U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-387/88-06
50-388/88-05

Docket No. 50-387
50-388

License No. NPF-14 Priority ---- Category C
NPF-22

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

Facility Name: Susquehanna Steam Electric Station

Inspection At: Berwick, Pennsylvania

Inspection Conducted: February 16-18, 1988

Inspectors: Craig Z. Gordon 3/9/88
C. Z. Gordon, Team Leader, EPS, FRSSB, DRSS — date

K. Christopher, Emergency Preparedness Section, RI
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Approved By: W. J. Lazarus 3/9/88
W. J. Lazarus, Chief, EPS, FRSSB, DRSS — date

Inspection Summary: Inspection on February 16-18, 1988 (Report Nos. 50-387/88-06 and 50-388/88-05).
Areas Inspected: Routine announced emergency preparedness inspection and observation of the licensee's annual partial participation emergency exercise performed on February 16, 1988. The inspection was performed by a team of five NRC Region I personnel.

Results: No violations were identified. Emergency response actions were adequate to provide protective measures for the health and safety of the public.

DETAILS

1.0 Persons Contacted

The following licensee representatives attended the exit meeting held on February 18, 1988:

Barberich, W. E., Supervisor, Planning and Licensing Services
Boughman, G. W., Nuclear Operations Support Coordinator
Byram, R. G., Plant Superintendent
Cantone, S. H., Manager, Nuclear Support
Dalpiaz, T. C., Technical Suervisor
Davis, S. E., Fire Protection Engineer
Denson, S. L., Outage Supervisor
Doty, R. L., Supervisor, Radiological/Environmental Services
Dressler, G. N., Emergency Planner
Figard, E. W., Supervisor, Instrument and Controls
Gallagher, G. E., Supervisor, Security Training
Garner, B. L., Supervising Engineer-Nuclear
Halm, R. H., Nuclear Operations Support Coordinator
Kaplan, I. N., Manager, Energy Information
Keiser, H. W., Vice President, Nuclear Operations
McGarry, D. K., Quality Assurance Analyst
Miltenberger, J. R., Manager, Nuclear Safety Assessment
Minneman, J. M., Supervisor, Nuclear Emergency Planning
Oldenhage, T. F., Supervisor, Planning and Analysis Group
Riley, H. L., Supervisor, Health Physics/Chemistry
Roszkowski, C. J., Emergency Planner
Scheibner, M., Architectural Engineering Representative
Schwarz, R. A., Project Engineer
Sheranko, R. G., Sr. Results Engineer-Compliance
Stanley, H. G., Asst. Superintendent, Outages
Stout, E. M., Nuclear Operations Support Coordinator
Tabor, W., Emergency Planner
Taylor, P. E., Shift Technical Advisor
Widner, T. E., Sr. Health Physicist
Woodeshick, H. D., Special Asst. to the President

The team observed and interviewed several licensee emergency response personnel, referees, and observers as they performed their assigned functions during the exercise.

2.0 Emergency Exercise

The Susquehanna partial-participation exercise was conducted on February 16, 1988 from 2:00 p.m. to 8:00 p.m. There was limited participation by Pennsylvania Bureau of Radiation Protection personnel in the Emergency Operations Facility.

2.1 Pre-exercise Activities

Prior to the emergency exercise, NRC Region I representatives held meetings and had telephone discussions with licensee representatives to discuss objectives, scope and content of the exercise scenario. As a result, changes were made in order to clarify certain objectives, revise certain portions of the scenario and ensure that the scenario provided the opportunity for the licensee to demonstrate those areas previously identified by NRC as in need of corrective action.

NRC observers attended a licensee briefing on February 16, 1988, and participated in the discussion of emergency response actions expected during the various phases of the scenario. The licensee stated that controllers would intercede in exercise activities to prevent scenario deviation or disruption of normal plant operations.

The exercise scenario included the following events:

- Medical response and transportation to hospital of contaminated/injured individuals;
- Main Steam Isolation Valve (MSIV) isolation;
- Standby Gas Treatment System (SBGT) release;
- Rupture of Reactor Water Cleanup System (RWCU);
- Declaration of Unusual Event, Alert, Site Area Emergency and General Emergency classifications;
- Calculation of offsite dose consequences; and
- Recommendation of protective actions to state officials.

2.2 Activities Observed

During the conduct of the licensee's exercise, the NRC team members made detailed observations of the activation and augmentation of the emergency organization, activation of emergency response facilities, and actions of emergency response personnel during the operation of the emergency response facilities. The following activities were observed:

1. Detection, classification and assessment of scenario events;
2. Direction and coordination of the emergency response;

3. Augmentation of the emergency organization and response facility activation;

4. Notification of licensee personnel and offsite agencies of pertinent plant status information;

5. Communications/information flow, and record keeping;

6. Assessment and projection of offsite radiological dose and consideration of protective actions;

7. Provisions for inplant radiation protection;

8. Performance of offsite and inplant radiological surveys;

9. Maintenance of site security and access control;

10. Performance of technical support, repair and corrective actions;

11. Assembly, accountability and evacuation of personnel;

12. Preparation of information for dissemination at the Emergency News Center; and

13. Performance of first aid and rescue of injured individuals;

3.0 Exercise Observations

The NRC team noted that the licensee's activation and augmentation of the emergency organization, activation of the emergency response facilities, and use of the facilities were generally consistent with their emergency response plan and implementing procedures.

3.1 Exercise Strengths

The team also noted the following licensee actions that provided positive indication of their ability to cope with abnormal plant conditions:

- Direction, control, and coordination of activities in the TSC and EOF provided effective and timely resolutions to most problems;

- Turnover from the TSC to the EOF was very thorough and included the Recovery Manager obtaining all historical information about the events which took place prior to his arrival;

- Personnel briefings on plant status and updates to emergency personnel in each facility were timely and complete; and

- Good response actions were taken by dose assessment personnel in obtaining dose projections and comparing these results with the emergency action levels for the General Emergency classification.

3.2 Exercise Weaknesses

The NRC team identified the following areas where weaknesses were observed which could have degraded the response and should be evaluated by the licensee for corrective action. These items are tracked as Inspector Follow-up Items (IFI):

-- During the medical drill, unnecessary movement of both victims at the accident scene, and to the ambulance, had the potential to aggravate existing serious injuries (50-387/88-06-01; 50-388/88-05-01).

-- Instead of demonstrating their primary response duties such as verifying instrument readings and performing plant manipulations, the plant control room operators were assigned to communications functions, therefore the inspector could not make a determination if the control room staff present was sufficient to perform all required actions (50-387/88-06-02; 50-388/88-05-02);

-- Several inconsistencies in communications and information flow of key events were observed which included how the SCRAM occurred, percentage of cladding failure from post accident sample results, and inadequate information on where the injured victims were taken (50-387-88-06-03; 50-388/88-05-03);

-- Portable radio and communication problems were identified in many plant areas and emergency response facilities which led to unnecessary delays by repair and corrective action teams and by security in response to the injured victims (50-387/88-06-04; 50-388/88-05-04);

-- The ability to carry out the entire post accident sample system (PASS) procedure was not demonstrated due to system operability problems (50-387/88-06-05; 50-388/88-05-05); and

-- When the OSC Coordinator left the Operations Support Center (OSC) to accompany in-plant teams, direction and control of the OSC was inadequate. Also in the OSC, crafts and maintenance personnel were observed to have less than a positive attitude toward their emergency response functions (50-387/88-06-06; 50-388/88-05-06).

4.0 Licensee Actions on Previously Identified Items

4.1 The following item was identified during a previous inspection (Inspection Report Nos. 50-387/87-08 and 50-388/87-08). Based upon observations made by the NRC team this item was not acceptably demonstrated and remains open.

(OPEN) 50-387/87-08-04 and 50-388/87-08-04: During communications via the ENS and to offsite authorities, the notification form does not provide all necessary information which the headquarters duty officer requires regarding type of event, cause of failure, and corrective actions taken.

4.2 The following items were identified during previous inspection (Inspection Report Nos. 50-387/87-08 and 50-388/87-08). Based upon observations made by the NRC team during the exercise these items were acceptably demonstrated and are closed:

(CLOSED) 50-387/87-08-02, 50-388/87-08-02: Initial response actions of shift staff hindered by using mock control room;

(CLOSED) 50-387/87-08-03, 50-388/87-08-03: Accountability of personnel within the protected area was simulated;

(CLOSED) 50-387/87-08-05, 50-388/87-08-05: EOF activation could not occur since a Recovery Manager was not present;

(CLOSED) 50-387/87-08-06, 50-388/87-08-06: Regular briefings between the licensee and the State were not held and as a result a consensus on the protective action recommendation (PAR) was not reached;

(CLOSED) 50-387/87-08-07, 50-388/87-08-07: After the licensee learned that the State implemented a PAR overall direction and control of the EOF was significantly reduced;

(CLOSED) 50-387/87-08-08, 50-388/87-08-08: The licensee should compare the site Emergency Plan with the Pennsylvania Emergency Plan to ensure consistency for official notifications of emergencies; and

(CLOSED) 50-387/87-08-09, 50-388/87-08-09: PAR's are not of sufficient detail to be useful to the State in the event that evacuation of the entire EPZ is undesirable.

5.0 Licensee Critique

The NRC team attended the licensee's post-exercise critique on February 18, 1988, during which the key licensee referee discussed observations of the exercise. The licensee indicated these observations would be evaluated and appropriate corrective actions taken.

Specific improvement areas which were identified by the licensee related to: response to the contaminated/injured individuals; inability to draw a PASS sample; communications capability; and documentation of information.

6.0 Exit Meeting and NRC Critique

The NRC team met with the licensee representatives listed in Section 1 of this report at the end of the inspection. The team leader summarized the observations made during the exercise.

The licensee was informed that previously identified items were adequately addressed except for that identified in Section 4.1 and no violations were found. Although there were areas identified for corrective action, the NRC team determined that within the scope and limitations of the scenario, the licensee's performance demonstrated that they could implement their Emergency Plan and Emergency Plan Implementing Procedures in a manner which would provide adequate protective measures for the health and safety of the public.

Licensee management acknowledged the findings and indicated that appropriate action would be taken regarding the identified open items.

At no time during this inspection did the inspectors provide any written information to the licensee.