U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-255/88009(DRSS)

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

Licensee: Consumers Power Company
212 West Michigan Avenue
Jackson, MI 49201

Facility Name: Palisades Nuclear Power Plant

Inspection At: Palisades Site, Covert, Michigan

Inspection Conducted: April 11-15, 1988

Inspectors: T. J. Ploski for J. P. Patterson — Date: 4/27/88

T. J. Ploski — Date: 4/27/88

Approved By: T. J. Ploski for W. Snell, Chief, Emergency Preparedness Section — Date: 4/27/88

Inspection Summary

Inspection on April 11-15, 1988 (Report No. 50-255/88009(DRSS))
Areas Inspected: Routine, unannounced inspection of the following areas of the Emergency Preparedness Program: activations of the emergency plan; licensee actions on previously identified items; changes to the Emergency Preparedness Program; review of emergency facilities/equipment and required drills; organization and management control; training, including interviews/walkthroughs of key emergency response personnel; and examinations of independent reviews/audits of the Emergency Preparedness Program. The inspection involved two NRC inspectors.
Results: No violations, deficiencies, or deviations were identified as a result of this inspection.

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## DETAILS

1. Persons Contacted

*G. Slade, Plant General Manager
*D. Joos, Administration and Planning Manager
*W. Beckman, Radiological Services Manager
*R. McCaleb, Quality Assurance Director
*C. Kozup, Technical Engineer
*L. Kenaga, Staff Health Physicist
*D. Fugere, Senior Emergency Planner - Corporate
P. Loomis, Emergency Planning Administrator, Corporate
*J. Brunet, Plant Senior Emergency Planner
*N. Brott, Nuclear Instructor II
*D. Malone, Nuclear Licensing Analyst
*M. Dawson, Senior Health Physics Technician, Emergency Planning
S. Oakley, Electrical Engineering Section Head
J. Hanks, Electrical Engineer
R. Frigo, Operations Staff Support Supervisor
T. Anderson, Operations Support Coordinator
S. Cote, Property Protection Supervisor
S. Phillips, Fire Protection Supervisor
R. McEnaney, Security Shift Leader
M. Willis, Senior Health Physics Technician
W. Eastman, Senior Health Physics Technician
J. Ridley, Senior Health Physics Technician
M. Schout, Senior Health Physics Technician
P. Slaughter, Offsite Emergency Preparedness Coordinator

*Denotes those attending the April 15, 1988 exit interview.

2. Licensee Actions on Previously Identified Items

(Open) Open Item No. 50-255/87012-01. As a result of the 1987 exercise, the NRC observers concluded that the Public Address (PA) reception was unclear due to poor audibility. Also, the licensee was aware that the siren sounds for assembly and accountability could not be heard in most areas of the Support Building. During February 1988, the licensee conducted a subjective audibility survey of the plant-wide PA system while the plant was at 100% power. A total of 51 speakers out of 167 speakers were found to be non-functional or capable only of a very low volume.

The inspector interviewed the Electrical Engineering Section Head and one of his engineers assigned to resolving this sound reception problem. One sound system's vendor is scheduled to provide a cost estimate by May 1, 1988, to include what is needed to renovate the present PA system by having a tone generator activated from the Control Room (CR) which would send the various siren sounds through the existing speaker locations. Volume level would be controlled at the CR. Another approach under consideration is to add one or two sirens on each floor of the Support Building.

The inspector emphasized, to the staff involved and again at the exit interview with plant management, our concern that weak points in the PA and siren systems must be corrected and made operable as soon as possible. The Emergency Preparedness Coordinator (EPC) has agreed to keep the Lead Inspector informed by telephone of progress in this area on a periodic (2-3 month) basis. This item remains open.

(Closed) Open Item No. 255/87900-01. This item related to a follow-up on NRC Information Bulletin 87-58, which reminds the licensee of the requirement to provide continuous communications with the NRC following an emergency notification, upon NRC request. Both the Control Room and the Technical Support Center (TSC) have provided personnel and facilities to keep the NRC line open when needed. This item is closed.

3. Emergency Plan Activations

The inspector selected for review 18 Licensee Event Reports (LERs) which occurred since August 10, 1987, following the August 6-7, 1987 inspection (Report No. 50-255/87020). Two of these resulted in an emergency classification: one a Notice of Unusual Event (NUE) and the other an Alert. The Alert occurred on October 15, 1987. The classification was made by the Shift Supervisor (SS) at 1949 hour and terminated at the same time. The overall cause was determined to be loss of shutdown cooling. Initial notifications to the State, Counties, and the NRC were made within the required times.

At 1905, the problem was identified as incorrect placement of Movat Jumpers on LPSI stop valve (VOP-3008) control circuits. The jumpers were removed and the control of VOP-3008 was returned to the CR operators. At 1906, this stop valve was no longer cycling. CR operators restarted LPSI pump No. P-67A, restoring shutdown cooling in 29 minutes.

Post-event discussions between the SS and CR operators led to the conclusion that the applicable EAL should be reviewed for change. In the SS's judgement, intentional tripping of the LPSI pump did not constitute a total loss of shutdown cooling. However, off-normal Procedure No. 17 indicated that a low discharge pressure on LPSI Pump 67A or 67B was symptomatic of shutdown cooling. The EAL relating to shutdown cooling is being revised to provide more specific guidance through the reactor parameter levels identified in the Method of Detection column. This revision will be identified as Revision 8 to Section 4 of the Site Emergency Plan (SEP) when approved by plant management.

An NUE was declared by the SS at 0258 on November 22, 1987. This event was classified under the Miscellaneous Classification, based on Technical Specification requirements 3.7 and 3.03. An inaccurate tank level indicator for a diesel fuel storage tank led to an inaccurate measurement of the fuel oil level. A dip stick measuring check confirmed the lower level than required by Technical Specifications.

The inaccurate gauge will either be repaired or replaced. Fuel oil was brought in by truck, and the tank was filled within four and one-half hours. All notifications to offsite agencies and the NRC were made within the required times.

Based on the above findings, this position of the licensee's program was acceptable.

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

a. Emergency Plan and Implementing Procedures (Also 82204)

Revision 8 of Section 4, "Emergency Conditions," of the SEP is presently going through management review. This revision, which includes the entire EAL tables, was previously reviewed by the NRC, culminating in a conference call with licensee representatives including the EP Coordinator and the Operations Staff Support Supervisor. The changes agreed upon should clarify certain EALs.

Procedures describing the assembly, evacuation, and accountability of onsite personnel were reviewed. Onsite assembly was required following an Alert or higher emergency declaration. Procedure EI-12.1, "Personnel Accountability," listed the main parking lot as Assembly Area IX for all site visitors and construction personnel. Such nonessential persons would be accounted for by leaving the protected area through the gatehouse. Off-normal Procedure ONP-12, "Acts of Nature," indicated that plant personnel would assemble in Access Control, but only if a tornado was sighted. Procedure EI-13, "Evacuation/Reassembly," indicated that nonessential personnel must be evacuated after any Site Area or General Emergency declaration.

Thus, nonessential personnel who had assembled in the main parking lot could remain there awaiting instructions for a site evacuation for over 30 minutes. During that time, they could be exposed to such hazards as inclement or severe weather (other than a tornado), a release, or a security threat. Procedure IE-12.1 listed the Support Building, located just beyond the protected area, as Assembly Area VII for nonessential personnel working in the building. The Security Building was listed as Assembly Area VIII for certain security personnel. Therefore, there were at least two indoor areas, at or beyond the protected area boundary, where visitors and construction workers could assemble and await an order to evacuate the owner controlled area.

One purpose of assembling personnel, whether at a location within the protected area or in the parking lot, is to afford them greater protection from a hazard than if they had not gathered in an assembly area. An outdoor assembly area would not always provide them with such increased protection.

In the previous inspection (Report No. 50-255/87010), it was reported that the Document Control Section had no means of recording when revised copies of the SEP and the Emergency Implementing Procedures (EIPs) were sent to the NRC to meet the required 30 day submittal deadline. Since then, the EP Coordinator has devised a form that provides this verification. Using the new form, the inspector was able to verify that 13 selected EIPs revised within the last year had been sent to the NRC within 30 days of issue. Two improvement items identified from the previous 1987 inspection regarding changes to the SEP and EIPs have been implemented satisfactorily by the licensee.

Based on the above findings, this portion of the licensee's program was acceptable; however, the following item should be considered for improvement.

- The licensee should revise appropriate procedures to ensure that the Site Emergency Director does not expose certain nonessential personnel to greater hazards by having them assemble and await further instructions at an outdoor assembly point, such as the main parking lot.

b. Emergency Facilities, Equipment, and Supplies

An inspector toured the onsite areas which would be reconfigured into Emergency Response Facilities (ERFs) in accordance with the emergency plan. Office space for Operations Department personnel would become the Technical Support Center (TSC). The Operational Support Center (OSC) was normally a lunchroom. The nearby Maintenance Support Center (MSC) was a locker room. Telephone jacks and status boards were installed in the OSC and MSC, while equipment needed in these facilities was stored in nearby emergency kits. Status boards, computer terminals, and procedure manuals were ready for use in the TSC. Additional telephones and other TSC equipment and supplies were maintained in various storage locations within the facility. Timely reconfiguration of these onsite areas into the ERFs would not be a problem.

Records of monthly, quarterly, and annual communications equipment tests for the onsite and offsite ERFs were reviewed for the period January 1987 through March 1988. All tests were performed in accordance with Procedure EI-15.2, "Communications Drills," and were adequately documented, including actions taken on several identified problems.

Quarterly inventories of various emergency supplies were conducted by emergency preparedness staff in accordance with Procedure EI-16.1, "Maintenance of Emergency Equipment." Monthly operability checks and periodic calibration of survey instrumentation, including some kits, were performed by instrument technicians per Technical Specification Surveillance Procedure MR-9. The plant's dosimetry

group was responsible for periodic replacement of personal dosimetry items stored in some kits. Procedure EI-16.1 included provisions for performing an inventory after any use of emergency supplies, in addition to the quarterly inventory requirement. The procedure also required timely correction of deficiencies and operability checks on all battery-powered equipment, periodic battery replacement, and annual inspection of respirators stored in any kits.

Inventory records for the period January 1987 through March 1988 were reviewed. With the exceptions of records associated with fourth quarter 1987 inventories of the maintenance tool kit and five decontamination kits, inventory records were complete and readily available. Some forms associated with the two aforementioned fourth quarter inventories had been misplaced. However, sufficient documentation was available to indicate that both inventories had been performed. All required inventories had been performed and adequately documented before and after the February 1988 exercise. During the tour of onsite ERFs, the OSC and TSC emergency supplies lockers were inspected, and one decontamination kit was opened. All required supplies were in place and well-organized. Survey instrumentation had current calibration stickers.

The Public Warning System for the 10-mile Emergency Planning Zone (EPZ) consisted of 84 fixed sirens with PA capability and 14 warning receivers located at institutions and larger businesses. Local officials could activate the system from any of three control centers in Van Buren County to alert the EPZ's population of a tornado warning or a General Emergency declaration. System operability tests have been conducted at noontime on the second Saturday of each month. Monthly tests have been monitored by a network of local government employees and volunteer private citizens who reported their comments on the sirens', PA speakers', or warning receivers' operability using pre-formatted postcards addressed to the County Emergency Preparedness Coordinator (EPC). This official would evaluate the comments and contact the observers in the event that no postcards for a given siren or warning receiver had been received. The licensee was responsible for system maintenance. A review of early 1988 correspondence between the licensee and the County EPC indicated that both were adequately aware of reported siren problems and the results of the licensee's timely investigations and repair efforts.

Based on the above findings, this portion of the licensee's program was acceptable.

c. Organization and Management Control (Also 82205)

Mr. Gerald B. Slade was officially announced, on April 15, 1988, as the new Plant General Manager, replacing Mr. David P. Hoffman, who was promoted to Vice President. The present organization includes the EP Coordinator (EPC) reporting to the Staff Health Physicist and then to the Radiological Services Manager. This manager reports to the Plant General Manager. A Senior Health Physics Technician has been assigned as the full-time assistant to the EPC for over a year. Another plant employee has been assigned to the maintenance of the Public Warning (siren) Systems for both Palisades and Big Rock Point Plants. In 1987, the EPC became a qualified Duty Health Physicist. This non-emergency preparedness assignment meant that the EPC would be on-call approximately two weekends per calendar quarter. When acting as a Duty Health Physicist, about five weeks per year during non-outage periods, the EPC would be unavailable to perform EP activities for some or all of each normal workday. However, the EPC indicated that his involvement as Duty Health Physicist would likely increase during the 1988 outage. Our main concern is that the Senior Technician, with help from the Staff Health Physicist, will be able to carry out the responsibilities of the EPC position.

A member of the Training Department was assigned as the EP Training Instructor during the last year for the onsite and the General Office emergency organizations. His EP training efforts take about half of his time, with the remainder being spent on General Employee Training and miscellaneous assignments.

An emergency response position, entitled "TSC/Security Liaison," has been established in the procedures, namely EI-4.1, Technical Support Center. This new position was well demonstrated in the February 1988 emergency exercise. This position is under the Administrative Support Group in the TSC. Continued use of security personnel to augment the technical staff, including the SED in real emergencies or in drill situations, can only be beneficial to all segments of the emergency response organization and increase the teamwork aspect.

Minimum shift staffing to meet the requirements as listed in the SEP, Section 5, "Organizational Control of Emergencies," is being maintained. Shift augmentation capability has been satisfactorily demonstrated through drills last year, as well as use of the automatic dialing telecomputer system in the off-hours, unannounced February 1988 exercise. A preventative maintenance program for the automatic dialing telecomputer system has been established. Requirements for specific maintenance checks have been put on a weekly, monthly, and quarterly basis, including the printer. Backup power supply for the system is tested weekly. The battery source is not tied to the diesel generators. These periodic maintenance checks have been programmed into the Periodic Activity Control System, an in-plant tracking system.

Based on the above findings, this portion of the licensee's program was acceptable.

d. Training (Also 82206)

Procedures and records associated with the emergency preparedness training program were reviewed and discussed with the EP Training Instructor. The program was described in Procedure EI-15.1, "Training and Drills," and in a document titled "Nuclear Training Program No. 3." Emergency organization personnel receive requalification training annually. "Annual" frequency was considered to be 12 months plus or minus three months. Training requirements for specific positions were listed in Procedure EI-15.1. Training has been accomplished either by classroom sessions or by completing a self-study package on relevant procedures and related information, such as recent exercise observations involving the position. In either case, personnel must pass an examination to demonstrate an adequate understanding of their emergency responsibilities. For the period mid-March through mid-April 1988, 23 persons were working on self-study packages, while over 100 persons attended one or more classroom sessions.

Procedure EI-15.1 stated that participation in a drill or exercise may exempt an individual from some annual training requirements, as determined by the EPC. Limitations on this practice were reasonable and specified in the "Nuclear Training Program No. 3" document. The procedure also specified that personnel must play in or observe a drill or exercise at least once every five years, unless their emergency duties were similar to their normal responsibilities. Clerical support staff were an example of personnel exempt from the five year frequency of participation criterion. However, such persons would still receive annual training on their emergency organization position. Records review indicated that drill and exercise participation was being adequately tracked by the licensee. Training records review of a sample of personnel listed on the current augmentation list also indicated that they had completed all training requirements within an annual period.

The instructor indicated that a training program refinement project was in progress as a licensee initiative that was expected to be completed by the end of 1988. This EP training review is a joint effort between the EP instructor, the EPC at Palisades, and a Corporate EP representative. The goal of the project was to consolidate certain training requirements and eliminate redundancies. The current 26 lesson plans would be reduced to about 12 to 16. Examples of current redundancies that would likely be eliminated in the refined training program were: the separate training classes for TSC and EOF engineering support personnel who perform the same function in either facility; and the separate training classes for clerical staff assigned to specific ERFs. Thus, the refined training program will also

provide the licensee with greater flexibility by qualifying certain types of personnel to perform the same function in multiple ERFs.

Two individuals, who occasionally function as Shift Supervisors (SS), were interviewed separately regarding their responsibilities as acting Site Emergency Directors. Both demonstrated good familiarity with relevant EIPs. They correctly classified several abnormal plant conditions in accordance with the Emergency Action Levels (EALs). Both were well aware of their undelegatable emergency responsibilities; notification requirements to NRC, State, and county officials; and could readily formulate correct offsite protective action recommendations given certain reactor status or dose assessment results. They were well aware that an offsite recommendation was required following any General Emergency declaration. They were adequately familiar with plant procedures regarding onsite assembly and accountability, and the subsequent evacuation of nonessential personnel.

Four Health Physics Technicians were interviewed regarding their emergency response functions with in-plant teams and as part of offsite radiation monitoring teams. All demonstrated good awareness of their emergency responsibilities and were knowledgeable of the basic principles of emergency preparedness as implemented at the Palisades plant. Also, a Security Shift Leader was interviewed on his concepts of what a TSC/Security Liaison Officer was and how that position would function in an emergency. He was very cognizant of the responsibilities involved and how it would function. Also, from a Security Officer's perspective, he felt that this position would demonstrate that Security could provide vital emergency services in cooperation and coordination with the SEP and his staff, as well as their counterparts in the CR.

The annual meeting with offsite officials was held on September 29, 1987. The agenda included: the purposes of each fission product barrier; how each emergency class could be interpreted with respect to a fission product barrier challenge or failure; licensee response actions for each emergency class; a review of the licensee's offsite protective action recommendation flowchart; and an NRC videotape titled "Protective Measures Decision Perspectives."

The annual Media Briefing was conducted on January 20, 1988. Speakers included: the Plant Manager, Lt. Tyler from the State Emergency Management Division; and the EPCs from each of the three counties in the 10-mile EPZ. The agenda included: fundamentals of radiation; overviews on the reasons for making dose assessment and field team measurements; protective action guides; fission product barriers; emergency planning at the State and County levels; and points of contact for the media.

Training for law enforcement, ambulance, and fire department personnel on site access requirements and basic radiation safety

practices has been accomplished during annual drills. The most recent medical drill took place in August 1987. The latest security and onsite fire drills involving offsite support organization interface occurred in September 1987.

Based on the above findings, this portion of the licensee's program was acceptable.

e. Independent Reviews/Audits (Also 82210)

The major portion of the licensee's EP program annual audit was conducted on June 22-26, 1987. This was the first EP audit done independently of other groups. This audit resulted in one finding and four observations. The finding related to the plant's ability to maintain the Post Accident Sampling Panel. The Post Accident Sampling System (PASS) has been made operational and was demonstrated satisfactorily in the February 1988 exercise. Another part of this audit included interviews with 18 emergency response personnel representing 7 different emergency response positions. This was a meaningful means to appraise the quality of the EP program.

The adequacy of the licensee's interface with the State of Michigan was addressed in Surveillance Report S-QG-87-1. A similar review relating to local governments, (e.g.), Van Buren, Allegan, and Bevien

Counties was addressed in Surveillance Report S-QG-87-3. The licensee informed both State and local governments by letter that the portion of the audit involving the adequacy of the interface with these governmental agencies was available to them, upon request. Other portions of the audit included review of drills and a review of critiques following the drills. No problems were encountered in these areas by the auditors.

Based on the above findings, this portion of the licensee's program was acceptable.

5. Preliminary Assessment of Provisions for the NRC Expanded Site Team

Requirements for workspace and communications equipment for NRC emergency responders located in licensee Emergency Response Facilities (ERFs) predate the Expanded Site Team concept, as described in IE Information Notice No. 86-18, "NRC On-Scene Response During a Major Emergency." Thus, an Expanded Site Team may find it difficult to fulfill its statutory responsibilities from licensee ERFs due to workspace and communications equipment limitations, although the licensee's provisions for an initial on-scene NRC presence would be in compliance with current regulatory requirements. Therefore, Region III staff are assessing the adequacy of ERFs for an Expanded Site Team's needs. Should an ERF be considered adequate, with respect to requirements for an initially small Site Team, but lack sufficient workspace and/or communications equipment for an Expanded Site Team, regional management may elect to negotiate for additional provisions on a case-by-case basis.

The TSC can accommodate five to seven Expanded Site Team personnel. An NRC representative located at the Site Emergency Director's (SED's) table would have a telephone with an outside line and an EOF extension. The Operations, Engineering/Maintenance, and HP Support Groups were located in adjacent cubicles to the left of the main aisle leading from the SED's table. A telephone having one outside line was reserved for NRC use in the Engineering/Maintenance Support Group's cubicle. NRC interface from this location with the Operations and HP Support Groups would be somewhat awkward since the cubicle's partitions were about five feet high, and the only entrance to each cubicle was from the main aisle. Responsibilities of the Operations and HP Support Groups included chemistry team and inplant survey team management, respectively. A one-person cubicle for NRC use was across the aisle from the HP Support Group. This cubicle had a plant telephone and a telephone with an outside line. This cubicle would facilitate NRC interface with the licensee's dose assessment and security personnel.

The remainder of the TSC workspace was on the other side of a fire door and across the aisle from the Control Room. An NRC office would be provided across from the Control Room. This office could accommodate up to four Site Team personnel, and had HPN and ENS telephones, plus several plant telephones.

The EOF, located at the South Haven Conference Center, was not toured as it was not permanently configured as an ERF. It's layout, available in Procedure EI-4.2, provided some details on NRC telephone locations. The Conference Building contained workspace for the licensee's key EDF staff. An NRC desk having one telephone with five outside lines would be located near the EOF Director's desk. Two groups of tables would be established for the licensee's Engineering Support and HP Support Groups. However, there were no apparent pre-arrangements for NRC seating and NRC telephones at either of these two work areas.

The Manor House is adjacent to the Conference Building. Three rooms having about 500, 200, and 375 square feet of floorspace were designated as NRC rooms. There were apparent provisions for five NRC telephones, each having one outside line, in the smallest NRC room. Two telephones would be located in the 375 square foot room. However, it appeared that only a total of five outside lines were reserved for NRC use at the Conference Building and Manor House.

In summary, there is an apparent need at the EOF for counterpart seating arrangements, including telephones, at the workstation for the licensee's engineering support and dose assessment staffs. A total of about five outside lines reserved for NRC use, even though those lines are accessible from various rooms, seems insufficient for an Expanded Site Team's communications needs.

6. Exit Interview

The inspectors held an exit interview on April 15, 1988, with those licensee representatives denoted in Section 1 of this report. The inspectors summarized the scope and findings of the inspection. The licensee indicated that none of the information discussed was proprietary in nature. The Lead Inspector stated that the main concern was for the licensee to upgrade the emergency sound system for the Support Building.