UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

January 12, 2017

Mano Nazar
President and Chief Nuclear Officer
Nuclear Division
Florida Power & Light Company
Mail Stop NT3/JW
15430 Endeavor Drive
Jupiter, FL 33478

SUBJECT: TURKEY POINT NUCLEAR PLANT, UNITS 3 AND 4 – NRC TRIENNIAL FIRE PROTECTION INSPECTION REPORT 05000250/2016008 AND 05000251/2016008

Dear Mr. Nazar:

On December 2, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Turkey Point Nuclear Plant, Units 3 and 4 and discussed the results of this inspection with Mr. Tom Summers and other members of your staff. The team continued in-office reviews at the conclusion of the inspection and held a re-exit on January 5, 2017, and discussed the results of this inspection with Mr. Brad Berryman and other members of your staff. The results of this inspection are documented in the enclosed report.

Inspectors documented a licensee-identified violation (LIV) which was determined to be of very low safety significance in this report. The NRC is treating this violation as non-cited violation (NCV) consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest the violation or the significance, 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 20555-001; with copies to the Regional Administrator Region II; the Director, Office of Enforcement, U.S Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC resident inspector at the Turkey Point Nuclear Plant.

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/

Scott M. Shaeffer, Chief
Engineering Branch 2
Division of Reactor Safety

Docket Nos.: 50-250, 50-251
License Nos.: DPR-31, DPR-41

Enclosure:
IR 05000250/2016008, 05000251/2016008
w/Attachment: Supplemental Information

cc: Distribution via Listserv

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Letter to Mr. Mano Nazar from Mr. Scott M. Shaeffer dated January 12, 2017.

SUBJECT: TURKEY POINT NUCLEAR PLANT, UNITS 3 AND 4 – NRC TRIENNIAL FIRE PROTECTION INSPECTION REPORT 05000250/2016008 AND 05000251/2016008

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos:	50-250, 50-251
License Nos.:	DPR-31, DPR-41
Report Nos.:	05000250/2016008, 05000251/2016008
Licensee:	Florida Power & Light Company (FP&L)
Facility:	Turkey Point Nuclear Plant, Units 3 and 4
Location:	P.O. Box 14000 Juno Beach, FL 33408-0420
Dates:	October 31 – November 4, 2016 (Week 1) November 28 – December 2, 2016 (Week 2)
Inspectors:	J. Patel, Senior Reactor Inspector (Lead Inspector) J. Dymek, Reactor Inspector J. Montgomery, Senior Reactor Inspector M. Singletary, Reactor Inspector
Other:	M. Riley (Training) P. Lain (Observation)
Approved by:	Scott M. Shaeffer, Chief Engineering Branch 2 Division of Reactor safety

Enclosure

SUMMARY

IR 05000250/2016008; 10/31/2016 – 11/04/2016 and 11/28/2016 – 12/02/2016; Turkey Point Nuclear Plant Units 3 and 4; Triennial Fire Protection (NFPA 805) report

This report covered an announced two-week triennial fire protection inspection by a team leader, four regional inspectors, and one Office of Nuclear Reactor Regulation (NRR) observer. One licensee identified violation (LIV) was identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," (SDP) dated April 29, 2015. Cross-cutting aspects are determined using IMC 0310, "Components Within The Cross-Cutting Areas," dated December 4, 2014. 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 6, dated July 2016.

A. Licensee-identified Findings

A violation of very low safety significance that was identified by the licensee has been reviewed by the NRC. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. The violation and corrective action tracking numbers are listed in Section 4OA7 of this report.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R05 Fire Protection

This report documents the results of a Triennial Fire Protection Inspection (TFPI) at the Turkey Point Nuclear Plant (PTN) Units 3 and 4. The inspection was conducted in accordance with NRC Inspection Procedure (IP) 71111.05XT, "Fire Protection - NFPA 805 (Triennial)," issued January 31, 2013. The objective of the inspection was to evaluate the design, operational status, and material condition of the licensee's Fire Protection Program (FPP). An additional objective was to review site specific implementation of one mitigating strategy from Section B.5.b of NRC Order EA-02-026, "Order for Interim Safeguards and Security Compensatory Measures" (commonly referred to as B.5.b); as well as the storage, maintenance, and testing of B.5.b mitigating equipment. Section 71111.05-05 of the IP specifies a minimum sample size of two fire areas (FAs) and one B.5.b mitigating strategy for addressing large fires and explosions. The team selected three FAs based on available risk information as analyzed onsite by a senior reactor analyst from Region II, data obtained from in-plant walkdowns regarding potential ignition sources, location and characteristics of combustibles, and location of equipment needed to achieve and maintain the reactor in a safe and stable condition.

Other considerations for selecting the FAs were the relative complexity of the post-fire safe shutdown (SSD) procedures, information contained in FPP documents, and results of prior NRC TFPIs. In selecting the B.5.b mitigating strategy sample, the team reviewed licensee submittal letters, safety evaluation reports (SERs), licensee commitments, B.5.b implementing procedures, and previous NRC inspection reports.

This inspection fulfilled the requirements of the procedure by selecting a sample of three FAs, which are listed below and one B.5.b mitigating strategy.

- Fire Area HH, Cable Spread Room and Chase [Performance based]
- Fire Area NN, DC Equipment Room [Performance based]
- Fire Area OD-054, Component Cooling Pump and Heat Exchanger Area [Deterministic]

For each of the selected FAs, the team evaluated the licensee's FPP against applicable NRC requirements and licensee design basis documents. Documents reviewed by the team are listed in the Attachment.

.1 Protection of Safe Shutdown Capabilities

a. Inspection Scope

The team examined PTN fire safe shutdown procedures (FSS) and compared them to the NFPA 805 NSCA and Fire Risk Evaluation (FRE), system flow diagrams, and other DBDs to determine if equipment required to achieve post-fire safe and stable plant conditions was properly identified and adequately protected from fire damage in accordance with the requirements of 10 CFR 50.48(c) and the PTN approved FPP.

Cable routing information was reviewed for a selected sample of SSD components to verify that either the associated cables would not be damaged for the selected FA's fire scenarios or the licensee's analysis determined that the fire damage would not prohibit achieving safe and stable plant conditions. A list of SSD components examined for cable routing is included in the Attachment. The specific fire response FSSs reviewed are listed in the Attachment.

The team reviewed applicable sections of the site's emergency operating procedures, as well as FSSs for the selected FAs and fire scenarios to verify that the shutdown methodology properly identified the components and systems necessary to achieve and maintain safe and stable plant conditions. The team performed in-plant walk-throughs of procedure steps to ensure the implementation and human factors adequacy of the procedures. The team verified the licensee personnel credited for procedure implementation had procedures available, were trained on implementation, and were available in the event a fire occurred. Additionally, selected defense-in-depth actions were assessed to verify that the operators could reasonably perform the specified actions.

b. Findings

No findings were identified.

.2 Passive Fire Protection

a. Inspection Scope

The team conducted walkdown inspections and examined the material condition and as built configuration of accessible passive barriers both surrounding and within the FAs selected for review, to evaluate the adequacy of their fire resistance in accordance with NFPA 805 calculations. Fire barriers inspected included reinforced concrete ceilings, floors and walls, installed mechanical and electrical penetration seals, fire doors, and fire dampers. The team compared the as-built installed barrier configurations to the approved construction details and supporting fire endurance test data, which established the rating of the fire barriers. Fire doors and dampers were examined for attributes such as their material condition, clearances, and proper operation, Underwriters Laboratory (UL) labels on the door and frame, and the method of attachment to the rated barrier.

Doors were examined to verify that no modifications had been performed which would void their UL listing, or that such modifications had been previously evaluated and approved. The team reviewed licensing bases documentation such as 10 CFR 50.48(a), 10 CFR50.48(c) and the NRC NFPA 805 SER to verify that passive fire protection features met current licensing commitments. In addition, a sample of completed surveillances and maintenance procedures for selected fire doors, fire dampers and penetration seals were reviewed to ensure that these passive barriers were being properly inspected and maintained.

b. Findings

No findings were identified.

.3 Active Fire Protection

a. Inspection Scope

The team reviewed the licensee's fire detection systems, Halon 1301 gaseous suppression systems, manual and automatic water- based fire suppression systems and firefighting standpipe and hose systems protecting the selected FAs. Fire brigade pre-plans, training and fire response procedures for these areas were also reviewed. The team reviewed the adequacy of the design, installation and operation of the fire detection and alarm systems to promptly detect fires in the selected fire areas and to annunciate to the fire alarm control panel in the control room. The review included walkdowns of as-built configurations and an examination of the type of detectors, detector spacing, the licensee's technical evaluations of the detectors location relative to ignition sources, room geometry and fixed obstructions to assess whether the areas were protected in accordance with code of record requirements.

The team also reviewed the licensee's fire alarm response procedures, fire protection design basis document (DBD), NFPA 805 License Amendment Request (LAR) submittals and associated NRC NFPA 805 SER, to verify that the fire detection and alarm systems for the selected FAs were installed in accordance with the design and licensing basis for the plant.

The team reviewed the firefighting pre-plans and fire response procedures for the selected FAs to determine if appropriate information was provided to fire brigade members to facilitate suppression activities. These plans were reviewed and confirmed by field walkdowns to verify that they accurately reflected current plant configurations and firefighting equipment locations. These walkdowns also confirmed that fire hose and extinguisher access was properly maintained throughout the plant. The team evaluated whether the fire response procedures and pre-plans could be implemented as intended and that they addressed equipment important to safety, ventilation of heat and smoke from a fire and drainage/runoff from installed fixed fire suppression systems and manual hose streams. Additionally, fire brigade drill records for recent drills were reviewed to confirm drill scenarios addressed the specific hazards likely to be encountered in the areas as well as verified the actual fire brigade response times generally supported the fire brigade response time performance basis criteria.

b. Findings

No findings were identified.

.4 Protection from Damage from Fire Suppression Activities

a. Inspection Scope

The team verified the licensee provided one success path necessary to achieve and maintain the nuclear safety performance criteria for the applicable sample areas. The team assessed the effects of the application of suppression systems for the chosen FA samples to ensure a rupture or inadvertent operation would not challenge the nuclear safety performance criteria. The team reviewed drawings and other information to assess if drains credited were adequate for the circumstances. The team performed walkdowns of the applicable areas to gain insights on smoke migrations and its effects.

The team observed the operability of suppression systems, automatic or manual, to assess if the impacts would challenge established criteria.

b. Findings

No findings were identified.

05 Shutdown from a Primary Control Station

a. Inspection Scope

The team assessed the licensee's remote shutdown panel (RSP) to ensure an adequate and timely shutdown was capable of being implemented due to a fire event. A RSP was a command and control location that has been reviewed and approved by the NRC. The team reviewed various licensing correspondence to understand the licensing basis. The team assessed the attributes to meet these requirements through coordinated efforts between the operations and electrical staff.

The team reviewed the licensee's FPP, system flow drawings, electrical drawings, electrical schematics, and other supporting documents to verify that control circuits and power for the credited equipment controlled from the RSP would be free of fire damage when isolated by disconnect switches. The team reviewed the RSP transfer switches' testing methodology and completed surveillances to assess the capability and functionality of the isolation. The reviews ensured that the required functions to achieve post-fire safe and stable conditions were included in the fire response procedures. The review included assessing the adequacy of procedural guidance for establishing and maintaining hot standby conditions from the RSP.

b. Findings

No findings were identified.

.6 Circuit Analysis

a. Inspection Scope

The inspectors reviewed the licensee's UFSAR, NSCA, licensee circuit analysis documents, post-fire procedures, electrical schematics and system flow diagrams to gain an understanding of the licensee's SSD strategy in order to verify that the licensee had properly identified required and associated circuits that could impact the ability to achieve and maintain safe and stable conditions for the selected FAs. The inspectors assessed whether the licensee's identified structures, systems and components (SSCs) important to meeting the 10 CFR 50.48 requirements were consistent with the established licensing basis. The team performed walk-downs of the selected FAs to independently verify the assumptions and results of the licensee's fire scenario development analysis. The team verified, on a sample basis, that the licensee properly identified cables and equipment required to achieve and maintain safe and stable conditions for the selected fire scenarios in the selected FAs. The inspectors also reviewed cable routing drawings, electrical one-line diagrams, component block diagrams, penetration and conduit plan drawings, and electrical control wiring diagrams for the selected SSD components to determine if these cables had either been

adequately protected from the potential adverse effects of fire damage or analyzed to show that fire induced faults (single and/or multiple) would not prevent shutdown to safe and stable conditions. The team also reviewed, on a sample basis, breaker/fuse coordination study documents and several engineering change (EC) packages to ensure proper coordination existed between load and incoming supply breakers.

b. Findings

No findings were identified.

.7 Communications

a. Inspection Scope

The inspectors reviewed plant communication capabilities to evaluate the performance of the telephone/page and portable radio system to support plant personnel in the performance of recovery actions to achieve and maintain SSD, as credited in the licensee's feasibility analysis for performance of recovery actions. The team performed interviews and plant walk-downs with the licensee's operations staff to assess the credited method of communications used to complete recovery actions as specified in post-fire SSD procedures for the selected FAs. The team reviewed the adequacy of the communication systems to support plant personnel in the performance of fire brigade and B.5.b. duties. This was accomplished by inspectors observing the testing of communication systems during walkdowns, to identify areas of high noise or low signal strength that could hinder effective communication of fire event notification and fire brigade firefighting activities at these locations. The inspectors reviewed preventive maintenance and surveillance test records to verify that the communication equipment was being properly maintained and tested. The team also verified that the design and location of communications equipment would not cause a loss of communications during a fire. Specific documents reviewed by the team are listed in the Attachment.

b. Findings

No findings were identified.

.8 Emergency Lighting

a. Inspection Scope

The inspectors verified the adequacy of the plant's emergency lighting systems through review of design and maintenance aspects and inspection walk-downs of the fixed 8-hour battery pack emergency lighting units (ELUs), MCR Emergency Lighting, and credited hard hat lighting. The team performed plant walk-downs and observed the placement and coverage area of fixed 8-hour battery pack emergency lights credited for SSD, to evaluate their adequacy for illuminating access and egress pathways and any equipment requiring local operation and/or instrumentation monitoring for post-fire SSD. The inspectors reviewed the vendor manual to ensure that the hard light lighting were being maintained consistent with the manufacturer's recommendations, and verified the battery storage conditions and maintenance practices were also being followed in accordance with the vendor guidance. Specific documents reviewed by the team are listed in the Attachment.

b. Findings

No findings were identified.

.9 Cold Shutdown Repairs

a. Inspection Scope

The nuclear safety goal provided in NFPA 805 is to establish reasonable assurance that a fire during any operational mode and plant configuration will not prevent the plant from achieving and maintaining the fuel in a safe and stable condition. The licensee defines safe and stable conditions as maintaining reactor coolant temperature at or below hot standby conditions, or fuel coolant temperature less than boiling. The licensee does not require transitioning to cold shutdown to achieve the safe and stable condition, and therefore does not require cold shutdown repairs to be implemented.

b. Findings

No findings were identified.

.10 Compensatory Measures

a. Inspection Scope

The team reviewed the fire impairment log to identify any out-of-service, degraded, or inoperable fire protection and success path equipment, systems, or features necessary to achieve and maintain safe and stable conditions. For any degraded features the team reviewed and ensured that adequate compensatory measures were in place based upon the impairment.

b. Findings

No findings were identified.

.11 Radiological Release

a. Inspection Scope

No radiological samples were reviewed

b. Findings

No findings were identified.

.12 Non Power Operations

a. Inspection Scope

No Non-power operations samples were reviewed

b. Findings

No findings were identified.

.13 Monitoring Program

a. Inspection Scope

The team reviewed Turkey Point Nuclear Plant procedure 0-ADM-016.10, "Implementation of the NFPA 805 Monitoring Program" Rev. 0, to ensure that the licensee established and maintained adequate monitoring of fire protection features. The team ensured that credited assumptions and features of the fire program were still valid. The team ensured through document review and licensee interviews that fire protection features were being maintained such that the availability and reliability of the systems and features were adequate in meeting the design basis.

b. Findings

No findings were identified.

.14 Plant Change Evaluation

a. Inspection Scope

The team reviewed the licensee's applicable procedures and processes to ensure the Plant Change Evaluations utilized an approach consistent with the NFPA 805 requirements. The team assessed the attributes of the licensee's design change package procedures, and discussed the processes with the licensee, to gain insights on the measures they would take to ensure licensing basis commitments were satisfied. Through interviews the team ensured that their process was in alignment with their commitments and requirements.

b. Findings

No findings were identified.

.15 Control of Combustibles and Ignition Sources

a. Inspection Scope

The team reviewed the administrative control of combustible materials and ignition sources to verify that the FPP performance requirements of NFPA 805 Chapter 3 were satisfied. Plant administrative procedures were reviewed to determine if adequate controls were in place to control the potential ignition sources of welding and grinding and the handling of transient combustibles in the plant. The team walked down numerous areas in the plant, including the selected FAs, for control of combustible materials, storage of in-plant materials, transient combustibles, and general housekeeping. The list of specific calculations reviewed is included in the Attachment.

b. Findings

No findings were identified.

.16 B.5.b Mitigating Strategy

a. Inspection Scope

The team reviewed on a sample basis, the licensee's preparedness to handle large fires or explosions by reviewing an applicable strategy which credited a portable supply mechanism (PDFP). The team verified the licensee's ability to meet the requirements of 10 CFR 50.54 (hh)(2) and their B.5.b related license conditions by reviewing procedures to ensure that they were being maintained and were adequate. The team performed walkdowns with licensee staff to ensure that credited actions, if any, were feasible. The team assessed if required equipment was properly staged and reviewed applicable records to determine if staff were properly trained. The team also reviewed maintenance and testing records of equipment to ensure that the equipment was being maintained consistent with vendor recommendations and licensee requirements.

b. Findings

No findings were identified.

OTHER ACTIVITIES

4OA2 Problem Identification and Resolution

a. Inspection Scope

The team reviewed recent independent licensee audits for thoroughness, completeness and conformance to FPP requirements. Guidance for the independent audits are contained in Regulatory Guide 1.189, "Fire Protection for Operating Nuclear Power Plants," and Generic Letter 82-21, "Technical Specifications for Fire Protection Audits."

The team also reviewed other CAP documents, including completed elective actions and corrective actions documented in selected CRs and operating experience program documents, to ascertain whether industry identified fire protection issues (actual or potential) affecting PTN were appropriately entered into the CAP for resolution. Items included in the operating experience program effectiveness review were NRC information notices, regulatory guides, regulatory issues summary, industry or vendor generated reports of defects and non-compliances submitted pursuant to 10 CFR Part 21, and vendor information letters. The team evaluated the effectiveness of the corrective actions for the identified issues.

b. Findings

No findings were identified

4OA6 Meetings, Including Exit

On December 2, 2016, the inspection team leader presented the preliminary inspection results to Mr. T. Summers and other members of the licensee's staff. The licensee acknowledged the results. The team had further communications with the licensee after the exit date which resulted in a re-exit with Mr. B. Berryman and members of his staff on January 5, 2017. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

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.

- Turkey Point Nuclear Generating Station, Unit 4, Renewed Facility Operating License 3.D, Fire Protection, stated that Florida Power and Light (FPL) shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48 (c), National Fire Protection Association (NFPA) 805. NFPA 805, Section 2.4.2.2.2 (b), "Common Enclosure Circuits," required circuits that share a common enclosure with circuits required to achieve nuclear safety performance criteria shall be identified for their impact on the ability to achieve nuclear safety performance criteria. Contrary to the above, since 2014, the licensee failed to identify circuits that impact the ability to achieve nuclear safety performance criteria as a result of the effects of fire on circuits that share a common enclosure with the Unit 4 4kV switchgear. The violation was determined to be of very low safety significance based on risk evaluation provided by the licensee and reviewed by NRC senior reactor analyst. The licensee entered this issue into their corrective action program as action request 2134673.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel
D. Barrow, Maintenance Director
B. Berryman, Site Director
M. Guth, Licensing Manager
O. Hanek, Licensing
E. Lyons, NFPA 805 Project Manager
J. Mowbray, Program Engineering Manager
J. Pallin, Engineering Director
B. Stamp, Operations Director
T. Summers, Regional Vice President
B. Thaker, Fleet Fire Protection
R. Tomonto, Design Engineering Manager
J. Vives, Engineering Design Supervisor

NRC Personnel
D. Orr, Senior Resident Inspector, Turkey Point Resident Office
R. Reyes, Resident Inspector, Turkey Point Resident Office
P. Lain, Senior Fire Protection NRR

LIST OF DOCUMENTS REVIEWED

Calculations

5177-265-EG-22, Breaker/Fuse Coordination Study, Rev. 6
5610-M-722A, "Nuclear Safety Capability Fire Shutdown Analysis Basis Document" Rev. 6
5610-M-722B, "Nuclear Safety Capability Fire Safe Shutdown Analysis (NSCA)" Rev. 7
5610-M-722C, "Non-Power Operations Fire Safe Shutdown Analysis (FSSA)" Rev. 0
PTN-4FJE-12-002, Verification of Breaker Coordination of 120V Circuits at 4DP86/4DP87 with breakers 45116 (MCC4J0 and 545216 (MCC4K) respectively, Rev. 0
PTN-BFJE-12-001, AC Coordination of MCCs 4D/3D with DPs 412/412A, Rev.1
PTN-FPER-07-012A, Code Compliance Evaluation NFPA 12A Halon 1301 Fire Extinguishing Systems, Rev. 1
PTN-FPER-11-002-EC282069, Recovery Action Feasibility Evaluation, Rev. 1
PTN-FPER-16-001, AR2082267, Evaluation of Fire Door 132-1 for NFPA 805 Compliance, Rev. 0
PTN-FPER-16-002, AR2068099, Evaluation of Fire Doors 019-1, 020-1, 026-1 and 027-1 for NFPA 805 Compliance, Rev. 0
FPLTP062-CALC-006-000-3, Fire Protection Yard Hydraulic Requirements, Rev. 0
PTN-BSFM-07-005, Halon Concentration Assessment, 10/22/2007 PTN-BFJM-91-052, Fire Protection System Pipe Flow Analysis, Rev. 0
5610-016-DB-001-000, Fire Protection System Design Basis Document for NFPA 805, Rev. 0
Walter Kidde Halon 1301 Discharge Evaluation, 12/23/1987

Completed Surveillance Test and Work Orders

B.5.b Fire Hose Test Summary Report, 12/1/2015
WO4020218901, Fire Damper Inspections, 10/09/2013
WO4023974901, Secondary Area / F & S Annual Gas Test, 2/07/2014
WO4032432804, Install EC 287951, 11/04/2016
WO4032665501, Annual Fire Door Inspection, 3/27/2015
WO4039978701, Annual Fire Door Inspection, 5/06/2016
WO4040246201, Secondary Area / F & S Annual Gas Test, 7/20/2016
WO4041455601, Electric Fire Pump Operability Test, 7/20/2016
WO4041576401, Electric Driven Fire Pump Annual Surveillance Test, 6/17/2016
WO4041763901, Diesel Driven Fire Pump Annual Surveillance Test, 1/10/2016
WO4042026801, Electric Fire Pump Operability Test, 8/17/2016
WO4042267001, Diesel Fire Pump Operability Test, 8/19/2016
WO4042651501, Electrical Raceway Protection Inspection, (Group 2)
WO4042910701, Electrical Raceway Protection Inspection, (Group 1)
WO4043145601, Diesel Fire Pump Operability Test, 9/15/2016
WO 40425719-01, U4 Dedicated Alt Shutdown Comm Sys Operability Test, 7/1/16
WO 40431324-01, Emergency Lights Group 6 Inspect/Test, 9/19/16
WO 40435622-01, Emergency Lights Group 7 Inspect/Test, 9/28/16
WO 40438138-01, Emergency Lights Group 8 Inspect/Test, 10/10/16
0-OSP-016.2, Diesel Driven Fire Pump Annual Surveillance Test, (8/11/2016)
0-OSP-016.29, Fire Main Hydraulic Gradient Flow Test, 12/09/2011
0-OSP-016.30, Fire Main Post Indicator Valve Leak / Flow Path Valve Surveillance and System Flush, 1/31/2009
0-OSP-016.30, Fire Main Post Indicator Valve Leak / Flow Path Valve Surveillance and System Flush, 8/30/2013
0-SFP-016.5, Fire Protection Equipment Surveillance, 7/09/2016
0-SFP-016.1, Fire Barrier Penetration Seal Inspection, 8/21/2015
0-SFP-016.1, Fire Barrier Penetration Seal Inspection, 10/03/2013
0-SFP-016.1, Fire Barrier Penetration Seal Inspection, 11/18/2011

0-SFP-016.2, Electrical Raceway Protection Inspection, 4/23/2016
0-SME-091.1, Fire and Smoke Detection System Annual Test, 7/12/2016

Corrective Action Documents – Initiated During Inspection
AR 02171927, Unjustified assumption for DP412 and DP412A coordination
AR 02172197, Calculation 5177-265-EG-22 not updated
AR 02169710, Drawing 5610-M-722A does not match EWD and ARC+
AR 02082267, Fire Door 132-1 not Evaluated in LAR
AR 02166915, TMR Implementation not per EC 287591
AR 02168099, Cable Spreading Room Fire Door Rating
AR 02171904, Fire Brigade/FPRA Enhancement Opportunity
AR 02172007, Improvement Pre-Fire Plan Guidelines and Safe Shutdown Manual Actions
AR 02172232, Clarification in O-ONOP-105
AR 02134673, Risk Eval Breaker Coordination

Corrective Action Documents – Reviewed
AR 2134673, Lack of Vital Bkr-fuse Coordination not Assessed by NFPA 805
AR 4444061, Misuse of Emergency Equipment
AR 1670987, Modification Table S-2 Tracking AR
AR 0473052, Potential Failure of Fire Water Supply (IN09-29)
AR 2167251, Enhance Fire Brigade Drill Critique

Design Basis Documents
5610-075-DB-002, Component Design Requirements Document—Auxiliary Feedwater System, Revised 10/08/2015

Drawings
5610-M-723A, Nuclear Safety Capability Fire Shutdown Analysis Essential Equipment List (EEL), Rev. 6
5614-M-3019, Intake Cooling Water System, Sheet 1, Rev. 38
5614-M-3019, Intake Cooling Water System, Sheet 2, Rev. 25
5614-M-3030, Component Cooling Water System, Sheet 1, Rev. 30
5614-M-3030, Component Cooling Water System, Sheet 2, Rev. 23
5614-M-3030, Component Cooling Water System, Sheet 3, Rev. 22
5614-M-3030, Component Cooling Water System, Sheet 4, Rev. 31
5614-M-3041, Reactor Coolant System, Sheet 1, Rev. 24
5614-M-3041, Reactor Coolant System, Sheet 2, Rev. 42
5614-M-3047, Chemical and Volume Control System-Charging and Letdown, Sheet 1, Rev. 21
5614-M-3047, Chemical and Volume Control System-Charging and Letdown, Sheet 2, Rev. 66
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5610-T-E-1591, Operating Diagram Electrical Distribution, Rev. 78
5613-E-26, Feedwater and Condensate Steam Generator Feedwater Pump 3A Breaker 3AA03, Rev. 0
5610-A-61, Floor Plant at Elevation 18′-0″ Showing Detection, Suppression and Lighting, Rev. 19
5610-A-61, Sheet 1, Floor Plant at Elevation 18′-0″ Showing Fire Walls. Doors, Dampers and Fire Proofing, Rev. 23
5610-A-62, Sheet 1, Floor Plant at Elevation 30′-0″ Showing Fire Walls. Doors, Dampers and Fire Proofing, Rev. 10
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EC 276303, NFPA 805 Cable Tray Riser Cover and Manhole Upgrades, 9/30/2013
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0-ADM-016.7, Performance Based Optimization Evaluations for Fire Protection, Rev. 0
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0-ADM-051, Outage Risk Assessment and Control. Rev. 21
0-ADM-16.4, Fire Watch Program, Rev. 7
0-ADM-016-017, Fire Protection Program, Rev. 17
EN-AA-205-1102, Temporary Configuration Changes, Rev. 8
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0-NOP-16.05, Halon Suppression System, Rev. 1
0-ONOP-025.3, DC Equipment and Inverter Rooms Supplemental Cooling, Rev. 2A
0-ONOP-016.20, Pre-Fire Plans, Rev. 0
0-OSP-016.2, Diesel Driven Fire Pump Annual Surveillance Test, Rev. 3
0-OSP-016.29, Fire Main Hydraulic Gradient Flow Test, Rev. 1
0-SFP-016.5, Fire Protection Equipment Surveillance, Rev. 6
0-SFP-016.7, Electrical Manhole Inspection, Rev. 1A
0-SME-016.01, Diesel Fire Pump 18 Month Mechanical Maintenance, Rev. 1A
0-SME-016.09, Diesel Fire Pump 18 Month Electrical Maintenance, Rev. 1A

Technical Manuals and Vendor Information
Miners Light Pelican 2720 vendor spec sheet
Power Sonic PS-12550 Battery vendor spec sheet
Rhyno CH-401000 Vendor Manual

Section 1R05.06: List of NSCA Components Inspected

Component Identification
SV-4-2915
CV-4-2831
ASDP Power Supply
4CB
4B RHR Pump
4B CCW Pump
4B Charging Pump
Source Range NI 6649
4D23 Load Center
MCC3C
4Y07 Inverter Panel
4D23A 125 VDC Panel

Conduits
3J1725
AJ2132
4F1691
4JAA7D
4J1313
3NP010
4G1235
3NP035
3NP033

LIST OF ACRONYMS AND ABBREVIATIONS

ADAMS	Agency-wide Document Management System
AOP	Abnormal Operating Procedure
AP	Administrative Procedures
CAP	Corrective Action Program
CAPR	Corrective Action Program Requirement
CAQ	Condition Adverse to Quality
CFR	Code of Federal Regulations
CR	Condition Report
CREP	Control Room Evacuation Panel
DBD	Design Bases Document
DC	Direct Current
ECR	Engineering Change Report
ELU	Emergency Lighting Unit
FA	Fire Area
FOL	Facility Operating License
FRE	Fire Risk Evaluation
FPP	Fire Protection Program
FZ	Fire Zone
IMC	Inspection Manual Chapter
IP	NRC Inspection Procedure
KV	kilovolts
LAR	License Amendment Request
LIV	Licensee-identified violation
LTCA	Long-Term Corrective Actions
NCV	Non-Cited Violation
NFPA	National Fire Protection Association
NRC	United States Nuclear Regulatory Commission
NRR	Nuclear Reactor Regulation
NSCA	Nuclear Safety Capability Assessment
OMA	Operator Manual Actions
PARS	Public Access Records
PC-CKS	Cable Routing and Raceway Database Management System
PCS	Primary Control Station
PDFP	Portable Diesel Fire Pump
PI&R	Problem Identification and Resolution
P&IDs	Piping and Instrumentation Diagrams
RAI	Request for Additional Information
Rev	Revision
SDP	Significance Determination Process
SER	Safety Evaluation Report
SL	Severity Level
SSC	Systems, Structures and Components
SSD	Safe Shutdown
TE	Traditional Enforcement
TFPI	Triennial Fire Protection Inspection
TR	Technical Report
UFSAR	Updated Final Safety Analysis Report
USNRC	United States Nuclear Regulatory Commission