UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
2100 RENAISSANCE BLVD., SUITE 100
KING OF PRUSSIA, PA 19406-2713

March 25, 2015

Mr. Peter M. Orphanos, Site Vice President
Nine Mile Point Nuclear Station, LLC
Exelon Generation Company, LLC
P.O. Box 63
Lycoming, NY 13093-0063

SUBJECT: NINE MILE POINT NUCLEAR STATION - NOTIFICATION OF CONDUCT OF A TRIENNIAL FIRE PROTECTION BASELINE INSPECTION

Dear Mr. Orphanos:

The purpose of this letter is to notify you that the U.S. Nuclear Regulatory Commission (NRC) staff will conduct a triennial fire protection baseline inspection at Nine Mile Point Nuclear Station, units 1 and 2 in June and July, 2015. The inspection team will be led by Roy Fuhrmeister from the NRC Region I Office. The team will be composed of personnel from the NRC Region I Office, with support from a fire protection engineer from the agency's Office of Nuclear Reactor Regulation. The inspection will be conducted in accordance with IP 71111.05T and 71111.05XT, the NRC's baseline fire protection inspection procedures.

The schedule for the inspection is as follows:

- Information Gathering Visit - Week of June 7, 2015
- On-site Inspection - Weeks of June 21 and July 5, 2015

The purpose of the information gathering visit is to obtain information and documentation needed to support the inspection, to become familiar with the station fire protection programs, fire protection features, post-fire safe shutdown capabilities, plant layout, mitigating strategies to address Title 10 of the Code of Federal Regulations (10 CFR) 50.54(hh)(2); and, as necessary, obtain plant specific site access training and badging for unescorted site access.

An initial list of the type of the documents the team will likely review, during the conduct of the inspection, are listed in Enclosures 1 and 2. The team leader will contact you with specific document requests prior to the information gathering visit.

During the information gathering visit, the team will also discuss the following inspection support administrative details: office space size and location; specific documents requested to be made available to the team in their office spaces; arrangements for reactor site access (including radiation protection training, security, safety and fitness for duty requirements); and the availability of knowledgeable plant staff and licensing organization personnel to serve as points of contact during the inspection.

We request that during the on-site inspection weeks, you ensure that copies of analyses, evaluations or documentation regarding the implementation and maintenance of the station fire protection program, including post-fire safe shutdown capability, be readily accessible to the team for their review. Of specific interest for the fire protection portion of the inspection are those documents which establish that your fire protection program satisfies NRC regulatory requirements and conforms to applicable NRC and industry fire protection guidance (i.e., fire protection compliance assessment documents). For the 10 CFR 50.54(hh)(2) portion of the inspection, those documents implementing your mitigating strategies and demonstrating the management of your commitments for the strategies are of specific interest. Also, personnel should be available at the site during the inspection who are knowledgeable regarding those plant systems required to achieve and maintain safe shutdown conditions from inside and outside the control room, including the electrical aspects of the relevant post-fire safe shutdown analyses, reactor plant fire protection systems and features, and the station fire protection program and its implementation.

This letter does not contain new or amended information collection requirements subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). Existing information collection requirements were approved by the Office of Management and Budget, under control number 3150-0011. The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid Office of Management and Budget control number.

Your cooperation and support during this inspection will be appreciated. If you have questions concerning this inspection, or the inspection team's information or logistical needs, please contact Roy Fuhrmeister, the team leader, in the Region I Office at 610-337-5059.

Sincerely,

/RA/

John F. Rogge, Chief
Engineering Branch 3
Division of Reactor Safety

Docket Nos. 50-220; 50-410
License Nos. DPR-63; NPF-69

Enclosures:
1. Fire Protection Program Supporting Documentation
2. Mitigating Strategies Supporting Documentation
3. NFPA 805 Fire Protection Program Supporting Documentation

cc: Distribution via ListServ

We request that during the on-site inspection weeks, you ensure that copies of analyses, evaluations or documentation regarding the implementation and maintenance of the station fire protection program, including post-fire safe shutdown capability, be readily accessible to the team for their review. Of specific interest for the fire protection portion of the inspection are those documents which establish that your fire protection program satisfies NRC regulatory requirements and conforms to applicable NRC and industry fire protection guidance (i.e., fire protection compliance assessment documents). For the 10 CFR 50.54(hh)(2) portion of the inspection, those documents implementing your mitigating strategies and demonstrating the management of your commitments for the strategies are of specific interest. Also, personnel should be available at the site during the inspection who are knowledgeable regarding those plant systems required to achieve and maintain safe shutdown conditions from inside and outside the control room, including the electrical aspects of the relevant post-fire safe shutdown analyses, reactor plant fire protection systems and features, and the station fire protection program and its implementation.

This letter does not contain new or amended information collection requirements subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). Existing information collection requirements were approved by the Office of Management and Budget, under control number 3150-0011. The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid Office of Management and Budget control number.

Your cooperation and support during this inspection will be appreciated. If you have questions concerning this inspection, or the inspection team's information or logistical needs, please contact Roy Fuhrmeister, the team leader, in the Region I Office at 610-337-5059.

Sincerely,

/RA/

John F. Rogge, Chief
Engineering Branch 3
Division of Reactor Safety

Docket Nos. 50-220; 50-410
License Nos. DPR-63; NPF-69

Enclosures:
1. Fire Protection Program Supporting Documentation
2. Mitigating Strategies Supporting Documentation
3. NFPA 805 Fire Protection Program Supporting Documentation

cc: Distribution via ListServ
Distribution: via e-mail (See Next Page)

DOCUMENT NAME: G:\DRS\Engineering Branch 3\Fuhrmeister\NMPNS Triennial 90 Day Letter.docx
ADAMS ACCESSION NUMBER:ML15084A343

☑ SUNSI Review		☑ Non-Sensitive		☑ Publicly Available	
OFFICE	RI/DRS	RI/DRS			
NAME	RFuhrmeister	JRogge			
DATE	03/09/2015	03/25/2015			

OFFICIAL RECORD COPY

Distribution w/encl: (via E-mail)
D. Dorman, RA
D. Lew, DRA
H. Nieh, DRP
M. Scott, DRP
R. Lorson, DRS
J. Trapp, DRS
D. Schroeder, DRP
A. Rosebrook, DRP
A. Siwy, DRP
K. Kolaczyk, DRP, SRI
G. Stock, DRP, RI
J. Rogge, DRS
R. Fuhrmeister, DRS
M. Paulus, DRP, AA
K. MorganButler, RI OEDO
RidsNrrPMNineMilePoint Resource
RidsNrrDorlLpl1-1 Resource
ROPReports Resource

Fire Protection Program Supporting Documentation

The documents and information requested below should generally be made available to the inspection team during the on-site information gathering visit for the team's use both on-site and off-site during the inspection. Electronic format is the preferred media, except where specifically noted. If electronic media is made available via an internet based remote document management system, then the remote document access must allow inspectors to download, save, and print the documents in the NRC's regional office. Electronic media on compact disc or paper records (hard copy) are of course always acceptable. At the end of the inspection, the documents in the team's possession will not be retained.

Approximately three weeks before the on-site information gathering visit, the following documents should be made available to the team leader for review in the regional office:

- Post-Fire Safe Shutdown or Alternative Shutdown Analysis (request A.1)
- Fire Hazards Analysis (request A.2)
- Individual Plant Examination for External Events (Fire Chapter ONLY) (request A.3)
- Fire Probabilistic Risk Assessment (PRA) Summary Document (request A.4)

Based on review of the above four documents, team leader should identify a preliminary list of fire areas being considered for inspection prior to the on-site information gathering visit. During the information gathering visit, or shortly thereafter, the fire areas selected for inspection will be determined.

This document request is based on typical documents that a generic plant might have. As such, this generic document request is not meant to imply that any specific plant is required to have all of the listed documents. It is recognized that some documents listed below may not be available for your plant. In addition, the document titles listed below are based on typical industry document names; your plant specific document titles may vary.

A. DESIGN AND LICENSING BASIS DOCUMENTS

A.1 Post-fire Safe Shutdown or Alternative Shutdown Analysis

A.2 Fire Hazards Analysis

A.3 Individual Plant Examination for External Events (IPEEE) (Fire Chapter ONLY), including:

- Results of any post-IPEEE reviews; and
- LIST of actions taken or plant modifications performed in response to the IPEEE results

A.4 Fire Probabilistic Risk Assessment (PRA) Summary Document (if available)

A.5 Fire Protection Program and/or Fire Protection Plan

A.6 LIST of post-fire safe shutdown or alternative shutdown systems (i.e., safe shutdown equipment list)

A.7 Fire Protection System Design Basis Document

A.8 Post - fire Safe Shutdown or Alternative Shutdown Design Basis Document

A.9 LIST of applicable NFPA codes and standards (i.e., codes of record)

A.10 LIST of deviations from NFPA codes of record

A.11 NFPA Compliance Review Report (if available)

A.12 Report or evaluation that compares the fire protection program to the NRC Branch Technical Position (BTP) 9.5-1 Appendix A

A.13 COPY of licensee submittals and NRC safety evaluation reports that are specifically listed in the facility operating license for the approved fire protection program

A.14 COPY of NRC Safety Evaluation Reports for fire protection program and post-fire safe shutdown or alternative shutdown features.

A.15 COPY of NRC approved exemptions for plant fire protection and post-fire safe shutdown or alternative shutdown features

A.16 COPY of exemption requests submitted but not yet approved for plant fire protection and post-fire safe shutdown or alternative shutdown features

A.17 Facility Operating License

A.18 Technical Specifications (electronic format only)

A.19 Technical Requirements Manual (electronic format only)

A.20 Updated Final Safety Analysis Report (electronic format only)

B. GENERAL PLANT DESIGN DOCUMENTS

B.1 Piping and instrumentation diagrams (P&IDs) for post-fire safe shutdown or alternative shutdown systems (C-size paper drawings)

B.2 P&IDs for fire protection systems, including fire water supply, water suppression sprinklers & deluge, and CO2 and Halon systems (C-size paper drawings)

B.3 Yard layout drawings for underground fire protection buried piping (C-size paper drawings)

B.4 Layout or arrangement drawings of reactor coolant pump lube oil system leakage points and associated lube oil collection systems (C-size paper drawings) (PWRs only)

B.5 AC and DC electrical system single line diagrams, from off-site power down to the highest safety-related bus level (typically 4kV, EDG bus) (C-size paper drawings)

B.6 Single line diagrams for motor control centers (MCCs) that supply post-fire safe shutdown or alternative shutdown loads (only for selected fire areas) (C-size paper drawings)

B.7 Equipment location drawings which identify the physical plant locations of post-fire safe shutdown or alternative shutdown equipment (C-size paper drawings)

B.8 Plant layout drawings which identify: (C-size paper drawings)

- Plant fire area boundaries;
- Combustible control zone drawings (if available);
- Areas protected by automatic fire suppression and detection; and
- Locations of fire protection equipment

C. CLASSIC FIRE PROTECTION

C.1 COPY of fire protection program implementing procedures (e.g., administrative controls, surveillance testing, fire brigade)

C.2 LIST of calculations and engineering analyses, studies, or evaluations for the fire protection system, including the fire water system

C.3 Hydraulic calculation or analysis for fire protection water system

C.4 Last two completed surveillance's of fire protection features in the selected fire areas (detection, suppression, damper inspections, damper tests, penetration inspections, barrier inspections, etc.)

C.5 LIST of routine tests, surveillances, and preventive maintenance on fire pumps, including pump controllers and batteries.

C.6 Last two completed annual fire pump pressure and flow tests

C.7 Last two completed monthly and/or quarterly fire pump tests

C.8 Last two completed fire loop flow tests and loop flushes

C.9 CO2 and Halon initial discharge testing or calculation that determined appropriate concentrations and soak or hold times can be achieved (only for selected fire areas)

C.10 Last five hot work permits (at power)

C.11 Last five transient combustible permits (at power)

C.12 For Fire Brigade Drills, provide the following:

- Last five fire brigade drill critiques;
- Last drill critique for a drill with off-site fire department support;
- Last unannounced drill critique;
- Last back-shift drill critique;
- Dates, shifts, and locations of unannounced drills for last three years;
- Summary of any unsatisfactory drill performance items for last three years; and
- Last unannounced drill critique by a qualified individual independent of the licensee's staff

C.13 For fire brigade equipment provide the following:

- Procedure for inventory and inspection; and
- Most recent inspection and inventory results

C.14 Fire Brigade Qualifications, including self-contained breathing apparatus (SCBA) and training lesson plans

C.15 Flooding analysis for selected fire areas which demonstrates:

- a fire water pipe break in the selected fire areas, won't affect safe shutdown (SSD) capability for equipment in the selected fire areas;
- a fire water pipe break in an adjacent fire area, won't affect SSD capability for equipment in the selected fire areas

C.16 Pre-fire plans for all fire areas

C.17 For Emergency Lighting Units (ELU), provide the following:

- LIST of Preventive Maintenance tasks and frequencies;
- Most recently performed monthly or quarterly functional test;
- Most recently performed battery discharge performance test;
- ELU battery loading analysis;
- vendor manual(s) for on-site inspector use; and
- results of black-out testing (if performed)

C.18 Impairment Log (at start of inspection), for fire protection features that are out of service

C.19 Three Fire Protection screening reviews for recent design changes, modifications, or temporary modifications (e.g., a Generic Letter 86-10 review that screened out)

C.20 LIST of penetration seal work, re-work, or installation activities, in the last three years

C.21 LIST of fire wrap work, re-work, or installation activities, in the last three years

C.22 Fire protection system health reports for the two most recent quarters

C.23 Fire protection program health report for the two most recent quarters

C.24 Emergency lighting system health reports for the two most recent quarters

C.25 LIST of fire protection system design changes completed in the last three years (including their associated 10 CFR 50.59 and Generic Letter 86-10 evaluations)

C.26 Licensee evaluation of industry operating experience, such as:
(specific items to be selected by the inspector)

- NRC IN 2005-03, Inadequate Design and Installation of Seismic-Gap Fire Barriers;
- NRC IN 2006-22, Ultra-Low Sulfur Diesel Fuel Oil Usage, for diesel fire pump;
- NRC IN 2009-02, Bio-Diesel Fuel Oil Usage, for diesel fire pump; and
- NRC IN 2009-29, Fire Pumps Fail to Start due to a Fire

C.27 COPY of any test, surveillance, or maintenance procedure (current revision), including any associated data forms, for any requested "last performed" test, surveillance, or maintenance

D. ELECTRICAL

D.1 Identify whether the cables in the selected fire areas are predominantly Thermoset or Thermoplastic. Specifically identify any Thermoplastic cable in the selected fire areas.

D.2 Breaker and fuse coordination calculation for post-fire safe shutdown or alternative shutdown equipment (only for selected fire areas)

D.3 Administrative or configuration control procedures that govern fuse replacement (e.g., fuse control procedures)

D.4 Maintenance procedures that verify breaker over-current trip settings to ensure coordination remains functional, for post-fire safe shutdown or alternative shutdown equipment

D.5 Electrical system health reports for the two most recent quarters

D.6 Last surveillance demonstrating operability of those components operated from the safe shutdown or alternative shutdown panel

D.7 Schematic or elementary diagrams for circuits to be reviewed (C-size paper drawings)

D.8 Cable routing for components and equipment credited for post-fire safe shutdown or alternative shutdown (only for selected fire areas)

D.9 LIST of post-fire safe shutdown or alternative shutdown design changes completed, in the last three years

E. SPURIOUS FIRE INDUCED CIRCUIT FAULT

E.1 LIST of identified fire induced circuit failure configurations (only for selected fire areas)

E.2 Multiple Spurious Operation (MSO) Expert Panel Report

F. OPERATIONS

F.1 LIST of calculations and engineering analyses, studies, or evaluations for the safe shutdown or alternative shutdown methodology

F.2 LIST of licensed operator Job Performance Measures (JPMs) for operator manual actions required by post-fire safe shutdown or alternative shutdown

F.3 LIST of non-licensed operator training associated with post-fire safe shutdown or alternative shutdown manual actions which would be performed by a non-licensed operator (including JPMs, in-field training walkdowns, simulations, or initial qualification)

F.4 Lesson plans for post-fire safe shutdown or alternative shutdown training for licensed and non-licensed operators

F.5 For operator manual actions (OMAs) provide the following:

- Manual Action Feasibility Study (if available);
- Operator Time Critical Action Program (if available);
- Time lines for time-critical OMAs; and
- Time line validations

F.6 Thermal hydraulic calculation or analysis that determines the time requirements for time-critical manual operator actions

F.7 Operating procedures for post-fire safe shutdown from the control room with a postulated fire in the selected fire areas

F.8 Operating procedures for post-fire safe shutdown or alternative shutdown from outside the control room

F.9 For safe shutdown equipment and tools, provide the following:

- Procedure for inventory and inspection; and
- Most recent inspection and inventory results

F.10 LIST of procedures that implement Cold Shutdown Repairs

F.11 For Cold Shutdown Repairs, provide the following:

- Procedure for inventory and inspection (i.e., needed tools, material, etc.); and
- Most recent inspection and inventory results

F.12 Calculation or analysis that demonstrates pressurizer level will remain within the indicating range for a PWR, or reactor water level will remain above the top of active fuel for a BWR, at the safe shutdown or alternative shutdown panel, in accordance with the requirements of 10 CFR 50 Appendix R III.L performance goals

F.13 For Radio communications, provide the following:

- Communications Plan for firefighting and post-fire safe shutdown manual actions;
- Repeater locations;
- Cable routing for repeater power supply cables;
- Radio coverage test results; and
- Radio Dead Spot locations in the plant

F.14 COPY of NRC approved exemption requests for operator manual actions for 10 CFR 50 Appendix R III.G.2 fire areas

F.15 COPY of exemption requests submitted but not yet approved, for operator manual actions for 10 CFR 50 Appendix R III.G.2 fire areas

F.16 Environmental and habitability evaluations for post-fire operator manual actions (temperature, smoke, humidity, SCBAs, etc.)

G. ADMINISTRATIVE CONTROL, OVERSIGHT, AND CORRECTIVE ACTION PROGRAMS

G.1 Corrective actions for fire-induced circuit failures (including but not limited to NRC IN 92-18), both single and multiple spurious actuations (only for selected fire areas)

G.2 Corrective actions associated with post-fire safe shutdown or alternative shutdown operator manual actions

G.3 Self assessments, peer assessments, and audits of fire protection activities for the last three years

G.4 Self assessments, peer assessments, and audits of post-fire safe shutdown or alternative shutdown capabilities for the last three years

G.5 LIST of open and closed condition reports for the fire protection system for the last three years

G.6 LIST of open and closed condition reports for emergency lighting units for the last three years

G.7 LIST of open and closed condition reports for post-fire safe shutdown (SSD) or alternative shutdown (ASD) issues for the last three years. This includes issues affecting the SSD or ASD analysis, fire hazards analysis, SSD or ASD operating procedures and/or training, timeline evaluations for operator actions, and supporting engineering evaluations, analysis, or calculations

G.8 LIST of all Generic Letter 86-10 evaluations

G.9 COPY of all Generic Letter 86-10 evaluations performed in the last three years

Mitigating Strategies Supporting Documentation

H. 10 CFR 50.54(hh)(2) MITIGATING STRATEGIES DOCUMENTS

H.1 LIST of all changes to regulatory commitments made to meet the requirements of Title 10 of the *Code of Federal Regulations* (10 CFR) 50.54(hh)(2)

H.2 LIST of procedures and guidelines that were revised or generated to implement the mitigating strategies. These could be extensive damage mitigation guidelines (EDMGs), severe accident management guidelines (SAMGs), emergency operating procedures (EOPs), abnormal operating procedures (AOPs), etc.

H.3 A matrix that shows the correlation between the mitigation strategies identified in Nuclear Energy Institute 06-12, Revision 2, "B.5.b Phase 2 & 3 Submittal Guideline," issued December 2006, and the site-specific procedures or guidelines that are used to implement each strategy

H.4 LIST of engineering evaluations or calculations that were used to verify the engineering bases for the mitigating strategies

H.5 Piping and instrumentation diagrams (P&ID) or simplified flow diagrams for systems relied upon in the mitigating strategies. These could be the type used for training (C-size paper drawings)

H.6 LIST of modification packages or summary descriptions of modifications with simplified drawings, for necessary facility changes to implement the mitigating strategies

H.7 LIST of routine tests, surveillances, and preventive maintenance for equipment and tools needed to implement 10 CFR 50.54(hh)(2) strategies

H.8 For equipment and tools needed to implement 10 CFR 50.54(hh)(2) strategies, provide the following:

- Procedures for inventory and inspection; and
- Most recent inspection and inventory results

H.9 LIST of 10 CFR 50.54(hh)(2) strategies, if any, which have implementing details that differ from that documented in the submittals or the safety evaluation report

H.10 Site general arrangement drawings that show the majority of buildings and areas referenced in 10 CFR 50.54(hh)(2) documents (C-size paper drawings)

H.11 Training records, training matrix, and lesson plans related to 10 CFR 50.54(hh)(2)

H.12 Copies of memoranda of understanding (MOU) (e.g., with local fire departments) required to implement any mitigating strategies

NFPA 805 Fire Protection
Program Supporting Documentation

The documents and information requested below should generally be made available to the inspection team during the on-site information gathering visit for the team's use both on-site and off-site during the inspection. Electronic format is the preferred media, except where specifically noted. If electronic media is made available via an internet based remote document management system, then the remote document access must allow inspectors to download, save, and print the documents in the NRC's regional office. Electronic media on compact disc or paper records (hard copy) are acceptable. At the end of the inspection, the documents in the team's possession will not be retained.

Approximately three weeks before the on-site information gathering visit, the following documents should be made available to the team leader for review in the regional office:

- Post-fire Nuclear Safety Capability, Systems, and Separation Analysis (request A.1)
- Fire Hazards Analysis and/or NFPA 805 Design Basis Document (request A.2)
- Fire Probabilistic Risk Assessment (PRA) Summary Document or full PRA Document (request A.3)
- NFPA 805 Transition Report developed in accordance with NEI 04-02 (request A.4)
- Fire Risk Evaluations (i.e., NFPA 805 Section 2.4.3) (request A.5)
- Plant Change Evaluations (i.e., NFPA 805 Section 2.4.4) (request A.6)
- Analysis that demonstrates nuclear safety performance criteria can be achieved and maintained for those areas that require recovery actions (request A.7)

Based on review of the above seven documents, team leader should identify a preliminary list of fire areas being considered for inspection prior to the on-site information gathering visit. During the information gathering visit, or shortly thereafter, the fire areas selected for inspection will be determined.

This document request is based on *typical documents* that a generic plant might have. As such, this generic document request is not meant to imply that any specific plant is required to have all of the listed documents. It is recognized that some documents listed below may not be available for your plant. In addition, the document titles listed below are based on typical industry document names; your plant specific document titles may vary.

A. DESIGN AND LICENSING BASIS DOCUMENTS

A.1 Post-fire Nuclear Safety Capability, Systems, and Separation Analysis

A.2 Fire Hazards Analysis and/or NFPA 805 Design Basis Document

A.3 Fire PRA Summary Document or full PRA Document (if summary document not available)

A.4 NFPA 805 Transition Report, developed in accordance with NEI 04-02

A.5 Fire Risk Evaluations (i.e., NFPA 805 Section 2.4.3)

A.6 Plant Change Evaluations (i.e., NFPA 805 Section 2.4.4)

A.7 Analysis that demonstrates nuclear safety performance criteria can be achieved and maintained for those areas that require recovery actions

A.8 Fire Protection Program and/or Fire Protection Plan

A.9 LIST of post-fire safe shutdown components (i.e., safe shutdown equipment list)

A.10 Fire Protection System Design Basis Document

A.11 LIST of applicable NFPA codes and standards and issuance dates (i.e., codes of record)

A.12 LIST of deviations from (a) NFPA codes of record or (b) NFPA 805 fundamental fire protection program and design elements (i.e., NFPA 805, Chapter 3)

A.13 NFPA Compliance Review Report

A.14 Report or evaluation that compares the fire protection program to the NRC Branch Technical Position (BTP) 9.5-1 Appendix A

A.15 COPY of licensee submittals and NRC safety evaluation reports that are specifically listed in the facility operating license for the approved fire protection program

A.16 COPY of NRC Safety Evaluation Reports that form the licensing basis for

- Fire Protection Program; and
- Post-Fire Nuclear Safety Capability

A.17 COPY of NRC approved exemptions for plant fire protection and post-fire nuclear safety capability features

A.18 COPY of exemption requests submitted but not yet approved for plant fire protection and post-fire nuclear safety capability features

A.19 LIST of nuclear safety capability design changes completed in the last three years (including their associated 10 CFR 50.59 and NFPA 805 plant change evaluations)

A.20 Facility Operating License

A.21 Technical Specifications (electronic format only)

A.22 Technical Requirements Manual (electronic format only)

A.23 Updated Final Safety Analysis Report (electronic format only)

B. GENERAL PLANT DESIGN DOCUMENTS

B.1 Piping and instrumentation diagrams (P&IDs) and legend list for components used to achieve and maintain nuclear safety performance criteria for: (C-size paper drawings)

- Fires outside the main control room; and
- Fires in areas requiring recovery actions at other than primary control stations

B.2 P&IDs and legend list for fire protection systems, including fire water supply, water suppression sprinklers & deluge, and CO2 and Halon systems (C-size paper drawings)

B.3 Yard layout drawings for underground fire protection buried piping (C-size paper drawings)

B.4 AC and DC electrical system single line diagrams, from off-site power down to the highest safety-related bus level (typically 4kV, EDG bus) (C-size paper drawings)

B.5 Single line diagrams for motor control centers (MCCs) that supply post-fire nuclear safety component loads (only for selected fire areas) (C-size paper drawings)

B.6 Equipment location drawings which identify the physical plant locations of post-fire nuclear safety capability equipment (C-size paper drawings)

B.7 Plant layout drawings which identify: (C-size paper drawings)

- Plant fire area boundaries;
- Combustible control zone drawings;
- Areas protected by automatic fire suppression and detection; and
- Locations of fire protection equipment

C. CLASSIC FIRE PROTECTION

C.1 COPY of fire protection program implementing procedures (e.g., administrative controls, surveillance testing, fire brigade)

C.2 LIST of calculations and engineering analyses, studies, or evaluations for the fire protection system, including the fire water system

C.3 Hydraulic calculation or analysis for fire protection water system

C.4 Last two completed surveillance's of fire protection features in the selected fire areas (detection, suppression, damper inspections, damper tests, penetration inspections, barrier inspections, etc.)

C.5 LIST of routine tests, surveillances, and preventive maintenance on fire pumps, including pump controllers and batteries

C.6 Last two completed annual fire pump pressure and flow tests

C.7 Last two completed monthly and/or quarterly fire pump tests

C.8 Last two completed fire loop flow tests and loop flushes

C.9 CO2 and Halon initial discharge testing or calculation that determined appropriate concentrations and soak or hold times can be achieved (only for selected fire areas)

C.10 Last five hot work permits (at power)

C.11 Last five transient combustible permits (at power)

C.12 For Fire Brigade Drills, provide the following:

- Last five fire brigade drill critiques;
- Last drill critique for a drill with off-site fire department support;
- Last unannounced drill critique;
- Last back-shift drill critique;
- Dates, shifts, and locations of unannounced drills for last three years;
- Summary of any unsatisfactory drill performance items for last three years; and
- Last unannounced drill critique by a qualified individual independent of the licensee's staff

C.13 Fire Brigade Qualifications, including self-contained breathing apparatus (SCBA) and training lesson plans

C.14 COPY of the mutual aid agreement for the "first-due" local fire department that is currently in effect

C.15 COPY of the evaluation or analysis of the effects of fire suppression activities on the ability to achieve the nuclear safety performance criteria (only for selected fire areas), including:

- An automatic or manually actuated suppression system, due to a fire in a single location, will not indirectly cause damage to the success path; and
- Inadvertent actuation or rupture of a suppression system will not indirectly cause damage to the success path; and
- Demonstration of adequate drainage for areas protected by water suppression systems;
- Hydrostatic rating of any floor penetration seals installed within the fire areas that are credited with keeping water from leaking into fire areas below

C.16 Pre-fire plans for all fire areas

C.17 For Emergency Lighting Units (ELU), provide the following:

- COPY of performance based emergency light assessments;
- LIST of Preventive Maintenance tasks, frequencies, and bases;
- Most recently performed monthly or quarterly functional test;
- Most recently performed battery discharge performance test;
- ELU battery loading analysis;
- Vendor manual(s) for on-site inspector use;
- Results of black-out testing (if performed);
- Maintenance Rule program information related to the ELU; and
- Compensatory measures taken when ELU are out of service

C.18 Impairment Log (at start of inspection), for fire protection features that are out of service

C.19 Three Fire Protection screening reviews for recent design changes, modifications, or temporary modifications (i.e., an NFPA 805 plant change evaluation that screened out)

C.20 LIST of penetration seal work, re-work, or installation activities, in the last three years

C.21 LIST of fire wrap work, re-work, or installation activities, in the last three years

C.22 Fire protection system health reports for the two most recent quarters

C.23 Fire protection program health report for the two most recent quarters

C.24 Emergency lighting system health reports for the two most recent quarters

C.25 LIST of fire protection system design changes completed in the last three years (including their associated 10 CFR 50.59 and NFPA 805 plant change evaluations)

C.26 LIST of fire protection system NFPA 805 engineering equivalency evaluations completed in the last three years

C.27 Licensee evaluation of industry operating experience, such as: (specific items to be selected by the inspector)

- NRC IN 2005-03, Inadequate Design and Installation of Seismic-Gap Fire Barriers;
- NRC IN 2006-22, Ultra-Low Sulfur Diesel Fuel Oil Usage for diesel fire pump;
- NRC IN 2009-02, Bio-Diesel Fuel Oil Usage, for diesel fire pump; and
- NRC IN 2009-29, Fire Pumps Fail to Start Due to a Fire

C.28 COPY of any test, surveillance, or maintenance procedure (current revision), including any associated data forms, for any requested "last performed" test, surveillance, or maintenance

D. ELECTRICAL

D.1 Identify whether the cables in the selected fire areas are predominantly Thermoset or Thermoplastic. Specifically identify any Thermoplastic cable in the selected fire areas

D.2 Nuclear safety circuit coordination analysis for fuse and breaker coordination of nuclear safety capability components (only for selected fire areas)

D.3 Administrative or configuration control procedures that govern fuse replacement (e.g., fuse control procedures)

D.4 Maintenance procedures that verify breaker over-current trip settings to ensure coordination remains functional, for post-fire nuclear safety capability components

D.5 Electrical system health reports for the two most recent quarters.

D.6 Last surveillance demonstrating operability of those components operated from the primary control stations

D.7 Schematic or elementary diagrams for circuits to be reviewed (C-size paper drawings)

D.8 Cable routing for components and equipment credited for post-fire nuclear safety capability systems and components (only for selected fire areas)

D.9 LIST of post-fire nuclear safety capability system and component design changes completed, in the last three years

D.10 LIST of identified fire induced circuit failure configurations (only for selected fire areas)

E. OPERATIONS

E.1 LIST of calculations and engineering analyses, studies, or evaluations for the nuclear safety capability methodology

E.2 LIST of licensed operator Job Performance Measures (JPMs) for operator actions required to achieve and maintain post-fire nuclear safety performance criteria

E.3 LIST of non-licensed operator training associated with non-licensed operator actions to achieve and maintain post-fire nuclear safety performance criteria (including JPMs, in-field training walkdowns, simulations, or initial qualification)

E.4 Lesson plans for post-fire nuclear safety capability training for licensed and non- licensed operators

E.5 For recovery actions, provide the following:

- Manual Action Feasibility Study;
- Operator Time Critical Action Program;
- Timelines for time-critical recovery actions; and
- Timeline validations

E.6 Thermal hydraulic calculation or analysis that determines the time requirements for time-critical manual operator actions

E.7 Operating procedures to achieve and maintain nuclear safety performance criteria from the control room, with a postulated fire in the selected fire areas

E.8 Operating procedures to achieve and maintain nuclear safety performance criteria from outside the control room, with a postulated fire in the control room, cable spreading room, or any area requiring recovery actions (other than recovery actions performed in the control room or primary control stations)

E.9 For safe shutdown equipment and tools, provide the following:

- Procedure for inventory and inspection; and
- Most recent inspection and inventory results

E.10 LIST of procedures that implement Cold Shutdown Repairs

E.11 For Cold Shutdown Repairs, provide the following:

- Procedure for inventory and inspection (i.e., needed tools, material, etc.) and;
- Most recent inspection and inventory results

E.12 For Radio communications, provide the following:

- Communications Plan for fire-fighting and post-fire safe shutdown manual actions;
- Repeater locations;
- Cable routing for repeater power supply
- Cables; Radio coverage test results; and
- Radio Dead Spot locations in the plant

E.13 Environmental and habitability evaluations for post-fire operator actions (temperature, smoke, humidity, SCBAs, etc.)

F. ADMINISTRATIVE CONTROL, OVERSIGHT, AND CORRECTIVE ACTION PROGRAMS

F.1 Corrective actions for fire-induced circuit failures (including but not limited to NRC IN 92-18), both single and multiple spurious actuations (only for selected fire areas)

F.2 Corrective actions associated with operator actions to achieve and maintain post-fire nuclear safety performance criteria

F.3 Self-assessments, peer assessments, and audits of fire protection activities for the last three years

F.4 Self-assessments, peer assessments, and audits of post-fire nuclear safety capability methodology for the last three years

F.5 LIST of open and closed condition reports for the fire protection system for the last three years

F.6 LIST of fire event analysis reports for the last three years

F.7 LIST of open and closed condition reports for emergency lighting units for the last three years

F.8 LIST of open and closed condition reports for post-fire nuclear safety capability issues for the last three years. This includes issues affecting the nuclear safety capability analysis, fire hazards analysis, NFPA 805 design basis, fire risk evaluations, plant change evaluations, post-fire operating procedures and/or training, timeline evaluations for operator actions, and supporting engineering evaluations, analysis, or calculations

F.9 LIST of procedures that control the configuration of the fire protection program, features, and post-fire nuclear safety capability methodology and system design