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

REGION I

Report No. 50-311/80-04

Docket No. 50-311

License No. CPPR-53 Priority -- Category B1

Licensee: Public Service Electric and Gas Company
80 Park Place
Newark, New Jersey 07101

Facility Name: Salem Nuclear Generating Station Unit No. 2

Inspection At: Hancocks Bridge, New Jersey and PSE&G Co. Corporate Offices in Newark, New Jersey

Inspection Conducted: March 5-7, 1980

Inspectors:

R. R. Kelmig, IE:RI — 3-25-80 date

R. Kelmig for
L. J. Norrholm, SNGS-NRC Resident Inspector — 3-25-80 date

R. Kelmig for
L. P. Crocker, NRR:DPM — 3-25-80 date

R. Kelmig for
F. R. Allenspack, NRR:QAB — 3-25-80 date

R. Kelmig for
B. M. Sternberg, IE:RV — 3-25-80 date

R. Kelmig for
T. N. Jackiw, IE:RIII — 3-25-80 date

Other Accompanying Personnel:

E. J. Brunner, IE:RI — date

E. Licitra, NRR:DPM — date

Approved by:

E. J. Brunner, Chief, Reactor Operations and Nuclear Support Branch — 3/28/80 date

Region I Form 12
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Inspection Summary:

Inspection on March 5-7, 1980 (Inspection Report No. 50-311/80-04)
Areas Inspected: Special, announced inspection (94 hours) by an NRC:NRR/IE Team (6 persons) of utility management and technical competence in the areas of: shift technical advisors; augmentation of plant staff for startup test program; independent safety review group; technical support center; onsite operational support center; onsite and offsite routine and emergency management and technical resources capability; dissemination of operating experiences; overtime use restrictions; and, plant NRC telephone lines.
Results: No items of noncompliance or deviations were identified.

DETAILS

1. Persons Contacted

R. Bast, General Manager - Engineering
H. Heller, Manager - Nuclear Operation
C. Johnson, Nuclear Plant Engineer
*F. Librizzi, General Manager - Electric Production
J. Lloyd, Senior Nuclear Curriculum Coordinator
*T. Martin, Vice President, Engineering and Construction
*H. Midura, Manager, Salem Nuclear Generating Station
H. Millis, Health Physicist
*R. Mittl, Manager - Licensing and Environmental
P. Moeller, Staff Engineer
*R. Salvesen, Manager - Hope Creek Station
F. Schneider, Vice President, Production
*R. Silverio, Assistant to Manager - SNGS
J. Skillman, Station Quality Assurance Engineer
R. Swetnam, Senior Performance Supervisor, Radiation Protection
*J. Zupko, Chief Engineer, SNGS

*Attended exit interview on March 7, 1980.

During the course of the inspection, other licensee staff and operating personnel were also interviewed.

2. Purpose of Inspection

The purpose of this inspection was to assess the plans for compliance by Public Service Electric and Gas Company (an applicant for a operating license for Salem Nuclear Generating Station - Unit No. 2) with the NRC's "Criteria for Utility Management and Technical Competence" Draft, dated February 25, 1980, in the general areas of routine and emergency onsite and offsite staff organization and technical resources.

3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Shift Technical Advisor

The objective of this portion of the inspection was to determine whether the applicant was prepared to implement the shift technical advisor (STA) staffing requirement/commitment by time of issuance of an operating license for Unit 2.

a. Documents Reviewed

The following reference and licensee documents were reviewed and discussed:

(1) NUREG-0578, "TMI Lessons Learned Task Force Status Report and Short Term Recommendations" dated July 1979.

(2) Clarifying documents for NUREG-0578 dated October 30 and November 9, 1979.

(3) American National Standard (ANS) 3.1 draft revision December 6, 1979, entitled "Standards for Qualification and Training of Personnel for Nuclear Power Plants."

(4) Station Manager Memorandum to Shift Technical Advisors dated December 18, 1979, and Revision 1, dated December 27, 1979.

(5) Records of education, training and work experience for eight engineers designated as STAs.

b. Findings

(1) No items of noncompliance or deviations were identified.

(2) A group of graduate engineers with at least one, and in some cases over five years experience at Salem have been selected as the interim STAs for 1980 until the permanent group receives 32 to 36 weeks of training. To comply with commitments made relative to the operating unit (Salem 1), these STAs are in place and on shift. All currently assigned STAs meet or exceed the experience and education requirements of ANS 3.1 (December 1979 draft).

(3) In certain cases, the STA may also be the test engineer for a startup test. All engineers assigned as STAs have plant experience and a number are qualified as test engineers with Salem 1 startup test experience.

(4) Discussions with STAs indicated that their functions and responsibilities had been defined for them. Training and indoctrination has been conducted for the interim STAs.

(5) STAs have the review and dissemination of operating experience as an included assignment. Details of how this is to be accomplished have not been developed. The STAs are receiving operational event information.

5. Augmentation of Plant Staff for Startup Test Program

The purpose of this portion of the inspection was to determine the degree of augmentation and assistance to be given the plant staff for the startup test program, including special testing.

In addition to discussions with personnel, the following document was reviewed: Startup Procedure - SUP 80.1 - NSSS Startup Sequence.

Findings

a. No items of noncompliance or deviations were identified.

b. Qualified test engineers will be assigned to shift coverage during startup tests. Review of personnel data for the test engineering staff revealed that the majority of the individuals have startup program experience at Salem Unit 1.

c. In addition to the test engineers in (2) above, shift coverage during testing will be provided by NSSS personnel for the special startup tests and through the low power physics test program.

d. It was noted that all startup test procedures were reviewed by vendor (Westinghouse) staff, including changes to the procedures. Test results will be reviewed by both Westinghouse and PSE&G Engineering personnel. The test program sequence is structured to require nine specific hold points, beyond which testing may not continue unless approved by the Station Operating Review Committee (SORC) after a review of test results to date.

e. The majority of operating staff also possesses experience gained from the Salem Unit 1 startup test program.

6. Independent Safety Review Function

The objective of this portion of the inspection was to determine whether the applicant has established or plans to establish an onsite safety engineering group to perform independent reviews of plant operational activities and engineering evaluation of the operating history of the plant and plants of similar design.

The following are the inspector's findings in this area:

a. No items of noncompliance or deviations were identified.

b. The current Station Operations Review Committee (SORC) and Station Quality Assurance staff (Unit 1) provide onsite reviews of plant operations. The review responsibilities of SORC are contained in Salem Unit 1 Technical Specifications.

c. The applicant takes the position that another independent group, which would duplicate the specific review functions of SORC, would be an ineffective application of resources. The applicant proposes, as an alternative, to increase the effectiveness of the existing SORC, by providing supplemental full time engineers to augment the SORC and assigned onsite. Four engineers with this review responsibility will be assigned by core load, and will function within the framework of the existing Committee.

d. Establishment of this independent review function within the SORC, as a full time activity, is an open item and will be reviewed for acceptability by NRR and during a subsequent inspection. (311/80-04-01)

7. Onsite Technical Support Center (TSC)

The objective of this portion of the inspection was to determine whether the applicant has established an onsite technical support center that has the capability to display and transmit plant status to these individuals who are knowledgeable of and responsible for engineering and management support of reactor operations in the event of an accident.

a. Documents Reviewed

-- Response to letter from NRC, Division of Operating Reactors, dated September 13, 1979.

-- Response to letter from NRC, Office of Nuclear Reactor Regulation, dated October 30, 1979.

-- Emergency Plan, submittal #2, dated January 25, 1980.

-- Letter from F. P. Librizzi to NRC:NRR, dated January 2, 1980.

-- Draft Acceptance Criteria - Utility Management and Technical Competence, dated February 25, 1980.

b. Findings

The following findings include the inspector's verification of actions taken by the applicant with regard to commitments made in the above documents.

(1) As stated in the applicant's responses, a temporary TSC has been established in the Clean Facilities Building.

(2) Communication in the TSC include fifteen telephones for general communication and are a combination of outside lines and extensions on the Salem station telephone system.

(3) The Salem Station Emergency Plan establishes a primary and secondary Emergency Duty Officer (EDO). The Emergency Duty Officers are "on call" for a two week period. The EDO is provided with a vehicle equipped with two-way communications equipment. The EDO is required to be at the TSC within two hours of notification by the Senior Shift Supervisor.

(4) Plant information display in the TSC consists of data links to each unit's plant computer. In addition, a typewriter terminal is available in the TSC with capability to access any of the plant data stored in the computer.

(5) Emergency Plan Implementation procedures are being revised to provide specific staffing requirements and responsibilities of management and engineering support personnel. Procedure revisions will be available at the time of fuel load and will be integrated with the accident mitigation and recovery procedures by August 1980. These procedures will be reviewed during subsequent NRC inspections. This is an open item. (311/80-04-02)

(6) Long term modification requirements for the TSC have been identified by the applicant and will include: installation of dedicated HVAC system; radiation shielding; and, emergency power.

(7) No items of noncompliance or deviations were identified.

8. Onsite Operational Support Center (OSC)

The objective of this portion of the inspection was to determine whether the applicant has established a primary operational support

area, to be designated as the onsite operational support center, for shift personnel to be in direct communications with the control room and operations managers for assignment to duties in support of emergency operations.

a. Documents Reviewed

-- Response to letter from NRC, Division of Operating Reactors, dated September 13, 1979.

-- Response to letter from NRC, Office of Nuclear Reactor Regulation, dated October 30, 1979.

-- Emergency Plan submittal #2, dated January 25, 1980.

-- Letter from F. P. Librizzi to NRC:NRR, dated January 2, 1980.

-- Draft Acceptance Criteria - Utility Management and Technical Competence, dated February 25, 1980.

b. Findings

The following findings include the inspector's verification of action taken by the applicant with regard to commitments made in the above documents.

(1) The OSC has been established in the area enclosed between the Unit 1 and Unit 2 Control Rooms.

(2) Communications from the OSC are available to the control rooms, other station extensions, and offsite.

(3) Emergency Plan Implementation procedures are being reviewed and will address specific staffing requirements of the OSC. Procedure revisions will be available at the time of fuel load and will be integrated with the accident mitigation and recovery procedures by August 1980. These procedures will be reviewed during subsequent NRC inspections. This is an open item (311/80-04-03).

(4) No items of noncompliance or deviations were identified.

9. On-Site Staff Organization and Technical Competency

The objective of this part of the inspection was to review the management and technical capability of the Salem Unit 2 nuclear plant staff. In performing this task, the plant staff organizational arrangement, responsibility, authority, and qualifications of plant staff principal personnel, shift crew composition and interfacing of principal personnel with offsite groups supporting the operation of the Salem nuclear plant were reviewed.

a. Documents Reviewed

(1) Salem Nuclear Generating Station FSAR Section 12

(2) Regulatory Guide 1.8

(3) Draft ANS 3.1 dated 12/6/79

(4) Site Emergency Plan

In addition, the qualifications of principal plant personnel were reviewed and the following personnel were interviewed:

Station Manager - H. Midura
Chief Engineer - J. Zupko
Assistant to Manager - R. Silverio
Operating Engineer - F. Schnarr
Reactor Engineer - J. Nicolls
Maintenance Engineer - S. Labruna
Performance Engineer - L. Miller
Performance Supervisor - Instruments & Controls - J. Ronafalvy
Training Supervisor - J. Lloyd (offsite)

b. Findings

(1) The licensee's emergency plans do not establish specific lines of authority and establish responsibility for those persons reporting to the site to provide technical support to the plant staff in the event of an emergency. (See Paragraph 8.b.(3).)

(2) The procedures for onsite operating experience evaluation capability and dissemination of operating experiences need to be improved and formulated.

(3) The procedures for assuring that operating experiences are included, as necessary, in the training program need to be formalized.

Relative to items (2) and (3) above, although operating experiences from the Salem plant and some other facilities are routinely routed to operators and training personnel, the practice is informal and there is little evaluation, followup or discussion of the experiences.

The applicant is in the process of determining how to accomplish this task in conjunction with the Safety Review Group and Shift Technical Advisors and has committed to having formal procedures in place at the time of fuel loading. This is an open item and will be reviewed during a subsequent NRC inspection (311/80-04-04).

(4) The shift crew composition for the operation of each unit at the Salem Nuclear Plant will include one senior licensed operator, two licensed operators, and two unlicensed operators. In addition, one health physics technician will be assigned to the site at all times. One senior licensed operator, licensed on Unit 2 will be required to be stationed in the control room area at all times Unit 2 is operating.

(5) The Salem Nuclear Plant has an administrative memorandum limiting licensed personnel to no more than 12 hours or work per day.

(6) The Senior Training Supervisor and his staff have been transferred recently to a new offsite training center. He reports to Manager Methods, Department of Electrical Production, in the applicant's corporate office. Training coordination with the offsite training center has been assigned to the Assistant to the Manager of the station who is a member of the plant staff.

(7) No items of noncompliance or deviations were identified.

10. Off Site Staff Organization and Technical Competency

The objective of this part of the inspection was to review the organization and the management and technical capabilities of the applicant's offsite staff. In performing this task, the utility corporate organizational structure and the responsibilities and qualifications of the principal corporate officers who deal with the utility's nuclear plants were reviewed. The interface arrangements between the corporate officials and the Salem plant staff and the means by which the corporate management stays informed about the Salem plant status and invovled in matters pertaining to plant safety were examined also.

a. Documents Reviewed

(1) Draft Criteria for Utility Management and Technical Competence, dated February 25, 1980.

(2) Section 6.0, Administrative Controls to the draft Technical Specifications for Salem Unit 2.

In addition, the utility organizational structure was examined, the qualifications of the principal corporate officers who deal with the Salem Unit 2 facility were reviewed and the following corporate officials were interviewed:

Vice President - Engineering and Construction	- T. J. Martin
General Manager Production	- F. P. Librizzi
General Manager - Licensing and Environment	- R. L. Mittl
Manager - Nuclear Operations	- H. J. Heller
Nuclear Licensing Engineer	- P. A. Moeller

b. Findings

(1) The corporate management of Public Service Electric and Gas Company is sufficiently involved in matters affecting Salem Unit 2 to assure a continual understanding of plant conditions and safety considerations. Corporate level meetings are held on a virtual daily basis to assure that corporate management is aware of the status of and any problems that have developed at the Salem Nuclear Station and other power plants. While there is not a documented procedure covering

these meetings and formal meeting minutes are not maintained, these daily management meetings appear to accomplish the functions of senior management oversight desired by the staff.

(2) Procedures covering accident mitigation and recovery for both the onsite and offsite resources are not now in place. The utility has committed to having these procedures documented by August 1980. This is an open item and will be reviewed in a subsequent NRC inspection. (311/80-04-05)

(3) The utility has committed to provide two months of specialized nuclear training to the individual designated to be the Public Information Manager during accident mitigation and recovery efforts.

(4) No items of noncompliance or deviations were identified.

11. Offsite Technical Staff Resources and Training

The objective of this part of the inspection was to determine whether the applicant maintained a technically qualified staff offsite, in addition to the technical group on the plant staff, to provide support to the plant staff in performing the following functions: review operating abnormalities; review plant system problems and performance; review and propose corrective action for equipment malfunction; perform and/or oversee plant design changes and modifications; support major maintenance efforts; evaluate and provide response to NRC bulletins and orders; establish and monitor contracted work; and, establish training, security, and emergency plans.

The technical capabilities, qualifications and staffing levels of the offsite staff in the following areas were examined: nuclear, mechanical, structural, electrical, thermal-hydraulic and fluid systems; metallurgical, materials, instrumentation and controls engineering; plant chemistry; health physics; fueling and refueling operations support; maintenance support; technical and engineering management; and, operational management.

In addition, the training provided to those personnel who provide technical support to the plant staff was examined.

a. Documents Reviewed

Draft Criteria for Utility Management and Technical Competence, dated February 25, 1980.

In addition, the organizational structure for the company's major divisions was reviewed and resumes of key managers and staff and their technical experience were examined.

b. Findings

(1) The applicant's current staff exceeds the minimum required staff qualifications and technical capabilities.

(2) A majority of the individuals who specified, designed and maintain the design of the Units 1 and 2 plant systems are still employed by the applicant.

(3) No formalized training program has been implemented although no specific weaknesses with the current informal training activities were identified. The applicant has committed to develop and implement formal training procedures by August 1980. This is an open item and will be reviewed in a subsequent NRC inspection. (311/80-04-06)

(4) No items of noncompliance or deviations were identified.

12. Communications

The purpose of this portion of the inspection was to ensure that telephone communications between the plant and NRC are in-place and operable. The inspectors found that NRC OPX communications (direct "hot line") to NRC headquarters are installed in each control room, the Shift Supervisor's office, the Technical Support Center and the NRC Resident Inspector's office. Also, NRC SS-4 communications (health physics network) are installed in the health physics office, the Technical Support Center, the near-site Emergency Operations Center and the NRC Resident Inspector's office. These telephones are currently in use at Salem Unit No. 1 and are periodically and routinely checked for operability.

13. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable items, items of noncompliance or deviations. No unresolved items were identified during this inspection. However, six items remained open at the conclusion of the inspection pending the applicant's actions with regard to these matters and the NRC's staff's findings relative to the adequacy of those actions. These items will be reviewed in a subsequent NRC inspection. (See paragraphs 6, 7.b.(5), 8.b.(3), 9.b.(2) and (3), 10.b.(2) and 11.b.(3)).

14. Exit Interview

The inspectors met with the applicant's representatives (denoted in Paragraph 1) at the conclusion of the inspection on March 7, 1980. The findings of the inspection were presented and the applicant's representatives acknowledged these findings.