U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-255/92005(DRSS)

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

Licensee: Consumers Power Company
Palisades Nuclear Generating Plant
27780 Blue Star Memorial Highway
Covert, MI 49043

Facility Name: Palisades Nuclear Plant

Inspection At: Palisades Site, Covert, Michigan

Inspection Conducted: February 10-14, 1992

T. Ploski
Inspectors: T. Ploski 2/21/92
Date

T. Ploski
for S. K. Orth 2/21/92
Date

J. W. McCormick-Barger
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Emergency Preparedness Section Date

Inspection Summary

Inspection on February 10-14, 1992 (Report No. 50-255/92005(DRSS))
Areas Inspected: Routine, announced inspection of the Palisades Nuclear Plant's Emergency Preparedness (EP) program, including the following areas: licensee actions on previously identified items (IP 82301); review of actual emergency plan activations (IP 82701); and operational status of the EP program (IP 82701). The inspection involved two inspectors.
Results: No violations, deficiencies or deviations were identified.

All four actual emergency plan activations since November 1990 were correct and timely. Initial notifications to offsite officials were adequately detailed and timely.

Progress has been made on implementing corrective actions on similar concerns identified during the last two exercises. Response facilities have been well maintained with several equipment upgrades completed or in progress. The licensee identified a significant flaw in the primary method used to activate the Emergency Response Organization (ERO) during off-hours. Further efforts are needed to demonstrate the capability to augment onshift personnel in a timely manner. Corrective actions have been effective in response to previous concerns related to the EP training program. Since mid-1991, good numbers of currently trained persons have been maintained on the ERO's callout roster.

DETAILS

1. Persons Contacted

R. Rice, Operations Manager
K. Haas, Radiological Services Manager
T. Palmisano, Administrative and Planning Manager
R. Kasper, Maintenance Manager
K. Osborne, System Engineering Manager
P. Loomis, Corporate Performance Specialist
A. Katarsky, Corporate Emergency Planning Administrator
L. Kenaga, Health Physics Superintendent
P. Donnelly, Safety and Licensing Director
J. Fontaine, Senior Health Physicist
N. Campbell, Senior Health Physicist
M. Brott, Emergency Planning Coordinator
C. Reavy, Senior Health Physics Technician
P. Rigozzi, Training Administrator
D. Rogers, Training Administrator
M. Dawson, Senior Training Instructor

The above and ten other licensee representatives attended the February 14, 1992 exit interview.

The inspectors also contacted other licensee personnel during the inspection.

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

(Open) Open Item No. 50-255/90011-01: During the 1990 annual exercise, the licensee failed to adequately coordinate Operational Support Center/ Maintenance Support Center (OSC/MSC) activities at a supervisor or director level. The licensee had no adequate method to uniquely identify and track inplant teams, which may have been dispatched from the OSC/MSC or from the Control Room.

The Emergency Planning Coordinator (EPC) has observed other licensees' OSCs to identify possible improvements to the OSC/MSC. During this inspection, procedures and associated training materials were being revised so that maintenance supervisory personnel could also fill the OSC Director position in order to better integrate the OSC and MSC functions. The layouts of the OSC and MSC were revised so that the MSC would essentially become a staging area for maintenance and chemistry technicians awaiting assignment to those inplant teams dispatched from the OSC. A status board has been added to the Technical Support Center (TSC) so that decisionmakers can better monitor the status of inplant teams dispatched from either the Control Room or the OSC. This item remains open pending successful demonstation of the revised OSC/MSC and the ability to adequately track dispatched inplant teams.

(Open) Open Item No. 50-255/91013-01: During the 1991 annual exercise, the organization of the OSC/MSC and the methodology of tracking inplant teams' assignments, priorities and progress remained inadequate.

Although some improvement had been noted in the above areas during the 1991 exercise compared to the previous exercise, concerns remained regarding the OSC/MSC's organization and the capabilities to adequately track inplant teams. The corrective actions summarized for Open Item No. 50-255/90011-01 are relevant to Open Item No. 50-255/91013-01, which will also remain open pending successful demonstration of the revised OSC/MSC and the capabilities to adequately track inplant teams.

3. Actual Emergency Plan Activations (IP 82701)

Licensee and NRC records of actual emergency plan activations since November 1990 were reviewed. The licensee correctly declared four Unusual Events in a timely manner. Initial notifications of State and county officials were completed in an adequately detailed and timely manner following each declaration. Comparisons of licensee and NRC records indicated that NRC officials were also accurately informed of each situation in a timely manner. The Emergency Planning Coordinator's (EPC's) evaluations of licensee records were thorough, so that any "lessons learned" from these actual activations could be utilized to improve the licensee's EP program.

On December 9, 1991, an Unusual Event was declared due to a hydrogen gas leak from the main generator into the turbine building. A Public Address (PA) announcement was made so that onsite personnel would avoid the affected portion of the turbine building. Licensee action to correct a PA system audibility problem in one onsite location will be reviewed during a future inspection.

On January 20, 1991, an Unusual Event was conservatively declared due to the initiation of a security force response to a suspicious device which was discovered within the Protected Area. The plan activation was promptly terminated when the device was properly identified as being non-threatening.

On February 5, 1992, the licensee's Corrective Action Review Board declared several Main Steam Isolation Valves (MSIVs) to be inoperable due to the identification of a design flaw in one of their components. An Unusual Event was declared when reactor power reduction commenced in accordance with the plant's Technical Specifications. The event was terminated several hours later following receipt of a temporary waiver of compliance from the NRC. Reactor power reduction was halted.

On the evening of February 6, 1992, an Unusual Event was again declared when the licensee determined that it could not complete corrective actions on the MSIVs' components within the time limit extension that had been granted by the NRC. Reactor power reduction was begun per the Technical Specification's requirements. During this power reduction, the only available train of the Control Room's (CR's) Heating, Ventillation and Air Conditioning (HVAC) system was declared to be out of service due to a loss of freon. This HVAC problem could also have involved a reactor power reduction, if it could not be resolved within the Technical Specification's time limit. Since a power reduction was already underway due to the MSIVs' inoperability, a second Unusual Event was not declared due to the HVAC system's problem. However, onshift personnel correctly

notified State, county and NRC officials of the HVAC system's operability problem. The reactor reached a hot shutdown condition at about 1:58 a.m. on February 7. However, the Unusual Event was conservatively not terminated until 3:22 a.m., when the CR's HVAC system was returned to service.

No violations or deviations were identified.

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

a. Emergency Plan and Implementing Procedures

Current copies of the emergency plan and implementing procedures were maintained and readily available in the emergency response facilities and the Control Room (CR).

Off-Normal Procedure (ONP) 25.2, "Alternate Safe Shutdown Procedure", was reviewed and discussed with cognizant licensee staff. This procedure described immediate and subsequent actions if onshift personnel would evacuate the CR. The inspectors determined that ONP 25.2 included adequate provisions for assuring that the following actions would occur in the event that the CR and the Technical Support Center (TSC), which shared the same ventillation system, would have to be evacuated: emergency classification; initial notification of State, county and NRC officials; and activation of the licensee's Emergency Response Organization (ERO). The inspectors also verified that a current copy of the ERO's callout roster was maintained in an appropriate predesignated location other than the CR and the TSC.

The EP aspects of the licensee's CR staffing were reviewed with respect to NRC Information Notice No. 91-77, "Shift Staffing at Nuclear Power Plants". After the Shift Supervisor would declare an emergency, initial notifications to State, county and NRC officials would be delegated to a licensed operator. A licensed operator would also be given the responsibility for activating the licensee's ERO; however, if the CR and the TSC were being evacuated, security force personnel would assume the responsibility for activating the ERO from another location. In the event of an onsite fire, an auxiliary operator would lead the fire brigade, which would include one or two additional auxiliary operators. In the event of an onsite injury requiring transport of the victim(s) to a hospital, the Shift Supervisor could dispatch an auxiliary operator to the accident scene to act as a liaison with other onsite and offsite responders.

No violations or deviations were identified.

b. Emergency Response Facilities (ERFs), Equipment, Instrumentation and Supplies

A tour was conducted through the Technical Support Center (TSC), Operational Support Center (OSC), Maintenance Support Center (MSC), Emergency Operations Facility (EOF) and the Control Room (CR).

The facilities were as described in the Emergency Plan. With the exception of the CR, these facilities were used on a daily basis for other functions and would be converted to ERFs when needed.

The CR and TSC were equipped with several radiation detection instruments. Records indicated that this equipment had been calibrated during 1991 in accordance with procedural requirements.

Each ERF was found to be generally clean, orderly and readily available for conversion to its respective emergency function. During 1991, supplies inventories and communications equipment tests were completed in accordance with procedural requirements. Corrective actions were taken as needed on any problems identified during these activities.

A status board has been added to the TSC to enable the Site Emergency Director to easily see information regarding the status of inplant teams dispatched from the CR or the OSC.

"Silent 700" terminals have been used in the TSC and the EOF to acquire 15 minute block-averaged, onsite meteorological data or regional meteorological information. The licensee was in the process of implementing software so that both types of meteorological information could be acquired by using personal computers already available within these ERFs.

Several personal computers have been added to the EOF for use by persons performing offsite dose projections. In the past, such equipment would have been brought to the EOF when the facility was being activated.

A new vehicle has been assigned for use by an offsite radiological monitoring team. This vehicle was a standard van equipped with appropriate Health Physics supplies and communications equipment. Keys for this and another vehicle for offsite monitoring teams' use would be available in the MSC, Radiation Protection Office, or from the Assistant EPC.

An inspector toured the onsite assembly areas and reviewed provisions for accounting for onsite personnel. The assembly areas were as described in the plan and its implementing procedures. Accountability would be conducted manually by the use of personnel assignment rosters found at each assembly area. These lists have been updated each month and reviewed annually. Lists were found to be current at each of the selected assembly locations. Appropriate instructions on the use of a roster were found on its reverse side. The licensee's general employee training program included adequate information on the provisions for assembling and accounting for onsite personnel, including the existance of the assembly areas' assignment rosters.

No violations or deviations were identified.

c. Organization and Management Control

The EPC reported to the Plant Manager through the Health Physics Support Supervisor and the Radiological Services Manager. The EPC's position became a full time assignment in January 1992. Prior to that time, the EPC also served as the Health Physics Training Coordinator, a duty which consumed roughly 30 percent of the EPC's time. The current EPC had previously been an a Health Physics Technician and an EP Instructor. The EPC maintained his qualifications to serve as a Duty Health Physicist during outages and backshifts.

Two EP Technicians (EPTs) assisted the EPC. One EPT was available roughly 60 percent of the time and was also a Senior Health Physics Technician involved in the As Low As Reasonably Achievable (ALARA) program. The other EPT was responsible for the maintenance program of the Emergency Planning Zone's alert and notification system.

An individual from the Training Department was assigned as the EP Instructor (EPI). The current EPI's time was divided between EP training and site access training on an approximate 60 to 40 percent ratio; however, the latter responsibility apparently became more time consuming during the early stages of plant outages. The licensee indicated that a second instructor may be certified as a backup EPI. The EPC was no longer a certified instructor.

A Corporate EP Administrator reported to the Vice President-Nuclear through the Nuclear Services Director. The current administrator had previously been a corporate emergency planner. He was assisted by one analyst and a senior planner.

The Emergency Response Organization's (ERO's) staffing levels were very good, with at least four persons identified for each director and group leader position and more numerous individuals identified for technical and non-technical support positions.

The licensee's emergency plan did not include a commitment to conduct periodic off-hours drills in order to test the capability to augment on-shift personnel in a timely manner. Since the late 1980s, the licensee has utilized three automated calling devices, known as "telecomputers", to notify ERO members to report for duty. In 1988, a successful off-hours augmentation drill was conducted using the telecomputers in response to an NRC concern. Some time after that drill, the licensee began performing periodic operability tests on the telecomputers as the means of demonstrating the capability to augment on-shift personnel in a timely manner.

In response to a recommendation in Inspection Report No. 50-255/90034 (DRSS), the licensee conducted four off-hours augmentation drills during 1991 using the three telecomputers to simultaneously attempt to contact different groups of ERO personnel. The licensee concluded that such drills were a more meaningful test of augmentation capabilities than were the monthly operability tests of the telecomputers. Persons contacted

were not required to report to their emergency duty stations. The licensee correctly concluded that none of these drills were successful. One drill's performance almost met the licensee's success criteria.

The licensee identified a significant flaw in the telecomputers, which the licensee concluded was the major contributing factor to the unacceptable drill performance. The telecomputers transmitted a recorded message to a person answering the telephone call. The message would instruct the person on how to indicate whether or not he/she was able to report for duty; however, the telecomputers would make a determination on a person's ability to respond based on the time duration of the person's response to the recorded message, rather than on the use of words such as "yes" or "no", some other code word(s), or the pressing of one or more buttons on a touch-tone telephone.

The inspectors concluded that the licensee's evaluations of the unsatisfactory drill performances were thorough. The EPC described several alternatives to improve drill performance, including replacement of the telecomputers. Other alternatives included: modification of the telecomputers' software; regrouping of ERO members to be called by each telecomputer; and revising the drill's success criteria.

At the February 14, 1992, exit interview, the senior licensee representative assured the inspectors that the licensee would continue conducting periodic, off-hours augmentation drills during 1992 with the overall goal of demonstrating the capability to adequately augment on-shift personnel in a timely manner.

The results of the 1991 augmentation drills have shown that frequent operability tests of the telecomputers have not provided sufficient assurance of the capability to adequately augment onshift personnel in a timely manner during off-hours. Completion of a successful off-hours augmentation drill is an Open Item (No. 50-255/92005-01).

Letters of Agreement with offsite support organizations were reviewed and were determined to be complete and current.

No violations or deviations were identified; however, one open item was identified.

d. Training

The EP training program was reviewed and discussed with the EPC and a cognizant Training Department supervisor. The program was adequately described in Revision 5 to a procedure titled "Site Emergency Plan Training Program", which included summaries of courses' descriptions and reasonable criteria for waivers and exemptions from specific EP training requirements.

Persons were allowed to complete annual requalification training through either classroom training or self-study. A waiver

was required if someone desired to complete initial training by self-study. Self-study participants were required to pass a proctored examination of equivalent difficulty to that associated with classroom training. Completion of problem sets could be used to fulfill requalification training for the following topics: emergency classification; offsite dose assessment; protective action decision-making; and core damage assessment.

Training course requirements were specified in an approved procedure for each key and support ERO position. The following sample of lesson plans were reviewed and were determined to be up to date when compared to the emergency plan and its implementing procedures: Rad Monitoring and Rescue; Emergency Dose Assessment; Emergency Dose Assessment - Quick Method; Formulation of Protective Action Recommendations; Emergency Notification; Emergency Action Levels (EALs); and Orientation to Emergency Preparedness.

The lesson plan on EALs included an overview of Emergency Operating Procedures and Off-Normal Procedures. The emergency notifications lesson plan had been revised to include activation of the Emergency Response Data System (ERDS).

In response to violations related to the EP training program, which were identified during the previous routine inspection (Inspection Report No. 50-255/90034 (DRSS)), the licensee implemented a tracking system to periodically update training records and the ERO callout lists maintained on the telecomputers and on manual backup lists. In 1991, monthly computer listings were generated which indicated the most recent training dates for each person in the ERO. Monthly memorandums were then sent by the EPC to notify management of any persons who had let their training expire or who had entered a 3 month "grace period". The EPC updated the ERO's callout lists to reflect any changes in training status.

Records demonstrated the effectiveness of the licensee's corrective actions regarding the previously identified EP training program inadequacies. Since the November 1990 inspection, ERO membership varied between 391 and 420 persons. Prior to June 1991, the number of persons whose requalification training exceeded the 15 month time limit ranged from 15 to 39. After June 1991, the number of such persons ranged from zero to four. No instances were identified where a person having expired training also remained on the callout roster. No instances were identified where there were insufficient numbers of currently trained persons to prevent 24 hour staffing of each key and support position in the ERO.

The inspectors verified that the ERO was trained in accordance with the training matrix found in procedure EI 15.1. A review of a 24 persons' EP training records showed that the appropriate training was received for each position and that such training was current.

The training matrix description of the OSC Director position was being revised. The new matrix description will require the same training as the Maintenance Supervisor position. This restructuring

should allow both health physics and maintenance supervisory personnel to become qualified as OSC Directors.

During 1991, the licensee established a Site Emergency Plan Curriculum Committee. Membership consisted of the EPCs from the Palisades and Big Rock Point Plants, a corporate EP staff representative, the Palisades Plant's EPI, several supervisory members of the Palisades Plant's Training Department and a corporate Public Affairs representative. The committee has met on several occasions during 1991. The committee's goals included: implementing corrective actions on training concerns identified during the November 1990 NRC inspection; ensuring more timely updating of lesson plans in response to plan and procedure changes; and developing problem sets used in some types of requalification training.

Records of the 1990 and 1991 emergency preparedness drills were reviewed. The licensee successfully completed all required medical, radiological monitoring, and radiation safety/chemical drills plus the annual exercises. Drill critiques were adequate in detail and indicated only a few minor findings for which appropriate corrective actions were taken.

The licensee planned to utilize the Control Room Simulator (CRS) for the first time in the 1992 exercise. The CRS was located in the Owner Controlled Area, while the actual CR was adjacent to the TSC. Several concerns regarding the prepositioning of non-licensed operators and the TSC's Site Emergency Director (SED) were discussed. The licensee was advised that the prepositioning of the TSC's SED near the CRS was acceptable, so that the customary face-to-face turnover briefing could occur. Non-licensed operators could be prepositioned in an office within the Protected Area.

Records indicated the the licensee had conducted annual reviews of the Plant's EALs with State and county officials during November of 1990 and 1991. Training regarding the licensee's and the State's EP roles was provided to local media in May 1991.

Based on discussions with State officials, the licensee has concluded that its liaison individual to the State Emergency Operations Center (SEOC) will be expected to operate the State's ERDS computer terminal and to interpret data available from the ERDS. The licensee was accordingly reassessing the training needs for its SEOC liaison.

No violations or deviations were identified.

e. Independent Reviews/Audits

Records of the Quality Assurance (QA) Department audits and surveillances performed since the November 1990 inspection were reviewed.

Surveillance S-QG-90-08 consisted of interviews with State and county officials in order to assess the adequacy of the licensee's interface with offsite support organizations. No interface concerns were identified. Copies of this assessment were then provided to these officials, as is required by 10 CFR 50.54(t).

Two audits and two surveillances of the EP program were conducted during 1991. These evaluations consisted of the following: an audit of the plant's EP program; an audit of the corporate office's EP program; a surveillance of the annual exercise; and a surveillence of the quality of the interfaces with State and county support organizations. The 1991 audits and surveillences satisfied all annual requirements of 10 CFR 50.54(t). These records also indicated that QA staff had adequately followed up on concerns identified during their previous reviews of the EP program.

No violations or deviations were identified.

5. Exit Interview

On February 14, 1992, the inspectors met with those licensee representatives identified in Paragraph 1 to present and discuss the preliminary inspection findings. The licensee indicated that none of the items discussed were proprietary in nature

The licensee was informed that progress had been made on implementing corrective actions on similar concerns identified during the previous two annual exercises regarding the management and tracking of inplant teams. The effectiveness of the corrective actions will involve successful demonstration during the 1992 exercise.

All actual emergency plan activations since November 1990 were correct and timely. Offsite officials were initially notified in an adequately detailed and timely manner following each declaration.

There were adequate provisions for assuring that actions associated with emergency declaration, offsite agency notification and off-hours staff augmentation wwould be accomplished, even if the Control Room would be evacuated.

Emergency response facilities have been well maintained. Several equipment refinements have been made or were in progress. The licensee identified a significant flaw in the primary method used to activate the ERO during off-hours. Additional efforts are needed to overcome this equipment limitation and to adequately demonstrate the capability to augment onshift personnel in a timely manner during off-hours.

Corrective actions have been effective in response to several concerns identified during the previous inspection regarding the EP training program. Good numbers of only currently trained personnel have been maintained on the ERO's callout roster.