Procedure which governed the use of the modification and planned to submit a License Amendment Request (LAR) to the NRC for this design change. The issue was entered into the licensee’s corrective action program as IR 1257908.

The finding was determined to be more than minor because the inspectors determined that the change required prior NRC approval. The underlying technical issue evaluated through the SDP determined the finding could be evaluated using the SDP in accordance with IMC 0609, “Significance Determination Process,” Attachment 0609.04, “Phase 1 - Initial Screening and Characterization of Findings,” Table 4a, for the Mitigating Systems Cornerstone. Specifically, the inspectors answered “Yes” to Question 1 of the Mitigating Systems Cornerstone column of the Phase 1 worksheet because the inspectors concluded that this was a change confirmed not to result in the loss of operability. Based upon this Phase 1 screening, the inspectors concluded that the issue was of very low safety significance (Green). This finding had a cross-cutting aspect in the Operating Experience component of the Problem Identification and Resolution (PI&R) cross-cutting area [P.2.(b)] because the licensee failed to make adequate use of known industry operating experience in the screening of a modification prior to installation. (Section 40A2.3)

The associated traditional enforcement item is tracked as item 2011-004-02.

Inspection Report# : [2011004](#) (pdf)

Significance:  Sep 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

DESIGN OF AUXILIARY FEEDWATER SYSTEM INCLUDED VOIDS IN SAFETY RELATED ALTERNATE SUCTION FLOWPATHS

The inspectors identified a finding of very low safety significance (Green) and an associated NCV of 10 CFR 50, Appendix B, Criterion III, “Design Control,” when licensee personnel failed to properly analyze the configuration of the Essential Service Water (SX) connections to the AF pumps. Specifically, a section of the piping was intentionally maintained empty (voided), but was not previously analyzed. This condition existed since initial plant construction. The issue was entered into the licensee’s corrective action program as IR 1172938.

The finding was determined to be more than minor because the finding was associated with the Mitigating Systems Cornerstone attribute of Design Control and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the unverified configuration might have rendered each of the AF pumps inoperable. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, “Significance Determination Process,” Attachment 0609.04, “Phase - 1 Initial Screening and Characterization of Findings,” Table 4a, for the Mitigating Systems Cornerstone. Specifically, the inspectors answered “Yes” to Question 1 of the Mitigating Systems Cornerstone column of the Phase 1 worksheet because the inspectors concluded that this finding was confirmed not to result in a loss of operability. This conclusion was reached after reviewing tests performed by the licensee. The tests demonstrated there was reasonable assurance that the AF system would perform its safety function in the installed configuration. Additionally, the licensee filled the voided sections of pipe, restoring compliance with the licensed design basis. The inspectors did not identify a cross-cutting aspect associated with this finding because it was not indicative of current licensee performance. (Section 40A5)

Inspection Report# : [2011004](#) (pdf)

Significance:  Sep 02, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

UNTIMELY CORRECTIVE ACTION FOR PREVIOUSLY IDENTIFIED NON-CITED VIOLATIONS (SECTION 40a2.1.B.3.I)

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Action,” when licensee personnel failed to implement timely corrective actions to address two previously issued NCVs. The two NCVs were related to the lack of design analysis documentation associated with the Recycle Holdup Tank (RHUT); and tornado missile and seismic protection for the Diesel Oil Storage Tank

(DOST) vent lines. Specifically, the licensee had not completed required design analyses for these issues at the conclusion of this inspection, although the violation associated with the RHUT was initially identified by NRC inspectors in June 2007 and the violation associated with the DOST vent lines was initially identified by NRC inspectors in February 2009. The licensee entered this issue into their CAP as IR 1269928 and planned to complete the required analyses by April 2012.

This finding was of more than minor significance because the issue was associated with the Mitigating Systems Cornerstone attribute of Equipment Performance and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 4, "Phase I Initial Screening and Characterization of Findings," Table 4a for the Mitigating Systems Cornerstone and answered "No" to all the Mitigating Systems Cornerstone questions. Specifically, the issue did not result in the actual loss of the operability or functionality of a safety system. Therefore, the finding screened as having very low safety significance (Green). This finding had a cross-cutting aspect in the Resources component of the Human Performance cross-cutting area (H.2(a)) because the licensee failed to maintain long-term plant safety through minimization of long-standing equipment issues. (Section 40A2.1.b.3.i)

Inspection Report# : [2011008](#) (pdf)

Significance:  Sep 02, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO INITIATE ISSUE REPORTS

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," when licensee personnel failed to initiate IRs during the review of OPEX in accordance with licensee procedures to ensure that immediate actions, operability determinations, and reportability concerns were addressed by shift management within 24 hours. The licensee entered this issue into the CAP as IR 1257548 and completed the required shift management review.

The finding was of more than minor significance because, if left uncorrected, the issue would have the potential to lead to a more significant safety concern. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 4, "Phase I Initial Screening and Characterization of Findings," Table 4a for the Mitigating Systems Cornerstone and answered "No" to all the Mitigating Systems Cornerstone questions. Specifically, the issue did not result in the actual loss of the operability or functionality of a safety system. Therefore, the finding screened as having very low safety significance (Green). This finding had a cross-cutting aspect in the Operating Experience (OPEX) component of the Problem Identification and Resolution (PI&R) cross-cutting area (P.2(a)) because the licensee's procedures and guidance for OPEX did not ensure the systematic collection, evaluation, and communication to affected internal stakeholders, in a timely manner, of relevant internal and external OPEX. (Section 40A2.2.c)

Inspection Report# : [2011008](#) (pdf)

Significance:  Aug 26, 2011

Identified By: NRC

Item Type: FIN Finding

Inadequate Extent of Cause for 2A EDG Lube Oil Leak

The inspector identified a finding of very low safety significance when licensee personnel failed to perform an adequate extent of cause review in the root cause evaluation for the 2A EDG lube oil cooler leak. Specifically, the root cause evaluation identified that the root cause for the White finding was the absence of a formal, structured process to ensure that EPRI documents were reviewed to capture good work practices. However, the extent of cause review performed by the licensee was narrow in scope and did not include other potentially vulnerable programs other than that which affected the EDG lube oil cooler (i.e. the leakage reduction series publications). The licensee entered this issue into their corrective action program in an effort to define an appropriate scope for a supplemental extent of cause evaluation effort.

The inspector concluded the finding was more than minor because if left uncorrected it could become a more

significant safety concern. Specifically, the licensee's stated root cause of not having a formal process in place to incorporate EPRI documents from the Sealing Technology and Plant Leakage Reduction Series, which led to an inoperable EDG, could also impact other programs or processes. However, the potential impact of the identified root cause on other programs or processes were not reviewed as part of the licensee's extent of cause review effort. The inspector determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 4, "Phase I Initial Screening and Characterization of Findings," Table 4a for the Mitigating Systems Cornerstone and answered "No" to the Mitigating Systems Cornerstone questions. Therefore, the finding screened as having very low safety significance (Green). The finding had an associated cross-cutting aspect in the Self and Independent Assessments component of the Problem Identification and Resolution cross-cutting area, because the licensee's assessment on the readiness for the NRC Supplemental Inspection failed to recognize the weakness in the extent of cause discussion (P.3(a)).

Inspection Report# : [2011016](#) (pdf)

Significance: G Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ENSURE THAT THE DESIGN OF THE AF SUCTION PIPING WAS ADEQUATE TO PREVENT AIR ENTRAINMENT FOLLOWING A SEISMIC OR TORNADO EVENT

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," when licensee personnel failed to analyze whether the design of the auxiliary feedwater system ensured that air entrained into the system following a postulated seismic or tornado event did not prevent the system from performing its safety function. Specifically, licensee personnel failed to evaluate the failure of non-seismically qualified condensate storage tank suction piping during an earthquake or tornado that would cause the operating auxiliary feedwater pumps to draw air from the break location, potentially air-binding the pumps. The licensee entered this issue into their corrective action program to determine the required changes to the design of the system and performed an operability evaluation.

The finding was determined to be more than minor because it was associated with the Mitigating Systems Cornerstone attribute of Protection Against External Events and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as having very low safety significance because it was a design deficiency confirmed not to result in a loss of operability or functionality. The inspectors determined that there was no cross-cutting aspect associated with this finding because it was not confirmed to reflect current performance due to the age of the performance deficiency.

Inspection Report# : [2011003](#) (pdf)

Significance: G Jun 16, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Specify and Perform Required Independent Quality Verification Hold Point Inspections.

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion X, "Inspection," for the failure to ensure that independent quality verification (QV) inspection hold points (HPs) were specified in work orders (WOs) used during Raychem splicing activities on a safety-related instrumentation cable, in the containment. Specifically, during replacement of the failed RCS Loop 1B Wide-Range, Hot-Leg (resistance temperature detector) RTD 1TE-RC023A in 2006 and in 2008, the licensee used electrical Raychem splices to connect the RTD leads to its cable without including the required QV inspection HPs in the associated WO instructions. Consequently, the QV independent inspections were not performed as required by Exelon corporate Nuclear Oversight (NO) and Maintenance procedures and by the Quality Assurance Topical Report (QATR). Subsequently, the licensee initiated corrective actions to rework the Raychem splice at the next window of opportunity and to communicate and reinforce the importance of inclusion of QV HP inspections, when required. This issue was entered into the licensee's corrective action program (CAP) under Issue Reports (IRs) 01226961, 01214766, 01217502 and 01218406.

The failure to ensure that independent QV HP inspections were included in WO instructions as required by Exelon Corporate procedures and the QATR was a performance deficiency. This performance deficiency was more than minor because, if left uncorrected, it would lead to a more significant safety concern in that the failure to

independently verify quality attributes in safety-related equipment could involve an adverse impact to plant equipment. The inspectors concluded that this finding was associated with the Mitigating Systems Cornerstone. This performance deficiency was determined to have very low safety significance in Phase I of the SDP, since it was confirmed to involve a lack of required QV HPs for this Raychem splicing activity that did not result in a loss of operability or functionality. The inspectors determined that the underlying finding had a cross-cutting aspect in the area of Human Performance, Decision Making, because the licensee did not have an effective systematic process for obtaining interdisciplinary reviews of proposed maintenance work instructions to determine whether independent QV HP inspections were appropriately specified and implemented to assure plant safety. [H.1(a)] (Section 1R17.2.b)
Inspection Report# : [2011009](#) (*pdf*)

Significance:  Jun 16, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedure Requirements for Temporary Scaffolds that Remain in Place for Over 90 Days.

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” related to inadequate control of installed temporary scaffolds. Specifically, licensee’s procedure for the installation, modification, and removal of scaffolds was not followed, on a routine basis, for temporary scaffolds that remained in the plant for greater than 90 days. This could impact the operability or availability of plant system. The licensee entered this issue into the CAP as IR 01212656. Corrective actions for this issue included an investigation as to why procedure adherence issues with regard to scaffolds continue to occur and an extent of condition review of similar plant programs.

The inspectors determined that this issue was more than minor in accordance with IMC 0612, Appendix E, “Examples of Minor Issues.” Specifically, the inspectors concluded that this issue was similar to the more than minor criteria established in Example 4.a, “Insignificant Procedural Errors,” since the licensee failed to perform the required engineering evaluation for the temporary installed scaffolding that remained in the plant for more than 90 days. Therefore, this performance deficiency also impacted the Mitigating Systems Cornerstone objective of protection against external events (seismic events). The finding was of very low safety significance because there was not a confirmed loss of operability of any mitigating system component. The inspectors determined that the underlying finding had a cross-cutting aspect in the area of Human Performance, Decision-Making, because the licensee did not make the appropriate safety or risk significant decisions by failing to utilize the systematic scaffolding construction process to ensure adequate quality and, therefore, adequate safety was maintained when scaffolds remained installed for greater than 90 days. [H.1(a)]. (Section 4OA2.b.(1))

Inspection Report# : [2011009](#) (*pdf*)

Significance:  Jun 16, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

EDG Usable Fuel Calculations Failed to Consider Appropriate EDG Frequency Variations.

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” for the licensee’s failure to correctly translate applicable design basis (calculations) into specifications. Specifically, the licensee failed to take into account fuel oil consumption at an increased frequency of 61.2 Hz in their EDG loading calculations which resulted in non-conservative Technical Specifications. The licensee entered this finding into their corrective action program as IR 01226844 and implemented actions to evaluate incorporation of the EDG frequency administrative limits into applicable site operating procedures to ensure an adequate supply of fuel was available.

The inspectors determined that this finding was more than minor because the finding was associated with the Mitigating Systems cornerstone attribute of design control and affected the cornerstone objective of ensuring the capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the licensee failed to account for the increased fuel oil consumption resulting from operation at a higher EDG frequency variation of 61.2 Hz as allowed by TS 3.8.1 and room temperature of up to 120°F in their EDG loading calculations. Therefore, the licensee did not ensure that the minimum fuel oil level in the storage tanks, as required per TS 3.8.3, was adequate to support the EDGs’ 7-day mission time. This finding had a cross-cutting aspect in the area of Problem Identification and Resolution Corrective Action Program because the licensee did not

thoroughly evaluate the EDG fuel oil consumption when considering EDG frequency variation. Specifically, the licensee failed to translate applicable design bases into specifications, which resulted in non-conservative TS. [P.1(c)] (Section 40A2.b.(2))

Inspection Report# : [2011009](#) (pdf)

Significance: G May 04, 2011

Identified By: NRC

Item Type: FIN Finding

Failure to Adequately Document and Justify Continued Operability of the Auxiliary Feedwater System.

A finding of very low safety significance was identified at the Braidwood and Byron Stations by the inspectors when licensee personnel failed to adequately document and justify continued operability of the auxiliary feedwater (AF) system. Specifically, licensee evaluations of known voids in the AF alternate source suction piping did not provide an adequate technical basis to support operability of the AF pumps during a suction swap-over scenario. Subsequently, the licensee filled the voids and a Root Cause Evaluation (RCE) was initiated under Issue Report (IR) 1194196 (Braidwood) and IR 1194324 (Byron). The RCE was initiated to determine why prior opportunities for discovery of the inadequate void acceptance basis were missed and to develop associated corrective actions.

The inspectors determined the finding was more than minor because, if left uncorrected, the failure to recognize conditions that could render equipment inoperable had the potential to lead to a more significant safety concern. Because the finding was not a design deficiency, did not result in a loss of safety function, and did not screen as potentially risk-significant due to a seismic, flooding, or severe weather initiating event, the inspectors concluded that the finding was of very low safety significance (Green). This finding was associated with a cross-cutting aspect in the Decision-Making component of the Human Performance cross-cutting area because the licensee did not use conservative assumptions and did not verify the validity of underlying assumptions in their evaluations of the AF suction piping voids. (H.1(b)) (Section 40A5.1.7.b)

Inspection Report# : [2011015](#) (pdf)

Barrier Integrity

Emergency Preparedness

Significance: SL-IV Jun 22, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Changes to EAL Basis Decreased the Effectiveness of the Plan without Prior NRC Approval

The inspector identified a violation of very low safety significance involving a Severity Level IV NCV of 10 CFR 50.54(q) for failing to obtain prior approval for an emergency plan change which decreased the effectiveness of the plan. Specifically, the licensee modified the Emergency Action Level (EAL) Basis in EAL HU6, Revision 22, which indefinitely extended the start of the 15 minute emergency classification clock beyond a credible notification that a fire is occurring or indication of a valid fire detection system alarm. This change decreased the effectiveness of the emergency plan by reducing the capability to perform a risk significant planning function in a timely manner. The violation affected the NRC's ability to perform its regulatory function because it involved implementing a change that decreased the effectiveness of the emergency plan without NRC approval. Therefore, this issue was evaluated using Traditional Enforcement. The NRC determined that a Severity Level IV violation was appropriate due to the reduction of the capability to perform a risk significant planning standard function in a timely manner. The licensee entered this issue into its corrective action program and revised the EAL basis to restore compliance. (Section 1EP4)

The related performance deficiency is tracked as item 200-502-02.

Inspection Report# : [2010502](#) (pdf)

Significance: **G** Jun 22, 2011

Identified By: NRC

Item Type: FIN Finding

Changes to EAL Basis Decreased the Effectiveness of the Plan without Prior NRC Approval

The inspector identified a finding of very low safety significance involving a Severity Level IV NCV of 10 CFR 50.54 (q) for failing to obtain prior approval for an emergency plan change which decreased the effectiveness of the plan. Specifically, the licensee modified the Emergency Action Level (EAL) Basis in EAL HU6, Revision 22, which indefinitely extended the start of the 15 minute emergency classification clock beyond a credible notification that a fire is occurring or indication of a valid fire detection system alarm. This change decreased the effectiveness of the emergency plan by reducing the capability to perform a risk significant planning function in a timely manner.

The finding was more than minor using IMC 0612, because it is associated with the emergency preparedness cornerstone attribute of procedure quality for EAL and emergency plan changes, and it adversely affected the cornerstone objective of ensuring that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Therefore, the performance deficiency was a finding. Using IMC 0609, Appendix B, the inspector determined that the finding had a very low safety significance because the finding is a failure to comply with 10 CFR 50.54(q) involving the risk significant planning standard 50.47(b)(4), which, in this case, met the example of a Green finding because it involved one Unusual Event classification (EAL HU6).

Due to the age of this issue, it was not determined to be reflective of current licensee performance and therefore a cross-cutting aspect was not assigned to this finding. (Section 1EP4)

The associated traditional enforcement item is tracked as item 2011-50X-01.

Inspection Report# : [2010502](#) (*pdf*)

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : May 29, 2012