



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE RD. SUITE 210
LISLE, IL 60532-4352

May 30, 2017

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 — TRIENNIAL FIRE PROTECTION
INSPECTION REPORT 05000461/2017008**

Dear Mr. Hanson:

On April 21, 2017, the U.S. Nuclear Regulatory Commission (NRC) completed a Triennial Fire Protection Inspection at your Clinton Power Station. The enclosed inspection report documents the inspection results, which were discussed on April 21, 2017, with Mr. T. Stoner and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

The NRC inspectors documented one finding of very-low safety significance (Green) in this report. This finding was determined to involve a violation of NRC requirements. However, because of its very-low safety significance and because the issue was entered into your Corrective Action Program, the NRC is treating the issue as a Non-Cited Violation in accordance with Section 2.3.2 of the NRC Enforcement Policy.

If you contest the violation or significance of the NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555 0001; with copies to the Regional Administrator, Region III; the Director, Office of Enforcement; and the NRC resident inspector at the Clinton Power Station.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Robert C. Daley, Chief
Engineering Branch 3
Division of Reactor Safety

Docket No. 50-461
License No. NPF-62

Enclosure:
Inspection Report 05000461/2017008

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Letter to Bryan C. Hanson from Robert C. Daley dated May 30, 2017

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INSPECTION REPORT 05000461/2017008

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-461
License No: NPF-62

Report No: 05000461/2017008

Licensee: Exelon Generation Company, LLC

Facility: Clinton Power Station, Unit 1

Location: Clinton, IL

Dates: March 21 – April 21, 2017

Inspectors: J. Robbins, Reactor Inspector
A. Shaikh, Senior Reactor Inspector
D. Szwarc, Senior Reactor Inspector (Lead)

Observer: J. Corujo-Sandin, Reactor Inspector

Approved by: Robert C. Daley, Chief
Engineering Branch 3
Division of Reactor Safety

Enclosure

SUMMARY

Inspection Report 05000461/2017008; 03/21/2017 – 04/21/2017; Clinton Power Station; Routine Triennial Fire Protection Baseline Inspection.

This report covers an announced Triennial Fire Protection Baseline Inspection. The inspection was conducted by Region III inspectors. One finding was identified by the inspectors. The finding was considered a Non-Cited Violation of U.S. Nuclear Regulatory Commission (NRC) regulations. The significance of most findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) using Inspection Manual Chapter 0609, "Significance Determination Process," dated April 29, 2015. Cross-cutting aspects were determined using Inspection Manual Chapter 0310, "Aspects Within the Cross Cutting Areas." Findings for which the Significance Determination Process does not apply may be Green or be assigned a severity level after NRC management review. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated November 1, 2016. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 6, dated July 2016.

Cornerstone: Mitigating Systems

Green. The inspectors identified a finding of very-low safety significance (Green), and an associated Non-Cited Violation of License Condition 2.C(f) for the licensee's failure to adequately implement surveillance procedures and work processes associated with fire barrier damper inspections. Specifically, the licensee failed to perform fire barrier damper inspections for 15 fire dampers once every 48 months (plus an additional 25 percent grace period) as required by the Fire Protection Program. The licensee entered the issue into their Corrective Action Program, and will inspect the fire barrier dampers during the next refueling outage.

The inspectors determined that the performance deficiency was more-than-minor because the licensee's failure to inspect the fire barrier dampers could result in not identifying degraded dampers which could affect their ability to prevent a fire from spreading from one fire area to another. The finding was of very-low safety significance because the failure to inspect the fire barrier dampers did not impact the plant's ability to reach and maintain safe-shutdown. The finding has a cross-cutting aspect in the area of Human Performance, Work Management because the licensee failed to execute a work order to inspect the fire dampers in accordance with the required frequency in Procedure CPS 9601.01 and instead improperly extended the frequency of the fire damper inspections. (Section 1R05.2b) [H.5]

REPORT DETAILS

1. REACTOR SAFETY

Cornerstones: Initiating Events and Mitigating Systems

1R05 Fire Protection (71111.05T)

The purpose of the Fire Protection Triennial Baseline Inspection was to conduct a design-based, plant specific, risk-informed, onsite inspection of the licensee's Fire Protection Program's defense-in-depth elements used to mitigate the consequences of a fire. The Fire Protection Program shall extend the concept of defense-in-depth to fire protection in plant areas important to safety by:

- preventing fires from starting;
- rapidly detecting, controlling and extinguishing fires that do occur;
- providing protection for structures, systems, and components important to safety so that a fire that is not promptly extinguished by fire suppression activities will not prevent the safe-shutdown of the reactor plant; and
- taking reasonable actions to mitigate postulated events that could potentially cause loss of large areas of power reactor facilities due to explosions or fires.

The inspectors' evaluation focused on the design, operational status, and material condition of the reactor plant's Fire Protection Program, post-fire safe-shutdown (SSD) systems, and B.5.b mitigating strategies. The objectives of the inspection were to assess whether the licensee had implemented a Fire Protection Program that: (1) provided adequate controls for combustibles and ignition sources inside the plant; (2) provided adequate fire detection and suppression capability; (3) maintained passive fire protection features in good material condition; (4) established adequate compensatory measures for out-of-service, degraded or inoperable fire protection equipment, systems or features; (5) ensured that procedures, equipment, fire barriers and systems exist so that the post-fire capability to safely shut down the plant was ensured; (6) included feasible and reliable operator manual actions when appropriate to achieve SSD; and (7) identified fire protection issues at an appropriate threshold and ensured these issues were entered into the licensee's Problem Identification And Resolution Program.

In addition, the inspectors' review and assessment focused on the licensee's post-fire SSD systems for selected risk-significant fire areas. Inspector emphasis was placed on determining that the post-fire SSD capability and the fire protection features were maintained free of fire damage to ensure that at least one post-fire SSD success path was available. The inspectors' review and assessment also focused on the licensee's B.5.b related license conditions and the requirements of Title 10 of the *Code of Federal Regulations* (CFR), Part 50.54 (hh)(2). Inspector emphasis was to ensure that the licensee could maintain or restore core cooling, containment, and spent fuel pool cooling capabilities utilizing the B.5.b mitigating strategies following a loss of large areas of power reactor facilities due to explosions or fires. Documents reviewed are listed in the Attachment to this report.

The fire areas and fire zones and B.5.b mitigating strategies selected for review during this inspection are listed below and in Section 1R05.13. The fire areas and fire zones selected constituted four inspection samples and the B.5.b mitigating strategies selected constituted two inspection samples, respectively, as defined in Inspection Procedure 71111.05T.

Fire Area	Fire Zone	Description
CB-2	CB-2	Division 2 Cable Spreading Room
CB-3	CB-3e	Division 2 Nuclear Systems Protection System Inverter Room
CB-6	CB-6d	Corridor and Miscellaneous Rooms
D-4	D-4a	Division 3 Diesel Generator Room

.1 Protection of Safe Shutdown Capabilities

a. Inspection Scope

For each of the selected fire areas, the inspectors reviewed the fire hazards analysis, SSD analysis, and supporting drawings and documentation to verify that SSD capabilities were properly protected.

The inspectors also reviewed the licensee’s design control procedures to ensure that the process included appropriate reviews and controls to assess plant changes for any potential adverse impact on the fire protection program and/or post-fire SSD analysis and procedures.

b. Findings

No findings of significance were identified.

.2 Passive Fire Protection

a. Inspection Scope

For the selected fire areas, the inspectors evaluated the adequacy of fire area barriers, penetration seals, fire doors, electrical raceway fire barriers, and fire rated electrical cables. The inspectors observed the material condition and configuration of the installed barriers, seals, doors, and cables. The inspectors reviewed approved construction details and supporting fire tests. In addition, the inspectors reviewed license documentation, such as U.S. Nuclear Regulatory Commission (NRC) Safety Evaluation Reports, and deviations from NRC Regulations and the National Fire Protection Association standards to verify that fire protection features met license commitments.

The inspectors walked down accessible portions of the selected fire areas to observe material condition and the adequacy of design of fire area boundaries (including walls, fire doors, and fire dampers) to ensure they were appropriate for the fire hazards in the area.

The inspectors reviewed the installation, repair, and qualification records for a sample of penetration seals to ensure the fill material was of the appropriate fire rating and that the installation met the engineering design.

b. Findings

Failure to Perform Required Surveillances on Multiple Fire Dampers

Introduction: The inspectors identified a finding of very-low safety significance (Green) and an associated Non-Cited Violation (NCV) of License Condition 2.C(f) for the licensee's failure to adequately implement surveillance procedures and work processes associated with fire barrier damper inspections. Specifically, the licensee failed to perform fire barrier damper inspections for 15 fire dampers once every 48 months (plus an additional 25 percent grace period) as required by the Fire Protection Program.

Description: License Condition 2.C(f) required the licensee to fully implement and maintain in effect all provisions of the approved Fire Protection Program as described in the Final Safety Analysis Report as amended, and as approved in the Safety Evaluation Report (NUREG-0853) dated February 1982 and Supplement Numbers 1 through 8.

Section 9.5.1.4 of the Updated Final Safety Analysis Report stated, in part, that fire dampers will be subjected to periodic tests and/or inspections, as specified in plant administrative procedures. Specifically, Procedure CPS 9601.01, "Fire Rated Assemblies and Penetration Sealing Devices," Section 2.1.1 required that fire dampers and associated hardware be verified operable at least once per 48 months (allowing an additional 25 percent grace period) by visual inspection.

During the inspection the inspectors requested records of fire barrier damper inspections. While providing the response the licensee determined that 15 fire barrier dampers, whose design function is to preclude a fire from one fire area from spreading to an adjacent fire area, were not inspected as required by Procedure CPS 9601.01 since November 2011. The grace period for performing the inspections had expired in November 2016. The licensee had scheduled to inspect these fire dampers in 2015, but decided to extend the frequency of these inspection out to 5 years assuming another 25 percent grace period, which would alter the effective frequency of inspection to 6 years, without evaluating and documenting the frequency extension.

The licensee entered the issue into their Corrective Action Program (CAP) as Action Request (AR) 03992372, "2017 FP Triennial: Damper Surveillances Exceeds Frequency," dated March 31, 2017, and AR 03992375, "2017 FP Triennial: DG Damper Surveillance Missed," dated March 31, 2017. The licensee immediately declared these fire dampers non-functional and verified that the fire detectors on at least one side of these fire damper locations were functional. In accordance with Procedure CPS 1893.01, "Fire Protection Impairment Reporting, Appendix A, Fire Protection Functionality Requirements #8 Fire Rated Assemblies," the licensee implemented a 1-hour fire watch as a compensatory action. In addition, the licensee will perform a full inspection of these fire dampers during the next refueling outage.

Analysis: The inspectors determined that the licensee's failure to perform fire barrier damper inspections was a performance deficiency and was contrary to the Fire Protection Program's requirement of inspection within every 48 months. Specifically, the licensee failed to perform fire barrier damper inspections for 15 dampers at least once every 48 months (plus an additional 25 percent grace period).

The inspectors determined that the performance deficiency was more than minor because the finding was associated with the Mitigating Systems cornerstone attribute of Protection Against External Factors (Fire) 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).

In accordance with Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," Attachment 0609.04, "Initial Characterization of Findings," Table 2, the inspectors determined the finding affected the Mitigating Systems cornerstone. The finding degraded fire protection defense-in-depth strategies, and the inspectors determined, using Table 3, that it could be evaluated using Appendix F, "Fire Protection Significance Determination Process." Specifically, the licensee's failure to inspect the fire barrier dampers could result in not identifying degraded dampers which could affect their ability to prevent a fire from spreading from one fire area to another.

The inspectors screened the finding using IMC 0609, Appendix F, Attachment 1, "Part 1: Fire Protection SDP Phase 1 Worksheet," dated September 20, 2013. The inspectors answered "yes" to Question 1.3.1, "Is the reactor able to reach and maintain safe shutdown (either hot or cold) condition?," in Task 1.3.1 of IMC 0609, Appendix F. The failure to inspect these 15 fire barrier dampers did not impact the plant's ability to reach and maintain safe shutdown. Even though these fire barrier dampers were declared non-functional, the fire dampers were located in areas with fire detection systems. In addition, in most of the affected areas there was a functional automatic suppression system in the area on at least one side of the barrier with the non-functional damper. Therefore, the inspectors determined that the finding screened as having very-low safety significance (Green).

The finding has a cross-cutting aspect in the area of Human Performance, Work Management because the licensee failed to implement a process for planning, controlling, and executing work activities such that nuclear safety is the overriding priority. Specifically, the licensee staff failed to execute the work order to inspect the fire dampers in accordance with the required frequency in Procedure CPS 9601.01 and instead extended the frequency of the fire damper inspections. [H.5]

Enforcement: License Condition 2.C(f) requires the licensee to fully implement and maintain in effect all provisions of the approved Fire Protection Program as described in the Final Safety Analysis Report as amended, and as approved in the Safety Evaluation Report (NUREG-0853) dated February 1982 and Supplement Numbers 1 through 8. Section 9.5.1.4 of the Updated Final Safety Analysis Report stated, in part, that the fire dampers will be subjected to periodic tests and/or inspections, as specified in plant administrative procedures. Specifically, Procedure CPS 9601.01, "Fire Rated Assemblies and Penetration Sealing Devices," Section 2.1.1, required that fire dampers and associated hardware shall be verified operable at least once per 48 months by visual inspection.

Contrary to the above, since November 9, 2011, the licensee failed to implement and maintain in effect all provisions of the approved Fire Protection Program. Specifically, the licensee failed to perform fire damper inspections for 15 fire dampers once every 48 months as required by Procedure CPS 9601.01. The licensee had last completed inspections of these fire dampers on November 9, 2011.

This violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy because it was of very-low safety significance and was entered into the licensee's CAP as AR 03992375 and AR 03992372. The licensee inspected the accessible fire dampers, implemented an hourly fire watch, and will perform a full inspection of the remaining fire dampers during the next refueling outage. (NCV 05000461/2017008-01, Failure to Perform Required Surveillances on Multiple Fire Dampers)

.3 Active Fire Protection

a. Inspection Scope

For the selected fire areas, the inspectors evaluated the adequacy of fire suppression and detection systems. The inspectors observed the material condition and configuration of the installed fire detection and suppression systems. The inspectors reviewed design documents and supporting calculations. In addition, the inspectors reviewed license basis documentation, such as, NRC Safety Evaluation Reports, deviations from NRC Regulations, and National Fire Protection Association standards to verify that fire suppression and detection systems met license commitments.

The team observed an unannounced fire drill simulating a fire in the turbine building. The team observed fire brigade members fight a simulated fire. The team verified that the licensee identified problems, openly discussed them in a self-critical manner at the drill debrief, and identified appropriate corrective actions.

b. Findings

No findings of significance were identified.

.4 Protection from Damage from Fire Suppression Activities

a. Inspection Scope

For the selected fire areas, the inspectors verified that redundant trains of systems required for hot shutdown would not be subject to damage from fire suppression activities or from the rupture or inadvertent operation of fire suppression systems including the effects of flooding. The inspectors conducted walkdowns of each of the selected fire areas to assess conditions such as the adequacy and condition of floor drains, equipment elevations, and spray protection.

b. Findings

No findings of significance were identified.

.5 Alternative Shutdown Capability

a. Inspection Scope

The inspectors reviewed the licensee's systems required to achieve alternative SSD to determine if the licensee had properly identified the components and systems necessary to achieve and maintain safe shutdown conditions. The inspectors also focused on the adequacy of the systems to perform reactor pressure control, reactivity control, reactor coolant makeup, decay heat removal, process monitoring, and support system functions.

The inspectors conducted selected area walkdowns to determine if operators could reasonably be expected to perform the alternate SSD procedure actions and that equipment labeling was consistent with the alternate SSD procedure. The review also looked at operator training as well as consistency between the operations shutdown procedures and any associated administrative controls.

b. Findings

No findings of significance were identified

.6 Circuit Analyses

a. Inspection Scope

The inspectors verified that the licensee performed a post-fire SSD analysis for the selected fire areas and the analysis appropriately identified the structures, systems, and components important to achieving and maintaining SSD. Additionally, the inspectors verified that the licensee's analysis ensured that necessary electrical circuits were properly protected and that circuits that could adversely impact SSD due to hot shorts, shorts to ground, or other failures were identified, evaluated, and dispositioned to ensure spurious actuations would not prevent SSD.

The inspectors' review considered fire and cable attributes, potential undesirable consequences, and common power supply/bus concerns. Specific items included the credibility of the fire threat, cable insulation attributes, cable failure modes, and actuations resulting in flow diversion or loss of coolant events.

The inspectors also reviewed cable raceway drawings for a sample of components required for post-fire SSD to verify that cables were routed as described in the cable routing matrices.

The inspectors reviewed circuit breaker coordination studies to ensure equipment needed to conduct post-fire safe shutdown activities would not be impacted due to a lack of coordination. Additionally, the inspectors reviewed a sample of circuit breaker maintenance records to verify that circuit breakers for components required for post-fire SSD were properly maintained in accordance with procedural requirements.

The inspectors verified for cables that are important to SSD, but not part of the success path, and that do not meet the separation/protection requirements of Section III.G.2 of 10 CFR 50, Appendix R, that the circuit analysis considered the cable failure modes. In addition, the inspectors have verified that the licensee has either: (1) determined that there is not a credible fire scenario (through fire modeling), (2) implemented feasible and reliable manual actions to assure SSD capability, or (3) performed a circuit fault analysis demonstrating no potential impact on SSD capability exists.

b. Findings

No findings of significance were identified.

.7 Communications

a. Inspection Scope

The inspectors reviewed, on a sample basis, the adequacy of the communication system to support plant personnel in the performance of alternative SSD functions and fire brigade duties. The inspectors verified that plant telephones, page systems, sound powered phones, and radios were available for use and maintained in working order. The inspectors reviewed the electrical power supplies and cable routing for these systems to verify that either the telephones or the radios would remain functional following a fire.

b. Findings

No findings of significance were identified.

.8 Emergency Lighting

a. Inspection Scope

The inspectors performed a plant walkdown of selected areas in which a sample of operator actions would be performed in the performance of alternative SSD functions. As part of the walkdowns, the inspectors focused on the existence of sufficient emergency lighting for access and egress to areas and for performing necessary equipment operations. The locations and positioning of the emergency lights were observed during the walkdown and during review of manual actions implemented for the selected fire areas.

b. Findings

No findings of significance were identified.

.9 Cold Shutdown Repairs

a. Inspection Scope

The licensee did not credit any repairs in order to achieve cold shutdown. Therefore, no reviews were performed by the inspectors for this procedure section.

b. Findings

No findings of significance were identified.

.10 Compensatory Measures

a. Inspection Scope

The inspectors conducted a review to verify that compensatory measures were in place for out-of-service, degraded or inoperable fire protection and post-fire SSD equipment, systems, or features (e.g., detection and suppression systems, and equipment, passive fire barriers, pumps, valves or electrical devices providing safe shutdown functions or capabilities). The inspectors also conducted a review of the adequacy of short term compensatory measures to compensate for a degraded function or feature until appropriate corrective actions were taken.

b. Findings

No findings of significance were identified.

.11 Review and Documentation of Fire Protection Program Changes

a. Inspection Scope

The inspectors reviewed changes to the approved Fire Protection Program to verify that the changes did not constitute an adverse effect on the ability to safely shutdown. The inspectors also reviewed the licensee's design control procedures to ensure that the process included appropriate reviews and controls to assess plant changes for any potential adverse impact on the Fire Protection Program and/or post-fire SSD analysis and procedures.

b. Findings

No findings of significance were identified.

.12 Control of Transient Combustibles and Ignition Sources

a. Inspection Scope

The inspectors reviewed the licensee's procedures and programs for the control of ignition sources and transient combustibles to assess their effectiveness in preventing fires and in controlling combustible loading within limits established in the fire hazards analysis. A sample of hot work and transient combustible control permits were also reviewed. The inspectors performed plant walkdowns to verify that transient combustibles and ignition sources were being implemented in accordance with the administrative controls.

b. Findings

No findings of significance were identified.

.13 B.5.b Inspection Activities

a. Inspection Scope

The inspectors reviewed the licensee's preparedness to handle large fires or explosions by reviewing selected mitigating strategies. This review ensured that the licensee continued to meet the requirements of their B.5.b related License Conditions and 10 CFR 50.54(hh)(2) by determining that:

- procedures were being maintained and adequate;
- equipment was properly staged, maintained, and tested;
- station personnel were knowledgeable and could implement the procedures; and
- additionally, inspectors reviewed the storage, maintenance, and testing of B.5.b related equipment.

The inspectors reviewed the licensee's B.5.b-related License Conditions and evaluated selected mitigating strategies to ensure they remain feasible in light of operator training, maintenance/testing of necessary equipment and any plant modifications. In addition,

the inspectors reviewed previous inspection reports for commitments made by the licensee to correct deficiencies identified during performance of Temporary Instruction 2515/171 or subsequent performances of these inspections.

The B.5.b mitigating strategies selected for review during this inspection are listed below. The offsite and onsite communications, notifications/emergency response organization activation, initial operational response actions and damage assessment activities identified in Table A.3-1 of Nuclear Energy Institute 06-12, "B.5.b Phase II and III Submittal Guidance," Revision 2, are evaluated each time due to the mitigation strategies' scenario selected.

NEI 06-12, Revision 2, Section	Licensee Strategy (Table)
2.3.1	Spent Fuel Pool External Makeup (Table A.2-2)
3.4.5	Makeup to the Reactor Core Isolation Cooling (RCIC) Tank (Table A.5-5)

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA2 Identification and Resolution of Problems (71152)

a. Inspection Scope

The inspectors reviewed the licensee's CAP procedures and samples of corrective action documents to verify that the licensee was identifying issues related to the Fire Protection Program at an appropriate threshold and entering them in the CAP. The inspectors reviewed selected samples of condition reports, design packages, and fire protection system non-conformance documents.

b. Findings

No findings of significance were identified.

4OA5 Other Activities

.1 (Closed) Unresolved Item 05000461/2014007-01, Interpretation of Requirements for Multiple Spurious Operations

During the Triennial Fire Protection Inspection in 2014 the inspectors identified an unresolved item (URI) associated with the interpretation of requirements for addressing multiple spurious operations (MSOs). Specifically, the licensee's position was that addressing MSOs was a voluntary effort and not a requirement. Based on current interpretation and guidance the inspectors disagree with the licensee's position. However, during a review of the licensee's analyses the inspectors did not identify any MSO scenarios that the licensee did not consider and disposition. The licensee also took the position that they could limit the analysis of MSOs to four components when

evaluating a scenario. The inspectors disagreed with this position. During the 2014 inspection the inspectors requested the licensee to perform a qualitative analysis on diesel generator loading involving more than four loads. The licensee performed this analysis and showed that the additional loads were still within the margin of the diesel generator. The inspectors did not identify any additional scenarios during this inspection where the licensee did not appropriately consider and disposition all affected components. Lastly, in 2014 the inspectors discussed the determination of SSD path components in the URI. During the current inspection, the inspectors did not identify any concerns with the determination of SSD path components. The inspectors reviewed the licensee's fire hazards and SSD analyses, circuit analyses, and the fire response procedures and did not identify a violation at this time. Therefore, this URI is closed.

4OA6 Management Meetings

.1 Exit Meeting Summary

On April 21, 2017, the inspectors presented the inspection results to Mr. T. Stoner, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

D. Avery, Regulatory Affairs
K. Burda, Fire Protection Engineer
B. Kapellas, Plant Manager
T. Krawczyk, Engineering Director
W. Marsh, Security Director
K. Pointer, Regulatory Affairs
E. Rodriguez, Engineering Manager
D. Shelton, Regulatory Assurance Manager
T. Stoner, Site Vice President
J. Wilson, Engineering Manager

U.S. Nuclear Regulatory Commission

R. Daley, Branch Chief, EB3
E. Sanchez Santiago, Resident Inspector
W. Schaup, Senior Resident Inspector

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened and Closed

05000461/2017008-01	NCV	Failure to Perform Required Surveillances on Multiple Fire Dampers (Section 1R05.2b)
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Closed

05000461/2014007-01	URI	Interpretation of Requirements for Multiple Spurious Operations (Section 4OA5.1)
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Discussed

None

LIST OF ACRONYMS USED

AR	Action Request
CAP	Corrective Action Program
CPS	Clinton Power Station
IMC	Inspection Manual Chapter
MSO	Multiple Spurious Operations
NCV	Non-Cited Violation
NRC	U.S. Nuclear Regulatory Commission
SSD	Safe Shutdown
URI	Unresolved Item

LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety, but rather, that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

CALCULATIONS

<u>Number</u>	<u>Description or Title</u>	<u>Revision</u>
01FP9	FP Hydraulic Calculations for Turbine Building	0
85-783	FP Hydraulic Calculations for Aux. Building Basement and EDG Fuel Storage Tank Rooms	0
87-802	FP Piping Frictional Losses Calculations	003
H706.B01	FP Hydraulic Calculations for Control Building Cable Spreading Room Div. II	1a
H720.B02	FP Hydraulic Calculation for Control Building Below Elevation 762'	0
IP-M-0177-CB	Fire Loads in CPS Fire Zones Control Building	10
IP-M-0471	CPS Post Fire Safe Shutdown Criteria	4, 4A, and 4B
IP-M-0532	Appendix R Safe Shutdown Compliance Assessment	2A

CORRECTIVE ACTION PROGRAM DOCUMENTS ISSUED DURING INSPECTION

<u>Number</u>	<u>Description or Title</u>	<u>Date</u>
3987888	2017 FP Triennial: Smoke Detector 34-30 Has Dust Collection	03/21/2017
3988361	2017 FP Triennial: Flex Diesel Generator Fire Suppression System USAR Error	03/22/2017
3988730	NRC: 2017 FP Triennial TSC Access to Satellite Phones is Restricted	03/23/2017
3990164	2017 FP Triennial: NRC B.5.b Observations	03/27/2017
3990606	2017 FP Triennial: Observation on Security B.5.b Answers	03/28/2017
3991761	2017 FP Triennial: 1893.06 Frequency Discrepancies	03/30/2017
3992185	Combustible Loading Calculation Error	03/31/2017
3992372	2017 FP Triennial: Damper Surveillances Exceeds 1893.06 Frequency	03/31/2017
3992375	2017 FP Triennial: Diesel Generator Damper Surveillance Missed	03/31/2017
3993153	1FP56J Trouble Alarm Locked In	04/03/2017
3994041	2017 FP Triennial: Discrepancy on Pre-Fire Plan 1893.04M362	04/04/2017
3995568	2017 FP Triennial: Compressed Gas Hazard Not in 1893.04M510	04/07/2017
3995568	2017 FP Triennial: Compressed Gas Hazard Not in 1893.04M510	04/17/2017
3999133	2017 FP Triennial: Typographical Errors ID in EC 393108	04/17/2017

CORRECTIVE ACTION PROGRAM DOCUMENTS REVIEWED

<u>Number</u>	<u>Description or Title</u>	<u>Date</u>
1172335	Review Identifies Design Basis Issue for Spurious HP Operation	02/08/2011
1338809	MSOPS: 2-New-1 Spurious RCIC Start W/Loss of High Level Trip	03/09/2012
1338812	1RI01T: MSOPS: 2-New-2 Overfilling RCIC Storage Tank	03/09/2012
1338828	MSOPS: 2-New-7/8 RPV Overfill Degrades Alternate SD Cooling	03/09/2012
1629312	Need Plan For Drywell Fire Response	03/05/2014
1646250	NFPA 1962 Update Requires Fire Hose Replacement	04/11/2014
1676023	Smoke Detector Deflection	06/27/2014
1683333	NRC Questions Transient Material Inside Bravo Fire Pump Room	07/18/2014
2396126	Fire Loading of Fire Zone CB-6D Exceeds Medium Classification	10/15/2014
2398457	CB MCR (Kitchen/Restroom/Corridor) Fire Loading CB-6D	10/20/2014
2471188	Flex Wet Pipe System Design Did Not Include Alarm Function	03/19/2015
2501642	Main Power Transformer C Fire Protection Piping Degraded	05/16/2015
2537510	TRNG: Operator Response Time Validation Ratio Exceeds Limit	08/04/2015
2690337	Inadequate IGAP Closure	07/08/2016
2697444	Operator Response Time Validation Results	07/27/2016
2700786	Evaluation of Diesel Fire Pump A Capacity Data Results	08/04/2016
2702213	Full Core Offload B5B Concerns	08/09/2016
2707117	Request for NRC Commitment Extension of NSIAC Industry Initiative	08/22/2016
3971051	Operations Fell Below Minimum Staffing for 62 Minutes	02/27/2017
3987916	FP Valves 0FP150A and 0FP257 in Fire Pump A Room	03/21/2017

DRAWINGS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
4132	Phase II Fuel Pool Rack Layout BWR Spent Fuel Pool Storage Racks (Sheet 10)	10
A29-1001-04A	Diesel Generator Building Ground Floor Plan – Area 4	R
ASP-15WP-3	Fire Protection System Cable Spreading Rooms – Wet Pipe System	06/07/1986
E02-1AP99	Auxiliary Power System 4160V Bus 1A1 DC Failure and AC Undervoltage (Sheet 038)	Y
E02-1DC01	125V DC MCC 1A (1DC13E) (Sheet 1)	AC
E02-1RH99	Schematic Diagram Residual Heat Removal System Residual Heat Removal Pump 1A (Sheet 528)	G
E02-1RH99	Residual Heat Removal System RHR A to Feedwater Keep Fill Valve 1E12-F497 & RHR Pump to Suppression Pool Valve 1E12-F024A	O

DRAWINGS

<u>Number</u>	<u>Description or Title</u>	<u>Revision</u>
E02-1RI99	Reactor Core Isolation Cooling System RCIC Steam Line Isolation Valves 1E51-F064 & 1E51-F063 (Sheet 8, 13, 501)	G, K, M
E02-1RS99	Schematic Diagram Remote Shutdown System (Sheet 101, 104, 107, 108)	U, E, L, G
E02-1SX99	Schematic Diagram Shutdown Service Water System Shutdown Service Water Pump 1A (Sheet 001)	AE
E30-1003-04A-H30	Baldwin Associates Clinton Power Station for Illinois Power Company (Sheet 1)	AB
E30-1004-04A-FP	Fire Detection System Control Building Main Floor Plan El. 800'-0" Area 4	D
E30-1004-05A-FP	Fire Detection System Control Building Main Floor Plan El. 800'-0" Area 5	C
E30-1004-06A-FP	Fire Detection System Control Building Main Floor Plan El. 800'-0" Area 6	A
M01-1108	Figure Fp-14b Fire Protection Features Control Building Main Floor Plan El. 800'-0"	17
M05-1074	PI&D High Pressure Core Spray (Sheet 1)	AH
M05-1079	PI&D Reactor Core Isolation Cooling (Sheets 1 and 2)	AM and AH
S28-1903	Fuel Pool Liner Sections and Details (Sheet 1)	K
S28-1905	Fuel Pool Liner Sections and Details (Sheet 3)	J

ENGINEERING CHANGES

<u>Number</u>	<u>Description or Title</u>	<u>Revision</u>
383184	OpEval associated with 01172335, Review Identifies Design Basis Issue for Spurious HP Operation	0
389772	MSO Scenario 2-New-1 – Spurious RCIC Start with Loss of High Level Trip	0
390156	MSO Scenario 2-New-7/8 – Unprotected ECCS or RCIC Injection During Alternate Shutdown Cooling	0
390157	MSO Scenario 2-New-4 – Drain RCIC Storage Tank to the Suppression Pool	0
390764	Significance Determination of 1VD01YA Damper Failure	0
393108	Performance Based Evaluation of Selected Fire Protection Testing in Order to Extend the Surveillance Testing Interval (CPS)	1

ENGINEERING EVALUATIONS

<u>Number</u>	<u>Description or Title</u>	<u>Revision</u>
EE-00-148	Evaluation of Fire Detector Testing Frequency	0

PROCEDURES

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
CPS 1019.5	Transient Equipment/Materials	23e
CPS 1860.01C001	Cold Weather Preparations Checklist	7f
CPS 1893.04	Fire Fighting	18
CPS 1893.04M350	DIV II Cable Spreading Room Pre-Fire Plan	5c
CPS 1893.04M351	Aux, Electrical, Inverter & Battery Rooms Pre-Fire Plan	7c
CPS 1893.04M362	MCR Support Offices & Corridor Pre-Fire Plan	5a
CPS 1893.04M510	DIV III Diesel Generator & Day Tank Room Pre-Fire Plan	6a
CPS 1893.04M710	737 Turbine: General Access Area Pre-Fire Plan	6b
CPS 1893.04M710	737 Turbine, General Access Area Pre-Fire Plan	6b
CPS 3309.01	High Pressure Core Spray (HPCS)	17a
CPS 3403.01	Diesel Generator HVAC (VD)	8c
CPS 3822.04C003	Quarterly B.5.b Equipment Checklist	6e
CPS 4003.01	Remote Shutdown (RS)	18
CPS 4003.01C001	RSP – Pressure Control	0a
CPS 4003.01C002	RSP – RCIC Operation	4 and 5b
CPS 4003.01C003	RSP – RCIC Alarm Light Responses	1
CPS 4003.01C004	RSP – Diesel Generator 1A Operation	1d
CPS 4003.01C005	RSP – Div 1 SX Operation	1a
CPS 4003.01C006	RSP – Div 1 LPCI Operation	0
CPS 4003.01C007	RSP – Div 1 Suppression Pool Cooling Operation	0a
CPS 4003.01H002	MCR – “B” CRO Hard Card	0
CPS 4003.01H003	RSP – Hard Card ‘A’	0a
CPS 4003.01H004	RSP – Hard Card ‘B’	0
CPS 4003.01H005	RSP – Hard Card ‘C’	0a
CPS 4303.01	Extensive Damage Mitigation	6b
CPS 4303.01P018	ERO Activation During Extreme Damage Event	1a
CPS 4303.01P16	Emergency RCIC Tank Makeup From Fire Protection	0a
CPS 4303.01P17	Spent Fuel Pool Makeup From Fire Protection	2e
CPS 4411.02	Terminating and Preventing Injection	9
CPS 4411.02H001	Hard Card associated with Terminating and Preventing Injection	9 and 9a
CPS 9071.04	Fire Protection Water System Flow Test	33c
CPS 9337.81	Fire Detector Channel Functional	48
CPS 9601.01	Fire Rated Assemblies and Penetration Devices	28f and 29
CPS 9601.01C002	Fire Damper Inspections Checklist	28f
ER-AA-610-1001	Performance Based Evaluations for Fire Protection	4
LS-AA-107	UFSAR / FPR Update Procedure	11
LS-AA-107-1001	UFSAR / FPR Update T&RM	6
LS-AA-110	Commitment Change Evaluation Form associated with Change #2016-01, Spent Fuel Pool Loading	10/13/2016
LS-AA-110	Commitment Change Evaluation Form associated with Change #2016-02, Maintaining Severe Accident Management Guidelines	12/05/2016
OP-AA-201-003 Attachment 3	Fire Drill Scenario No.: U2017-07	04/05/2017
OP-AA-201-004	Fire Prevention for Hot Work	14

PROCEDURES

<u>Number</u>	<u>Description or Title</u>	<u>Revision</u>
OP-AA-201-008	Pre-Fire Plan Manual	3
OP-AA-201-009	Control of Transient Combustible Material	19
OP-AA-201-010-1001	B.5.b Mitigating Strategies Equipment Expectations	4
OP-CL-102-106-1001	Operator Response Time Master List at CPS	5a and 6

OTHER DOCUMENTS

<u>Number</u>	<u>Description or Title</u>	<u>Date</u>
RS-16-210	Letter: Revision to Exelon Generation Company, LLC Fleet Commitment Relating to Maintaining Severe Accident Management Guidelines	11/28/2016
S101-1	SLICE data associated with Cables: 1AP28U, 1AP34I, and 1AP28T	
TCP's 90,119,305	Transient Combustible Permits for Control Building and EDG Building	

WORK ORDERS

<u>Number</u>	<u>Description or Title</u>	<u>Date</u>
1237974	Damper Inspection on DIV II VX Dampers	11/09/2011
1568062	9071.14 Div III DG CO2 Test	02/11/2014
1586969	Emergency Battery Light Replacement Mod	08/05/2013
1616323	9337.81C21 CF Smoke Detector (Thermal Detector)	11/20/2014
1664711	9337.81B21 CF Smoke Detector	02/02/2015
1680598	FP Water System Flow Test	07/27/2015
1720452	Fire Damper Inspection on VC Accessible Dampers	12/03/2015
1724528	Damper Inspection on DIV III VD Dampers	03/15/2016
1739731	Perform Sprinkler Flow Alarm Tests	06/08/2015
1751547	Smoke Detector Defective - Reset	07/01/2014
1792650	FP Water System Flow Test	04/28/2016
1804340	Repair Structural Fireproofing (DIV 4 Inverter Room, DIV 2 Cable Spreading Room, and Diesel Storage Tank Room)	05/27/2015
1904155	Initiate Cold Weather Preps IAW 1860.01	09/12/2016