January 15, 2004

Mr. William R. Kanda
Vice President - Nuclear, Perry
FirstEnergy Nuclear Operating Company
P. O. Box 97, A210
10 Center Road
Perry, OH 44081

SUBJECT: PERRY NUCLEAR POWER PLANT, UNIT 1
FIRE PROTECTION TRIENNIAL BASELINE INSPECTION
NRC INSPECTION REPORT 05000440/2003008(DRS)

Dear Mr. Kanda:

On December 5, 2003, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Perry Nuclear Power Plant, Unit 1. The enclosed report documents the inspection findings which were discussed on December 5, 2003, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and to 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.

Based on the results of this inspection, no findings of significance were identified.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's Agencywide Document 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,

/RA/

Julio F. Lara, Chief
Electrical Engineering Branch
Division of Reactor Safety

Docket No. 50-440
License No. NPF-58

Enclosure: Inspection Report 05000440/2003008(DRS)
w/Attachment: Supplemental Information

See Attached Distribution

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cc w/encl: G. Leidich, President - FENOC
K. Cimorelli, Acting Director,
Maintenance Department
V. Higaki, Manager, Regulatory Affairs
J. Messina, Director, Nuclear
Services Department
T. Lentz, Director, Nuclear
Engineering Department
T. Rausch, Plant Manager,
Nuclear Power Plant Department
M. O'Reilly, Attorney, First Energy
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R. Owen, Ohio Department of Health

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-440
License No:	NPF-58
Report No:	05000440/2003008(DRS)
Licensee:	FirstEnergy Nuclear Operating Company (FENOC)
Facility:	Perry Nuclear Power Plant, Unit 1
Location:	P.O. Box 97 A200 Perry, OH 44081
Dates:	November 17, 2003 through December 5, 2003
Inspectors:	G. Hausman, Senior Reactor Inspector, Lead L. Kozak, Senior Reactor Inspector R. Langstaff, Senior Reactor Inspector
Observer:	B. Jose, Reactor Engineer
Approved by:	Julio F. Lara, Chief Electrical Engineering Branch Division of Reactor Safety

Enclosure

TABLE OF CONTENTS

SUMMARY OF FINDINGS

IR 05000440/2003008(DRS); 11/17/03 - 12/05/03; Perry Nuclear Power Plant, Unit 1; Fire Protection Triennial Baseline Inspection.

This report covers an announced triennial fire protection baseline inspection. The inspection was conducted by Region III inspectors. No findings of significance were 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). Findings for which the SDP does not apply may be "Green" or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. Inspector-Identified and Self-Revealed Findings

Cornerstone: Initiating Events

No findings of significance were identified.

Cornerstone: Mitigating Systems

No findings of significance were identified.

B. Licensee-Identified Violations

No findings of significance were identified.

REPORT DETAILS

Summary of Plant Status

Unit 1 operated at or near full power throughout the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events and Mitigating Systems

1R05 Fire Protection (71111.05)

The purpose of this inspection was to review the Perry Nuclear Power Plant's (PNPPs) Fire Protection Program (FPP) for selected risk-significant fire areas. Emphasis was placed on verifying that the post-fire safe shutdown capability and the fire protection features were maintained free of fire damage to ensure that at least one post-fire safe shutdown success path was available. The inspection was performed in accordance with the Nuclear Regulatory Commission's (NRCs) new regulatory oversight process using a risk-informed approach for selecting the fire areas and attributes to be inspected. The inspectors used the Perry Nuclear Power Plant's Individual Plant Examination of External Events (IPEEE) to choose several risk-significant areas for detailed inspection and review. The fire areas chosen for review during this inspection were:

Fire Area	Description of Fire Area Reviewed
DG-1d	Diesel Generator Building Hallway (Elevation 620' - 6" and 646' - 6")
1CC-3c	Division 1 Switchgear Room (Elevation 620' - 6")
1CC-3d	Remote Shutdown Panel (Control Complex, Elevation 620' - 6") and
1DG-1c	Division 1 Diesel Generator Building (Elevation 620' - 6" and 646' - 6")

For each of these fire areas, the inspection focused on the fire protection features, the systems and equipment necessary to achieve and maintain safe shutdown conditions, determination of licensee commitments, and changes to the FPP.

.1 Systems Required to Achieve and Maintain Post-Fire Safe Shutdown

The guidelines established by Branch Technical Position (BTP) Chemical Engineering Branch (CMEB) 9.5-1, Section C.5.b, "Safe Shutdown Capability," paragraph (1), required the licensee to provide fire protection features that were capable of limiting fire damage to structures, systems, and components (SSCs) important to safe shutdown. The SSCs that were necessary to achieve and maintain post-fire safe shutdown were required to be protected by fire protection features that were capable of limiting fire damage to the SSCs so that:

- One train of systems necessary to achieve and maintain hot shutdown conditions from either the control room or emergency control station(s) was free of fire damage; and

- Systems necessary to achieve and maintain cold shutdown from either the control room or emergency control station(s) can be repaired within 72 hours.

a. Inspection Scope

The inspectors reviewed the plant systems required to achieve and maintain post-fire safe shutdown to determine if the licensee had properly identified the components and systems necessary to achieve and maintain safe shutdown conditions for each fire area selected for review. Specifically, the review was performed to determine the adequacy of the systems selected for reactivity control, reactor coolant makeup, reactor heat removal, process monitoring, and support system functions. This review included the fire protection safe shutdown analysis.

The inspectors also reviewed the operators' ability to perform the necessary manual actions for achieving safe shutdown by reviewing procedures, the accessibility of safe shutdown equipment, and the available time for performing the actions.

The inspectors reviewed the PNPPs Updated Safety Analysis Report (USAR) and the licensee's engineering and/or licensing justifications (e.g., NRC guidance documents, license amendments, technical specifications, safety evaluation reports, exemptions, and deviations) to determine the licensing basis.

A comparison of the safe shutdown component assets found in the Safe Shutdown Capability Report (SSCR) to plant Piping and Instrumentation Drawings (P&IDs) was made by the inspection team. On a sample basis, the inspection team verified that components having the potential to impact operation were properly analyzed in the SSCR.

b. Findings

No findings of significance were identified.

.2 Fire Protection of Safe Shutdown Capability

The guidelines established by BTP CMEB 9.5-1, Section C.5.b, "Safe Shutdown Capability," Paragraphs (2)(a) and (3), required separation of cables and equipment and associated circuits of redundant trains by a fire barrier having a 3-hour rating. If the guidelines cannot be met, then alternative or dedicated shutdown capability and its associated circuits, independent of cables, systems or components in the area, room, or zone under consideration should be provided.

a. Inspection Scope

For each of the selected fire areas, the inspectors reviewed the licensee's Safe Shutdown Analysis (SSA) to ensure that at least one post-fire safe shutdown success path was available in the event of a fire. This included a review of manual actions required to achieve and maintain hot shutdown conditions and to make the necessary repairs to reach cold shutdown within 72 hours. The inspectors also reviewed procedures to verify that adequate direction was provided to operators to perform these manual actions. Factors such as timing, access to the equipment, and the availability of procedures, were considered in the review.

The inspectors also evaluated the adequacy of fire suppression and detection systems, fire area barriers, penetration seals, and fire doors to ensure that at least one train of safe shutdown equipment was free of fire damage. To accomplish this, the inspectors observed the material condition and configuration of the installed fire detection and suppression systems, fire barriers, construction details, and supporting fire tests for the installed fire barriers. In addition, the inspectors reviewed licensee documentation, such as deviations, detector placement drawings, fire hose station drawings, carbon dioxide pre-operational test reports, smoke removal plans, Fire Hazard Analysis (FHA) reports, SSA, and National Fire Protection Association (NFPA) codes to verify that the fire barrier installations met license commitments.

b. Findings

No findings of significance were identified.

.3 Post-Fire Safe Shutdown Circuit Analysis

The guidelines established by BTP CMEB 9.5-1, Section C.5.b, "Safe Shutdown Capability," Paragraph (1), required that SSCs important to safe shutdown be provided with fire protection features capable of limiting fire damage to ensure that one train of systems necessary to achieve and maintain hot shutdown conditions remained free of fire damage. Options for providing this level of fire protection were delineated in BTP CMEB 9.5-1, Section C.5.b, "Safe Shutdown Capability," Paragraph (2). Where the protection of systems whose function was required for hot shutdown did not satisfy BTP CMEB 9.5-1, Section C.5.b, Paragraph (2), an alternative or dedicated shutdown capability and its associated circuits, were required to be provided that was independent of the cables, systems, and components in the area. For such areas, BTP CMEB 9.5-1, Section C.5.c, "Alternative or Dedicated Shutdown Capability," Paragraph (3), specifically required the alternative or dedicated shutdown capability to be physically and electrically independent of the specific fire areas and capable of accommodating post-fire conditions where offsite power was available and where offsite power was not available for 72 hours.

a. Inspection Scope

The inspectors performed a review of the licensee's SSA and Safe Shutdown Equipment List (SSEL) to determine whether the licensee had appropriately identified

and analyzed the safety related and non-safety related cables associated with safe shutdown equipment located in the selected plant fire zones. The inspectors' review included the assessment of the licensee's electrical systems and electrical circuit analyses.

A sample of safety and non-safety related cables for equipment in the selected fire areas were evaluated to determine if the design requirements of Section III.G of Appendix R to 10 CFR Part 50 are being met. This included verifying that the licensee ensured that hot shorts, open circuits, or shorts to ground would not prevent implementation of safe shutdown.

b. Findings

No findings of significance were identified.

.4 Alternative Shutdown Capability

The guidelines established by BTP CMEB 9.5-1, Section C.5.b, "Safe Shutdown Capability," Paragraph (1), required the licensee to provide fire protection features that were capable of limiting fire damage so that one train of systems necessary to achieve and maintain hot shutdown conditions remained free of fire damage. Specific design features for ensuring this capability were provided in BTP CMEB 9.5-1, Section C.5.b, Paragraph (2). Where compliance with the separation criteria of BTP CMEB 9.5-1, Section C.5.b, Paragraphs (1) and (2) could not be met, BTP CMEB 9.5-1, Section C.5.b, Paragraph (3) and Section C.5.c, required an alternative or dedicated shutdown capability be provided that was independent of the specific fire area under consideration. Additionally, alternative or dedicated shutdown capability must be able to achieve and maintain hot standby conditions and achieve cold shutdown conditions within 72 hours and maintain cold shutdown conditions thereafter. During the post-fire safe shutdown, the reactor coolant process variables must remain within those predicted for a loss of normal AC power, and the fission product boundary integrity must not be affected (i.e., no fuel clad damage, rupture of any primary coolant boundary, or rupture of the containment boundary).

a. Inspection Scope

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

b. Findings

No findings of significance were identified.

.5 Operational Implementation of Alternate Shutdown Capability

a. Inspection Scope

The inspectors performed a review of the licensee's operating procedures, which augment the post safe shutdown procedures. The review focused on ensuring that all required functions for post-fire safe shutdown and the corresponding equipment necessary to perform those functions were included in the procedures. The review also looked at operator procedural training, as well as consistency between the operations shutdown procedures and any associated administrative controls.

b. Findings

No findings of significance were identified.

.6 Communications

The guidelines established by BTP CMEB 9.5-1, Section C.5.g, "Lighting and Communication," Paragraph (4), required that a portable communications system be provided for use by the fire brigade and other operations personnel required to achieve safe plant shutdown. This system should not interfere with the communications capabilities of the plant security force. Fixed repeaters installed to permit use of portable radio communication units should be protected from exposure to fire damage.

a. Inspection Scope

The inspectors reviewed the adequacy of the communication system to support plant personnel in the performance of alternative safe shutdown functions and fire brigade duties. The inspectors also conducted a review to verify that sufficient channels were available to support safe shutdown implementation and that repeaters were powered by an emergency power source.

b. Findings

No findings of significance were identified.

.7 Emergency Lighting

The guidelines established by BTP CMEB 9.5-1, Section C.5.g, "Lighting and Communication," Paragraph (1), required that fixed self-contained lighting consisting of fluorescent or sealed-beam units with individual eight-hour minimum battery power supplies should be provided in areas that must be manned for safe shutdown and for access and egress routes to and from all fire areas.

a. Inspection Scope

The inspectors performed a walkdown of the fire areas and the access/egress routes to verify that adequate emergency lighting existed.

b. Findings

No findings of significance were identified.

.8 Cold Shutdown Repairs

The guidelines established by BTP CMEB 9.5-1, Section C.5.c, "Alternative or Dedicated Shutdown Capability," Paragraph (5), required that equipment and systems comprising the means to achieve and maintain cold shutdown conditions should not be damaged by fire; or the fire damage to such equipment and systems should be limited so that the systems can be made operable and cold shutdown achieved within 72 hours. Materials for such repairs shall be readily available onsite, and procedures shall be in effect to implement such repairs.

a. Inspection Scope

The team reviewed licensee's procedures to determine if any repairs were required to achieve cold shutdown. The team determined that the licensee did require repair of some equipment to reach cold shutdown based on the safe shutdown methods used.

b. Findings

No findings of significance were identified.

.9 Fire Barriers and Fire Zone/Room Penetration Seals

The guidelines established by BTP CMEB 9.5-1, Section C.5.a, "Building Design," Paragraph (3), required that penetration seal designs be qualified by tests that are comparable to tests used to rate fire barriers.

a. Inspection Scope

The inspectors reviewed the test reports for 3-hour rated barriers installed in the plant and performed visual inspections of selected barriers to ensure that the barrier installations were consistent with tested configuration. In addition, the inspectors reviewed the fire loading for selected areas to ensure that existing barriers would not be challenged by a potential fire.

b. Findings

No findings of significance were identified.

.10 Fire Protection Systems, Features and Equipment

The guidelines established by BTP CMEB 9.5-1 required that fire protection systems, features and equipment, specifically the passive fire protection features and fire detection system, were designed in accordance with Sections C.5.a and C.6.a.

a. Inspection Scope

The inspectors reviewed the material condition, operations lineup, operational effectiveness, and design of fire detection systems, fire suppression systems, manual fire fighting equipment, fire brigade capability, and passive fire protection features. The inspectors reviewed deviations, detector placement drawings, fire hose station drawings, carbon dioxide system pre-operational test reports, and fire hazard analysis reports to ensure that selected fire detection systems, sprinkler systems, portable fire extinguishers, and hose stations were installed in accordance with their design, and that their design was adequate given the current equipment layout and plant configuration.

b. Findings

No findings of significance were identified.

.11 Compensatory Measures

a. Inspection Scope

The inspectors conducted a review to verify that adequate compensatory measures were put in place by the licensee for out-of-service, degraded or inoperable fire protection and post-fire safe shutdown equipment, systems, or features. The inspectors also reviewed the adequacy of short term compensatory measures to compensate for a degraded function or feature until appropriate corrective actions were taken.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA2 Identification and Resolution of Problems (71152)

a. Inspection Scope

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

b. Findings

No findings of significance were identified.

4OA6 Meetings

.1 Exit Meeting

The inspectors presented the inspection results to Mr. Kanda and other members of licensee management at the conclusion of the inspection on December 5, 2003. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

.2 Interim Exit Meetings

No interim exits were conducted.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee
P. Chatterjee, Design Engineering
J. Eck, Plant Operations
J. Ford, Design Engineering
H. Hegrat, Quality Assessment Manager
W. Kanda, Site Vice President
R. Kearney, Operations Manager
T. Lentz, Engineering Director
M. Makar, Design Engineering
L. McGuire, Design Engineering
J. McHugh, Fire Protection
T. Rausch, Plant Manager
K. Russell, Regulatory Affairs
M. Saric, System Engineering
S. Solhdoost, Design Engineering
B. Swartz, Plant Systems Engineering
J. Zarea, Design Engineering

Nuclear Regulatory Commission
R. Powell, Senior Resident Inspector
J. Ellegood, Resident Inspector

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None.

Closed

None.

Discussed

None.

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 of 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

Number	Title or Description	Date or Revision
686-85-23	Voltage Permissive Closing of Breakers EH1114, EH1115, EH1212, EH1213, EH1302, EH1303	1
P54-013	Perry Smoke Detectors Control Building	1
P54-032	Analysis of Missing Pyrocrete in Control Complex 620' Elevation	0
PRMV-0002	EHF-1-A Transformer Supply Breaker EH1104	1
PRMV-0003	Emergency Service Water Pump Motor Protection Calculation	3
PRMV-0004	Control Complex Chiller Protection Calculation 0P47B001A and 0P47B001B	2
PRMV-0005	Residual Heat Removal Pump Motor Protection 1E12C002A, 1E12C002B and 1E12C002C	2
PRMV-0006	LPCS Pump Motor Protection 1E21C0001	2
PRMV-0007	EHF-1-B Transformer Supply Breaker EH1113	1
PRMV-0008	Unit 1 EH Bus Supply Breakers, Preferred and Alternate	3
PRMV-0009	Protective Relay Setpoints for Division 1 Tie Breaker to the XH11 Stub Bus; Circuit Breaker EH1116	1
PRMV-0039	Protective Relay Setpoints for Circuit Breaker EH1101	2
SSC-001	Perry Safe Shutdown Capability Report	3
SSC-010	Availability of Automatic and Manual MSIV Closure With Fire Damage to Remote Shutdown B21 Circuits in Fire Area 1CC-3c	2

CORRECTIVE ACTION PROGRAM DOCUMENTS ISSUED DURING INSPECTION

Number	Title or Description	Date or Revision
CR 03-06229	Fire Impairments Opened and Not Closed with Work Document	November 18, 2003
CR 03-06270	NRC Triennial Inspection Team Identification of Referenced Closed Commitment	November 20, 2003
CR 03-06278	Impairment Activity with No Repair Activity Initiated	November 20, 2003

CORRECTIVE ACTION PROGRAM DOCUMENTS ISSUED DURING INSPECTION

Number	Title or Description	Date or Revision
CR 03-06280	USAR Description of Automatic Operation of CO_2 System in Drywell Is Misleading	November 21, 2003
CR 03-06444	Documentation of a Discrepancy Found on Pre-Fire Plan FPI-1DG	December 3, 2003
CR 03-06457	USAR Description of Unit 2 Control Complex Not Changed	December 4, 2003
CR 03-06458	RFA to Evaluate a Change to ONI-P54 Wording	December 3, 2003
CR 03-06480	Triennial NRC FP Inspection SSC-001 Safe Shutdown Capability Report Issues	December 4, 2003
CR 03-06483	Add Clarifying Information to SSC-10X	December 4, 2003

CORRECTIVE ACTION PROGRAM DOCUMENTS ISSUED PRIOR TO INSPECTION

Number	Title or Description	Date or Revision
CR 97-01321	MOV 1P540340 Does Not Meet GL 89-10 Minimum Requirements	August 18, 1997
CR 00-01158	RFA Need to Determine if Pyrocrete in CC 620 that was Removed	April 11, 2000
CR 00-03857	Diesel Driven Emergency Fire Pump Failed to Start	December 12, 2000
CR 01-00157	Degraded Penetration Seal	January 16, 2001
CR 01-02204	P54 Motor Fire Pump Replacement Not Performed as Scheduled	May 15, 2001
CR 01-03197	FP Audit 01-08, Testing For New Motor Fire Pump Not in Accordance With NFPA-20	August 29, 2001
CR 01-03269	RFA Recommendations from Fire Protection Audit PA-01-08 to DES	September 10, 2001
CR 02-00240	Sensitivity Check of Smoke Detectors in Containment	January 23, 2002
CR 02-01691	Impaired Fire Barrier	May 31, 2002
CR 02-01692	Hole Found in Structural Steel Pyrocrete	May 31, 2002
CR 02-01755	Deficiency Found in Low Pressure Core Spray Pump Circuit Analysis SSC-001 Revision 1	June 5, 2002
CR 02-02223	Unplanned Fire Impairment For Turbine Building West Sprinklers Due to Leak	July 7, 2002
CR 02-02249	Invalid Compensatory Actions in Place for Fire Impairment	July 9, 2002
CR 02-03195	Control Complex 654 Elevation Doors are Not Inspected to PTI-P54-P0044	September 11, 2002
CR 02-03783	NRC Concern Regarding Fire Protection Program Requirements	October 10, 2002
CR 02-04633	Compensatory Actions for Inoperable Oxygen Monitor in the Control Room	December 9, 2002

CORRECTIVE ACTION PROGRAM DOCUMENTS ISSUED PRIOR TO INSPECTION

Number	Title or Description	Date or Revision
CR 03-00621	Collective Significance Condition Report Pertaining to Fire Doors	February 7, 2003
CR 03-01298	Safety Review Board Observations and Recommendations - Fire Protection	March 13, 2003
CR 03-01484	RFA-Increase Sensitivity to Fire Barrier/Protection Identification	March 25, 2003
CR 03-04760	Unplanned Fire Impairments	August 15, 2003
CR 03-05237	RFA CR Regarding Test Requirements for Remote Shutdown Transfer Switch Contacts	September 16, 2003
CR 03-06092	Fire Protection Program Improvements Needed	November 6, 2003

DRAWINGS

Number	Title or Description	Date or Revision
013-0005-00000	Plant Layout Plan “C” Above El. 620' - 6", El. 623' - 6", and El. 624' - 6" Plant Complex	L
023-0011-00000	Plant Layout Special Fire Protection Evaluation - Control Complex and Diesel Generator Building - Plan El. 620' - 6"	J
105-0051-00000	Architectural Control Complex D Wall Elevations - El. 638' - 6"	B
206-0010-00000	Electrical Main One Line Diagram 13.8kV & 4.16kV	Z
206-0016-00000	Electrical One Line Diagram Non Class 1E 4.16kV Bus H11 & H12	Z
206-0017-00000	Electrical One Line Diagram Class 1E 4.16kV Bus EH11 & EH12	EE
206-0018-00000	Electrical One Line Diagram Class 1E 4.16kV Bus H13	Z
206-0020-00000	Electrical One Line Diagram Main One Line Diagram 480V	DD
206-0021-00000	Electrical One Line Diagram Class 1E 480V Bus EF1A	DDDD
206-0023-00000	Electrical One Line Diagram Class 1E 480V Bus EF1B	NNN
206-0025-00000	Electrical One Line Diagram Class 1E 480V Bus EF1C	WWW
206-0027-00000	Electrical One Line Diagram Class 1E 480V Bus EF1D	TTT
206-0029-00000	Electrical One Line Diagram Class 1E 480V Bus EF1E	KK
206-0031-00000	Electrical One Line Diagram Non-Class 1E 480Vac Bus F1A	FFF

DRAWINGS

Number	Title or Description	Date or Revision
206-0032-00000	Electrical One Line Diagram Non-Class 1E 480V Bus F1A	RRR
206-0033-00000	Electrical One Line Diagram Non-Class 1E 480V Bus F1B	DDD
206-0034-00000	Electrical One Line Diagram Non-Class 1E 480V Bus F1B	MMM
206-0035-00000	Electrical One Line Diagram Non-Class 1E 480V Bus F1C	TT
206-0036-00000	Electrical One Line Diagram Non-Class 1E 480V Bus F1C	TTT
206-0037-00000	Electrical One Line Diagram Non-Class 1E 480V Bus F1D	TT
206-0038-00000	Electrical One Line Diagram Non-Class 1E 480V Bus F1D	JJJ
206-0039-00000	Electrical One Line Diagram Non-Class 1E 480V Bus F1E	NN
206-0040-00000	Electrical One Line Diagram Non-Class 1E 480V Bus F1E	CCC
206-0041-00000	Electrical One Line Diagram Non-Class 1E 480V Bus F1F	YY
206-0042-00000	Electrical One Line Diagram Non-Class 1E 480V Bus F1F	BBB
206-0043-00000	Electrical One Line Diagram Non-Class 1E 480V Bus F1G	HH
206-0044-00000	Electrical One Line Diagram Non-Class 1E 480V Bus XF1A	HH
206-0050-00000	Electrical One Line Diagram Class 1E DC System - Div. 3	Y
206-0051-00000	Electrical One Line Diagram Class 1E DC System	ZZ
206-0052-00000	Electrical One Line Diagram Non-Class 1E DC System Bus D1A and D1B	VV
208-0013-00001	Electrical Elementary Diagram Nuclear Steam Supply Shutoff System Notes, References, Legend and Tabulation	S
208-0013-00004	Electrical Elementary Diagram Nuclear Steam Supply Shutoff System Switch Development	Y
208-0013-00005	Electrical Elementary Diagram Nuclear Steam Supply Shutoff System Power Distribution	W
208-0013-00006	Electrical Elementary Diagram Nuclear Steam Supply Shutoff System Logic A and C Panels 1H13-P691, 1H13-P693	W

DRAWINGS

Number	Title or Description	Date or Revision
208-0013-00007	Electrical Elementary Diagram Nuclear Steam Supply Shutoff System Logic B and D Panels 1H13-P692, 1H13-P694	R
208-0013-00010	Electrical Elementary Diagram Nuclear Steam Supply Shutoff System Main Steam Line Isolation Valves Inboard F022A, F022B, F022C, F022D	U
208-0013-00011	Electrical Elementary Diagram Nuclear Steam Supply Shutoff System Main Steam Line Isolation Outboard Valves F028A, B, C, D	Z
208-0013-00021	Electrical Elementary Diagram Nuclear Steam Supply Shutoff System - RHR Suction Cooling Isolation (Inboard) Valve 1E12-F009	Y
208-0013-00022	Electrical Elementary Diagram Nuclear Steam Supply Shutoff System - RHR Suction Cooling Isolation Motor Operated Valve (Outboard) 1E12-F008	T
208-0039-00004	Electrical Elementary Diagram Division 2 Switch Development And Locations	K
208-0041-00001	Electrical Elementary Diagram Reactor Protection System MG Set S001A	Z
208-0041-00002	Electrical Elementary Diagram Reactor Protection System MG Set S001B	Y
208-0046-00432	Electrical Elementary Diagram Emergency Response Information System Digital Inputs to Cabinet 1H22-P111B Rack 1 Card Slot 5	E
208-0046-00562	Electrical Elementary Diagram Emergency Response Information System Digital Inputs to Cabinet 1H22-P112B Rack 2	M
208-0046-00559	Electrical Elementary Diagram Emergency Response Information System Digital Inputs to Cabinet 1H22-P112B Rack 2 Card Slot 10	D
208-0046-00560	Electrical Elementary Diagram Emergency Response Information System Digital Inputs to Cabinet 1H22-P112B Rack 2 Card Slot 12	D
208-0055-00007	Electrical Elementary Diagram Residual Heat Removal System Relay Logic Bus A	DD
208-0055-00008	Electrical Elementary Diagram Residual Heat Removal System Relay Logic Bus B	CC
208-0055-00022	RHR Pump C002B Suction MOV F004B	U
208-0055-00021	RHR Pump C002A Suction MOV F004A	R
208-0176-00002	B Emergency Service Water Pump C001B	Z
208-0176-00005	Electrical Elementary Diagram Emergency Service Water “B” Emergency Service Water Pump Discharge Valve F130B	Y

DRAWINGS

Number	Title or Description	Date or Revision
208-0176-00013	Electrical Elementary Diagram Emergency Service Water Sluice Gate P45-D004A	M
209-0013-00006	Electrical Interconnection Wiring Diagram Nuclear Steam Supply Shutoff System (1B21-F028A) Valve Controls and Terminal Boxes 1-310 and 1-314	S
209-0039-00004	Electrical Interconnection Wiring Diagram Remote Shutdown System (1C61-P001) Remote Shutdown Panel - Section B	S
209-0041-00002	Electrical Interconnection Wiring Diagram Reactor Protection System (1C71-S001A & S001B) Motor Generator Sets	J
209-0041-00071	Electrical Interconnection Wiring Diagram Reactor Protection System (1C71-P001 and P002) 120Vac Distribution Panels	L
209-0046-00032	Electrical Interconnection Wiring Diagram Emergency Response Information System (1H22-P111B) ERIS DAS Cabinet	K
209-0046-00039	Electrical Interconnection Wiring Diagram Emergency Response Information System (1H22-P112B) ERIS DAS Cabinet	P
209-0055-00002	Electrical Interconnection Wiring Diagram Residual Heat Removal System MOV's 1E12-F064C, F105, F003A, 3B, F004A and 4B	M
209-0055-00004	Electrical Interconnection Wiring Diagram Residual Heat Removal System MOV's 1E12-F024B, F026A and B, F042A and C, and F047A	M
209-0055-00007	Electrical Interconnection Wiring Diagram Residual Heat Removal System MOV's 1E12-F008, 9, F027B, 87B, F537A and 537B	L
209-0055-00009	Electrical Interconnection Wiring Diagram Residual Heat Removal System Process Instrumentation	L
209-0055-00013	Electrical Interconnection Wiring Diagram Residual Heat Removal System Terminal Boxes 1-296 and 1-297	K
209-0100-00009	Electrical Interconnection Wiring Diagram PGCC Termination Cabinet 1H13-P701 Bay D	U
209-0100-00117	Electrical Interconnection Wiring Diagram PGCC Termination Cabinet 1H13-P713 Bay E	W
209-0100-00118	Electrical Interconnection Wiring Diagram PGCC Termination Cabinet 1H13-P713 Bay E	BB
209-0100-00126	Electrical Interconnection Wiring Diagram PGCC Termination Cabinet 1H13-P714 Bay A	R

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Number	Title or Description	Date or Revision
209-0100-00128	Electrical Interconnection Wiring Diagram PGCC Termination Cabinet 1H13-P714 Bay B	S
209-0100-00129	Electrical Interconnection Wiring Diagram PGCC Termination Cabinet	S
209-0100-00211	Electrical Interconnection Wiring Diagram PGCC Termination Cabinet 1H13-P742 Bay A	T
209-0100-00300	Electrical Interconnection Wiring Diagram PGCC Termination Cabinet 1H13-P748 Bay B	X
209-0116-00003	Electrical Interconnection Wiring Diagram Battery Room Exhaust System Area HVAC (H51-P177A) Control Relay Panel	P
209-0132-00004	Electrical Interconnection Wiring Diagram Fuel Handling Building Ventilation System (M40-D001C) Remote Panel and Heater	G
209-0176-00001	Electrical Interconnection Wiring Diagram Emergency Service Water System “A”, “B” HPCS Emergency Service Water Pumps	R
209-0176-00004	Electrical Interconnection Wiring Diagram Emergency Service Water System Strainers, Pressure Switches and Limit Switches	K
209-0176-00008	Electrical Interconnection Wiring Diagram Emergency Service Water System (-) Terminal Boxes 1-3989, 1-3990, and 1-1394	K
209-0206-00029	Electrical Interconnection Wiring Diagram Metalclad Switchgear (15kV and 5kV) (1R22-S006) Bus EH12 Compartments 03, 04, and 05	U
209-0208-00020	Electrical Interconnection Wiring Diagram (1R24-S018) 480V MCC EF1A07 (Front View) Compartments W, X, BB and CC	H
209-0208-00300	480V MCC EF1D07 (Front View) Comp D and H	M
209-0208-00345	480V MCC EF1A12 (Front View) Comp A, B, F, and G	L
209-0208-00254	Electrical Interconnection Wiring Diagram (1R24-S021) 480V MCC EF1B07 (Front View) Compartments D and H	E
209-0208-00293	Electrical Interconnection Wiring Diagram (1R24-S028) 480V MCC EF1D08 (Front View) Compartments D, E, H, and J	G
209-0208-00298	Electrical Interconnection Wiring Diagram (1R24-S026) 480V MCC EF1D07 (Front View) Compartments A, B, E, and F	L
209-0208-00299	Electrical Interconnection Wiring Diagram (1R24-S026) 480V MCC EF1D07 (Front View) Compartments C and G	F

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Number	Title or Description	Date or Revision
209-0208-00351	Electrical Interconnection Wiring Diagram (R24-S032) 480V MCC EF1C12 (Front View) Compartments A, B, F, and G	H
209-0208-00352	Electrical Interconnection Wiring Diagram (1R24-S032) 480V MCC EF1C12 (Front View) Compartments C and H	J
209-0208-00390	Electrical Interconnection Wiring Diagram 480V Motor Control Centers (1R24-S026) Fuse Panels	N
209-0209-00001	Electrical Interconnection Wiring Diagram 120Vac Miscellaneous Distribution Panels Panels 1R25-S011, S012, S013, S017, S114 and S122	RRR
209-0216-00024	Electrical Interconnection Wiring Diagram Standby Diesel Generator (1H51-P054B) Diesel Engine Control Panel	J
210-0100-00821	Electrical Interconnection Wiring Diagram Power Generation Control Complex (1H13-P623) Outboard Valve Relay - VB	L
210-0100-00822	Electrical Interconnection Wiring Diagram Power Generation Control Complex (1H13-P623) Outboard Valve Relay - VB	G
214-0611-00000	Electrical Cable Tray Layout Diesel Generator Building - El. 620’ - 6"	K
214-0001-00000	Electrical Cable Tray Layout Legend, Notes, References and Standard Details	CC
214-0002-00000	Electrical Cable Tray Layout Details	R
214-0003-00000	Electrical Cable Tray Layout Details	G
214-0004-00000	Electrical Conduit and Tray Separation Criteria	U
214-0005-00000	Electrical Conduit and Tray Separation Criteria	M
214-0131-00000	Electrical Cable Tray Layout Control Complex - East El. 620’ - 6"	U
214-0132-00000	Electrical Cable Tray Layout Control Complex - West El. 620’ - 6"	V
214-0612-00000	Electrical Cable Tray Layout Diesel Generator Building - El. 620’ - 6"	L
214-0651-00000	Electrical Cable Tray Layout Sections and Details	Q
215-0001-00001	Electrical Conduit Layout Legend and General Notes	LL
215-0001-00002	Electrical Conduit Layout References	A
215-0004-00601	Electrical Conduit Layout Details	T
215-0003-00000	Electrical Conduits Typical Hanger Details - Non-Class 1E	B

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Number	Title or Description	Date or Revision
215-0131-00501	Electrical Conduit Layout Control Complex - East - El. 620’ - 6"	MM
215-0131-00502	Electrical Conduit Layout Control Complex - East - El. 620’ - 6"	EE
215-0131-00503	Electrical Conduit Layout Control Complex - West - El. 620’ - 6"	GG
215-0131-00504	Electrical Conduit Layout Control Complex - East - El. 620’ - 0"	W
215-0131-00505	Electrical Conduit Layout Control Complex - East - El. 620’ - 6"	M
215-0131-00506	Electrical Conduit Layout Control Complex - East - El. 620’ - 6"	N
215-0131-00507	Electrical Conduit Layout Control Complex - East - El. 620’ - 6"	Z
215-0131-00508	Electrical Conduit Layout Control Complex - East - El. 620’ - 6"	N
215-0131-00509	Electrical Conduit Layout Control Complex - East - El. 620’ - 6"	R
215-0131-00510	Electrical Conduit Sections & Details Control Complex El. 620’ - 6"	L
215-0131-00511	Electrical Conduit Sections & Details Control Complex El. 620’ - 6"	E
215-0131-00512	Electrical Conduit Sections & Details Control Complex El. 620’ - 6"	S
215-0131-00513	Electrical Conduit Sections & Details C.C. Chase Arrea El. 627’ - 6" thru El. 704’ - 9"	N
215-0131-00514	Electrical Conduit Layout Control Complex - East - El. 620’ - 6"	G
215-0131-00515	Electrical Conduit Layout Control Complex - East - El. 620’ - 6"	B
215-0131-00516	Electrical Conduit Layout Control Complex - East - El. 620’ - 6"	G
215-0131-00517	Electrical Bullet Resistive Wall - East Elevation Control Complex El. 620’ - 6"	A
215-0131-00518	Electrical Conduit Sections, Details & Variances Control Complex El. 620’ - 6"	S
215-0131-00519	Electrical Bullet Resistive Wall - West Elevation Control Complex El. 620’ - 6"	Initial Issue
215-0131-00520	Electrical Sections & Details Control Complex El. 620’ - 6"	J
215-0131-00521	Electrical Conduit Sections and Variances Control Complex El. 620’ - 6"	L
215-0132-00501	Electrical Conduit Layout Control Complex - West - El. 620’ - 6"	U

DRAWINGS

Number	Title or Description	Date or Revision
215-0132-00502	Electrical Conduit Layout Control Complex - West - El. 620' - 6"	Y
215-0132-00503	Electrical Conduit Layout Control Complex - West - El. 620' - 6"	JJ
215-0132-00504	Electrical Conduit Layout Control Complex - West - El. 620' - 6"	AA
215-0132-00505	Electrical Conduit Layout Control Complex - West - El. 620' - 6"	BB
215-0132-00506	Electrical Conduit Layout Control Complex - West - El. 620' - 6"	U
215-0132-00507	Electrical Sections and Details Control Complex El. 620' - 6"	W
215-0132-00508	Electrical Conduit Layout - Control Complex - West Sections & Details	R
215-0132-00509	Electrical Conduit Sections and Details Control Complex El. 620' - 6"	E
215-0132-00510	Electrical Conduit Sections & Details Control Complex El. 620' - 6"	J
215-0132-00511	Electrical Design Variances Control Complex El. 620' - 6"	H
215-0134-00501	Electrical Conduit Layout Control Complex - West - El. 620' - 6"	LL
215-0134-00502	Electrical Conduit Sections & Details Control Complex El. 620' - 6"	P
215-0134-00503	Electrical Conduit Sections & Details Control Complex El. 620' - 6" West	G
215-0611-00501	Electrical Conduit Layout Diesel Generator Building - Divison III - El. 620' - 6"	CC
215-0612-00501	Electrical Conduit Layout Diesel Generator Bldg. Div. III - El. 620' - 6"	X
215-0615-00501	Electrical Conduit Layout Diesel Generator Bldg. Div. I - El. 620' - 6"	GG
215-0616-00501	Electrical Conduit Layout Diesel Generator Building El. 620' - 6"	R
220-0001-00004	Emergency Lighting Self-Contained Lighting Packs	June 25, 2003
220-0001-00005	Emergency Lighting Self-Contained Lighting Packs	November 18, 2002
221-0034-00000	Electrical Plant Security and Fire Protection Conduit Layout Reactor Plant Main El. 620' - 0" - Auxiliary Plans	U
256-0027-00000	Electrical One Line Diagram Class 1E 480V Bus EF2D	X

DRAWINGS

Number	Title or Description	Date or Revision
258-0132-00001	Electrical Elementary Diagram Fuel Handling Bldg. Ventilation Exhaust Fan - M40-C002C	M
258-0132-00002	Electrical - Elementary Diagram Fuel Handling Bldg Ventilation Heating Coil D001C	E
259-0207-00043	Electrical Interconnection Wiring Diagram 480V Load Centers (2R23-S012) Bus EF2D Compartments 04 thru 07	G
302-0082-00000	Piping System Diagram Feedwater System	SS
302-0107-00000	Piping System Diagram N24 Condensate Demineralizer System	Y
302-0214-00000	Piping System Diagram Emergency Service Water Screen Wash System	P
302-0271-00000	Piping System Diagram Safety Related Instrument Air System	M
302-0351-00000	Piping System Diagram Standby Diesel Generator Starting Air System	Y
302-0352-00000	Piping System Diagram Standby Diesel Generator Fuel Oil System	EE
302-0354-00000	Piping System Diagram Standby Diesel Generator Jacket Water	R
302-0355-00000	Piping System Diagram HPCS and Standby Diesel Generator Exhaust, Intake and Crankcase	S
302-0602-00000	Piping System Diagram B33 Reactor Water Recirculation System	S
302-0605-00000	Piping System Diagram Nuclear Boiler System	W
302-0606-00000	Piping System Diagram B21 Nuclear Boiler System	DD
302-0608-00000	Piping System Diagram B21 Nuclear Boiler System	M
302-0621-00000	Piping System Diagram Emergency Closed Cooling System	MM
302-0622-00000	Piping System Diagram Emergency Closed Cooling System	J
302-0631-00000	Piping System Diagram Reactor Core Isolation Cooling System	Z
302-0632-00000	Piping System Diagram Reactor Core Isolation Cooling System	HH
302-0641-00000	Piping System Diagram Residual Heat Removal System	WW
302-0642-00000	Piping System Diagram Residual Heat Removal	CC
302-0643-00000	Piping System Diagram Residual Heat Removal	RR
302-0671-00000	Piping System Diagram Reactor Water Clean-Up System	Y

DRAWINGS

Number	Title or Description	Date or Revision
302-0672-00000	Piping System Diagram Reactor Water Clean-Up System	DD
302-0701-00000	Piping System Diagram High Pressure Core Spray System	DD
302-0705-00000	Piping System Diagram Low Pressure Core Spray System	Z
302-0791-00000	Piping System Diagram Emergency Service Water System	LL
514-0027-00000	Control Complex Floor El. 638' - 6" (West) Steel Framing	J
514-0028-00000	Control Complex Floor El. 638' - 6" (East) Steel Framing	J
912-0609-00000	HVAC System Diagram M23, M24 MCC Switchgear and Misc. Electrical Equipment Areas HVAC System and Battery Room Exhaust	Z
912-0610-00000	HVAC System Diagram M25, M26 Control Room HVAC and Emergency Recirculation System	FF
912-0616-00000	HVAC System Diagram M39 ECCS Pump Rooms Cooling Systems	H
912-0617-00000	HVAC System Diagram M40 Fuel Handling Area Ventilation System	U
912-0619-00000	HVAC System Diagram Diesel Generator Building Ventilation System	R
912-0623-00000	HVAC System Diagram M28 Emergency Closed Cooling Pump Area Cooling System	K
912-0630-00000	HVAC System Diagram M32 Emergency Service Water Pump House Ventilation System	K
913-0001-00000	HVAC System Diagram Control Complex Chilled Water	DD
913-0002-00000	HVAC System Diagram P47 Control Complex Chilled Water	N
914-0005-00000	Piping System Diagram Fire Service Carbon Dioxide System	Y
PEI-B13	Plant Emergency Instruction RPV Flooding	I
PEI-B13	Plant Emergency Instruction RPV Control (Non-ATWS)	J
PEI-B13	Plant Emergency Instruction Emergency Depressurization	H
PEI-B13	Plant Emergency Instruction RPV Control (ATWS)	I
PEI-D17	Plant Emergency Instruction Radioactivity Release Control	C
PEI-M51/56	Plant Emergency Instruction Hydrogen Control	E

DRAWINGS

Number	Title or Description	Date or Revision
PEI-N11	Plant Emergency Instruction Containment Leakage Control	J
PEI-T23	Plant Emergency Instruction Containment Control	G

IMPAIRMENT/REMOVAL PERMITS

Number	Title or Description	Date or Revision
I-96-YD-0011	West Yard Main Feed to TB1 (Isolation Boundary 1P54-F642/F643 and P54-F570)	January 9, 1996
I-00-CC-0123	Smoke Detector Above Drop Ceiling in Fin Office	July 11, 2000
I-00-GH-0150	Panel 948 PACP	August 17, 2000
I-00-VA-0317	P54 Systems	December 28, 2000
I-00-YD-0306	Unit 1 Main A, B, C Deluge System Heat Detectors and Iso-Phase	December 14, 2000
I-01-IB-0316	1P53A0305 Lower Airlock Door	October 10, 2001
I-01-YD-0076	Unit 1 Main A, B, C Deluge System Heat Detectors and Panels	February 14, 2001
I-02-CC-0149	Structural Steel Pyrocrete Hole is Approx 8' Above Floor on South Side of Column A-B 5	May 31, 2002
I-02-CC-0151	Structural Steel Pyrocrete Ceiling Beam in Div. 2 Cable Spreading Column D-4.5	June 1, 2002
I-02-CC-0154	Structural Steel Pyrocrete Ceiling Beam C-4	June 3, 2002
I-02-CC-0383	Fire Door CC-510	November 21, 2003
I-02-VA-0332	SAS Address 235.00 Removed From Scan PS's P54N0466, HS P54N1003	October 6, 2002
I-02-RW-0345	RW Exhaust Plenum A Deluge System	October 23, 2002
I-02-RW-0427	0H51-P121 and 0H51-P122	December 11, 2002
I-02-SB-0344	TSC Recirculation Plenum Deluge	October 25, 2002
I-02-SB-0423	CAS Fire Alarm Panel	December 3, 2002
I-02-SB-0435	0H51P893	December 19, 2002
I-02-TB1-0315	Lube Oil Storage and Purifier Rooms CO_2 Panel P213 and P214	September 27, 2002
I-02-WT-0430	WT-104	December 12, 2002
I-02-YD-0140	Hydrant 22	May 23, 2002
I-02-YD-0261	Unit 1 Interbus Transformer B Deluge System	September 3, 2002
I-03-AX1-0328	Penetration Seals PRB2004	July 3, 2003
I-03-AX1-0330	Penetration Seals PRB4006	July 3, 2003
I-03-CC-0301	Unit 1 and Unit 2 Computer Room Subfloor Detection Systems	June 10, 2003
I-03-CC-0492	Ceiling Tiles Are Removed at CC-599	November 4, 2003
I-03-DG-0350	DG-116 Fire Door OP54-X0116D	July 25, 2003
I-03-DG-0396	Fire Door DG-111	August 27, 2003

IMPAIRMENT/REMOVAL PERMITS

Number	Title or Description	Date or Revision
I-03-DG-0467	Isolate the CO_2 for Div 1 Diesel	October 17, 2003
I-03-DG-0468	Isolate the CO_2 for Div 1 Diesel	October 18, 2003
I-03-DG-0472	Div 1 Roll-Up Door DG-118	October 18, 2003
I-03-DG-0473	Flood Barrier for Roll-Up Door DG-118	October 19, 2003
I-03-DG-0475	Div 1, Div 2, Div 3, Diesel Generator CO_2 System and CC CO_2 Hose Reels	October 21, 2003
I-03-DG-0487	Div 1 Diesel Generator CO_2 System	November 1, 2003
I-03-DW1-0290	Reactor Recirc. Pump CO_2 Systems “A” & “B”	June 5, 2003
I-03-FH-0327	Penetration Seals PRB3015	July 3, 2003
I-03-FH-0443	0H51-P930 Ultra Violet Detector Panel	September 25, 2003
I-03-IB-0039	IB-217 Fire Door	February 3, 2003
I-03-IB-0081	Penetration ECC-3005/EIB-3004	March 1, 2003
I-03-IB-0323	Penetration VRB7001	July 3, 2003
I-03-IB-0329	Penetration Seals PRB2010	July 3, 2003
I-03-IB-0410	Smoke Detector P54-N6698	September 11, 2003
I-03-IB-0413	Smoke Detector P54-N6701	September 12, 2003
I-03-IB-0491	CRD Rebuild Room Zone 5 of 929 Panel	November 4, 2003
I-03-OC-0111	P&R Bldg. Duct Mounted Smoke Detectors in HVAC Room	March 21, 2003
I-03-OC-0246	OCA Fire System	May 10, 2003
I-03-OC-0289	Flow Indicator, Sprinkler System, Vehicle Maintenance Garage	June 4, 2003
I-03-SB-0302	TSC Computer Room, Display Room, and Office Areas Detection	June 10, 2003
I-03-SB-0432	SB-640 Phone Room High Temp Alarm	September 18, 2003
I-03-SB-0440	OFC Barrier SB-630 East Stairwell	September 24, 2003
I-03-SB-0490	Fire/Tornado Door SB 015	November 2, 2003
I-03-TB1-0281	Fire Penetration Seals PTB 6061 and PTB 4027	May 27, 2003
I-03-TB1-0337	1H51-P213 and 1H51-214 CO_2 Panels and CO_2 Tank A007 Isolated	July 9, 2003
I-03-TB2-0402	Turbine #2 Lunch and Restroom Sprinkler Systems	September 4, 2003
I-03-TP1-0043	TP1-308	February 5, 2003
I-03-TP1-0391	Fire Door TP308	August 19, 2003
I-03-WA-0247	OCA Fire System (WARF)	May 10, 2003
I-03-YD-0409	Unit 1 Main Transformer A Deluge	September 11, 2003

PROCEDURES

Number	Title or Description	Date or Revision
1P54-A-006	Acceptance Test Procedure Report - Fire Protection CO_2 Diesel Generators Room 5,6,7	0
8282-4	Pre-Fire Plan for Diesel Generator Hallway	September 3, 2002

PROCEDURES

Number	Title or Description	Date or Revision
8282-28	Pre-Fire Plan for Division 1 Switchgear Room	September 3, 2002
8282-29	Pre-Fire Plan for Remote Shutdown Panel Room	September 3, 2002
FPI-A-C01	Fire Protection Program Control Processes (Burn Permits, Transient Combustibles, Impairments, and Fire Watches)	4
IOI-11	Shutdown from Outside Control Room	8
NOP-LP-2001	Condition Report Process	4
ONI-C61	Evacuation of the Control Room	4
ONI-E-12-2	Loss of Decay Heat Removal	6
ONI-P54	Fire	6
PAP-1910	Fire Protection Program	October 30, 2003
SOI-E12	Residual Heat Removal System	15

REFERENCES

Number	Title or Description	Date or Revision
----------	MPL to Print Cross Reference (Un-Official)	February 15, 2003
1R23F125B	Pull Slip From (1R23-S012) 480V Load Center EF-1-D Compt EF1D-10 to (R24-S048) 480V MCC EF2D11 Compt-R	July 12, 1984
1R33C3294B	Conduit/Raceway Installation and Data Form	July 1, 1980
50-440/00-10(DRS)	NRC Inspection Report	December 12, 2000
A00086	Measures to Control Handling, Storage and Shipping	July 2, 2001
A00108	Storage of Hazardous Chemicals, Paints, Solvents, and Other Materials	July 2, 2001
B00066	Hydrogen Explosion While Grinding in Vicinity of Open Reactor Systems	January 14, 1987
B00270	Lessons Learned form NRC Inspection of Fire Protection Safe Shutdown	August 15, 1985
B00318	Personnel Hazard from Gaseous Intrusion into BWR Dry Well	April 1, 1986
B00434	Fire During Main Generator Brush Replacement	December 22, 1986
B00642	Potential Problems from the Use of Space Heaters	May 3, 1990
B01163	Inadequate/Inappropriate Interim Fire Protection Compensatory Measures	December 31, 1999
F00483	Pre-Fire Plans for Specific Types and Locations of Fires	----------
F00769	Sufficient On-Shift Personnel to Meet Requirements	September 9, 1985

REFERENCES

Number	Title or Description	Date or Revision
F01193	Fire Brigade Members Only Duties During Fire Is Fighting Fire	----------
F01342	Fire Brigade Consisting of Brigade Leader and 4 Security Personnel	October 3, 1985
F01401	Fire Brigade Leader with Reactor Operator's License	December 23, 1985
F01511	Combustible Materials Restricted From Fuel Storage	December 4, 1985
L00179	Fire Brigade Equipment	October 2, 1985
L00540	Tech Spec on Fire Protection Will Be Embodied Within Operations Manual	January 28, 1986
L01442	Control Room Boundary Work	July 16, 1992
S00182	Conformance with Technical Requirements in Appendix R	September 30, 1985
S00184	Implementation of Fire Protection Program and Admin Controls	September 27, 1985
CKSR2200u	Conduit Summary Page 10	October 7, 1996
DES 00-0201	Memorandum: CEI Voided Drawings	April 19, 2000
LP-FEN-PAT	FENOC Plant Access Training Manual	1
LP-FEN-RWT	FENOC Radiation Worker Training Manual	0
NFPA 12	Standard on Carbon Dioxide Extinguishing Systems	1972
NFPA 72D	Standard for the Installation, Maintenance and Use of Proprietary Protective Signaling Systems	1972
NFPA 72E	Standard on Automatic Fire Detectors	1974
NPF-58	PNPP Facility Operating License	Amendment No. 108
NRC Generic Letter 81-12	Fire Protection Rule (45 FR 76602, November 19, 1980)	February 20, 1981
PY-2R23S0012	Computer Printout: Master Data	November 27, 1987
PY-C-03-01	Perry Nuclear Quality Assessment Quarterly Audit Report	April 18, 2003
PY-C-03-02	Perry Nuclear Quality Assessment Quarterly Audit Report	August 21, 2003
PY-CEI/NRR-0261L	Deviations to 10 CFR Part 50, Appendix R	June 12, 1985
PY-NRR/CEI-02726	Fire Protection Program FSAR/Technical Specification Changes for the Perry Nuclear Power Plant	November 29, 1985
PY-CEI/NRR-2077L	Individual Plant Examination of External Events for Severe Accident Vulnerabilities	June 1996
USAR	Perry Updated Safety Analysis Report	12

SURVEILLANCES

Number	Title or Description	Date or Revision
SVI-C61-T1202	Remote Shutdown Control Test - Division 2 RHR, ECC, and ESW	3

VENDOR DOCUMENTS

Number	Title or Description	Date or Revision
4.10.17 (MC-107Q)	Fenwal Detect-A-Fire Detection and Release Devices	September 1985
6119	Pyrotronics Ionization Fire/Smoke Detector Model DI-3	April 1981
95-7217	Honeywell TC100A Ionization Smoke Detectors	October 1977
CPD7051 70.51.2	Fenwal Protection Systems Ionization Smoke Detectors	October 1996
P/N 315-083534C	XL3 Advanced Protection System Model DI-X3 Low Velocity, Low Altitude Ionization Detector	----------

LIST OF ACRONYMS USED

AC or ac	Alternating Current
ADAMS	Agency-Wide Document Access and Management System
ATWS	Anticipated Transient Without Scram
BTP	Branch Technical Position
BWR	Boiling Water Reactor
CFR	Code of Federal Regulations
CMEB	Chemical Engineering Branch
CO_2	Carbon Dioxide
DAS	Data Acquisition System
DRS	Division of Reactor Safety
ERIS	Emergency Response Information System
ESW	Essential Service Water
FPI	Fire Protection Instruction
FPP	Fire Protection Program
gov	Goverment
FENOC	FirstEnergy Nuclear Operating Company
FHA	Fire Hazard Analysis
HPCS	High Pressure Core Spray
HS	Hand Switch
html	Hypertext Markup Language
http	Hypertext Transfer Protocol
HVAC	Heating, Ventilation, Air Conditioning
IMC	Inspection Manual Chapter
IOI	Integrated Operating Instruction

LIST OF ACRONYMS USED

IPEEE	Individual Plant Examination of External Events
IR	Inspection Report
k	kilo
LPCS	Low Pressure Core Spray
MCC	Motor Control Center
MOV	Motor Operated Valve
MSIV	Main Steam Isolation Valve
NFPA	National Fire Protection Association
NOP	Nuclear Operating Administrative Procedure
NPF	Nuclear Power Facility
NRC	Nuclear Regulatory Commission
NRR	Office of Nuclear Reactor Regulation
NUREG	NRC Technical Report Designation
OA	Other Activities
ONI	Off-Normal Instruction
P&ID	Piping and Instrumentation Drawing
PARS	Publically Available Records System
PEI	Plant Emergency Instruction
PNPP	Perry Nuclear Power Plant
RFA	Request for Assistance
RHR	Residual Heat Removal
RPV	Reactor Pressure Vessel
SDP	Significance Determination Process
SOI	System Operating Instruction
SSA	Safe Shutdown Analysis
SSCs	Structures, Systems, and Components
SSCR	Safe Shutdown Capability Report
SSEL	Safe Shutdown Equipment List
SVI	Surveillance Instruction
SW	Service Water
TSC	Technical Support Center
USAR	Updated Safety Analysis Report
V or v	Volt
wpd	WordPerfect Document
www	World Wide Web