6/16/82

PHILADELPHIA ELECTRIC COMPANY

2301 MARKET STREET

P.O. BOX 8699

PHILADELPHIA, PA. 19101

(215) 841-5003

JOSEPH W. GALLAGHER
MANAGER
ELECTRIC PRODUCTION DEPARTMENT

May 11, 1982

Docket Nos. 50-277
50-278

Mr. R. C. Haynes, Administrator
Region I
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

Dear Mr. Haynes:

In accordance with your letter of October 26, 1981 to S. L. Daltroff, we are submitting to you the exercise objectives for the Peach Bottom Atomic Power Station 1982 full scale emergency exercise (Attachment 1). These objectives do not include objectives specific to state and county exercise requirements but are intended to satisfy the needs of states and counties.

The objectives have been submitted for review to Chester, Lancaster, York, Cecil and Harford Counties; Maryland Emergency Management and Civil Defense Agency; and Pennsylvania Emergency Management Agency.

By agreement with the counties and the state agencies, the exercise has been set for June 16, 1982.

A summary of the planned scenario is enclosed (Attachment 2).

Very truly yours,

JW Gallagher

Attachments

cc: C. J. Cowgill (w/ attach.)

IE 35

ATTACHMENT 1
OBJECTIVES FOR THE 1982
NRC/FEMA OBSERVED PBAPS EXERCISE

In order to demonstrate the radiological emergency preparedness of the Peach Bottom Atomic Power Station, the Philadelphia Electric Company (PECo.), and the Pennsylvania and Maryland state agencies, an integrated radiological emergency exercise will be conducted.

The onsite and offsite objectives of the exercise are as follows:

A. Accident Assessment

1. Demonstrate the ability of site personnel to recognize an emergency initiating event and properly characterize and classify the emergency according to the pre-established Emergency Action Levels.

2. Demonstrate that personnel in Pennsylvania, Maryland, and PECo. can perform offsite dose projections and accident assessment, for both radioactive noble gases and radioiodine, quickly and accurately.

3. Demonstrate the field monitoring capability for (1) predetermined area radiation levels, and (2) air sampling and analysis for radioiodine and particulates in the plume exposure EPZ for plume exposure rate verification; demonstrate that results can be effectively used in determining protective action recommendations.

4. Demonstrate that sampling can be done in the ingestion EPZ of reservoir water, water treatment facilities, a milk processing plant, a dairy, and vegetation and livestock feed. Samples will be forwarded to a laboratory although no radioactivity analyses will be performed. I-131 concentrations in milk will be predetermined to demonstrate that the results of such analyses could be effectively used to determine ingestion protective action recommendations.

5. Demonstrate that independent accident assessment can be accomplished by Pennsylvania and Maryland state agencies; that they are capable of recommmending appropriate protective actions and that information is communicated between the site and state accident assessment personnel.

6. Demonstrate that onsite and offsite field monitoring teams can be dispatched and deployed in a timely manner; that communications are adequate; that radiological monitoring equipment is functional; that simulated data are accurately obtained and transmitted to the field radiological center and to the accident assessment center.

B. Activation of Emergency Facilities

1. Demonstrate the ability of station and corporate personnel to activate and man the emergency response facilities as appropriate for the existing emergency class and to transfer functional responsibilities to the appropriate operations center when escalating or de-escalating to a different emergency class.

2. Demonstrate that adequate security of facilities can be maintained.

C. Notification and Communication

1. Demonstrate that station and offsite notification and alerting of officials and staff can be accomplished in a timely manner and that all initial notification and updating is verified and logged.

2. Demonstrate the ability to communicate with monitoring teams, rescue parties, and other station personnel as needed.

3. Demonstrate that the decision to notify the public can be accomplished in an effective and timely manner.

4. Demonstrate that interstate, intrastate, and state-federal communication and coordination between site and EOCs and between EOCs and EOF exist; that communication and coordination between State and County agencies exist and that communication systems for emergency workers are operable and adequate.

5. Demonstrate that messages are transmitted in an accurate and timely manner; that messages are properly logged;

that status boards are accurately maintained and updated; that appropriate briefings are held and incoming EOC personnel are briefed and updated.

6. Demonstrate that public information is coordinated between site, State, County, and Federal officials; that there are accurate and timely press releases and briefings; that designated public information personnel are implementing their procedures.

D. Station Health Physics and Security

1. Demonstrate the ability to account for all personnel onsite and to provide adequate radiation protection services such as dosimetry and personel monitoring (frisking) and the ability to perform area surveys under emergency conditions.

2. Demonstrate the ability to enter a highly contaminated area for the purpose of rescuing casualties.

3. Demonstrate the ability to provide first aid and transport to a suitably prepared medical facility for an injured individual who has been contaminated or has received a high radiation dose.

4. Demonstrate the ability to maintain plant security under emergency conditions.

5. Demonstrate the ability to perform post accident sampling and analysis.

6. Demonstrate the ability to perform personnel and equipment decontamination.

E. Direction and Control

1. Demonstrate that State and County elected and appointed officials and local offsite agencies such as life squads, police, and fire companies will provide timely support.

2. Demonstrate that the designated State and County officials in each EOC are in command; that officials designated in the plan are actually in charge of the overall coordination of the response; and that designated offsite officials are represented in the EOF.

3. Demonstrate that decisions are coordinated among State, County, and Federal agencies and among those agencies and the site and corporate management.

4. Demonstrate that all agencies have 24 hour capability. Demonstrate that all agency representatives who are assigned emergency responsibilities can effectively operate from their planned location inside or outside the EOF.

F. Protective Actions

1. Demonstrate protective actions (including mock evacuation and sheltering) by preparing an exercise scenario which provides for a hypothetical total integrated whole body or thyroid dose exceeding the evacuation PAGs for at least the nearest Pennsylvania and Maryland residents.

2. Demonstrate the ability of the site, the EOF and each State to make decisions on both the taking and relaxing of protective actions.

3. Demonstrate that access control points are established promptly and according to the plan, and that access and traffic control can be effectively implemented with 24 hour capabilities.

G. Parallel and Other Actions

1. Demonstrate the ability of the designated hospital to treat a hypothetically contaminated injured patient and that the ambulance service can effectively transport hypothetically contaminated injured personnel to the hospital. Demonstrate that the ambulance and associated equipment can be decontaminated and that contaminated

clothing and disposable materials are properly discarded.

2. Demonstrate that organizations with onsite support responsibilities such as fire, police, and life squad personnel can gain access to the site and proceed to the correct location.

3. Demonstrate that emergency workers are briefed and receive dosimeters (and KI supplies if necessary) before assignments; that records of predetermined dose accrual and commitments are maintained; and that decontamination centers are properly manned and supplied.

4. Demonstrate that appropriate reception centers are opened and staffed, records maintained, that adequate provisions for the care of the evacuees are obtainable, and that health and sanitation requirements can be maintained.

5. Explain and partially demonstrate that site, State, and local re-entry procedures such as health and sanitation, safety, criteria for acceptable radioactive contamination levels, re-entry access control, and public information are implemented.

H. Miscellaneous

1. Demonstrate that each EOC has adequate access control and security.

2. Demonstrate that EOCs and the EOF have adequate space, equipment, and supplies.

3. Demonstrate the State's, Counties', and licensee's capability for self-critique and ability to identify areas needing improvement in order to make future appropriate procedural changes.

ATTACHMENT 2
PEACH BOTTOM ATOMIC POWER STATION
FEMA OBSERVED EXERCISE
1982 SCENARIO

Units 2 and 3 are operating at full power. Unit 2 is near the end of its fuel cycle. All power generation and safety equipment is operable except Unit 3 Core Spray Pump B has excessive seal leakage and a maintenance crew is repairing it. A leaking safety/relief valve (SRV) is heating the Unit 2 Torus and causing a 1 degree F per day temperature increase.

Meteorological conditions are representative of stability Class II with the wind blowing from the West (270 degrees) at 9 MPH (4 m/sec).

Differential pressure across reactor recirculation loop jet pump #6 on Unit 2 falls to zero at 0630. The jet pump diffuser stand pipe has shattered and parts of it lodge where they block flow to the reactor core. Within fifteen minutes, core plate differential pressure, air ejector off-gas radiation levels, and main steam line tunnel area radiation levels have increased significantly indicating the fact that fuel damage is occurring. An UNUSUAL EVENT should be declared because air ejector off-gas radiation reading increases by more than 500 mr/hr in 30 minutes and an orderly reactor shutdown is begun.

Main steam line area radiation levels continue to increase and at 0745, Unit 2 reactor scrams due to high main steam line radiation. Neutron instrumentation verifies that the reactor has scrammed but nine widely dispersed control rods did not fully insert and eleven others move very slowly but fully insert within two minutes.

Since main steam isolation occurred, reactor pressure has been controlled by opening the SRVs. By 0815, reactor pressure has returned to its normal value, but SRV C remains open despite attempts to close it. Reactor pressure begins falling and drops to 850 psig at 0900 when the SRV is successfully closed. Reactor pressure starts increasing until 0915 when the packing blows out on HPCI MOV (motor-operated-valve) 23-15 and containment area radition level starts increasing rapidly.

At 0945, operators decide to reduce reactor pressure using SRVs to about 600 psig to reduce drywell leakage and to allow use of condensate pumps in forcing water into the reactor vessel in addition to HPCI. By 1000 hours, the containment area radiation level exceeds 10,000 R/hr, which calls for declaration of ALERT.

Increasing core plate differential pressure and reactor vessel head temperature indicate that core blockage has worsened and that fuel damage is continuing.

Someone claiming to be a reporter appears at the security building around 1045, attempts to gain entrance to the station by claiming she has been invited by Mr. Conley to visit the Emergency Support Center. Containment radiation level has now reached 25,000 R/hr.

By 1115 hours, four of the nine stuck control rods have been fully inserted. Also the decision has been reached that Unit 3 should remain in its steady state to maximize the manpower that is available to deal with Unit 2.

At approximately 1315, radioactive effluent releases begin from the main stack at the rate of 0.1 Ci/sec of noble gases. Status lights indicated that the nitrogen purge isolation valves are possibly not fully closed. A work party is dispatched to investigate.

Drywell radiation level continues to increase and reaches 10^5 R/hr at 1345 hours. SITE EMERGENCY should be declared.

High pressure service water monitors indicate significant radioactive release. It is determined that approximately 10,000 gallons of 10^{-3} uCi/ml water was released. At 1415 hours, word is received from the Maintenance people at the nitrogen purge isolation valve that it will take approximately five hours to repair and stop the leakage.

At 1445 hours, a fire is discovered on a flatbed truck loaded with a radwaste shipment. At the time of ALERT declaration, the truck had been in the process of checking through security and it has been parked there ever since. It is a smokey fire in the cab and there is a danger of it spreading to the trailer or of the gas tanks becoming involved. Off-site assistance is required. Also, by 1445, stack releases have increased to 0.3 Ci/sec of noble gases and containment radiation level has increased to 250,000 R/hr. The decision has now been reached that reactor pressure should be further reduced to allow core spray pumps to put cooling water directly into the reactor core.

By 1545, containment radiation levels have reached 5 x 10 5 R/hr and stack releases have increased to 2 Ci/sec of which .02 Ci/sec is iodine. At approximately 1630 hours, the containment radiation level reaches 1 x 10 6 R/hr.

GENERAL EMERGENCY should be declared.

At approximately 1730, the pressure drop across standby gas treatment system (SGTS) filter A causes a fan trip. Filter B is placed in service and zero differential pressure is noted although flow is 110% of rated. Releases increase significantly and the composition is about one third iodine. A work party is dispatched to investigate the problem with the SGTS filters.

Word is received at 1800 that a member of the team repairing the SGTS filters was contaminated and injured while working on the filters. Off-site medical assistance is required.

The release is terminated at 1915 hours by the successful closure of the drywell nitrogen purge isolation valves.

At 1930 hours, drywell radiation level falls to 4.2 x 10 R/hr.

GENERAL EMERGENCY should be downgraded to SITE EMERGENCY.

At 2000 hours, exercise is terminated.