



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

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

August 8, 2016

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

SUBJECT: BYRON STATION, UNITS 1 AND 2 - TRIENNIAL FIRE PROTECTION  
INSPECTION REPORT 05000454/2016007; 05000455/2016007

Dear Mr. Hanson:

On July 8, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed a triennial fire protection inspection at your Byron Station, Units 1 and 2. The enclosed inspection report documents the inspection results, which were discussed on July 8, 2016, with Mr. M. Kanavos 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 did not identify any findings or violations of more-than-minor significance. However, a licensee identified violation is listed in Section 4AO7 of this report.

If you contest the subject or severity of the Non-Cited-Violation, 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, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Byron Station.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records (PARS)

B. Hanson

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component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

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

Docket Nos. 50-454; 50-455  
License Nos. NPF-37; NPF-66

Enclosure:  
IR 05000454/2016007; 05000455/2016007

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-454; 50-455  
License No: NPF-37; NPF-66

Report No: 05000454/2016007; 05000455/2016007

Licensee: Exelon Generation Company, LLC

Facility: Byron Station, Units 1 and 2

Location: Byron, IL

Dates: June 7, 2016 - July 8, 2016

Inspectors: A. Dahbur, Senior Reactor Inspector  
J. Draper, Resident Inspector  
D. Szwarc, Senior Reactor Inspector, Lead

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

Enclosure

## SUMMARY

Inspection Report 05000454/2016007, 05000455/2016007; 06/07/2016 – 07/08/2016; 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 licensee identified finding and associated violation was reviewed 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 (SDP)," dated April 29, 2015. Cross-cutting aspects are 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 February 4, 2015. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5, dated February 2014.

### **Cornerstone: Mitigating Systems**

A violation of very-low safety significance that was identified by the licensee has been reviewed by the inspectors. Corrective actions taken by the licensee have been entered into the licensee's Corrective Action Program. This violation and corrective action tracking numbers are listed in Section 4OA7 of this report.

## 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*, 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 zones and B.5.b mitigating strategies selected for review during this inspection are listed below and in Section 1R05.13. The 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.

<b>Fire Zone</b>	<b>Description</b>
5.5-1	Unit 1 Auxiliary Electrical Equipment Room
9.2-2	2A Emergency Diesel Generator
11.5-0	Auxiliary Building General Area 401 Elevation
11.6-1	Division 12 Cable Penetration Area

.2 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 were identified.

.3 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 (SERs), 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

No findings were identified.

.4 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 SERs, deviations from NRC regulations, and National Fire Protection Association standards to verify that fire suppression and detection systems met license commitments.

b. Findings

No findings were identified.

.5 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 were identified.

.6 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 SSD 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 were identified

.7 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 SSD 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 Title 10 of the *Code of Federal Regulations*, Part 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 were identified.

.8 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 were identified.

.9 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 were identified.

.10 Cold Shutdown Repairs

a. Inspection Scope

The inspectors reviewed the licensee's procedures to determine whether repairs were required to achieve cold shutdown and to verify that dedicated repair procedures, equipment, and material to accomplish those repairs were available onsite. The inspectors also evaluated whether cold shutdown could be achieved within the required time using the licensee's procedures and repair methods. The inspectors also verified that equipment necessary to perform cold shutdown repairs was available onsite and properly staged.

b. Findings

No findings were identified.

.11 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 SSD 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 were identified.

.12 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 were identified.

.13 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 were identified.

.14 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 Title 10 of the *Code of Federal Regulations*, Part 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.

<b>NEI 06-12, Revision 2, Section</b>	<b>Licensee Strategy (Table)</b>
3.3.2	Manually Depressurize Steam Generators (Table A.4-2)
3.3.6	Containment Flooding with Portable Pump (Table A.4-6)

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 Corrective Action Program (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 were identified.

4OA5 Other Activities

.1 (Closed) Unresolved Item 05000454/2010006-01; 05000455/2010006-01, Manual Actions Not Explicitly Approved

During the triennial fire protection inspection conducted in 2010 the inspectors identified an unresolved item associated with the use of operator manual actions that had not been specifically approved by the NRC. Specifically, the inspectors determined that the licensee took credit for a number of manual actions to compensate for not having a train free of fire damage in non-alternative fire zones. While some of the actions were described in an SER or licensing correspondence, which was used as a basis for NRC approval in an SER, the majority of manual actions were not explicitly approved by the NRC. During this inspection the inspectors reviewed Byron's licensing basis and a sampling of NRC's guidance documents. The inspectors also reviewed the changes, as well as the licensee's basis for making the changes, that the licensee made to their approved Fire Protection Program which incorporated the use of additional operator manual actions. The inspectors could not identify a violation associated with the use of operator manual actions at this time. This unresolved item is closed.

4OA6 Management Meetings

.1 Exit Meeting Summary

On July 9, 2016, the inspectors presented the inspection results to Mr. M. Kanavos, 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.

4OA7 Licensee-Identified Violations

The following licensee-identified violation of NRC requirements was determined to be of very-low safety significance (Green) and meets the NRC Enforcement Policy criteria for being dispositioned as a Non-Cited Violation.

- The licensee identified a finding of very-low safety significance (Green) and associated Non-Cited Violation of Technical Specification 5.4.1.c which required that written procedures shall be established, implemented, and maintained covering the Fire Protection Program implementation. Procedure MA-BY-EM-1-FP003-002, "Diesel Generator and Day Tank Room Low Pressure CO2 System Detection Test," was used by the licensee to test and calibrate the time delay relay that controls the time that carbon dioxide is discharged in the 2A diesel generator room when the carbon dioxide suppression system is actuated. The licensee's Fire Hazards Analysis for the 2A diesel generator room, Fire Zone 9.2-2, stated that the total flooding carbon dioxide system would deliver a sufficient quantity of carbon dioxide to maintain a 34 percent concentration for 10 minutes. Calculation BYR 97-041 established that 70 seconds was required to achieve a 34 percent concentration of carbon dioxide in the diesel generator room, and the preservice test for the carbon dioxide system for that room

established that a discharge time of 99 seconds was required to ensure a 34 percent concentration for 10 minutes. Contrary to the above, from January 30, 1987, when the Byron, Unit 2 operating license was issued, until October 19, 2015, when the procedure was revised, the licensee failed to maintain a procedure that verified the capability of the carbon dioxide system. Specifically, Procedure MA-BY-EM-1-FP003-002 directed the maintenance technicians to verify the time delay relay was set between 60 and 80 seconds when the licensee's calculations required 70 seconds to achieve the required carbon dioxide concentration in the room and 99 seconds to maintain that concentration for 10 minutes.

The performance deficiency was determined to be more-than-minor because the issue adversely impacted the Mitigating Systems Cornerstone objective to ensure the capability of systems that respond to initiating events and prevent undesirable consequences due to external events such as fire. Specifically, the procedure allowed the carbon dioxide system to be calibrated such that it might not have provided sufficient carbon dioxide to extinguish a fire in the 2A diesel generator room. The inspectors screened the finding using Inspection Manual Chapter 0609, "Significance Determination Process," Appendix F, "Fire Protection Significance Determination Process." Since the reactor was still able to reach and maintain a SSD condition, the finding screened as very-low safety significance (Green). The licensee entered the issue into the CAP as Issue Report 2571839, "2A Diesel Generator Room CO2 Discharge Time," and revised the procedure to require a 100 second discharge time.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## SUPPLEMENTAL INFORMATION

### KEY POINTS OF CONTACT

#### Licensee

F. Beutler, Fire Protection Safe Shutdown Engineer  
T. Edwards, Fire Marshall  
M. Kanavos, Site Vice President  
B. Ledger, Electrical Design Manager  
J. Smith, Fire Protection Program Engineer  
L. Zurawski, Principal Regulatory Engineer

#### U.S. Nuclear Regulatory Commission

J. McGhee, Senior Resident Inspector

### LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

#### Opened and Discussed

None

#### Closed

05000454/2010006-01; 05000455/2010006-01	URI	Manual Actions Not Explicitly Approved (Section 4OA5.1)
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### LIST OF ACRONYMS USED

ADAMS      Agencywide Document Access Management System  
CFR        Code of Federal Regulations  
NRC        U.S. Nuclear Regulatory Commission  
PARS       Publicly Available Records  
SER        Safety Evaluation Report  
SSD        Safe Shutdown

## 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**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
ATD-0026	Calculation for Combustible Fire Loads	12
BRY11-048	Main Control Room and Auxiliary Electrical Equipment Room Fire Qualitative Assessment of Risk	0
BYR11-048	MSO Scenario 10 – Loss of VCT Suction to Charging Pumps	1
BYR11-048	MSO Scenario 22 – Spurious Opening of SG PORVs	1
BYR97-041	Low Pressure Carbon Dioxide Flow Calculation – 2-S2 Diesel Generator Room	09/14/1979
EC 0000389723	Performance Based Evaluation of Selected Fire Protection Testing in Order to Extend the Surveillance Interval	0
FDRP 27-030	Fire Protection Report Revision to Account for Miscellaneous Combustible Storage	09/29/2015
GL 86-10 BYR-22	Fire Protection Evaluation for Fire Zones 11.5A-2 and 11.6-2 Boundary to Demonstrate Separation Equivalent to BTP CMEB 9.5-1, C5.b(2)	0
TRM CR 14-025	TSR 3.10.b.12 – Delete the Numerical Values that Are Stated in TSR 3.10.b.12	01/21/2015

### **CORRECTIVE ACTION PROGRAM DOCUMENTS ISSUED DURING INSPECTION**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date</u></b>
2679621	1D SG PORV Man OP Pressure Gauge Fluid Filled / Unreadable	06/09/2016
2679953	NRC ID: Enhancement to EDMG 1	06/09/2016
2680072	NRC ID: Enhancement to EDMG 1	06/10/2016
2685263	NRC ID: ER1 Cabinet in 1DC06E Cannot be Opened	06/24/2016
2685317	NRC Identified Missing Information in BOP FR-1	06/24/2016
2685396	NRC Identified Incorrect Label in the Field – CCP	06/24/2016
2685412	NRC Identified Incorrect Label in the Field – CCP	06/24/2016
2685445	NRC Identified Debris in Floor Drain Strainer in 2A DG Room	06/24/2016
2685495	Thermafiber Sagging from Seismic Gap in U1 Electrical Penetration Area	06/23/2016
2689340	NRC Identified a Procedure Enhancement to BOP FR-1T3	07/05/2016
2689552	NRC ID: Discrepancies in Cold Shutdown Repair Report	07/06/2016
2689553	Discrepancy in Fire Protection Report	07/06/2016
2690089	TRM Change PR 14-035 Inadvertently Created Accuracy Issue	07/07/2016

## **CORRECTIVE ACTION PROGRAM DOCUMENTS REVIEWED**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date</u></b>
1571942	Alarm Not Received During FP Surveillance at Zone 1D-40	10/14/2013
1580312	Fire Brigade and B.5.b Inventory Discrepancies	11/02/2013
2350480	B.5.b Annual Surveillance WO #01697519	09/13/2014
2422360	0BOSR 10.B.5-1 Surveillance Complete – Portions Unsat	12/08/2014
2424596	Issue Identified While Repairing the B.5.b Pump	12/012/2014
2424855	Resource Issues with B.5.b Pump Testing	12/13/2014
2516933	1PA30J Water Intrusion	06/19/2015
2533551	Half – “S” Hooks Face Towards Damper	07/27/2015
2568016	NOS ID'd: CO2 Discharge Timing Less Than Required	10/08/2015
2568382	Time Delay Relay 2CO01J-TR2 Needs to Be Calibrated	10/09/2015
2571839	2A Diesel Generator Room CO2 Discharge Time	10/16/2015
2574421	NOS ID – 2A Diesel Generator Room CO2 Testing	10/21/2015
2619527	B.5.b Has Low Fuel Level in Tank	01/30/2016
2638792	B.5.b F-750 Truck Trickle Charger Not Working	03/10/2016

## **DRAWINGS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Revision</u></b>
6E-0-3779B, Sheet 1	Station Emergency Lighting Battery Operated Light Units	K
6E-0-3779B, Sheet 2	Station Emergency Lighting Battery Operated Lights	Q
6E-0-3779B, Sheet 3	Station Emergency Lighting Battery Operated Light Units	T
6E-0-3779B, Sheet 4	Station Emergency Lighting Battery Operated Light Units	N
6E-1-4030CV10	Schematic Diagram – Volume Control Tank Outlet Isolation Valves 1CV112B and 1CV112C	O
6E-1-4030RY17	Schematic Diagram – Pressure PWR Relief Valve	W
6E-1-4030SI33	Schematic Diagram – 480 Feed to ECCS WTR Supply Isolation Valves	H
A-809	Structural Steel Fireproofing Details	I
M-120	Diagram of Main Steam System	
M-35	Diagram of Main Steam	
M-61, Sheet 4	Diagram of Safety Injection	AZ
M-62	Diagram of Residual Heat Removal	BF
M-64, Sheet 7	Diagram of Chemical & Volume Control & Boron Thermal Regeneration	AN

## **PROCEDURES**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Revision</u></b>
0B0A PRI-5	Control Room Inaccessibility Unit 0	103
0BVSr 10.g.6-1	Fire Barrier Penetration Visual Inspection 18 Month Surveillance	15
2B0A PRI-5	Control Room Inaccessibility Unit 2	113
2BOSR XRS-Q1	Unit Two Remote Shutdown Panel Quarterly Surveillance	10
BAP 1100-10T5	B.5.b Equipment Inventory	14
BAP 1100-10T5	B.5.b Equipment Inventory	14
BAR 0-37-A4	Alarm No 0-37-A4 – Unit 1 Area Fire	10
BHP 4200-33	Installation of Appendix “R” Emergency Cable	10
BHP 4200-46	Control Switch Replacement Appendix R and General Plant Non-Appendix R	13

## PROCEDURES

<u>Number</u>	<u>Description or Title</u>	<u>Revision</u>
BOP MS-6	Local Manual Operation of the Steam Generator Power Operated Relief Valves	10
BOP MS-6	Local Manual Operation of the Steam Generator Power Operated Relief Valves	10
EDMG-1	Extensive Damage Mitigation Guideline	9
EDMG-1	Extensive Damage Mitigation Guideline	9
ER-AA-610-1001	Performance Based Evaluations for Fire Protection	4
MA-BY-EM-1-FP003	Diesel Generator and Day Tank Room Low Pressure CO2 System Detection Test	9
MA-BY-EM-1-FP003-002	Fire Protection Zones 9.2-2, 9.3-2 Suppression Zones 2S-38 and 2S-40	4
MA-BY-EM-1-FP003-002	Fire Protection Zones 9.2-2, 9.3-2 Suppression Zones 2S-38 and 2S-40	1
MA-BY-EM-1-FP012	Fire Detection Instruments, Trip Actuating Devices and Supervised Circuits Detection Zones	4
OP-AA-201-008	Pre-Fire Plan Manual	3
PFP AB 401-0 FZ 11.5-0 N	Pre-Fire Plan Auxiliary Building 401-0 Elevation General Area North FZ 11.5-0 North	2
PFP AB 401-0 FZ 11.5-0 S	Pre-Fire Plan Auxiliary Building 401-0 Elevation General Area South FZ 11.5-0 South	2
PFP AB 401-0 FZ 11.5-0 W	Pre-Fire Plan Auxiliary Building 401-0 Elevation General Area West FZ 11.5-0 West	3
PFP AB1 426-0 FZ 11.6-1	Pre-Fire Plan Auxiliary Building Unit 1 426-0 Elevation Division 12 Electrical Penetration Area FZ 11.6-1	2
PFP AB1 451-0 FZ 5.5-1	Pre-Fire Plan Auxiliary Building Unit 1 451-0 Elevation Auxiliary Electrical Room FZ 5.5-1	3
PFP AB2 401-0 FZ 9.2-2 9.3-2	Pre-Fire Plan Auxiliary Building Unit 2 401-0 Elevation 2A Diesel Generator and Day Tank Room FZ 9.2-2 9.3-2	2

## MODIFICATIONS

<u>Number</u>	<u>Description or Title</u>	<u>Date</u>
EC 403334	Install Fuse Blocks for Pressurizer PORVs	02/12/2016

## VENDOR DOCUMENTS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
F-1099	Teledyne Big Beam	11/01/1988
FL-21352	Diesel Generating Room 2A Zone No. 38	03/13/1986
TF612	Fire Containment Insulation Thermafiber Safing	3

## WORK ORDERS

<u>Number</u>	<u>Description or Title</u>	<u>Date</u>
1449841	Fire Suppression & Detection Zones 2S-38 & 2S-40 -2A D/G LCO	12/28/2012
1499721	Fire Detection Zones 8, 9, 11, 14, 15, 17, 29, 40	07/27/2013
1814075	Fire Barrier Penetration Visual Insp – 18 Mo Control Predefine	04/13/2016
1868097	Time Delay Relay 2CO01J-TR2 Needs to Be Calibrated	10/27/2015

B. Hanson

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Sincerely,

*/RA/*

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

Docket Nos. 50-454; 50-455  
License Nos. NPF-37; NPF-66

Enclosure:  
IR 05000454/2016007; 05000455/2016007

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