U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

Region I

Report No. 50-272/80-27
50-311/80-20

Docket No. 50-272
50-311

License No. DPR-70
DPR-75 Priority _____ Category C

Licensee: Public Service Electric and Gas Company

80 Park Plaza

Newark, New Jersey 07101

Facility Name: Salem Nuclear Generating Station Units 1 and 2

Inspection at: Hancocks Bridge, New Jersey

Inspection conducted: October 14 - 17, 1980

Inspectors: P. S. Koltay, Reactor Inspector — 11/3/80 date signed

_____ date signed

_____ date signed

Approved by: S. D. Ebneter, Chief, Engineering Support Section No. 2, RC&ES Branch — 11/4/80 date signed

Inspection Summary:

Inspection on October 14-17, 1980 (Report No. 50-272/80-27; 50-311/80-20)
Areas Inspected: Routine unannounced inspection of the facility's Fire Protection/Prevention Program, including: administrative controls; fire brigade training; review and observation of plant modifications; and observation of critical plant fire areas. The inspection involved 30 hours onsite by one NRC regional based inspector.
Results: Of the four areas inspected, no items of noncompliance were identified in three areas; two items of noncompliance were identified in two areas (Infractions - paragraphs 2b and 4).

REPORT DETAILS

1. Persons Contacted

G. Barradale - Project Construction Manager
D. Caron - Reactor Operator
*R. Griffith - Senior Staff Engineer, QA
G. Ruane - Associate Construction Engineer
*H. Midura - Station Manager
R. Scaletti - Administrative Fire Chief
*R. Silverio - Assistant to Station Manager
R. Stanley - Principal Staff Engineer
*J. Stillman - Station QA Engineer
*L. Norrholm - NRC Senior Resident Inspector
*W. Hill - NRC Resident Inspector

*denotes those present at the exit interview

2. Fire Protection/Prevention Program Review

a. Administrative Controls

The inspector reviewed the licensee document titled, Fire Fighting and Organization Manual, revision 4, December 17, 1979.

The inspector verified that in sections 3.2; 3.3; 3.6; 3.7; 3.8 and 3.9 of the Manual the licensee has developed administrative controls which include:

(1) Special authorization for the use of combustible, flammable or explosive hazardous material in safety related areas.

(2) Prohibition on the storage of combustible, flammable or explosive hazardous material in safety related areas.

(3) Requirement for the removal of all wastes, debris, rags, oil spills or other combustible materials resulting from the work activity following completion of the activity or at the end of each work shift, whichever is sooner.

(4) Prohibition on smoking in safety related areas, except where "smoking permitted" areas have been specifically designated by plant management.

(5) Requirements for special authorization for activities involving welding, open flame, or other ignition sources and that they take cognizance of nearby flammable material, cable trays or critical process equipment.

During the tour of the plant, the inspector, through direct observation of several welding and grinding operations verified that the requirements outlined in the Fire Fighting and Organization Manual are being adhered to.

No items of noncompliance were identified.

b. Fire Brigade Actions and Training

The inspector reviewed the following licensee documents:

- Emergency Procedure Salem Generating Station, revision 12, August 18, 1980 - EP-II-6;
- Fire Fighting and Organization Manual, revision 4, December 17, 1979, Sections 2.2; 2.3; 5.2.

The inspector verified that the licensee developed a training curriculum for onsite fire brigade members which includes:

(1) Classroom instructions.

(2) Familiarization with and use of available fire fighting equipment, including self-contained breathing units.

(3) Practice sessions in fire fighting at the training facilities of Philadelphia Electric Company.

The inspector noted that according to the licensee's records, approximately one-half of the fire brigade members have not received training in fire fighting and in the use of emergency breathing equipment. The inspector also noted that a licensee employee without any training in fire fighting and the use of equipment was assigned to the five man fire brigade on September 18 and 19, 1980. Another licensee employee who was not qualified on the use of emergency breathing equipment and who was restricted from entering the Auxiliary Buildings was assigned to the fire brigade on October 14, 1980.

Amendment 21 to License No. 70, paragraph C5 states that "the approved fire protection plan consists of ... information submitted with letters of ... March 2, 1979."

The licensee's letter dated March 2, 1979 to the Nuclear Regulatory Commission in response to request for additional information related to fire protection review No. 1 and 2 Units Salem Nuclear Generating Station, states: "We comply with the supplemental guidance contained in 'Nuclear Plant Fire Protection Functional Responsibilities Administration Controls and Quality Assurance' dated June 14, 1977."

NRC document titled Nuclear Plant Fire Protection Functional Responsibilities, Attachment No. 2, Fire Brigade Training states: "The training should consist of ... classroom instructions, practice in fire fighting ... use of emergency breathing equipment .... Instructions should be provided to all fire brigade members...."

The inspector notified the licensee that this is an infraction level item of noncompliance. (272/80-27-01; 311/80-20-01)

The inspector reviewed the critiques of fire brigade drills held by the licensee during 1979 and 1980.

3. Fire Protection Modifications Required for Unit No. 1 and Unit No. 2

Fire protection modification requirements are detailed in the Safety Evaluation Report related to Amendment 21 to facility operating License No. DPR-70.

By review and examination of records, including, specifications, purchase orders, drawings, and associated quality assurance documents, and by examination of installed fire protection equipment throughout the plant, the inspector verified the licensee's implementation of scheduled modifications. The inspector verified that for all fire protection related modifications, the design and installation of equipment is in accordance with the codes and standards of the National Fire Protection Association. Also, all fire protection equipment is Underwriters Laboratories listed and/or Factory Mutual approved.

The inspector reviewed the licensee's Quality Assurance Manual, Vol. 2, QAI 2-13, revision 0, January 24, 1979, and determined that the licensee has a procedure for applying the QA program to fire protection modifications.

The inspector reviewed the following fire protection modifications listed in the Safety Evaluation Report:

Ventilation dampers and duct coatings

The inspector reviewed the design change requests (DCRs) which include the installation of 106, 1½ hour rated fire dampers and the placement of 1½ hour rated duct coatings in the Unit 1 and Unit 2 Auxiliary Buildings, control and relay rooms.

Water suppression systems

a. Auxiliary feed water pumps and charging pumps area, Units 1 and 2. DCR-1EC-617 and 2EC-619.

The inspector verified that the licensee is installing pre-action sprinkler systems including actuation devices and water shields for the electrical motors.

b. Fuel oil storage tanks, DCR 1EC-0689.

The inspector verified that the licensee is installing an automatic water spray system in the Unit 1 and Unit 2 fuel oil storage tank compartments.

Halon system

The licensee installed an automatic halon fire protection system to protect the Unit 1 and Unit 2 relay rooms. DCR-1EC692, DCR-2EC693.

The inspector also verified the installation of fire smoke detection devices over the Unit 2 fuel pool, and verified the installation of smoke detectors in the Unit 1 and Unit 2, Auxiliary building, containment building and control room cabinets.

4. Facility Tour

The inspector examined fire protection water systems, including fire pumps, fire water piping and distribution systems, yard fire protection equipment including indicator valves, hydrants and contents of hose houses. The inspector toured all accessible vital and nonvital plant areas and examined fire detection and alarm systems, automatic and manual fixed suppression systems interior hose stations, fire barrier penetration seals, and fire doors.

On October 16 the inspector witnessed an unannounced fire drill conducted by the licensee. Fire brigade response was acceptable, however, the fire pump failed to start automatically. By October 17, the licensee could not correct the problem with the fire pump, and a fire watch was stationed in the fire pump house to manually activate the pump when necessary. Also on October 17, the licensee obtained backup water supply from the Hope Creek site, through a 12 inch underground connection, by opening a normally closed valve between the two sites.

During the tour of the plant the inspector found that numerous doors marked as fire doors were blocked open in the Auxiliary Buildings of Units 1 and 2. The inspector also noted that in Unit 2, at elevation 100 ft. of the Auxiliary Building, fire doors to safety related areas, **including the mechanical penetration room and diesel generator control rooms, were blocked open.**

Technical Specification section 3.7.11 states:" All penetration fire barriers protecting safety related areas shall be functional .... at all times. With ... required penetration fire barriers non-functional establish a continuous fire watch within one hour."

The inspector interviewed a security guard in the area and verified that the fire doors have been blocked open for longer than one hour, and fire watch has not been established. The inspector notified the licensee that this is an infraction level item of noncompliance. (311/80-20-2)

5. Exit Interview

The inspector met with the licensee representatives (denoted in Details, paragraph 1) at the site on October 17, 1980, and summarized the purpose and scope of the inspection findings.