

U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 50-272/91-17; 50-311/91-17
License No. DPR 70; DPR 75
Licensee: Public Service Gas and Electric Company
P.O. Box 236
Hancocks Bridge, New Jersey 08038
Facility Name: Salem Units 1 & 2
Inspection At: Hancocks Bridge, New Jersey
Inspection Conducted: June 10 - 14, 1991

Inspectors:

D.R. Taylor for
W. Baunack, Sr. Reactor Engineer

6/27/91
Date

D.R. Taylor
D. Taylor, Reactor Engineer

6/27/91
Date

Approved by:

N. Blumberg for
N. Blumberg, Chief, PPS, DRS

6/28/91
Date

Inspection Summary: Inspection on June 10 - 14, 1991 (Inspection Report Nos. 50-272/91-17 and 50-311/91-17)

Areas Inspected: Routine unannounced safety inspection by two region-based inspectors to review the control of station procedures, the licensee's Procedure Upgrade Project and the newly issued Nuclear Administrative Procedures.

Results: The licensee's control of station procedures was found to be adequate. Improvement has been noted in the Procedure Upgrade Project. Some concern was noted with the issuance of several Nuclear Administrative Procedures.

DETAILS

1.0 Persons Contacted

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

2.0 Review of Facility Procedures (42700)

2.1 Verification of the Licensee's Review and Approval Process

Various procedures were selected at random and reviewed to verify that technical specification requirements for review and approval of procedures are being complied with. (Documents reviewed during the inspection are identified in Attachment 2). Since the licensee is currently implementing a Procedure Upgrade Project (PUP), all procedures selected for review were selected from new procedures issued as part of the PUP. A PUP manual specifies the process for the development, review, and control of procedures which fall under the scope of PUP.

The PUP manual describes a review process which is significantly expanded over that which is required by the technical specifications. The review of complete packages from PUP procedures, which have been issued, verified that adequate reviews had been performed. Typical documents associated with review included in a procedure package are: a procedure review signoff sheet (which includes verification by a Station Qualified Reviewer (SQR) review), a Procedure Review and Comment Form, a Discrepancy Evaluation Form, 10 CFR 50.59 Review and Safety Evaluation, an Implementing Department Review, and various checklists associated with reviews.

Overall, the review of procedures issued as part of the PUP included the reviews required by technical specifications. Technical Specifications require a review by an SQR independent of the procedure preparer. Administrative procedures were verified to have received Station Operations Review Committee (SORC) reviews as required.

2.2 Verification that Procedure Changes were made to Reflect Technical Specification Revisions

The procedure changes required by three recently issued Technical Specification Amendments (Amendment Nos. 101, 102, and 103) were verified to have been incorporated into Station Procedures. In addition, the licensee's process for assuring that license amendments are incorporated into appropriate documents was reviewed. Station Administrative Procedure AP-12, "Technical Specification Surveillance Program," describes the responsibilities of the station licensing engineer and the technical specification administrator as they pertain to the verification that license changes are incorporated

into appropriate documents. The records associated with the three amendments selected were complete and demonstrated that procedural requirements had been adhered to in the processing of these amendments.

2.3 Verification that Procedure Changes were made in Accordance with 50.59 Requirements

Licensee Procedures NC.NA-AP.ZZ-0032(Q), "Preparation, Review and Approval of Procedures," and NC.NA-AP.ZZ-0059(Q), "10 CFR 50.59 Reviews and Safety Evaluation," provide the instructions necessary to assure that new or revised procedures are reviewed to assure that the requirements of 10 CFR 50.59 are evaluated. For the newly-issued PUP procedures discussed in Paragraph 2.1, the 10 CFR 50.59 reviews and safety evaluations were verified to have been performed in accordance with procedural requirements and were observed to be detailed and comprehensive.

2.4 Verification that On-The-Spot Changes to Procedures were Adequately Controlled

The technical specification requirements as well as additional requirements related to the preparation of the on-the-spot changes (OTSCs) to procedures are described in Licensee Procedure NC.NA-AP.ZZ-0032(Q) (NAP-32), "Preparation Review and Approval of Procedures." The inspectors identified that the review requirements for temporary OTSCs were not as clear as the requirements for OTSCs which became permanent procedure changes. This was discussed with the licensee. The licensee indicated that a major revision to the procedure is in the review process and is expected to be issued in July. OTSCs are one area for which a clarification is planned.

The adherence to the requirements for OTSCs was verified by a random sampling of completed OTSCs. In all but one instance the changes were made in accordance with requirements. One OTSC correcting a typographical error to Procedure SC.ND-CM.115-0001, "10 KVA Uninterruptible Power Supply Trouble Shooting and Repair," prepared on March 7, 1991, was found not to have received the 14 day review and approval required by the technical specifications at the time of this inspection.

When the licensee was informed of this matter, the required review was performed and a Plant Incident Report was prepared. In addition, the licensee performed a 100% detailed review of all OTSCs made since 1984. This review identified 684 OTSCs. Of these 684, three additional OTSCs were identified which did not receive the required 14 day review. None of the three additional OTSCs were made since the new Administrative Procedure, NAP-32 was issued. Based on inspection findings as well as the review performed by the licensee, it is concluded that adequate measures are in place to assure OTSCs are reviewed as required and that the one identified since the new procedure was issued is an isolated instance.

2.5 Verification of Procedure Technical Content

One system operation procedure and one maintenance procedure were reviewed for technical content, instruction compatibility with checklists, and appropriate technical information. No deficiencies were noted. To further evaluate the technical content of newly issued PUP procedures, discussions were held with operations and maintenance personnel who were users of these procedures. Based on these discussions, it was determined that the newly issued PUP procedures are technically adequate.

2.6 Verification That Procedures in Working Files are Current

To verify that working files of procedures are current, a group of randomly selected operations and maintenance procedures were selected from the docket room computer listing. The up-to-date listing of revisions for these procedures was compared to revisions contained in the control room and maintenance department working files. In each instance, working files contained the latest revision of the procedure.

The inspectors noted that several OTSCs were still indicated on the computer for certain procedures for which the OTSC was no longer applicable. The licensee indicated this matter would be reviewed.

3.0 Procedure Upgrade Project

The status of the licensee's Procedure Upgrade Project (PUP) was reviewed. Salem's PUP was developed in June of 1989 as an initiative to reduce the number of procedure related errors resulting, in part, from inadequate procedures. During its onset, the project encountered significant problems which still affect it today. A number of these problems were reported in previous NRC Inspection Report No. 50-272/90-81; 50-311/90-81 and Salem's last SALP. This inspection provides a current update of the project and an assessment of the quality of procedures being developed by the PUP. In addition, this inspection details the actions initiated by the licensee to overcome setbacks initially experienced with the project.

In an attempt to enhance the project, the PUP was reorganized around September of 1990. A new Project Manager and additional staff were assigned. At that time, an adjustment to the project schedule was generated which more realistically reflected future goals for PUP progress. As of June 9, 1991, 746 procedures had been issued and the upgrade project was estimated by the licensee to be about 33% complete. The total scope of the project includes the issuance of about 3950 procedures and is scheduled to be finished by December 1992. The inspectors review of the status as of May 31, 1991, indicates the project to be once again behind its projected schedule. However, a recovery schedule has been initiated. A large part of the delays are attributed

to the last site outage. Affected the most by the outage were the reviews and approvals conducted by plant personnel not directly involved with PUP. With the completion of the outage, increased progress in this area has been noted.

A review of randomly selected approved maintenance, I&C, and operations procedures was conducted to assess their quality. In general, the procedures being approved for use are of good quality, and no technical errors were noted. However, the inspector's review showed that PUP's earlier draft procedures issued for user review were poor. This was evident by the numbers and types of comments being generated by the plant staff. A similar review of more recently completed procedures indicated the quality of draft procedures to be much better. Although the newer procedures are of higher quality, there are still inconsistencies with format and content. Two years into the project, the licensee has still not developed a standard to manage such concerns. Examples noted by the inspectors included:

- Drawings incorporated into procedures were inconsistent. Some drawings were high quality computer generated while others were reproduced from manuals and of less quality.
- Wording of "standard paragraphs" varied.
- Methods used to mark steps to point out certain requirements are inconsistent. Some procedures mark a step number whereas others mark the enclosure which records the data required by the step.
- Several methods exist to mark steps requiring independent verification.

The inspectors noted that inconsistencies in procedures have been previously identified by the licensee and that actions have been taken or are planned to improve procedures in this area. These and other improvements are discussed below.

- Considerable improvements in the PUP manual were made with the issuance of QA-PJ-ZZ-1013(Q) in April 1991. Additional improvements are in the process of being made.
- An administrative standard for format and content has been developed. The standard is expected to be approved by mid-July.
- Computer software used to develop procedures is in the process of being upgraded.
- New graphics software has been purchased, and additional dedicated staff has been added for the purpose of enhancing drawings.

- Human Factors training has been given to all the PUP staff.
- A quality committee was organized in late 1990. The committee has made recommendations on human factors and procedure consistency.
- A quality indicator was developed to track changes made to PUP approved procedures. As more procedures are used in the field, the data generated by this indicator will become useful in determining PUP effectiveness and quality.

Overall, improvements have been made by the licensee in the PUP project. The initial slow start achieved by PUP is being rectified by the many ongoing refinements. The project continues to remain behind schedule; however, progress is being made. Although inconsistencies still appear to be a problem, the licensee is working to improve in this area. The quality of procedures which have been issued appears to be good.

4.0 Nuclear Administrative Procedures

During the review of PUP, the inspectors noted several deficiencies with governing administrative procedures. Based on the perceived weakness, a limited review of Nuclear Administrative Procedures (NAPs) was performed. The utility is in the process of upgrading and consolidating Hope Creek and Salem administrative procedures into NAPs. NAPs are being developed to govern the administrative requirements for the entire site. Specifically, the inspectors reviewed NC.NA-AP.ZZ-32(Q), Rev. 0, "Preparation and Approval of Procedures," and NC.NA-AP.ZZ-0001(Q), Rev. 2, "Nuclear Department Procedure System." During their review, the inspectors noted several deficiencies. Examples of the types of deficiencies found are described below:

- The inspectors noted that procedures referenced by both NAP-1 and NAP-32 were not yet issued. Both of these documents have been in effect for greater than eight months; however, referenced documents still do not exist.
- Step 4.3.6 of NAP-1 governs maintaining a procedure writer's guide. Specifically, Step 4.3.6.a states that the procedure writer's guides shall be maintained as controlled documents and shall reflect the requirements of this procedure and NAP-32. The procedure writer's guides are not currently controlled documents. Further, the document number referenced as the implementing procedures writer's guide does not exist.

Based on these and other errors, the inspectors were concerned that administrative procedures were being sent to SORC for review while containing known errors. The inspectors brought this to the attention of the procedures sponsoring organization. The Department Manager responsible for the procedures stated that both of these items were covered by the

implementing requirements listed on the cover page to NAP-32. Further, SORC was made aware of the inaccuracies prior to their recommending the procedure for approval. However, eight months after both procedures were approved, requirements and references listed in the procedures were still not being implemented or issued. The inspectors noted that both procedures have drafts in the review process. These drafts significantly revise the procedures and comprise improvements in many areas. The difficulty of issuing procedures which impact such a wide range of station activities is recognized. Nevertheless, the importance of providing accurate administrative procedures cannot be minimized. The inspectors had concern for the quality of procedures going out for review; however, based on the limited scope of the review, no conclusions could be drawn.

5.0 Exit Meeting

Licensee management was informed of the scope and purpose of the inspection at the entrance meeting conducted on June 10, 1991.

The findings of the inspection were discussed periodically with licensee representatives during the course of the inspection. An exit was conducted on June 14, 1991, at which time the findings of the inspectors were presented.

Attachments:

1. Persons Contacted
2. Documents Reviewed

ATTACHMENT 1

PERSONS CONTACTED

Public Service Electric and Gas Company

*G. Bachman, Principal Joint Owner Representative
*D. Budzik, Maintenance Engineer
*T. Cellmer, Radiation Protection and Chemistry Manager
*B. Connor, Technical Staff Engineer
B. Cornman, Operations Procedure Writer
*P. Duca, Delmarva Power
N. Dyck, Principal Engineer, QA/NSA
C. Fenton, Senior Staff Engineer, QA
*A. Giardino, Manager QA Programs and Audit
E. Hemmila, Technical Assurance Supervisor, PUP
W. Holmes, Nuclear Shift Supervisor
*E. Liden, Manager, Offsite Safety Review
*M. Morroni, Technical Department Manager
*J. Pantazes, Procedure Upgrade Project Manager
*E. Villar, Station Licensing Engineer
*C. Vondra, General Manager, Salem Operations
F. Wiltsee, Operations Supervisor, PUP

United States Nuclear Regulatory Commission

S. Barr, Resident Inspector
S. Pindale, Resident Inspector
T. Johnson, Senior Resident Inspector

During the course of this inspection, the inspectors contacted other members of the licensee's technical and administrative staffs.

*Denotes those present at the exit meeting held on June 14, 1991.

ATTACHMENT 2

DOCUMENTS REVIEWED

SI/S2.OP-SO.RHR-0002(Q), Rev. 0,	Terminating RHR
SC.MD-PM.ZZ-0040(Q), Rev. 0,	Disassemble, Inspect and Reassemble Mark A-116 Check Valves
SI.OP-SO.RHR(Q), Rev. 0,	Filling and Venting the RHR System
SC.MD-CM.AF-0001(Q), Rev. 13 and 23	Auxiliary Feedwater Terry Turbine Tappet Replacement
OP-II-4.3.2, Rev. 10,	Filling and Venting the Safety Injection System
SI.OP-ST.SJ-0012(Q), Rev. 0,	Emergency Core Cooling - ECCS Throttle Valves
SI.OP-SO.DG-0003(Q), Rev. 0,	IC Diesel Generator Operation
NC.NA-AP.ZZ-0001(Q), Rev. 2,	Nuclear Department Procedure System
NC.NA-AP.ZZ-0032(Q), Rev. 0,	Preparation, Review and Approval of Procedures
QA-PJ.ZZ-1031(Q), Rev. 0,	Procedure Upgrade Project Manual
AP-12, Rev. 10,	Technical Specification Surveillance Program
NC.NA-AP.ZZ-0059(Q), Rev. 0,	10 CFR 50.59 Reviews and Safety Evaluations
	Nuclear Department Procedure System Transition Plan
	Technical Specification Amendments, 101, 102, and 103