U. S. Nuclear Regulatory Commission

Report Nos. 50-352/92-19
50-353/92-19

Docket Nos. 50-352; 50-353

License Nos. NPF-39; NPF-85

Licensee: Philadelphia Electric Company
Limerick Generating Station
P. O. Box 195
Wayne, Pennsylvania 19087-0195

Facility Name: Limerick Generating Station, Units 1 and 2

Inspection at: Sanatoga, Pennsylvania

Inspection Conducted: June 15 - 19, 1992

Inspected by: Alan E. Finkel July 7, 1992
Alan E. Finkel, Sr Reactor Engineer Date
Performance Programs Section
Operations Branch, DRS

Approved by: N J Blumberg 7/7/92
Norman J. Blumberg, Chief Date
Performance Programs Section
Operations Branch, DRS

Inspection Summary: Inspection from June 15 - 19, 1992 (Report Nos. 50-352/92-19 and 50-353/92-19)

Areas Inspected: Announced safety inspection of the Fire Protection Program and its implementation in the areas of Administrative Controls, Surveillance, Training, Audits, Firewatches, and Inprocess inspections.

Results: No safety issues were identified with the fire protection system. Based on the results of this inspection, it was determined that the fire protection program was satisfactorily implemented. One unresolved item is associated with a surveillance test to verify the fire diesel fuel consumption rate and its oil day tank operating time. In addition, no violations of the Limerick Generating Station Fire Protection Program were observed.

DETAILS

1.0 PERSONS CONTACTED

Attachment 1 provides a listing of persons contacted during the inspection.

2.0 FIRE PROTECTION PROGRAM (64704)*

2.1 Introduction

An inspection was performed to evaluate the adequacy of the licensee's fire protection program and associated implementing procedures. The inspection included verification of procedure implementation, technical adequacy of procedures and programs, inspection of plant facilities, fire brigade training, firewatch program and qualification, and review of previous licensee audit findings. Surveillances, routine tests, administrative and other procedures related to fire protection were reviewed with respect to administrative requirements for an effective fire protection program.

2.2 Plant Tour

During this inspection, the inspector toured accessible vital and nonvital areas of the site and visually inspected the fire protection water systems, fire pumps, fire water piping and distribution systems, post indicator valves, hydrants, and contents of fire protection equipment storage cabinets. The inspection included area fire detection and alarm systems, automatic and manual fixed suppression systems, interior hose stations, fire barriers, and fire doors. The inspector observed general housekeeping conditions and randomly checked inspection tags on portable fire extinguishers to verify that the required monthly surveillance inspections were performed. The inspector noted that no equipment deterioration was identified within the fire equipment system. Fire tank gauges complied with procedure requirements, fire hoses had required test date stamps, battery powered lights were working, and fire fighting clothes and equipment were in an acceptable condition.

During the tour of the fire system, the inspector noted that the fire diesel driven pump was in automatic operation; however it was tagged out of service. On December 3, 1991, the primary diesel driven fire pump operated in the reverse direction due to a failure of its discharge check valve. A licensee event report was issued to the NRC on this subject. The diesel fire pump was repaired and placed back in service on January 2, 1992. Within the last quarter, the diesel fire pump surveillance test results had identified problems with maintaining its required revolutions per minute (RPMs); thus, the diesel fire pump was tagged out of service, as required by Section 3.7.6.1 of the Technical Specification:

> "With one pump and/or one water supply inoperable, restore the inoperable equipment to Operable status within 7 days or provide an alternate backup pump or supply."

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*The parenthetical notation following the paragraph title denotes the NRC inspection module that was used by the inspector in conducting this inspection.

The licensee has connected into the fire system a backup diesel fire pump to replace the present primary diesel fire pump. The backup diesel fire pump has as its water source a 500,000 gallon tank that is supplied from a well on site. However, the primary diesel fire pump had a 550 gallon oil supply tank that would allow operation of the diesel engine for approximately 40 hours at full pump capacity. The alternate backup diesel fire pump has an oil tank of 287.86 gallons, which, at its calculated fuel consumption, would last approximately 22.84 hours. The rate of the backup diesel fire pump fuel consumption has not been verified by testing the present diesel, but is an estimated fuel consumption rate from the diesel manufacturer for its design. There is no safety concern with the present backup fire diesel pump since administrative controls are to be prepared to provide adequate diesel fuel to run this sytem for 40 hours; however, the fuel consumption value is to be verified during the next scheduled surveillance test. This item is considered unresolved pending resolution of the actual fuel consumption of the backup fire diesel pump. (50-352/92-19-01 and 50-353/92-19-01)

3.0 PROCEDURE REVIEW

The fire protection program procedures listed in Attachment 2 of this report were used by the inspector in performing the inspection of the fire program at this site. The policy and procedure documentation reviewed appeared to be technically sound and properly implemented. No deficiencies were identified.

4.0 FIRE BRIGADE TRAINING AND DRILLS

Fire Department training procedures and attendance records for brigade members were reviewed by the inspector. The inspector's review indicated that the training records were complete and maintained in an up-to-date status. The inspector also verified that the fire brigade members listed in the 1992 roster have attended the hands-on training program conducted at the licensee's fire training facility. Discussions with fire brigade members during the facility inspection indicated that the fire brigade members are cognizant of their responsibilities and that the training they are provided is beneficial in maintaining an awareness of current developments in fire protection and fire fighting techniques. The inspector noted that the topic, new techniques in fire equipment, is planned as part of the 1992 training program. The Fire Protection Supervisor maintains a status of current fire brigade certifications and notifies both the fire brigade member and his supervisor if this certification is withheld. Presently, there are 90 certified fire brigade members on the site roster, which is adequate to support their six shifts.

A review of the licensee's fire drill program for the site indicated that the brigade members were receiving the required fire drills as defined in their Fire Protection Program. Attendance records are verified by the Fire Protection Supervisor, as well as the training school supervisors.

5.0 SURVEILLANCE TEST (ST) REVIEW

The inspector reviewed the following test procedures and equipment data results to determine if associated technical specification requirements were being properly implemented and complied with.

- ST-7-022-250-0, Revision 3, FSWS Flow Test, June 12, 1992
- ST-7-022-251-0, Revision 1, Fire Pump Operability Verification, February 3, 1988
- ST-7-022-361-0, Revision 1, Backup Diesel Driven Fire Pump (10P402) Surveillance Test Confirmation, September 7, 1990
- ST-7-022-360-0, Revision 2, Fire Hose Hydrostatic Test Verification, November 2, 1990
- ST-7-022-323-1, Revision 2, Halon System Operability Verification, August 16, 1988

The above-reviewed STs were performed within the required Technical Specification frequency and were satisfactorily and properly dispositioned. The Fire Protection Supervisor evaluates the surveillance test results with previously-recorded test data to determine system/component performance status.

During the fire system walkdown, the inspector noted a yard fire hydrant was leaking water. The item was tagged for repair. It appeared to be a gasket seal leak and did not affect the operation of the fire system. The yard hydrant was on the fire watch hourly schedule with a requirement to note the approximate flow rate of the leak.

6.0 FIREWATCH PROGRAM

6.1 Introduction

The firewatch program consists of two separate programs. One program consists of trained firewatch personnel who walk the site on a scheduled time bases looking for potential fires and fire hazards. The other is the Hot Firewatch program which is generally performed by the craft personnel during grinding or welding work.

6.2 Roving Firewatch

The roving firewatch personnel are given specific firewatch training. Their function is to walk the site within a given time period and verify the condition of specific site areas as assigned to them on a "Daily Firewatch Shift Turn Report" form. This form is updated on a shift basis by their supervisor and approved by the shift operator and the Fire Protection Supervisor. The inspector reviewed the roving firewatch training program and determined

that the program provided adequate guidance for their assigned task. During the site inspection, the inspector noted the roving firewatch personnel performing their tasks as outlined on their "Shift Turn Report." Discussions with the roving firewatch personnel indicated that they were knowledgeable of their shift requirements and were performing them as required by their Firewatch Procedure, FWLP 1.003. The firewatch supervisor reviews the Daily Firewatch Shift Turn Report on a shift bases and noted items are discussed with the Fire Protection Supervisor for required action. The inspector determined that the Roving Firewatch program tasks were being performed as described in the site Fire Protection Program Plan.

6.3 Hot Work Firewatch Program

The hot work firewatch is performed by the craft personnel who are performing a grinding or welding task. The craft firewatch personnel are trained to perform the functions outline in Administrative Procedure A-12, "Ignition Source Control Procedure." To verify that the craft were performing their "Hot Work Firewatch" as outlined in the procedure AP-12, the inspector conducted several inspections of welding and grinding (Hot Work) that required a firewatch.

During these inspections, the inspector discussed the firewatch duties with the assigned craft firewatches. The inspector determined that:

- All selected welding and grinding work was assigned a firewatch.

- All firewatches interviewed by the inspector have had formal training to stand a firewatch.

- All firewatches knew their duties in accordance with the procedure A-12.

The inspector determined that the Hot Work Firewatch Program tasks were being performed as described in the site Fire Protection Program Plan.

7.0 AUDITS OF FIRE PROGRAM

The inspector reviewed the annual and triennial audits of the site fire protection program as described in the Limerick Fire Protection Plan and determined that action items identified in the audits are tracked and monitored by the fire protection supervisor. In compliance with Limerick Generating Station (LGS) technical specification (TS) 6.5.2.8.H and 6.5.2.8.I, a performance based quality assurance audit was conducted from August 5, 1991, through November 21, 1991, of the LGS Fire Protection Program. The audit team was augmented by the LGS Fire Protection System Engineer and Fire Protection Engineers from Professional Loss Control, Inc. The findings identified in this report (Audit Report No. A0005943) were tracked in the quality assurance tracking system and reported in Audit Report No. A0000075, January 30, 1991. The findings associated with penetration seals listed in Audit Report no.

A0005943 were closed in Audit Report No. A0000075. The inspectors' evaluation of the corrective actions taken by the engineering organization to close the findings of Audit Report No. A0000075 were condidered adequate. (Reference CAR Nos. listed in Attachment 2)

The above audit assessments and the corrective actions taken by the licensee to address the audit findings indicate that the fire protection program is complying with the "LGS Fire Protection Program" plan for this site.

8.0 CONCLUSION

The present fire protection systems are maintained and tested as described in the Limerick Generating Station (LGS) Fire Protection Plan. The Fire Protection Plan has incorporated the technical requirements of the LGS Technical Specification and the Fire Protection Supervisor verifies that these requirements are complied with. The fire protection surveillance test results indicate that the safety-related equipment is operating within its design safety margins. No safety issues, violations, or deviations were identified.

9.0 EXIT MEETING

The inspector met with licensee personnel (denoted in Attachment 1) at the conclusion of the inspection on June 19, 1992, at the Limerick Generating Station. The inspector summarized the scope of the inspection and the inspection finding at that time.

Attachments:
1. Persons Contacted
2. Fire Protection Documentation Review

ATTACHMENT 1

Persons Contacted

Philadelphia Electric Company

*J. Conway, Fire Protection Supervisor, LGS
*R. Costagliola, Support Division Manager, LGS
*G. Madsen, Regulatory Engineer, LGS
*M. Maguire, Fire Protection, LGS
*B. Melly, Nuclear Engineering Department, Fire Protection Branch

United States Nuclear Regulatory Commission

T. Kenny, Senior Resident Inspector
*L. Scholl, Resident Inspector

*Denotes those at the exit meeting held on June 19, 1992.

During the course of this inspection, the inspector contacted other members of the licensee's Technical, Quality Assurance, and Operating and Maintenance staffs.

ATTACHMENT 2

Fire Protection Documentation Review

Technical Specifications

- Section 3/4.7.6 Fire Suppression Systems
- Updated Final Safety Analysis Report, Volume 15, "Fire Protection Plan"

Audit Reports and Associated Correction Action Requests

No. A0005943	"LGS Fire Protection Plan and Independent Fire Protection Loss Prevention Inspection and Audit"
No. A000075	Followup to Audit Report No. A0005943
CAk Q0000656	Penetration Seal Opening/Procedural Controls
CAR Q0000758	Penetration Seals Not Identified
CAR Q0000763	Penetration Location Not Dimensioned on Drawings
CAR Q0000775	Seals Not Installed In Accordance With Design Criteria
No. A0000076	LGS Triennial Fire Protection/Loss Prevention Program Audit August 13 - September 26, 1990

Fire Protection Procedures

A-12	Administrative Procedure, "Ignition Source Control Procedure"
ST-7-022-250-0	Revision 3, "FSWS Flow Test"
ST-7-022-251-0	Revision 1, "Fire Pump Operability Verification"
ST-7-022-361-0	Revision 1, "Backup Diesel Driven Fire Pump (10P402) Surveillance Test Confirmation"
ST-7-022-360-0	Revision 2, "Fire Hose Hydrostatic Test Verification"
ST-7-022-323-1	Revision 2, "Halon System Operability Verification"

Firewatch Procedures

FWLP 1.003	"Fire Reporting Procedure" FW-001
FWLP 1.003	"Firewatch Roving Patrols," FW-002
FWLP 1.003	"Impairments" FW-003
A-12	"Ignition Source Control" FW-004
A-12-1	"Control of Technical Specification" FW-005
A-12-2	"Control of Combustible Materials and Compressed Gas" FW-006

Brigade Fire Drills

ST-7-022-551-0	Reports from March 5 - 19, 1992
RT-7-022-983-0	Quarterly Drill Report, April 1, 1992
RT-7-022-981-0	Quarterly Meeting Review Report, April 27, 1992