

SUSQUEHANNA EMERGENCY PREPAREDNESS EXERCISE

(Inspection Report #50-387,388/90-07)

April 18, 1990

- A. Name: John M. Will
- B. Assignment: Control Room, (CR), Technical Support Center (TSC),
Operational Support Center (OSC)
- C. Site Personnel Contacted: Jesse Hackenbery, Shift Supervisor; Ron Gantz,
Unit Supervisor; Jeff Hirt, Shift Technical Advisor; Jerry Blakeslee,
Lead TSC Referee; Gene Stanley, Emergency Director (ED); Howard Palmer,
Operations Coordinator (OC); D. Sitler, Maintenance Coordinator; E. W.
Figard, Damage Control Coordinator;
T. S. Nash, Technical Support Coordinator; R. L. Statlee, Security
Coordinator
- D. Positive Findings - Control Room (CR) and TSC
- Personnel in both the CR and TSC made good use of procedures and system prints.
 - During plant transients, personnel in the TSC made good use of the SDRS (which displayed simulator data).
 - The overlay which displayed projected plume path and dispersal was a valuable tool with which to anticipate problem areas if a release was to occur.
 - The ED in the TSC displayed good command and control in the use of his support personnel.
 - The OSC coordinator and the TSC Radio Coordinator displayed excellent control of the in-plant teams.

E. Negative Findings - Control Room and TSC

- Players in the CR (Simulator) should be given some player identification to distinguish them from other personnel without colored shirts (such as visitor observers, plant personnel coming in to be briefed, etc.).
- Personnel in a given area should choose a time standard against which to compare watches. (Everyone in the CR and TSC was using different times for logs, status boards, etc.)
- Teams should not be simulated. (Teams use people who are not available for other purposes; further, additional real teams add to coordination and communications problems.)
- Persons sent out to join another team should be given their own team designation. (There was a time when there were two "India-Three" Teams, which caused confusion.)
- In addition to announcing changes to classification status, the reasons for the changes should be announced as well as other changes in plant conditions. (PA announcements did not provide reasons for changes in classification levels, nor were there any announcements regarding reactor scram, high radiation levels in containment, etc.)
- Initial notification messages should contain an explanation for the declaration with wording similar to the determining Emergency Action Level (EAL). (Persons familiar with EALs will expect an explanation related to an EAL.)
- Health Physics (HP) technicians need to exert more positive control over operators in the plant to help them keep their dose as low as possible. (It is difficult for everyone to simulate radiological

hazards, but HP technicians need to force good As Low As Reasonably Achievable (ALARA) principles on others not as used to radiological hazards, real or simulated.)

- The ED should demand silence in the TSC when making status up-date announcements. (This will ensure that people listen, and also afford an opportunity for a coordinator to correct any erroneous statement made by the ED.)
- If a key status board or log keeper has to leave the TSC, his or her duty should be assumed by a person called in or by someone doing double duty. (The in-plant team status board which was being consulted frequently by a number of people quickly became out-of-date when the status board keeper had to leave the TSC.)
- The TSC status boards should be reviewed for location and use. (Some of the boards, like the Damage Control Status Board, were ill-kept and appeared to be of little use).
- The control of the in-plant teams should remain with the OSC coordinator even when the TSC is manned. This would remove from the TSC unnecessary noise and confusion caused by teams having to come to the TSC to be given team designations and portable radios. This could be done more efficiently in the OSC. The Damage Control Coordinator should assign someone to stay in touch with the OSC and listen in on the radio to keep up the Damage Control Status Board, but the direction and control of the teams should be the responsibility of the OSC Coordinator.
- When the OSC is manned, there should be designated plant maintenance personnel report to the OSC for assignment by the OSC Coordinator.

Presently, these personnel remain in their assembly area until called. When called, there is delay, problems with accountability and lack of HP support until they report to the OSC or the TSC.

F. Chronology

<u>Time</u>	<u>Observation</u>
0730	PA announcement, drill has began. (Observer in CR.)
0745	Fire protection alarm. Fire pumps start.
0746	Report received in CR of a rail car accident.
0753	Plant Superintendent (Gene Stanley) and Superintendent of Operations (Howard Palmer) in CR.
0803	Call came in which emphasized a "derailed" car.
0807	Shift Supervisor (Jesse Hackenberg) declared an Unusual Event (UE) at 0806.
0817	All initial notifications completed including NRC.
0840	Hourly update message delivered.
0849	Report received on leak on fire main header.
0850	ED chooses to activate the TSC. (Referee blocks the action.)
0900	Apparent loss of all annunciators on Unit #1.
0906	ED called the OSC Coordinator (Dewey Evans) regarding loss of annunciators.
0908	ED upgrading emergency classification to an ALERT at time 0906.
0909	ED discusses plant shutdown with Plant Superintendent (which, if they had done, would have put them in a Site Area Emergency.)
0915	Notification of ALERT completed.

0920 ED activates Site Accountability Procedure.

0928 Plant Superintendent and Supervisor of operations are ready to proceed to TSC. (Referees keep these personnel in CR simulating their being delayed by HP (radon problem) to let CR handle the SAE.)

0929 Unit #1 reactor power is increasing. Problem with extraction steam isolation.

0930 ED upgrades emergency classification to Site Area Emergency. Starts Unit #1 shutdown procedures.

(Observer shifts to TSC)

0941 Site accountability completed. No one missing.

0944 Emergency Operations Facility (EOF) to be activated.

0950 Site evacuation ordered (partial evacuation).

0957 Plant Superintendent in TSC becomes Emergency Director.

1022 Regained audible annunciators (replaced power supply) working on fire protection. Fire watches stationed at affected areas.

1028 ED is considering downgrading emergency to ALERT. NRC says not until their people have arrived and had a chance to evaluate.

1045 Local emergency response agencies concur with downgrade.

1050 Emergency patch placed on leaking Y-Strainer on fire main piping. Will pressurize to test.

1055 Sample team to get primary sample. Power peaked at 102%; damage unlikely.

1105 Patch did not hold. Reworking.

1128 Local (county) response agencies apparently told the state that emergency had been downgraded.

1131 Chemical sample normal, no core damage.

1140 Recovery manager (Chuck Myers) arrived in EOF.

1201 Blank flange to isolate fire header in place. Fire protection out to Standby Gas Treatment System (SGTS), CREOASS and TB Filter Exhaust.

1207 HP has completed walkdown; no detectable radioactivity.

1214 Personnel providing information on the feedwater heater cell.

1216 EOF has assumed control of the emergency.

1253 Feedwater heater is repaired.

1302 Safety Parameter Display System (SPDS) shows Unit #1 reactor scram. Confirmed by CR. Main steam line high radiation. Main Stream Isolation Valves (MSIV) isolation.

1306 Containment radiation is 280 R/hr and increasing; likely fuel clad damage.

1308 Main steam relief valves are cycling.

1310 Post Accident Sampling System (PASS) sample requested.

1316 SGTS in service; High pressure coolant injection system (HPCI) in service. High temperature in reactor water clean-up area.

1320 Loss of two of three barriers recognized. Need evaluation of water treatment area.

1322 Security has closed north gate house.
(Observer followed in-plant team to water treatment area.)

1333 Loud roar heard inside door to steam tunnel; steam coming from under door. Radiation level 50 m/hr outside door.

1335 Air sampler started in area.

1339 Recovery Manager (RM) in EOF has upgraded classification to GENERAL EMERGENCY. Protective action recommendation is to evacuate 0 to 2 miles, 360 degrees and shelter from 2 to 10 miles.

1341 Team ordered to return to HP to get respiratory equipment.

1351 (Back in TSC) High high temperature alarm on channel A SGTS. In-plant team in the area.

1359 Another man sent to turn on fire hose to flood the SGTS.

1404 Fire hose burst.

1408 State is evacuating from 0 to 10 miles.

1430 Team in HP to suit up. Will not actually suit up.

1450 Primary Sample Bottle - 28 mr/hr on contact. Equates to greater than 40% clad failure.

1503 At door to area - 6R/hr on contact. Made simulated entry.

1505 Reported leaking HPCI piping. Ordered to return to HP.

1515 Drill terminated in TSC.