



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET SW SUITE 23T85
ATLANTA, GEORGIA 30303-8931

March 6, 2001

Florida Power and Light Company
ATTN: Mr. T. F. Plunkett
President - Nuclear Division
P. O. Box 14000
Juno Beach, FL 33408-0420

SUBJECT: TURKEY POINT NUCLEAR PLANT - NRC INSPECTION REPORT
50-250/01-02, 50-251/01-02

Dear Mr. Plunkett:

On February 9, 2001, the NRC completed a triennial fire protection inspection at your Turkey Point Nuclear Plant Units 3 and 4. The enclosed report documents the inspection findings which were discussed on February 9, 2001, with Mr. T. Jones and other members of your staff.

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

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 available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Document system (ADAMS). ADAMS is accessible from the NRC web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Charles R. Ogle, Chief
Engineering Branch
Division of Reactor Safety

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

Enclosure: (See page 2)

FPL

2

Enclosure: NRC Inspection Report 50-250, 251/01-02

Attachment: (1) Supplemental Information - NRC's Revised Reactor Oversight Process
(2) List of Documents Reviewed

cc w/encl:

Plant General Manager
Turkey Point Nuclear Plant
Florida Power and Light Company
9760 SW 344th Street
Florida City, FL 33035

R. J. Hovey
Site Vice President
Turkey Point Nuclear Plant
Florida Power and Light Company
9760 SW 344th Street
Florida City, FL 33035

Steve Franzone
Licensing Manager
Turkey Point Nuclear Plant
Florida Power and Light Company
Electronic Mail Distribution

Don Mothena, Manager
Nuclear Plant Support Services
Florida Power & Light Company
Electronic Mail Distribution

J. A. Stall
Vice President - Nuclear Engineering
Florida Power & Light Company
P. O. Box 14000
Juno Beach, FL 33408-0420

M. S. Ross, Attorney
Florida Power & Light
Electronic Mail Distribution

Attorney General
Department of Legal Affairs
The Capitol
Tallahassee, FL 32304

(cc w/encl cont'd - See page 3)

FPL

3

(cc w/encl cont'd)

William A. Passetti

Bureau of Radiation Control

Department of Health

Electronic Mail Distribution

County Manager

Metropolitan Dade County

Electronic Mail Distribution

Joe Myers, Director

Division of Emergency Preparedness

Department of Community Affairs

Electronic Mail Distribution

Curtis Ivy

Acting City Manager of Homestead

Electronic Mail Distribution

Distribution w/encl:
 K. Jabbour, NRR
 RIDSNRRDIPMLIPB
 PUBLIC

(**) - RECEIVED CONCURRENCE BY E-MAIL

OFFICE	Ril:DRS	Ril:DRS	Ril:DRS	Ril:DRP	Ril:DRP	Ril:DRP	Ril:DRS
SIGNATURE	SCHIN	WISEMAN	FILLION	SCHIN**	SCHIN**	WERT	OGLE
NAME	RSchin	GWiseman	PFillion	DBillings	EBrown	LWert	COgle
DATE	03/1/01	03/2 /01	03/5 /01	03/1/01	03/1/01	03/5/01	03/6/01
E-MAIL COPY?	YES NO	YES NO	YES NO		YES NO	YES NO	YES NO

OFFICIAL RECORD COPY

DOCUMENT NAME: C:\TPFP1R01-02.wpd

U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos: 50-250, 50-251

License Nos: DPR-31 and DPR-41

Report Nos: 50-250/01-02, 50-251/01-02

Licensee: Florida Power and Light Company (FPL)

Facility: Turkey Point Nuclear Plant, Units 3 and 4

Location: 9760 SW 344th Street
Florida City, FL 33035

Dates: February 5-9, 2001

Inspectors: D. Billings, Resident Inspector, Region II
E. Brown, Resident Inspector, Region II
R. Deem, Contractor, Brookhaven National Laboratories
P. Fillion, Reactor Inspector, Region II
R. Schin, Senior Reactor Inspector (Lead Inspector), Region II
G. Wiseman, Senior Reactor Inspector, Region II

Approved by: C. Ogle, Chief
Engineering Branch
Division of Reactor Safety

Enclosure

SUMMARY OF FINDINGS

IR 05000250-01-02, IR 05000251-01-02 on 2/05-09/2001, Florida Power and Light, Turkey Point Nuclear Plant, Units 3 and 4. Triennial fire protection baseline inspection.

The inspection was conducted by a team of regional inspectors and one contractor. No findings of significance were identified.

Report Details

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems

1R05 FIRE PROTECTION

.01 Systems Required To Achieve and Maintain Post-Fire Safe Shutdown

a. Inspection Scope

The team reviewed the licensee's post-fire safe shutdown capability to verify that it complied with the license condition on fire protection; the approved fire protection program; and 10 CFR 50, Appendix R. The team selected four risk significant fire areas to verify that the licensee's shutdown methodology had properly identified the components and systems necessary to achieve and maintain safe shutdown conditions. The team reviewed the licensee's Fire Hazards Analysis, Safe Shutdown Analysis, Safe Shutdown Equipment List, system one-line piping and instrumentation drawings, electrical one-line drawings, cable routing data, and plant procedures to verify that the licensee had appropriately determined the systems required for safe shutdown during a fire in any of the four selected areas. The team reviewed the adequacy of the systems selected for reactivity control, reactor heat removal, reactor coolant makeup, process monitoring, and support system functions to support safe shutdown with or without offsite power available. The four fire areas chosen for review during this inspection were:

- [Fire Area HH]: Units 3 and 4 cable spreading room and control room electrical cable chase (also identified as Fire Zones 98 and 132). An Appendix R fire in this area would involve evacuation of the control room for both units and alternative shutdown of both units from the alternate shutdown panels.
- [Fire Area CC]: Units 3 and 4 auxiliary building north-south breezeway (also identified as Fire Zone 79A). This outdoor area is located below a portion of the cable spreading room and contains many electrical cables. An Appendix R fire in this area would involve evacuation of the control room for both units and shutdown of both units from the alternate shutdown panels.
- [Fire Area R]: Unit 4 reactor control rod drive equipment room (also identified as Fire Zone 61). This area includes the 4B motor control center. An Appendix R fire in this area would involve shutdown of Unit 4 from the main control room.
- [Fire area W]: Unit 3 B 4160-volt switchgear room (also identified as Fire Zone 70). This area contains safety-related switchgear and the alternate shutdown panel for Unit 3. An Appendix R fire in this area would involve shutdown of Unit 3 from the control room.

b. Findings

No findings of significance were identified.

.02 Fire Protection of Safe Shutdown Capability

.021 Fire Hazards Reduction/ Frequency of Fire Related Incidents and Fire Reports

a. Inspection Scope

The team reviewed the licensee's Fire Hazards Analysis and administrative fire prevention/combustible fire hazards control procedures to determine if they satisfied the objectives established by the NRC-approved fire protection program. The team toured the selected plant fire areas observing the licensee's implementation of these procedures for limiting fire hazards, combustible waste collection, housekeeping practices, and cleanliness conditions. The team also reviewed the plant fire incident reports resulting from fire, smoke, sparks, arcing, and equipment overheating incidents for the year 2000 to assess the effectiveness of the fire prevention program and any maintenance-related or material condition problems related to fire incidents.

b. Findings

No findings of significance were identified.

.022 Cable Separation and Electrical Raceway Fire Barrier Systems - Thermo-Lag

a. Inspection Scope

The team reviewed the actions that the licensee had taken to resolve the technical issues related to the performance deficiencies of Thermo-Lag electrical raceway fire barrier systems. These deficiencies were described in NRC Bulletin 92-01, "Failure of Thermo-Lag 330 Fire Barrier Systems to Maintain Cabling in Wide Cable Trays and Small Conduits Free From Fire Damage." The team reviewed the licensee's Thermo-Lag Upgrade Project to determine whether the corrective actions were adequate. In plant areas having redundant trains, the team examined a sampling of the cable separation and the Thermo-Lag electrical raceway fire barrier systems to verify that they were consistent with the plant licensing basis and NRC approved 10 CFR 50, Appendix R exemptions. This review included evaluation of the upgraded material's application as a fire barrier system for the protection of safe shutdown functions. It also included a review of the installed cable protection fire barrier enclosures and fire endurance testing which substantiated the construction and installation attributes of the fire barrier system.

b. Findings

No findings of significance were identified.

.023 Fire Detection Systems

a. Inspection Scope

The team walked down each of the four selected fire areas to observe the material condition, design, and operation of the fire detection and alarm systems. The inspector verified that the detectors were adequately installed to detect fires associated with the hazards of each area. The team also reviewed documentation such as deviations, detector placement drawings, detector design, spacing criteria, and detector locations for the installed detection systems to assess the effectiveness of the systems and compliance with the placement and spacing criteria of National Fire Protection Association codes.

b. Findings

No findings of significance were identified.

.024 Automatic Fire Suppression Systems

a. Inspection Scope

The team reviewed the adequacy of the design and installation of the Halon fire suppression system for the cable spreading room and the open head deluge sprinkler system located in the auxiliary building north-south breezeway. Team members performed a walk down of the selected areas to ensure proper placement and spacing of Halon nozzles and sprinkler heads and the lack of obstructions. The team also reviewed installed Halon control equipment to assure accessibility and functionality of the system and its associated ventilation system fire dampers. Licensee design calculations and vendor certifications were reviewed to ensure that the required quantity of Halon agent for the area was available. Surveillance test procedures for the fire detection and alarm systems, Halon fire suppression system, manual hose fire suppression systems, and selected sprinkler systems were reviewed to determine compliance with the licensee's Updated Final Safety Analysis Report, Technical Specifications, and the approved fire protection program. 10 CFR 50, Appendix R exemptions were reviewed and compared with the physical configuration of the selected fire areas. Additionally, the team reviewed flow diagrams and engineering evaluations associated with floor drains and heating, ventilation, and air conditioning systems to verify that systems and operator actions required for post-fire safe shutdown would not be inhibited by leakage or flooding from fire suppression activities or rupture of fire suppression systems.

b. Findings

No findings of significance were identified.

.025 Fire Brigade Equipment

a. Inspection Scope

The team performed a walk down of the fire brigade house and response vehicle to assess the condition of fire fighting and smoke control equipment. Fire brigade personal protective equipment located in brigade staging area lockers in the plant was reviewed to evaluate equipment accessibility and functionality. The team also verified that backup lighting provided in the area of the fire brigade staging areas and lockers was operable and provided an adequate level of lighting. The adequacy of the fire brigade one-hour duration self-contained breathing apparatus was reviewed as well as the availability of supplemental breathing air tanks. Team members also performed walk downs of the selected fire areas and compared associated fire brigade pre-fire strategy plan drawings with as-built plant conditions and potential fire conditions.

b. Findings

No findings of significance were identified.

.026 Fire Brigade Drill Program

a. Inspection Scope

The team assessed the adequacy of the fire brigade drill program by reviewing a one-year period of fire drill critiques, fire brigade training and drill records, and mutual aid agreements with off-site fire departments. The team verified that fire brigade drills had been conducted in the high fire risk plant areas and that fire brigade personnel qualifications and drill participation met the requirements of the fire protection program.

b. Findings

No findings of significance were identified.

.03 Post-Fire Safe Shutdown Circuit Analysis

.031 Circuit Analysis

a. Inspection Scope

The team reviewed the licensee's circuit analysis for a sample of components important to post-fire safe shutdown to verify that the circuits were appropriately protected from fire damage. For each of the components in the sample, the control schematic (elementary diagram) was reviewed to verify the cables interconnecting the various devices. Then the routing of these cables was reviewed to determine the areas of the plant through which the cables were routed and the types of fire barriers that were installed. The team inspected the relevant plant areas to verify the routing and barrier information contained in the design documents. The team reviewed the post-fire safe shutdown function of the selected components and considered consequences of spurious operation. Where manual actions were proceduralized to offset postulated

spurious actuations, the procedures were evaluated by the team. The components selected were: pressurizer power operated relief valve PORV-456, its associated block valve MOV-4-535, auxiliary spray isolation control valve CV-4-311, and reactor coolant pump thermal barrier component cooling water supply isolation valve MOV-4-716B. In addition, the team reviewed the routing of cables associated with the 125-volt direct current control power and vital alternating current power for the Unit 3 alternate shutdown panel.

b. Findings

No findings of significance were identified.

.032 Breaker and Fuse Coordination

a. Inspection Scope

The team reviewed the licensee's studies of coordination of overcurrent protection devices with focus on 480-volt alternating current motor control center 3B06 and 4B06 and 125-volt direct current buses 4D01 and 3D23. These buses served many of the post-fire safe shutdown components including motor operated valves, auxiliary shutdown panel control power, vital alternating current power, and emergency lighting (the licensee had certain emergency lights powered from the main safety-related battery). The acceptance criterion applied to the review was that selective coordination existed at the buses between the main incoming protective devices and the individual feeder devices, and that the study was well documented. The team verified that, if fire induced short-circuits were to occur on feeder circuits, the breaker and fuse setpoint coordination was appropriate to prevent a loss of power to safe shutdown components.

b. Findings

No findings of significance were identified.

.04 Alternative Shutdown Capability

a. Inspection Scope

The team verified that the licensee's methodology, design, and procedures were adequate to achieve and maintain hot and cold shutdown from outside the control room, with or without offsite power available, and to meet performance goals of 10 CFR 50, Appendix R, Section III.L. The team walked down portions of the alternative shutdown procedures, reviewed some approximate thermal-hydraulic timeline information from the vendor and from emergency operating procedures, and discussed them with senior reactor operators. The team also verified that switching of electrical controls from the control room to the alternate shutdown locations would not be affected by fire-induced circuit faults by examining schematic diagrams and inspecting the transfer switches. Components selected for detailed review included the pressurizer power operated relief valve PORV-456 and the reactor coolant pump thermal barrier component cooling water supply isolation valve MOV-4-716B.

b. Findings

No findings of significance were identified.

.05 Operational Implementation of Alternative Shutdown Capability

a. Inspection Scope

The team reviewed the licensee's alternative shutdown procedures, training records, and personnel staffing to verify the licensee's capability to achieve and maintain hot and cold shutdown during and after a fire in any of the four selected areas. The team also walked down selected portions of the procedures to verify that: 1) adequate procedures for use of the alternative shutdown systems were in place and operators could reasonably be expected to perform the procedures within applicable shutdown time requirements; 2) personnel required to achieve and maintain the plant in hot standby following a fire using the alternative shutdown systems and components could be provided from normal onsite staff, exclusive of the fire brigade; 3) training for licensed operators included alternative shutdown capability; 4) the licensee had incorporated the operability of alternate shutdown transfer and control functions into plant Technical Specifications; 5) the licensee periodically performed operability testing of the alternate shutdown instrumentation and transfer and control functions; and 6) the implementation and human factors aspects of the alternative shutdown procedures were adequate.

e. Findings

No findings of significance were identified.

.06 Communications for Performance of Alternative Shutdown

a. Inspection Scope

The team performed walk downs of sections of the alternative shutdown procedures and inspected selected shutdown equipment required for remote manual operator actions to verify that adequate communications equipment would be available for the personnel performing the procedures. The team also reviewed the cable routing for the dedicated communication system for the Unit 3 alternate shutdown panel and verified that the cables were physically separated or electrically isolated by transfer switch from any of the alternate shutdown areas so that a single fire would not cause loss of the communication capability at the alternate shutdown panel.

b. Findings

No findings of significance were identified.

.07 Emergency Lighting for Performance of Alternative Shutdown

a. Inspection Scope

The inspection team reviewed the licensee's 8-hour emergency lighting in areas required by 10 CFR 50, Appendix R, Section III.J to accomplish safe shutdown. The team performed a walk down of the alternative shutdown fire areas and the access and egress routes to the safe shutdown equipment requiring performance of manual actions. This walkdown was done to verify that emergency lights were installed, lighting lamps were operational, and the lighting heads were aimed to provide adequate illumination to perform the required procedure actions. The team also reviewed the cable routing for the dedicated emergency lighting system for the Unit 3 alternate shutdown panel and verified that the lighting system cables were physically separated so that a single fire would not cause loss of the lighting capability in that area.

b. Findings

No findings of significance were identified.

.08 Cold Shutdown Repairs

a. Inspection Scope

The team verified that the design and implementation of the licensee's cold shutdown repair capability for the selected fire areas were adequate for the selected fire areas. and that the repair equipment was available at locations on site.

b. Findings

No findings of significance were identified.

.09 Fire Barriers and Fire Area/Zone/Room Penetration Seals

a. Inspection Scope

The team reviewed the selected fire areas to evaluate the adequacy of fire area barrier enclosure walls, ceilings, floors, cable coatings, structural beam support protection, fire barrier penetration seals, fire doors, and fire dampers. This was accomplished by observing the material condition and configuration of the installed fire barrier features as well as construction details, engineering evaluations, and supporting fire endurance tests for the installed fire barrier features. The team also reviewed the fire loading calculations to verify that the fire loading used by the licensee was appropriate for determining the fire resistive rating of the fire barrier enclosures. In addition, the team reviewed licensing documentation, evaluations of fire barrier features, engineering calculations, and National Fire Protection Association code deviations to verify that the fire barrier installations met design requirements and licensing commitments.

b. Findings

No findings of significance were identified.

.10 Fire Protection Systems, Features and Equipment

a. Inspection Scope

The team reviewed flow and wiring diagrams and cable routing information associated with the fire pumps and fire protection water supply systems. These systems are necessary for manual fire fighting activities and for water-based fire suppression systems which protect redundant trains of systems for hot shutdown. The review was to determine whether the fire protection water delivery and supply components could be damaged or inhibited by fire-induced failures of electrical power supplies or control circuits.

b. Findings

No findings of significance were identified.

.11 Compensatory Measures

a. Inspection Scope

The team reviewed the administrative controls for out-of-service, degraded, or inoperable fire protection systems and post-fire safe shutdown systems and components. The review was performed to verify that the risk associated with removing fire protection or post-fire systems or components from service was properly assessed, that safe shutdown equipment was not removed from service for excessive periods of time without compensatory measures, and that adequate compensatory measures were implemented in accordance with the licensee's Updated Final Safety Analysis Report, Technical Specifications, and the approved fire protection program.

b. Findings

No findings of significance were identified.

.12 Identification and Resolution of Problems

a. Inspection Scope

The team reviewed a sample of licensee audits, self-assessments, and condition reports to verify that items related to fire protection and safe shutdown were appropriately entered into the licensee's corrective action program in accordance with the licensee's quality assurance program and procedural requirements. The items selected were also reviewed for appropriateness of the corrective actions taken or initiated. The team also reviewed selected operating experience items related to fire protection to determine if they were dispositioned properly. In addition, the team held discussions with licensee

performance analysis personnel and reviewed trending data of fire protection system condition reports to determine if any adverse trends had been observed.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA6 MEETINGS

.01 Exit Meeting Summary

The lead inspector presented the inspection results to Mr. Terry Jones, Acting General Plant Manager, and other members of licensee management and staff at the conclusion of the inspection on February 9, 2001. The licensee acknowledged the findings presented. Proprietary information is not included in this inspection report.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

M. Averett, Probabilistic Safety Analysis Engineer
 R. Bleeker, Electrical Design Engineering Supervisor
 F. Busch, Fire Protection Supervisor
 A. Dunstan, Mechanical Engineer
 R. Flynn, Operations Support Supervisor
 T. Flynn, Operations Support Engineer
 S. Franzone, Licensing Manager
 C. Guey, Probabilistic Safety Analysis Supervisor
 O. Hanek, Licensing Engineer
 R. Hovey, Site Vice President
 T. Jones, Acting General Plant Manager
 J. Manso, Mechanical Engineering Supervisor
 W. Parker, Project Manager
 J. Reed, Site Document Control Supervisor
 P. Savine, Electrical Engineer
 B. Skelly, Plant Engineering Manager
 B. Thaker, Safe Shutdown Analysis Engineer
 A. Zielonka, Acting Engineering Manager

Other licensee employees contacted included engineers, operations personnel, maintenance personnel, and administrative personnel.

NRC

R. Emch, Acting Deputy Director, Division of Reactor Safety, Region II
C. Patterson, Senior Resident Inspector

ITEMS OPENED, CLOSED, OR DISCUSSED

None

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
<ul style="list-style-type: none">● Initiating Events● Mitigating Systems● Barrier Integrity● Emergency Preparedness	<ul style="list-style-type: none">● Occupational● Public	<ul style="list-style-type: none">● Physical Protection

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and

increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: <http://www.nrc.gov/NRR/OVERSIGHT/index.html>.

LIST OF DOCUMENTS REVIEWED

PROCEDURES

- 0-ADM-016, Fire Protection Program, dated September 27, 2000.
- 0-ADM-016.2, Fire Brigade Program, dated September 23, 1999.
- 0-ADM-016.3, Fire Protection Impairments (FPI), dated August 12, 1999.
- 0-ADM-200, Conduct of Operations, dated August 20, 2000.
- 0-ADM-205, Administrative Control of Valves, Locks, and Switches. dated September 28, 2000.
- 0-ONOP-016.2, Response to Spurious Actuation of a Fire Isolation Damper, dated September 17, 1997.
- 0-ONOP-016.10, Pre-Fire Plan Guidelines and Safe Shutdown Manual Actions, dated January 5, 2001.
- 0-ONOP-105, Control Room Evacuation, dated January 5, 2001.
- 0-PME-016.2, Application of Flame Retardant Coating, dated May 6, 1998.
- 0-PME-091.1, Outside Containment Smoke Detector Sensitivity Check and Calibration, dated January 5, 1999.
- 0-SFP-016.1, Fire Barrier Penetration Seal Inspection, dated September 7, 2000.
- 0-SFP-016.2, Electrical Raceway Protection Inspection, dated October 14, 1998.
- 0-SFP-016.3, Fire Barriers and Structural Steel Fireproofing Inspection, dated August 30, 2000.
- 0-SFP-016.4, Fire Door Surveillance, dated June 28, 1999.
- 0-SFP-016.5, Fire Protection Equipment Surveillance, dated April 3, 2000.
- 0-SFP-016.6, Fire Hose Hydro Test and Inspection, dated September 9, 1999.
- 0-SFP-016.7, Electrical Manhole Inspection, dated June 16, 1999.
- 3-OSP-300.4, Dedicated Alternate Shutdown Communications System Operability Test, dated January 11, 1996.
- QI2-PTN-4, Housekeeping, dated March 9, 1999.

DESIGN CRITERIA AND CALCULATIONS

- 5610-000-DB-001, Section XII, Selected Licensing Issues (SLI), Fire Protection Criteria, Rev. 5.
- 5510-M-722, Appendix R Safe Shutdown Analysis, Rev. 25, dated January 8, 2001.
- 5610-M-733, Appendix R Essential Equipment List, Rev. 17, dated November 25, 2000.
- 5610-E-2000, Appendix R Essential Cable List, Rev. 24, dated January 5, 2001.
- M12-202-06, Embedded Conduit Analysis-Fire Models, Rev. 2, dated September 16, 1989.
- Ebasco Services Inc., 5610-E-2000, Units 3&4 Appendix R Essential Cable List, Rev. 24, dated January 8, 2001.
- Ebasco Services Inc., 53-20.5005, Units 3&4 Emergency Power System Enhancement Project Appendix R Circuit Breaker/Fuse Coordination Study, Rev. 6, dated August 28, 1991.
- Bechtel, 5177-265-EG-22, Units 3&4 Breaker/Fuse Coordination Study Calculations (Appendix R), Rev. 2, dated June 1, 1990.
- PTN-BFJE-91-019, AC Emergency Power System Coordination Calculation, Rev. 7, dated October 10, 2000.

DRAWINGS

- 5610-A-61, Floor Plan at EL 18'-0" Showing Fire Walls, Doors, Dampers, & Fireproofing, Rev. 19.
- 5610-A-62, Emergency Lighting Tabulation, Rev. 16.
- 5610-A-178, Fire Barriers and Penetration Seal Schedule and Details, Rev. 99.
- 5610-C-700, Control Building-Structural Framing-Plans and Elevations, Rev. 7.
- 5610-E-1, Sheet 1, Main Single Line Diagram Unit 3, Rev. 31, dated March 14, 1997.
- 5610-E-14, Electrical Alternate Shutdown System 120 V Instrument AC, Rev. 7, dated March 17, 1994.
- 5610-E-25, Sheet 99A, Units 3& 4 Reactor Auxiliaries Alternate Shutdown Panel D.C. Lighting 3C264 (4C264), Rev. 1, dated August 29, 1989.
- 5610-E-249, Communication Diagram, Rev. 6, dated June 4, 1992.
- 5610-M-76, Deck and Roof Drain Plans., Rev. 11.
- 5610-M-710, Piping and Support Location Plan (Water Suppression System) Fire Zone 79A, Rev. 0.
- 5610-M-3016, Sht. 1, Fire Protection System Tanks and City Water Supply, Rev. 12.
- 5610-M-3016, Sht. 3, Fire Protection System Fire Pumps, Rev. 12.
- 5610-M-3016, Sht. 7, Fire Protection System Deluge Water Suppression, Rev. 8.
- 5610-M-3016, Sht. 9, Fire Protection System Halon Suppression System, Rev. 1.
- 5610-M-3065, Sht. 3, Hydrogen and CO2 Supply System, Rev. 9.
- 5610-T-E-1591, Sheet 1, Units 3&4 Operating Diagram Electrical Distribution, Rev. 56, dated April 3, 1999.
- 5610-T-E-1592, Sheet 1, Units 3&4 Single Line Diagram 125 V D.C. & 120 V Instrument A.C. Electrical Distribution, Rev. 38, dated October 21, 1997.
- 5613-E-5, Unit 3 Single Line Diagram 480 Volt System Load Centers 3A, 3B, 3C, 3D & 3H, Rev. 7, dated December 19, 1995.
- 5613-E-10, Sheet 1, Unit 3 Single Line Diagram Motor Control Centers 3A, NV3A, 3B, NV3B, 3C, NV3C, Rev. 31, dated April 11, 2000.
- 5613-E-11, Sheet 2, Unit 3 Single Line Diagram Electrical 125 V DC & 120 V AC System Auxiliaries Power Upgrade, Rev. 9, dated February 20, 1996.
- 5613-E-25, Sheet 99B, Unit 3 Reactor Auxiliaries Miscellaneous Power Feeds for Alternate Shutdown System, Rev. 2, dated November 9, 1999, and similar for Unit 4.
- 5614-E-25, Sheet 27B, Unit 4 Reactor Auxiliaries Pressurizer Relief Isolation Valve MOV-4-535, Rev. 1, dated September 17, 1991, and sheet 27B1, dated December 4, 1991.
- 5614-E-25, Sheet 32H, Unit 4 Reactor Auxiliaries R.C.P. Thermal Barrier C.C.W. Supply Isolation Valve MOV-4-716B, Rev. 4, dated November 30, 2000, and Sheet 32H1, Revision 2, dated November 13, 2000.
- 5614-E-25, Sheet 64A, Unit 4 Reactor Auxiliaries Pressurizer Relief Valve PCV-4-456, Rev. 4, dated November 13, 2000, and Sheet 64A1, Rev. 3, dated January 7, 1999.
- 5614-E-25, Sheet 69D, Unit 4 Reactor Auxiliaries Auxiliary Spray Isolation Control Valve CV-4-311, Rev. 1, dated January 14, 1994, and sheet 69D1, Rev. 0, dated August 22, 1989.
- 5614-E-25, Sheet 95C1, Unit 4 Reactor Auxiliaries Miscellaneous Indication on Alternate Shutdown Panel, Rev. 1.

5610-M-3025, Control Building Ventilation, Rev. 4, dated March 22, 2000.
 5610-M-3060, Auxiliary Building Ventilation, Rev.11, dated April 10, 2000.
 5614-M-3019, Intake Cooling Water System, Rev. 25, dated March 23, 2000.
 5614-M-3030, Component Cooling Water System, Rev. 11, dated March 19, 2000.
 5614-M-3041, Reactor Coolant System, Rev. 14, dated March 6, 2000.
 5614-M-3047, Chemical and Volume Control System, Rev.15, dated March 19, 2000.
 5614-M-3072, Main Steam System, Rev.27, dated August 16, 2000.
 5614-M-3075, Auxiliary Feedwater System, Rev.10, dated March 29, 2000.
 5613-M-3068, Containment Spray System, Rev.14, dated 4/09/00.
 5613-M-3074, Feedwater System, Rev.15, dated March 16, 2000.
 5613-M-3062, Safety Injection System, Rev.17, dated April 10, 2000.
 5613-M-3013, Instrument Air System, Rev.12, dated October 30, 2000.
 5610-T-E-1591, Operating Diagram Electrical Distribution, Rev. 56, dated April 3, 1999.
 5610-T-E-1592, 125V D.C.&120V Instrument A.C. Electrical Distribution, Rev. 38, dated October 21, 1999.

ENGINEERING EVALUATIONS

FPER-85-02, Standpipe and Fire Hose Station Operating Pressures, dated February 7, 1986.
 FPER-89-04, Fire Suppression-North/South Breezeway, dated February 7, 1986.
 FPER 89-06, Concealed Electrical Cable Fire Protection, dated October 20, 1989.
 FPER 89-22, Structural Steel Fireproofing, dated October 27, 1989.
 FPER 89-26, Bases for 20 Feet Separation and Intervening Combustibles, dated November 2, 1989.
 FPER 91-03 &04, Pull Box Thermo-Lag Fire Barrier, dated January 8, 1992.
 FPER 93-002, Fire Protection Evaluation for Turbine Pedestal to Turbine Deck Expansion Joint, dated June 21, 2000.
 FPER 96-014, Evaluation of Thermo-Lag Fire Barrier System Upgrades in the 4160 Volt Switchgear Room 3B, dated January 3, 1997.
 FPER 96-024, Evaluation to Compare a Sample of Penetration Fire Seals Against Tested Configurations, dated December 15, 1996.
 FPER 98-012, Evaluation of Thermo-Lag Configurations for Use in as 25 Minute Fire Zones, dated February 26, 1999.
 FPER 98-016, Evaluation of Fire Rated Penetration Seals with Large Pipe, dated December 20, 1998.
 FPER 98-018, Evaluation of Fire Rated Penetration Seals with Electrical Penetrants, dated June 24, 1999.
 PTN-ENG-SEMP-96-030, Evaluation of Planned Upgrades for Indoor Thermo-Lag Raceway Fire Barrier Systems, dated September 13, 1996.
 PTN-ENG-SEMS-96-045, Assessment of Fire Rated Penetration Seals, dated September 27, 1997.

APPLICABLE CODES AND STANDARDS

NFPA 12A, Standard on the Halon 1301 Fire Extinguishing Systems, 1983 Edition.
 NFPA 13, Standard for the Installation of Sprinkler Systems, 1983 Edition.

NFPA 14, Standard for the Installation of Standpipe and Hose Systems, 1974 Edition.
 NFPA 20, Standard for the Installation of Centrifugal Fire Pumps, 1982 Edition.
 NFPA 72D, Standard for the Installation, Maintenance, and Use of Proprietary Protection Signaling Systems, 1979 Edition.
 NFPA 72E, Standard on Automatic Fire Detectors, 1982 Edition.
 NFPA 80, Standard on Fire Doors and Windows, 1983 Edition.
 NFPA 90A, Standard on Air Conditioning and Ventilating Systems, 1981 Edition.

CONDITION REPORTS, AUDITS, AND SELF ASSESSMENTS

CR 99-0599; NRC IN 99-07, Failed Fire Protection Deluge Valves and Testing Deficiencies in Sprinkler Systems.
 CR 99-0750, Discrepancies in Fire Protection Camera Monitoring System.
 CR 99-1256, Fires in Areas that Abut the Cable Spreading Room and Control Room May Have a Potential to Cause a Control Room Evacuation.
 CR 99-1604, No Appendix R Emergency Lights in Electrical Penetration Rooms.
 CR 99-1627, Appendix R Fires in Four Fire Zones Could Cause a Loss of Control Room Control of the Steam Generator Atmospheric Dump Valves.
 CR 00-1229, A Piece of Plywood, Approximately 4' x 5', is Embedded in the Cable Spreading Room Ceiling and is Not Included in the Fire Hazards Analysis.
 CR 00-1546, NRR Review of TIA 2000-04 for St. Lucie 1 Nuclear Plant Concluded that the Halon System for the Cable Spreading Room Does Not Provide Reasonable Assurance That It Will Extinguish a Deep-Seated Fire.
 CR 00-2186, Thermo-Lag Refurbished Approximately 1 to 1 ½ Years Ago is Already Leaching and Delamination Has Occurred.
 CR 01-0011, Fire in Dryer No. 3 and Dryer No. 4 in the RCA Laundry Facility.
 Fire Protection Program Functional Area Audit QAO-PTN-99-008.
 Fire Protection Program Functional Area Audit QAO-PTN-00-009.
 Turkey Point Nuclear Plant Fire Protection Functional Inspection Self Assessment Project Report, dated September 30, 1999.

MISCELLANEOUS DOCUMENTS

JPM 1200011300, Respond to Control Room Evacuation Condition, dated 12/22/99.
 JPM 1200012300, Respond to Control Room Evacuation Condition, dated 1/05/00.
 JPM 1200013300, Respond to Control Room Evacuation Condition, dated 3/07/00.
 JPM 1420014300, Respond to Control Room Evacuation Condition, dated 12/16/98.
 JPM 1420014301, Respond to Control Room Evacuation Condition, dated 12/22/99.
 JPM 1420014302, Respond to Control Room Evacuation Condition, dated 1/31/01.
 JPM 2420017300, Respond to Control Room Evacuation Condition, dated 1/23/01.
 Modification package PCM 85-15, Dedicated Communication System for Alternate Shutdown - Units 3 and 4, dated May 20, 1985.

CORRECTIVE ACTION PROGRAM ITEMS INITIATED DURING INSPECTION

- CR 01-0230, Fire Area CC Not Bounded by a Three-Hour Fire Barrier.
- CR 01-0293, Fire Barrier Discrepancies.
- CR 01-0300, Discrepancies Between Safe Shutdown Analysis and Off-Normal Operating Procedures.
- CR 01-0310, Foam Insulation on Chilled Water Lines Not Evaluated as Combustible.
- CR 01-0318, Compensatory Measures For Safe Shutdown Analysis Components.
- CR 01-0319, Charging Pump Room Doors Are Not Three-Hour Fire Barriers.
- CR 01-0320, Smoke Detectors In 3B Switchgear Room Not Installed Per NFPA 72E-1982.
- CR 01-0326, Lack of Halon System Testing or Calculations.
- CR 01-0333, Underground Cable Penetration Seals Between Fire Areas Were Not Inspected.