

**U.S. NUCLEAR REGULATORY COMMISSION
REGION I**

Report Nos: **50-387/90-18**
 50-388/90-18

Docket Nos: **50-387**
 50-388

License Nos: **NPF-14**
 NPF-22

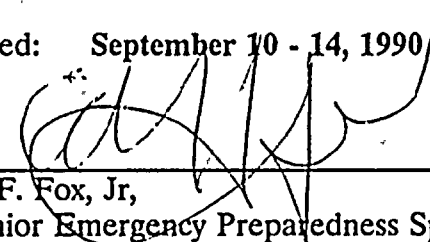
Licensee: **Pennsylvania Power and Light Company**
 2 North Ninth Street
 Allentown, Pennsylvania 18101

Facility Name: **Susquehanna Steam Electric Station, Units 1 & 2**

Inspection At: **Berwick, Pennsylvania**

Inspection Conducted: **September 10 - 14, 1990**

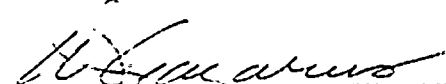
Inspector:



E. F. Fox, Jr,
Senior Emergency Preparedness Specialist
Emergency Preparedness Section

9/26/90
date

Approved by:



W. J. Lazarus, Chief,
Emergency Preparedness Section,
Facilities Radiological Safety
and Safeguards Branch

9/27/90
date

Inspection Summary: Inspection on September 10-14, 1990 (Report Nos. 50-387/90-18 and 50-388/90-18)

Areas Inspected: Routine, announced safety inspection of the emergency preparedness program including review of previously identified inspection findings, changes to the emergency preparedness program, review of organization and management control, inspection of independent program audits, and inspection of emergency response training.

Results: No violations or deviations were identified. The licensee's Emergency Preparedness Program is being maintained in a state of operational readiness.

DETAILS

1.0 PERSONS CONTACTED

The following Pennsylvania Power and Light Company personnel were contacted during the course of the inspection:

- Blakeslee, J.A., Assistant Plant Superintendent
- DiDomenico, W.G., Unit Supervisor
- * Doty, R.L., Supervisor, Radiological and Environmental Services
- Dresser, N., Nuclear Emergency Planner
- Evans, D.W., Asst. Unit Supervisor
- Ferentz, R., Security System Coordinator
- Gaudreau, R., Supervisor, Security Training
- Gribble, R., Assistant to Security Supervisor
- Hackenberg, J., Shift Supervisor
- * Heffelfinger, D.R., Coordinator, Engineering/ Nuclear Quality Assurance
- Hirt, J.A., Shift Technical Advisor
- Kaplan, I., Manager, Emergency Information Services
- Kuczynski, G.J., Technical Supervisor
- * Lex, J.H., Supervisor, Nuclear Health Physics/Chemistry Training
- * Minneman, J.M., Supervisor, Nuclear Emergency Planning
- Peal, R.M., Operations Training Supervisor
- * Prego, R.J., Supervisor, Quality Assurance - Operations
- Riley, P.D., Acting Supervisor, Audits Group
- * Roszkowski, C.J., Senior Emergency Planner
- * Roth, D.F., Senior Compliance Engineer
- * Stanley, G., Plant Superintendent
- * Tabor, W., Emergency Preparedness Analyst
- Taylor, P., Lead Shift Technical Advisor
- * Whirl, C.R., Asst. Manager, Nuclear Quality Audits - Operations

The following NRC personnel were contacted during the course of this inspection:

- * G. Barber, Senior Resident Inspector
- * J. Stair, Resident Inspector

- * Denotes attendance at exit meeting on September 14, 1990.

2.0 ADMINISTRATIVE CORRECTIONS

2.1 Section 2.0 of NRC Region I Combined Inspection Report 50-387/89-23 and 50-388/89-21, dated August 17, 1989, listed as Closed, items 50-387/89-02-04 and 50-388/89-02-04. These items were misnumbered and should have been 50-387/89-02-03 and 50-388/89-02-03. See section 3.2 of this report for the status of these items.

2.2 In the same section as above, items 50-387/89-02-05 and 50-388/89-02-05 were identified as Open. These items were misnumbered and should have been 50-387/89-02-04 and 50-388/89-02-04. They were subsequently Closed in NRC Region I Combined Inspection Report 50-387/90-07 and 50-388/90-07 dated May 10, 1990.

3.0 LICENSEE ACTIONS ON PREVIOUSLY IDENTIFIED ITEMS

The following items were identified during previous inspections. Based upon a review of the Emergency Plan and Implementing Procedures and interviews with Pennsylvania Power and Light Company personnel, the status of those items is as follows.

3.1 (Closed) (50-387/86-10-02 and 50-388/86-10-02) UNR: TSC does not appear to have any source of emergency lighting during a station blackout. The inspector interviewed cognizant licensee personnel and determined that the Engineering Design Package had been completed, planning had been completed on-site, and Work Authorizations (PMR# 89-9174) are in place. The licensee committed to complete work by the end of 1990, however, work would not be started until the current outage is over. (see section 4.2)

3.2 (Closed) (50-387/89-02-03 and 50-388/89-02-03) UNR: Security EAL for Alert Classification too restrictive. This item was closed in NRC Region I Combined Inspection Report 50-387/89-23 and 50-388/89-21, dated August 17, 1989, based upon a satisfactory review of the revised Security Alert Emergency Action Level. It was reopened in NRC Region I Combined Inspection Report 50-387/90-07 and 50-388/90-07, dated May 10, 1990, because all EALs should be reviewed and evaluated to assure they are clear and unambiguous. This item is being administratively closed and a new unresolved item is being open to capture the review and evaluation of EALs to assure they are clear and unambiguous. That review was on going at the time of this inspection. (see section 4.7)

3.3 (Closed) (50-387/89-02-05 and 50-388/89-02-05) UNR: Review implementing procedures to assure that changes in methodology and philosophy are appropriately incorporated and personnel are properly trained. The inspector reviewed Position Specific Procedures (PSPs) which have been implemented thus far by the licensee and conducted a walk-through with a representative shift. It was determined that all key positions have a PSP in place, personnel are cognizant of the changes, and have been appropriately trained.

3.4 (Closed) (50-387/89-23-01 and 50-388/89-21-01) UNR: Review of the checklist for the 1987 and 1988 Quality Assurance Audit (QAA) of the Emergency Preparedness Program (EPP) indicated a determination was not made reference the basic frame work of the EPP meeting the planning standards of 10 CFR 50.47(b) and the adequacy of interface with State and local agencies was not performed. The inspector reviewed the



1989 QAA of the EPP (89-093), dated February 9, 1990, as well as the checklist for that audit and determined that the audit had satisfactorily reviewed the conformance of the EPP with the planning standards of 10 CFR 50.47(b) and evaluated the adequacy of the interface between the licensee and the State and local agencies. (see section 4.5)

4.0 OPERATIONAL STATUS OF THE EMERGENCY PREPAREDNESS PROGRAM

4.1 Emergency Plan and Implementing Procedures

In order to verify that major or significant changes to the Emergency Preparedness Program (EPP) have not adversely affected the licensees overall state of emergency preparedness and have been appropriately incorporated into the licensee's Emergency Plan (EP) and Emergency Plan Implementing Procedures (EPIPs), the inspector reviewed changes which had been made since the last inspection, revisions 12 through 14, with cognizant licensee personnel.

The licensee has developed Position Specific Procedures (PSPs) for Emergency Response Organization (ERO) positions in order to address concerns identified by the NRC during recent inspections. The many tasks in several procedures are now consolidated into a PSP. Review and updating of the PSPs is the responsibility of the position functional lead and is controlled through plant administrative procedure NDI-QA-3.1.2, Controlled Changes to Licensing Documents, and AD-QA-102, Plant Operating Review Committee. The Document Control Center sends controlled copies of revisions to all EP assignees. Personnel are trained in the procedures prior to their implementation. This and minor changes which had been made were determined not to have adversely affected the overall state of emergency preparedness and had been appropriately incorporated into the plan.

The inspector reviewed the licensee's internal process for the review of proposed EP and EPIP changes for compliance with the requirements of 10 CFR 50-54(q). The existing process assures that appropriate reviews are performed and that the effect of the proposed change on EP effectiveness is adequately addressed. The licensee is cognizant of the need to submit a proposed change to the NRC in accordance with 10 CFR 50.4 when internal licensee review results in a decision that NRC approval is necessary prior to the implementation of the change.

Based upon the above review, this portion of the licensee's Emergency Preparedness Program is acceptable.

4.2 Emergency Facilities, Equipment, Instrumentation, and Supplies

In order to verify that key facilities and equipment are adequately maintained, to determine that changes made since the last inspection are technically adequate, meet NRC requirements, licensee commitments, have been appropriately incorporated into the

EP and EPIPs, and to determine if any changes had been made, that had not adversely affected the licensee's emergency preparedness program, the Control Room (CR), the Operational Support Center (OSC), the Technical Support Center (TSC), the Emergency Operations Facility (EOF), the Backup EOF, the Media Operations Center (MOC) and the Office of Special Assistant of the President, which serves as the MOC at the Unusual Event and Alert emergency classification levels, were inspected.

The CR and the OSC (Shift Supervisors office) are collocated and equipment and supplies were in agreement with procedures. Controlled copies of the EP and EPIPs were in place and instrumentation was in calibration. The TSC meets the same habitability requirements as the CR and it was determined that controlled copies of the EP and EPIPs, instrumentation was calibrated and supplies and equipment were in agreement with licensee procedures for the TSC. As discussed in section 3.1, the licensee has committed to install emergency backup lighting in the TSC by the end of 1990. Additionally on its own initiative, the licensee is planning to remodel the TSC to improve the quality of it with respect to noise and human factoring.

The EOF, which is within the Emergency Planning Zone, meets the requirements of NUREG 0737, Supp 1, with respect to habitability. Controlled copies of the EP and EPIPs are in place as well as procedure EP-IP-052 which establishes appropriate thresholds to determine the requirement for and decision to relocate to the Backup EOF. The EOF contains adequate space and facilities to support the emergency response. The equipment and supplies are in accordance with procedures and instrumentation was determined to be in calibration. The inspector observed, on September 12, 1990, a successful test of the Emergency Diesel (ED) which is conducted each Wednesday at 7:30 AM and observed a portion of the preventative maintenance being performed on it. It was noted that although the test is conducted each week, there are no records maintained other than personal observation that the tests were satisfactory. The licensee acknowledged this concern and stated it would be reviewed. The ED is sized for complete operation of the EOF. In addition to the ED, the EOF has an Uninterruptible Power Supply system which is a static design with rectifier, batteries, and inverter being the main components. This system is sized to carry all critical loads should the ED be lost.

The Backup EOF, at the old Auditorium, Hazleton Service Center, Bitterwood Street, Hazleton, Pa., is approximately 30 miles from the EOF. Travel time is estimated to be thirty two minutes. Adequate facilities are available and maps, status boards, etc are stored there. Although communication drops and radio antennae are present, the equipment for dose assessment and communications would have to be transported from the site to the Backup EOF and installed. The inspector discussed this with the licensee and noted that this arrangement appears to be acceptable. Relocation to the Backup EOF should be tested in a future drill/exercise.

The Office of the Special Assistant of the President, in Berwick, Pa., is used as the Media



Operations Center (MOC) at the Unusual Event and Alert classification levels. At the Site Area Emergency and General Emergency the MOC located at the Berwick YMCA, Berwick, Pa. is used as the public information center. Although there is sufficient space and telephones and communication lines as well as chairs, desks, supplies, etc. available at the Berwick YMCA, other equipment needed for the MOC would have to be relocated from the plant and the Office of the Special Assistant of the President. This equipment would have to be installed.

Inventories are performed quarterly and after each drill and exercise. Discrepancies are corrected on the spot and/or tracked through the Plant Management Information System. Responsibility for maintaining equipment and supplies is shared between the emergency planning group and other site departments. The Supervisor, Nuclear Emergency Preparedness remains cognizant of the verification of equipment, supplies, and kits after inventories are conducted in accordance with licensee approved procedures.

The inspector determined that no major changes had been made to the Emergency Response Facilities (ERFs) since the last inspection and these facilities are adequately maintained.

Based upon the above review, this portion of the licensee's Emergency Preparedness Program is acceptable.

4.3 Organization and Management Controls

In order to determine the affect of any changes which had been made to the emergency organization and/or management control systems on the licensee's EPP and to verify that these changes have been properly incorporated into the EP and EPIPs, the inspector interviewed licensee personnel and reviewed the Emergency Preparedness control system.

The Supervisor, Nuclear Emergency Planning (SNEP) is responsible for overall program direction and most routine program functions. Additional program support is provided at the site by the Lead Technical Advisor and Plant Superintendent and from the Manager Nuclear Services at the corporate office. The Nuclear Emergency Preparedness (NEP) staff is an independent site group but reports to the Supervisor, Radiological and Environmental Services, on-site, through the corporate office.

The inspector reviewed position descriptions and interviewed the SNEP and it was determined that the functions and staff of the NEP have remained generally stable and no major changes were noted. The NEP staff consists of six persons. Basic program responsibilities are being performed. Full time NEP staff are available to maintain the EP and EPIPs, ERFs and designated equipment, development of exercise scenarios, training of the on-site ERO and State/local responders and interface with off-site support groups. The staff is presently augmented with consultants in four areas: Exercises/Drills (observers), EAL Review (technical basis), EAL Manual (off-site response agencies

reference), and Review of the February 3, 1990, Alert (hardware and procedures).

The inspector reviewed the drill/exercise documentation generated by the licensee since the last routine inspection. Complete summary reports were generated subsequent to each drill/exercise and items requiring corrective action were appropriately noted. Action items which arise from drills, exercises and other evaluations of the EPP (Quality Assurance Audits, NRC identified items, and Regulatory Requirements) are tracked to resolution through the Emergency Management Tracking System. Items are entered into the system, assigned a number and the estimated completion date is stated. A review of available action item documentation revealed that resolution of action items is conservative and technically appropriate. However, the inspector noted, just as the QAA (89-093) identified, that the timeliness of resolving some of these issues appeared excessive. The licensee acknowledged this concern and stated it would be reviewed for corrective action.

Based upon the above review, this portion of the licensee's Emergency Preparedness Program is acceptable.

4.4 Training

In order to verify that the licensee's key emergency response personnel have been properly trained and understand their emergency response responsibilities and to assure that respective personnel are aware of changes made to the EP and EPIPs, understand them, and have been adequately trained to implement them, the inspector interviewed licensee personnel, reviewed training requirements against training qualifications and conducted a walk-through with a representative shift.

The inspector reviewed the licensee's program for emergency response training and noted that Section 9.1.1 of the EP describes an emergency training program for different categories of personnel. These include all personnel granted unescorted access within the controlled zone of the site, all licensee personnel assigned to the ERO, and offsite support groups. The Manager, Nuclear Training, approves the EP training program (NTP-QA-52.1 (8/11/89)) for the ERO and it includes course requirements to satisfy each emergency position.

Discussions were held with the Supervisor, Nuclear Health Physics and Chemistry Training, who provided lesson plans, examinations, examination results, and attendance rosters for ERO personnel. Composite records are maintained via computer for each individual. To assure training remains current, three reminder letters are provided to an individual at 30 day intervals. Personnel who do not take the required training are then removed from the ERO. Review of the training file database indicated training and requalification training was current for all key ERO positions. The licensee has sufficient personnel qualified to staff all ERO positions to ensure full coverage for a prolonged emergency.



During the previous inspection, it was noted that although ERO training was adequate, there was only one person assigned to cover all necessary instructor duties, coordinate response training and continue to efficiently carry out supervisory duties. The licensee evaluated this concern and has assigned an additional person to support the training of the ERO.

EP lesson plans are detailed and focus on important response elements or implementing procedures. The lesson plans either incorporate or are having incorporated into them training with respect to PSPs. The inspector noted that although these changes have been made known to specific individuals in the ERO, refresher courses required for these ERO positions need to be updated to include this information prior to the training being given. Examination questions relate directly to lesson plan material and individuals demonstrate proficiency in their respective response duties as part of the annual requalification. Performance of response personnel has consistently been demonstrated in drills and walk-through exercises.

In order to ascertain training effectiveness of the ERO in response to severe accident conditions and rapidly escalating events, the inspector conducted walk-throughs with a control room crew. The shift crew consisted of a Station Shift Supervisor, Unit Shift Supervisor, Shift Technical Advisor and Reactor Operators for notification and communications. The walk-throughs focused on the duties and responsibilities of the shift functioning as a team to implement EALs in the EP. Overall performance of the shift was adequate and demonstrated the ability to implement the EP effectively. Evidence of training was observed as the shift demonstrated knowledge of PSPs and familiarity with EALs. The areas recommended for improvement identified in the previous routine inspection report did not recur.

Training of off-site support groups was provided by a member of the NEP staff and was effectively maintained. Licensee staff meets regularly with State and local personnel for training purposes and off-site agencies participate in drills/exercises.

Based upon the above review, this portion of the licensee's Emergency Preparedness Program is acceptable.

4.5 Independent Reviews/Audits

The inspector reviewed the 1989 Quality Assurance Audit (QAA) of the Emergency Preparedness Program (EPP) (89-093), interviewed cognizant licensee personnel, and reviewed the corrective action system for QAA findings for the EPP in order to determine whether audit findings, deficiencies, and/or exercise weaknesses were properly identified and corrected.

The 1989 audit of the EPP was performed by a four member audit team from the licensee's Nuclear Quality Assurance (NQA) Group who were verified to be independent

of the EPP. The inspector reviewed both the audit and the checklist and determined the report was thorough and detailed, that criteria for the audit had been developed using appropriate material, and found it to be a good review of the EPP activities. Although the audit had included a determination of the adequacy of the interface between the State and local agencies, there was no way to determine if this portion of the audit had been made available to the State and local agencies. The licensee acknowledged this and agreed to make this portion of the audit available during the State and local agencies Emergency Action Level review scheduled November 1, 1990. Additionally, although exercise/drill reports are reviewed, it was noted that QA does not observe/evaluate on-site exercises/drills for inclusion in the QAA. The licensee acknowledged this and agreed to review it for corrective action.

Audit results were categorized either as findings or recommendations/observations and discussed with the EPP staff when the audit was completed. A corrective action system is in place to resolve findings through issuance of a Susquehanna Review Committee Audit Report. The audit report was transmitted to corporate and plant management and a response to findings is requested in about 30 days. A written response to each finding is required since program quality could be impacted if deficient issues are not resolved. Finding 89-093-01 of the QAA for the EPP had not been responded to within 30 days, however, the licensee had followed its procedures in obtaining the response and tracking the issue.

It was noted that high level management support is provided to ensure that NQA findings are properly addressed and that a filtering mechanism is in place for recommendations whereby significant deficiencies are given a higher priority. A monthly report on Audits and Assessments conducted as well as a summary of audit findings status is provided to licensee management.

Based upon the above review, this portion of the licensee's Emergency Preparedness Program is acceptable.

4.6 Emergency Action Levels

To determine that a standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in place and is understood, the inspector interviewed cognizant licensee personnel, reviewed the current classification scheme, and conducted a walk-through with a representative shift.

As discussed in section 4.5, during the conduct of the walk-through, the licensee personnel were cognizant of the classification scheme and the parameters which trigger the classifications. The classifications were prompt and conservative in all cases. The shift personnel followed correct implementing procedures as well as PSPs and it was noted that the requirement for early notification of the Program Information Manager did not detract from the staff's effort to mitigate the consequence of an accident.

At the time of this inspection, the licensee was still in the process of evaluating EALs for conformance to NRC guidance and to assure that all EALs are clear and unambiguous. (UNR 50-387/90-18-01 and 50-388/90-18-01)

4.7 Public Information Program

In order to verify that basic emergency planning information is disseminated annually to the public in the plume exposure pathway emergency planning zone, the inspector interviewed licensee personnel who are cognizant of these responsibilities. It was determined that information for the public is provided to them on an annual basis and that a point of contact is designated where the public may acquire information.

As a result of the Alert declared by the licensee on February 3, 1989, a licensee task force determined that corrective actions were required to assure timely information would be provided to the public. The Public Information Manager (PIM) was assigned a pager which will assure that person is alerted early and PSPs in place provide for this early notification.

Public Information Material (PIM) is distributed to all residents within the Emergency Planning Zone, commercial and industrial organizations, and institutions. Over 32,000 brochures containing PIM have been distributed to Luzerne and Columbia counties. In addition, inserts were placed in the telephone directories for these counties. Press briefings have been conducted annually. A media seminar was conducted September 27, 1989, and one is currently scheduled for October 2, 1990.

On August 21, 1990, the licensee made a 10 CFR 50.72 report which identified the failure of an off-site transmitter which is used to activate all off-site sirens. The licensee analyzed the problem and determined that the cause was due to deteriorated weather stripping. The licensee repaired the weather stripping on August 21, 1990, and plans to purchase a second transmitter.

Based upon the above review, this portion of the licensee's Emergency Preparedness Program is acceptable.

5.0 EXIT MEETING

The inspector met with the licensee representatives listed in section 1.0 of this report on September 14, 1990 to discuss the findings as detailed in the report. The licensee was informed that no violations or deviations were identified. Licensee management acknowledged these findings and indicated they would evaluate them and take appropriate corrective action regarding them.