DCD

NOV 16 1993

Docket No. 50-255/93-27

Consumers Power Company
ATTN: Gerald B. Slade
General Manager
Palisades Nuclear Generating Plant
27780 Blue Star Memorial Highway
Covert, MI 49043-9530

Dear Mr. Slade:

SUBJECT: EMERGENCY PREPAREDNESS INSPECTION AT THE PALISADES PLANT

This refers to the routine safety inspection conducted by Mr. J. Foster of this office and others on October 25-28, 1993. The inspection included a review of authorized activities at your Palisades facility. At the conclusion of the inspection, the findings were discussed with those members of your staff identified in the enclosed report.

Areas examined during the inspection are identified in the report. Within these areas, the inspection consisted of a selective examination of procedures and representative records, interviews, and observation of activities in progress.

No violations of NRC requirements were identified during the course of this inspection. However, two issues are briefly discussed in the report that have been of concern for some time. The first is the limited and non-dedicated space for the Technical Support Center, and the second is the lack of collocation of NRC responders with their counterparts. It is our understanding that you are taking actions that will address both of these issues. Since the resolution of these issues will better ensure timely and effective event response, we will follow your progress closely.

In accordance with 10 CFR 2.790 of the Commission's regulations, a copy of this letter and the enclosed inspection report will be placed in the NRC Public Document Room.

IE06

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

Original Signed By William Snell

William Snell, Chief
Radiological Programs Section 2

Enclosure: Inspection Report
No. 50-255/93027(DRSS)

cc w/enclosure:
David P. Hoffman, Vice President
Nuclear Operations
David W. Rogers, Safety
and Licensing Director
OC/LFDCB
Resident Inspector, RIII
James R. Padgett, Michigan Public
Service Commission
Michigan Department of
Public Health
Palisades, LPM, NRR
SRI, Big Rock Point

bcc: PUBLIC

RIII
Fosterjp
11/16/93

RIII
Snell

RIII
Jorgensen
11-16-93

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-255/93027(DRSS)

Docket No. 50-255 License No. DPR-20

Licensee: Consumers Power Company
27780 Blue Star Memorial Highway
Covert, MI 49043-9530

Facility Name: Palisades Nuclear Plant

Inspection At: Palisades Site, Covert MI

Inspection Conducted: October 25-28, 1993

Inspector: William Snell for 11/16/93
J. Foster Date

Accompanying Personnel: G. Cicotte
M. Parker
D. Passehl
R. Jickling

Approved By: William Snell 11/16/93
William Snell, Chief Date
Radiological Programs Section 2

Inspection Summary

Inspection on October 25-28, 1993 (Report No. 50-255/93027(DRSS))
Areas Inspected: Routine, announced inspection of the Palisades Plant's emergency preparedness (EP) exercise involving a review of the exercise scenario (IP 82302), observations by five NRC representatives of key functions and locations during the exercise (IP 82301), and follow-up on licensee actions on previously identified items (IP 82301). Several aspects of the operational status of the EP program (IP 82701) were reviewed by an inspector. Results: No violations or deviations were identified. Based on records review and performance during the 1993 exercise, corrective actions taken in response to performance weaknesses and other concerns identified during the 1992 exercise were determined to be acceptable.

Overall performance during the 1993 Palisades exercise was very good. Two concerns were identified regarding reliability of the radio communications system and inplant team dose tracking/overexposure authorization processes. Challenging aspects of the exercise included the need for a search and rescue

team in a high dose area, destruction of fuel pool water supply, evacuation of non-essential employees under uncertain circumstances, and a medical drill.

Several aspects of the operational status of the EP program were reviewed and found to be acceptable.

DETAILS

1. NRC Observers and Areas Observed

J. E. Foster, Control Room Simulator (CRS), Technical Support Center (TSC), Emergency Operations Facility (EOF)
R. Jickling, EOF
G. Cicotte, CRS, Operational Support Center (OSC), Inplant Teams
M. Parker, TSC, EOF
D. Passehl, OSC, Inplant Teams

2. Persons Contacted

J. Kuemin, Licensing Administrator
M. Mitchell, GOEP Senior Emergency Planner
S. Wymer, RSD
T. Neal, Health Physics Support Superintendent
M. Mennucci, HP Technical Supervisor
D. Rogers, Safety & Licensing Director
G. Slade, Manager, Palisades Plant
T. Katarsky, EP Administrator
J. Warner, Property Protection
C. Grady, Maintenance Superintendent - Administrator
M. Savage, Public Affairs
D. Watkins, HP Support
C. Reavy, Senior HP Technician

The above and other licensee staff attended the exit interview on October 28, 1993. The inspectors also contacted other licensee personnel during the inspection.

3. Licensee Action on Previously Identified Items (IP 82301)

(Closed) Inspection Followup Item No. 50-255/92019-01: During the 1992 exercise, a performance weakness was identified when Control Room Simulator personnel failed to classify elevated reactor coolant system levels as an Alert in accordance with the plant's Emergency Action Levels (EALs).

As indicated in Section 6.a of this inspection report, classification problems were not evident in the 1993 exercise, and classifications were made on a timely basis. This item is closed.

(Closed) Inspection Followup Item No. 50-255/92019-02: During the 1992 exercise, there was confusion regarding the interpretation of the Protective Action flowchart regarding the statement to "consider evacuation if there are no constraints." This was corrected by the addition of example constraint considerations at the bottom of the flowchart. Additional guidance was available in a separate procedure. No problems interpreting this guidance were evident during the 1993 exercise. This item is closed.

(Closed) Inspection Followup Item No. 50-255/93007-01: During the 1993 routine inspection, it was noted that guidance on how to relocate the Technical Support Center or Operational Support Center was inadequate. Procedural changes were made to provide plant staff with guidance as to how to relocate these facilities and selected equipment should the need occur. Training was conducted on this guidance. During the 1993 exercise, the scenario did not require relocation of these facilities, but procedural guidance was available. This item is closed.

(Open) Inspection Followup Item No. 50-255/93007-02: During the 1993 routine inspection, it was found that information as to how to utilize offsite decontamination facilities at the Covert, Michigan fire department were incomplete. Upon review, the licensee decided to discontinue plans to use this fire department, researched possible alternatives, drafted plans to utilize the Allegan Service Center as a decontamination center. Anticontamination clothing and related equipment would be stored at this location, while monitoring equipment would be brought from the plant or elsewhere. This item remains open.

4. General (IP 82302)

An announced, daytime exercise of the licensee's emergency plan was conducted at the Palisades Plant on October 26, 1993. This utility-only exercise included the very limited (communications) participation with the State of Michigan, Van Buren and Berrien counties. The exercise tested the capabilities of the licensee to respond to an accident scenario resulting in a limited, onsite spread of contamination, and to evaluate the possibility of an offsite spread of such contamination.

An exercise-related medical drill was evaluated by a representative of the Federal Emergency Management Agency (FEMA), which will document its findings in a separate report.

The licensee conducted preliminary critiques immediately following the exercise. The inspectors presented their preliminary findings at an exit interview conducted on October 28, 1993.

The scope and objectives of this utility-only exercise were consistent with NRC guidance for such exercises. The attachments to this inspection report describe the licensee's scope of participation and the 1993 exercise scenario.

5. General Observations (IP 82301)

The licensee responded to the accident scenario in an orderly and timely manner in accordance with its emergency plan and related procedures. If scenario events had been real, the actions taken by the licensee would have been sufficient to mitigate the accident and permit State and local authorities to take appropriate actions to protect public health and safety.

6. Specific Observations (IP 82301)

a. Control Room Simulator (CRS)

Overall performance by the shift personnel assigned to the Control Room Simulator (CRS) was excellent.

Players immediately recognized the (scenario) loss of shutdown cooling and were preparing to classify this event as an Unusual Event when the tornado hit the plant. Recognition of the seriousness of the tornado and classification of the event were almost instantaneous.

Use of procedures and "repeat backs" by CRS personnel were excellent. Off Normal procedures 17 "Loss of Shutdown Cooling", 12, "Acts of Nature", and others were observed in use. Procedure No. EI-1 "Activation of the Site Emergency Plan/Emergency Classification" and EI 2.1 "Emergency Actions/Notifications/ Responsibilities" were effectively utilized to classify events.

CRS personnel were alerted to the tornado by a loud simulated high wind sound. The combination of control panel alarms and reports of visual observation made it clear that the plant had sustained a tornado impact in the spent fuel pool area. Per the scenario, the Safety Injection Refueling Water storage tank (SIRW) was also destroyed.

The Site Area Emergency (SAE) was properly and conservatively classified within five minutes of the initiating event. The Unusual Event notification form, already near complete, was modified to address the revised situation, saving time.

Notifications were made, by procedure, in a timely manner. The initial notification sequence was completed at 0914 hours. Approval for a subsequent notification was received from the Technical Support Center (TSC) via telephone, an "exercise artifact" (the actual Control Room is adjacent to the TSC).

Public Address system notifications to plant personnel regarding event classification were very well done, following the appropriate procedure. The reason for classifying the event was properly included with each announcement.

Briefings and turnovers to subsequently arriving personnel were excellent. The Emergency Response Data System (ERDS) was appropriately simulated as being initiated (the simulator does not support actual use of the ERDS system). Accountability was properly ordered when required by procedure.

Information as to the lightning strike which caused the initial loss of shutdown cooling was not observed to be passed on to other facilities. However, this information was of very minor

importance. Information relative to the stuck fuel bundle was very slow to be communicated to other facilities, and was not included in notifications.

No violations or deviations were identified.

b. Technical Support Center (TSC)

The TSC was fully staffed and operational approximately 19 minutes after the Alert declaration. Incoming staff prepared to perform their duties in an orderly and efficient manner. The Site Emergency Director (SED) provided a very good initial briefing. The TSC Public Address system was periodically utilized to provide update announcements to the TSC staff.

Notifications of State, county, and simulated NRC officials were timely. It was noted that the telephone utilized for communication with the NRC was laid down for minutes at a time, when the communicator was tasked with communication with State and local agencies. During this time, continuous communications with the NRC were not maintained. The capability of the licensee to properly maintain continuous communications with the NRC during an incident is an Inspection Followup Item (50-255/93027-01).

Per procedures, the SAE declaration warranted the assembly and accounting of all onsite personnel. Onsite personnel were accounted for within the 30 minute goal.

The SED effectively directed the TSC staff. Periodic briefings were held with key staff on approximately 15 minute intervals. TSC staff were kept informed of plant conditions, current priorities, and action items' status.

There was an excellent prioritization of activities by the SED, with first priority being designated as search and rescue. There was no immediate action to lower the fuel assembly on the refueling machine back into the water. This action was considered to be a lessor priority than search for and rescue of injured individuals. It took two hours to start flooding the Spent Fuel Pool with fire water, even though a fire hose was easily accessible. This is because of the relative priority assigned to this task and the capacity of the fire hose.

Radiological conditions in the TSC were monitored to ensure facility habitability, and there was good hand and feet frisking by personnel coming into the TSC from potentially contaminated areas.

Status boards in the TSC lack an easily visible area for the posting of emergency classification. This would be an aid to newly arriving personnel.

Coordination between TSC staff and their Emergency Operations Facility (EOF) counterparts was very good after lead responsibilities were transferred to the EOF.

At some times during the exercise there were delays in updating of Response Team status board; at one point there was a 30 minute delay in posting response team status. This reduced the incident response cognizance of the SED. The current organization of the Response Team status board is not space efficient and only allows for the tracking of a limited number of teams before other tracking means are necessary. Subsequent to the exercise, discussions were held as to OSC and TSC status boards layout and possible improvements.

A limited chronology of events was kept on a status board, but was not disseminated to staff. This information was well maintained in the secretary's log.

The current available space and layout of the TSC causes "compartmentalization" of the TSC functions, and does not allow for overall utilization of status boards. The licensee appears to have adequately compensated for inadequacies of the TSC by conducting briefings/meeting at 15 minute intervals. Holding meetings at this frequency was, however, a major impact on all TSC personnel.

No violations or deviations were identified; however, one Inspection Followup Item was identified.

c. Operational Support Center (OSC) and Inplant Teams

Teams were not pre-staged in the OSC prior to the start of the exercise. The facility was rapidly activated, and was declared operable before all communications were completely established (personnel were still running telephone wire). This was considered a proper judgement call; a facility can be declared operable when ready to assume major functions.

Upon activation of the OSC the persons in charge failed to identify themselves. For example, the OSC director did not state his name at the onset of the event and neither did the other key players. However, the director directed the accountability process, so everyone correctly assumed he was in charge.

The OSC director routinely updated those present as to plant conditions.

Accountability was performed well, with good removal of nonessential personnel to ease OSC crowding.

Survey meters and air samplers were within required calibration. There was good hand and foot frisking before reentering the OSC complex.

The briefings for the teams prior to being dispatched was good. There was good discussion on overall expected conditions, clothing requirements, dosimetry, and method of communications. The debriefings upon return of the various teams likewise was good. The site two mile map was updated based upon information brought back by the teams.

The OSC director called the TSC for priorities after all previous priorities were addressed. Personnel were waiting for assignments; effective resource utilization was good.

Medical personnel acted swiftly and efficiently in treating and evacuating injured personnel, with good prioritization of tasks.

The status boards in the OSC lacked information. One example was that release data was never filled out after the general emergency was declared. There was no time of release, release path, release height/point, projected dose rates, etc. However, the environmental monitoring map update appeared adequate to track the plume in two dimensions. The OSC status boards do not list the names for the key players and when they "assumed the watch."

The onsite radio system actually failed (this was not a part of the exercise scenario). For a period of time, there was some confusion among the players as to whether the radio failure was real or a part of the exercise scenario. Due to the actual radio system failure, initial OSC teams were dispatched without functioning radio communications. For many minutes the base was unable to contact the dispatched teams. Eventually, communications were established by sharing the radio frequency monitored by security personnel. This provided communications with the onsite teams, but the resulting amount of radio traffic caused was distracting.

The Motorola representative showed up at the site during the general area emergency (while the site evacuation was in progress) to troubleshoot the defective radios. The reliability of the onsite radio system is an Inspection Followup Item (50-255/93027-02).

Dose tracking was performed manually and appeared to be a cumbersome process. The remaining allowable doses for each individual were to be monitored by the attendant HP technician (not the worker) dispatched with the teams. Some personnel received more than expected exposure.

Some Radiation Protection Technicians' (RPT) activities were not consistent with good practice under high dose rate conditions.

Although some of the delay in transiting or surveying the high (up to 1.17 rem/minute) dose rate areas could be attributed to the artificiality of the exercise, the amount of time spent in the area was excessive.

Radiation Protection practices related to the control of exposure for personnel entering the very high radiation area on the fuel floor (649' elevation of the fuel building), were poor.

A review of the OSC logs and a post-exercise discussion with the Lead Radiation Protection Supervisor (LRPS) for the OSC revealed that he had requested permission for personnel to exceed the administrative whole body control level of 2500 mrem as stated in licensee procedure EI-8, "Onsite Radiological Monitoring". The LRPS stated that he received word back that doing so was permissible, but he did not believe the EMTs had been so informed. The LRPS stated he was not aware of the authorization to allow 25 rem exposure for the EMTs until after the EMTs had returned to the OSC.

Although the SED's log indicated that the Emergency Medical Technicians (EMT) had requested and been granted dose extensions from 2500 mrem to 25 rem, the OSC Director's log did not indicate that extension until 1030. It did indicate the extension from nominal 1500 mrem to 2500 mrem, per procedure.

Personnel at the Spent Fuel Pool Area (SFPA) were observed discussing whether their allowable dose was extended, and by how much. The RPT correctly identified the emergency plan administrative limit of 2500, but did not discuss the extension to 25 rem. By the time the OSC became aware of the extension, team personnel had already received most of their dose.

Personnel on the initial investigation, search and rescue, or medical assistance teams, were not observed checking their dosimetry to determine their dose during periods of high dose rate and high variability in dose rates. It was not clear that team members had been briefed on the nonuniform exposures which could result from the configuration of the pool and location of the exposed fuel bundle.

The exposure tracking log in the OSC was not used effectively to control exposure. There was no provision for indicating whether personnel had received extensions, or which personnel had been provided with briefings.

Logs in the OSC were very informal. For example, the dosimetry log consisted of two apparently unrelated log sheets with last names, instrument numbers, time and dose in on one log, and the authorized exposure on another log with last name only. Dosimetry logs did not contain dose extension information, and numerous strikeovers and erasures made the logs nearly unreadable.

Licensee procedure [Radiation Work Plan] #316, "Electronic Dosimetry Operations With MIS Down," in Attachment 1, "Manual Log In/Out Sheet," contains sufficient information to accurately track personnel exposure and identify specific individuals' entries to controlled areas, their exposure and allowable remaining exposure. This form was not used, but could be modified to accommodate entry of multiple personnel on individual attachment sheets and address exposure extensions.

Additionally, the OSC Director's log was difficult to use in determining what was occurring. The log entry pertaining to allowing extension of dose for the spent fuel pool area consisted of two brief entries.

Licensee procedure EI-12.3, "Search and Rescue Team Responsibilities," Revision 0, dated 9-1-93, stated in part that search and rescue personnel could be authorized to receive up to 25 rem for non-lifesaving activities and 75 rem for lifesaving activities. However, the procedure did not provide instruction on how to track or control specific individuals.

Licensee procedure EI-8, "Onsite Radiological Monitoring," states a whole body exposure control level of 2500 mrem, but does not contain instructions on how to administer activities during which personnel might need to exceed this control level.

The need for the licensee to reevaluate dose tracking and overexposure procedures is an Inspection Followup Item (50-255/93027-03).

No violations or deviations were identified; however, two Inspection Followup Items were identified.

d. Emergency Operations Facility (EOF)

The full time Conference Center personnel rapidly set up the EOF in approximately 22 minutes. There was no prestaging of the facility or equipment. The General Office Response Team (GORT) was prestaged in the area, but not allowed to respond to the EOF until one hour after they had been notified.

Three Health Physics and one Reactor Physics person were allowed to leave the plant to respond to the EOF. These persons efficiently set up their areas and established appropriate communications links.

The loss of radio communications with the Offsite Monitoring Teams initially had a large impact on the EOF staff. The Health Physics personnel handled this problem by dispatching their own Offsite Monitoring Team as EOF staff began arriving. They had considered the communications and power supply problems and were dispatched to a friends house downwind to obtain centerline air samples and

dose rates. They were able to use the electrical outlet and telephone for their equipment and communications needs.

The EOF Director updated the staff prior to activation. Transition of Command and Control to the EOF was smooth. Briefings were periodic and all the facility directors participated.

The Health Physics staff held good discussions including potential radioactive liquid run off into Lake Michigan, controlling the drinking water in South Haven, and the changing wind direction affecting the Protective Action Recommendations to the State.

The EOF staff did a good job following up on the communication of information regarding the contaminated injured persons. Status reports were requested, and employee's immediate supervisors and family were appropriately notified.

Personnel in the EOF proactively called offsite agencies for assistance. Also, the State of Michigan and the NRC were communicated with for various reasons. When the subject of downgrading from the General Emergency classification arose, good discussions were held on entering the Recovery phase.

The minimization of simulation was excellent. Instead of simulating the dispatch of the EOF Offsite Monitoring Team it was actually sent out. Also, the OSC Offsite Monitoring Team obtained actual water, vegetation, and soil samples.

Critiques held by the facility were very good. The players and controllers were very self critical and identified corrective actions immediately on most of the problems mentioned.

The real radio equipment failure initially had a large impact on the EOF Health Physics staff. At one time, it was reported to the EOF that the OSC Offsite Monitoring Teams that had been dispatched were lost due to the loss of radio and another team had been sent out to locate them.

There was some confusion regarding the Protective Action Recommendations given to the State. It was unclear whether certain sectors had or had not been recommended. The State had taken their own Protective Actions, so this was not an issue. This was corrected later on.

The EOF did not have a method of displaying the current Emergency Classification in the facility. Also, it was not announced during the facility briefings, what Emergency Classification was declared or what the cause of the classification was.

Some communications between facilities was slow being disseminated to the staff. The first time any information regarding the Fuel

Bundle being attached to the Mast in the Spent Fuel Pool was discussed was approximately 12:04. Also, status of the SIRW Tank was slow to be verified and communicated to the EOF staff.

The EOF determined that it would be beneficial to have an offsite monitoring team dispatched; personnel had not been released from the plant as of that time. As personnel and adequate instrumentation were available, a team was dispatched and provided valuable information.

The SFP level control procedure was missing from the Off Normal Procedures maintained in the EOF. Per request from the EOF, this procedure was subsequently faxed from the TSC. These procedures, as "controlled copies" should be inventoried/updated and periodically audited

There was no easily identifiable location provided for the posting of emergency classifications.

Initial recovery planning discussions began late in the exercise. The incident response roles of NRC and the Department of Energy were discussed, as well as the establishment of an onscene FEMA Disaster Field Office. A list of onsite action items was developed.

The licensee needs to be aware of impact on their staffs when NRC arrives for drill/exercise/event. Colocation of NRC and licensee personnel can have a significant impact (NRC personnel will closely monitor the various individual organizations), and must be accommodated in emergency planning.

No violations or deviations were identified.

e. Recovery

Subsequent to the exercise, a limited demonstration of the planning and discussion which would be required for a Recovery phase of a major accident was held in the EOF. The relevant procedure was well utilized, and personnel were tentatively selected to staff a recovery organization. Recommendations were made for inclusion in the procedure of a detailed checklist of anticipated actions/needs during a Recovery phase. It was also recommended that the Recovery organization formally provide for a liaison officer to the anticipated Federal Radiological Monitoring and Assessment Center (FRMAC).

No violations or deviations were identified.

7. Exercise Objectives and Scenario Review (IP 82302)

The exercise's scope and objectives and complete scenario manuals were submitted for NRC review within the proper timeframes. The licensee was responsive to NRC's scenario comments.

Challenging aspects of the scenario included: use of the CRS, which was electronically linked to computer terminals in the TSC and EOF to provide greater realism to the licensee's protective measures and reactor safety staffs; assembly and accounting of onsite personnel; collection and analysis of environmental samples; deployment of offsite monitoring teams.

No violations or deviations were identified.

8. Exercise Control and Critiques (IP 82301)

There were sufficient numbers of personnel to control the exercise. No significant examples of controllers prompting participants to initiate actions, which might not otherwise have been taken, were identified.

Controllers in the field and the OSC were well disciplined. For example, despite numerous attempts by exercise participants to obtain information not available from their actions, the controllers provided only that which was available, and did not ask leading questions. Also, controllers anticipated and took action to address changes in the scenario when operators did not take certain expected actions.

There was some confusion on decreasing radiation levels prior to water level being increased in the Spent Fuel Pool. This was considered a controller problem.

Problems were observed in the dosimetry logs in the OSC. There were several entries of actual dose where individuals should have shown significant dose per the scenario. This appears to have been a controller problem, in communicating to personnel that they should have received dose.

The sequence of EOF manning was confusing; some personnel departed the site before controllers could halt there departure and they arrived at the EOF early. Others were properly (per the scenario), held up at plant by concerns regarding offsite conditions.

In the EOF, there was some initial confusion regarding whether the loss of radio communications was a real situation or whether it was a scenario problem. At one time it was reported to exercise players as a part of the exercise scenario.

The OSC participants' and initial controllers' critiques were self-critical and comprehensive. Constructive suggestions for improvement and problem areas were addressed in detail.

The licensee's controllers held initial critiques in each facility with participants following the exercise. A lead controller critique was subsequently held at the conference center. Critiques were attended by NRC personnel. The critiques were detailed and thorough, indicating an aggressive self-evaluation process. The licensee provided a summary of its strengths and weaknesses, which were in overall agreement with the inspectors' findings, immediately preceding the exit interview.

9. Operational Status of the Emergency Preparedness (EP) Program (IP 82701)

a. Actual Emergency Plan Activations

Since mid-April 1993, the license declared three Unusual Events in accordance with the plant's EALS. State, county and NRC officials were initially notified in a timely manner following declarations and subsequent termination.

A Unusual Event was declared on April 27, 1993 due to having both diesel generators declared inoperable while the Reactor Coolant System was above 300 degrees fahrenheit.

An Unusual Event was declared April 28, 1993, due to an abnormally high primary coolant System more than specified by the Plant's Technical Specifications. While the leakage was known to be from the control rod drive system, a conservative decision was made to consider the leakage source as unidentified. Additional time was required to verify the leak rate. Due to the complex nature of leakrate determination and the need for subsequent discussions with local authorities, the State of Michigan was not notified until 20 minutes after the declaration. This was considered acceptable under the circumstances.

An Unusual event was declared on July 6, 1993, due to a stuck fuel bundle affecting core unloading during the refueling outage.

No violations or deviations were identified.

b. Emergency Response Facilities, Equipment, and Supplies

The TSC and EOF were as described in the plan and implementing procedures. Pre-exercise observations indicated that these facilities were in a state of operational readiness.

During the exercise, the public address (PA) system announcements sounded garbled on the fuel floor. Although the Site Area Emergency (SAE) tone could be heard, none of the verbal announcements, including accountability or the declaration of a General Emergency, were understandable. Subsequent to the exercise, testing of the PA system in the actual Control Room indicated that if the control panel handset were utilized for PA announcements, PA audibility in the spent fuel pool was very good.

When the telephone interface to the PA system was utilized, PA announcements in the spent fuel pool were poorly audible.

No violations or deviations were identified.

c. Audits

The inspector reviewed Surveillance Report NPAD-P-93059, "Emergency Preparedness Practice Drill", Issued October 21, 1993. This surveillance was performed to assess the effectiveness of corrective actions taken for weaknesses identified in PALEX-92, at the request of the Radiological Services Manager and Emergency Preparedness Coordinator. The surveillance resulted in no findings, no observations adverse to quality and three recommendations.

Aspects of the audit and surveillance program were discussed with the lead auditor for the EP functional area.

No violations or deviations were identified.

10. Emergency Information Pamphlet

Discussion indicated that the "glossary of terms" section of the Emergency Information Pamphlet for the Palisades plant would be revised to reflect changes in the NRC Maximum Permissible Dose (MPD). The State of Michigan had been advised of this pending change. The next printing of the pamphlet is tentatively scheduled for the second half of 1994, with some 22,000 copies to be printed. Licensee personnel indicated that some 18,000 copies will be distributed to residents in the Palisades Emergency Planning Zone (EPZ).

No violations or deviations were identified.

11. Exit Interview

The inspectors held an exit interview on October 28, 1993, with those licensee representatives identified in Section 2 to present and discuss the preliminary inspection findings. The licensee indicated that none of the matters discussed were proprietary in nature.

Attachments:
1. 1993 Exercise Scope and Objectives
2. 1993 Exercise Scenario Summary

ATTACHMENT

Consumers Power Company
Palisades Plant
Docket 50-255

1993 PALISADES EMERGENCY EXERCISE SCOPE AND OBJECTIVES

July 21, 1993

2 Pages

1993 PALISADES EMERGENCY EXERCISE SCOPE AND OBJECTIVES

SCOPE

The 1993 Palisades Emergency Exercise (PALEX-93) is designed to meet exercise requirements specified in 10 CFR 40, Appendix E, Section IV.F. PALEX-93 is a utility only exercise and will not include the participation of local governments. State personnel will participate only to the extent of answering phones and supplying information on simulated offsite actions. The Joint Public Information Center will not be activated during the exercise.

OBJECTIVES

The following objectives will be demonstrated as dictated by the exercise scenario.

1. Assessment and Classification

    a. Assess conditions which warrant classification within fifteen minutes of being provided those conditions.

    b. Classify posed conditions in accordance with Emergency Action Levels within fifteen minutes of determination that conditions warrant classification.

2. Communications

    a. Upon making an emergency classification, complete initial notifications within fifteen minutes to the State and local government agencies and within one hour to the NRC using the notification form.

    b. Complete subsequent notifications to the State and local government agencies, and NRC on a routine fifteen minute basis or as mutually agreed.

    c. Contact other organizations such as contractors, utilities, fire or medical support within one hour of recognizing that conditions exist that warrant their assistance.

    d. Provide updates between appropriate Emergency Response Facilities at least every 30 minutes.

3. Radiological Assessment and Control

    a. Collect, analyze, document and trend radiological survey data.

    b. Analyze plant radiological conditions and implement protective actions for site personnel in accordance with procedures.

    c. Prepare and brief personnel for activities required in high radiation areas.

d. Monitor, track and document radiation exposure to maintenance, operations, and monitoring team personnel.

e. Calculate dose projections based on sample results or monitor readings.

f. Identify appropriate protective action recommendations.

g. Perform environmental monitoring in accordance with procedures and as directed by the Controller.

4. Emergency Response Facilities

a. Staff and activate onsite Emergency Response Facilities within approximately 30 minutes of an Alert classification.

b. Staff and activate the Emergency Operations Facility within about an hour of the Site Area Emergency declaration.

c. Update status boards at least every 30 minutes.

d. Document field team activities in logs and on appropriate status boards.

e. Track and prioritize status of key in plant jobs.

5. Direction and Control

a. Command and control all Emergency Response Facilities in accordance with assigned functions.

b. Coordinate maintenance activities.

c. Take appropriate measures to secure emergency equipment, supplies, and support.

d. Dispatch field teams in accordance with procedures.

e. Direct and monitor field team actions.

f. Transfer command and control in accordance with the Site Emergency Plan.

g. Perform accountability within approximately 30 minutes of the Alert classification.

h. Control site access and site evacuation as directed.

i. Brief Emergency Response Facility staffs approximately every 30 minutes on changes in plant status, emergency classification, field team progress, and offsite actions as appropriate.

j. Effectively coordinate with State and local government agencies as appropriate.

k. Demonstrate reentry and recovery in accordance with procedures.

6. Exercise Control

a. Allow adequate free play for players to demonstrate their capabilities.

b. Accurately assess performance of exercise players and controllers.

SCENARIO SUMMARY:

PALEX-93 involves a fuel handling accident with personnel injuries. A release to the environment occurs.

The Control Room simulator will be used and run in real time mode, although its usefulness and the ability to simulate the postulated conditions in the Fuel Pool Area is extremely limited. Reactor plant conditions will remain relatively static throughout the exercise. Backup plant conditions data sheets have been prepared and will be used if needed.

SEQUENCE OF EVENTS:

-0030/0800 Initial conditions are provided to players:

The plant is in Cold Shutdown at the end of core life. Preparations for refueling are in progress. Fuel handling operations in the Spent Fuel Pool are in progress.

Equipment degraded/out of service:

Safeguards Transformer 1-1
Spent Fuel Pool Cooling Pump P-51A

Normal shutdown alarms are annunciated.

A severe storm warning has been issued and a tornado watch is in effect.

0000/0830 The exercise begins when a lightning strike disables Station Power Transformer 1-2. Shutdown Cooling is briefly lost, Spent Fuel Pool cooling is lost and the Spent Fuel Handling Machine, with a spent fuel bundle in the mast, is disabled.

0015/0845 A tornado destroys the Spent Fuel Handling Area and spreads debris along the north-south access road leading to Lake Michigan. Two operators are injured and rendered unconscious. The Fuel Pool begins to leak into the south Tilt Pit. An "ALERT" or higher should be declared.

0030/0900	The damaged fuel bundle continues to uncover. Debris washes into gutters and catch basins leading to Lake Michigan.
0045/0915	Site Emergency Plan activation complete. Search and rescue operations commence.
0100/0930	Site Emergency Plan classification should be upgraded to "SITE AREA EMERGENCY" or higher.
0130/1000	Fuel Pool losses to Tilt Pit are overcome by Fire Water addition to Spent Fuel Pool and the damaged fuel bundle is re-submerged. The injured operators are located and evacuated.
0223/1053	The Fuel Pool is refilled. The injured operators are transported to South Haven Community Hospital. Contamination retention/capture efforts are underway on the site perimeter.
0230/1100	Fuel Pool cooling is restored, resulting in high radiation areas being created in the Spent Fuel Pool Heat Exchanger Room and adjacent areas of the Auxiliary Building.
0300/1130	The damaged fuel bundle is secured to the Spent Fuel Handling Machine.
0400/1230	Cleanup planning is completed. The Site Emergency Plan classification should be downgraded to "ALERT".
0400+/1230+	Recovery planning begins. Players not involved in recovery planning begin critiques.
0630/1500	Recovery planning is completed; the exercise is terminated.