

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 50-255/98016(DRS)

Licensee: Consumers Energy Company

Facility: Palisades Nuclear Generating Plant

Location: 27780 Blue Star Memorial Highway
Covert, MI 49043-9530

Dates: August 10 -14, 1998

Inspectors: James E. Foster, Sr. Emergency Preparedness Analyst
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Approved by: James R. Creed, Chief, Plant Support Branch 1
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EXECUTIVE SUMMARY

Palisades Nuclear Generating Plant NRC Inspection Report 50-255/98016

This inspection reviewed the Emergency Preparedness (EP) program, an aspect of Plant Support. The inspectors selectively evaluated the quality of EP program-related audits and reviews, reviewed the effectiveness of management controls, verified the adequacy of emergency response facilities and equipment, reviewed a number of EP training and qualification activities, and included follow-up on previous inspection findings. This was an announced inspection conducted by two regional inspectors.

- Overall, the EP program had been maintained in an effective state of operational readiness. Management support to the program was apparent and interviewed key emergency response personnel demonstrated competent knowledge of responsibilities and emergency procedures. (General)
- The inspected emergency response facilities, equipment, supplies, and prompt alert and notification system sirens were well-maintained. Semiannual augmentation tests have been acceptably conducted by the licensee. (Section P2.1)
- With one exception, reviewed sections of the emergency plan and implementing procedures were consistent with regulatory guidance. Approved staffing commitments were not consistent with regulatory guidance. The EP staff is evaluating this issue. The emergency implementing procedures were very detailed and thorough. (Section P3)
- The EP training program was effective. Training was maintained current, and selected key emergency response organization personnel demonstrated competent knowledge of emergency responsibilities and procedures. All personnel reviewed were qualified for their emergency response positions. (Section P5)
- The licensee's 1997 and 1998 EP program audits were effective and satisfied the requirements of 10 CFR 50.54(t). (Section P7)

Report Details

IV. Plant Support

P2 Status of EP Facilities, Equipment, and Resources

P2.1 Material Condition of Emergency Response Facilities (ERFs)

a. Inspection Scope (82701)

The inspectors evaluated the material condition of Emergency Response equipment in the control room, Technical Support Center (TSC), Operations Support Center (OSC), and Emergency Operations Facility (EOF). The licensee demonstrated the performance of several pieces of emergency response equipment, including radiological survey instruments, dose assessment and plant data computers, and communications equipment.

b. Observations and Findings

The control room was well-maintained, and current EP procedures were available. The Site Emergency Director (SED) notification form packages were effectively filed and easily accessible. The emergency notification system phone was verified operable.

The OSC, TSC, and EOF facilities, equipment, and supplies were well-maintained. The plant recently upgraded the plant radio system to improve the clarity of emergency radio communications. This radio system was available in the emergency response facilities for inplant response teams and offsite field teams. Status boards in the EOF, TSC, and OSC were in good material condition effectively designed and ready for use. All commercial, dedicated, and licensee phone lines checked were found operable.

Locations for seating an NRC Site Team in appropriate locations in the TSC and EOF had been developed, and telephones intended for NRC use in these facilities had been designated. The licensee dose assessment system was verified to be operable.

Public Warning System (PWS) siren records for 1996 and 1997 were reviewed by the inspectors. The overall annual operability average for 1996 was 97.58 percent, with 96 percent for the lowest month's average. The 1997 annual operability average was 95.3 percent, with 75 percent for the lowest month's average. Annual siren operability exceeded both the acceptability limit of greater than or equal to 90 percent and the monthly acceptability limit of 70 percent.

The inspectors reviewed records for the semiannual augmentation tests. The tests provided off-hours calls to off-shift emergency response organization personnel to determine whether they could respond to their ERFs in time to augment the on-shift crew within specified times of an emergency declaration. Appropriate records were available for documentation of the tests. Augmentation drills had been conducted June 18, 1996; December 18, 1996; June 26, 1997; December 17, 1997; and June 25,

1998. EPIP EI-2.2, "Emergency Staff Augmentation," revision 4, provided for semiannual augmentation tests. The procedure provides that test results with less than a 90% success rate in filling the total number of required positions will be evaluated for corrective action. All of the test results reviewed exceeded the 90% success rate.

Emergency Plan Implementing Procedure (EPIP) EI-16.1, "Maintenance of Emergency Equipment," revision 13, dated August 6, 1998, provided for the inspection and inventory of prepositioned emergency equipment. Attachments to the procedure provide highly detailed inventory checklists for plant and offsite emergency supplies. A selection of inventory records was reviewed; no problems were identified.

c. Conclusions

The emergency response facilities, equipment, and supplies were well-maintained. The PWS sirens were adequately maintained. The licensee has conducted semiannual augmentation tests. Records indicated the licensee acceptably met their commitments.

P3 EP Procedures and Documentation

a. Inspection Scope (82701)

The inspectors reviewed a selection of emergency plan implementing procedures (EIPs) and emergency plan sections.

b. Observations and Findings

The inspectors reviewed Palisades Nuclear Plant Administrative Procedure No. 1.08, "Emergency Preparedness Program," Revision 1, dated October 23, 1997. The procedure describes the authority, interfaces, and responsibilities of the Emergency Preparedness Section within the Palisades Training Department. Section 7.0 of the procedure provides for the documentation and evaluation of actual activations of the Emergency Plan, with the evaluation report being provided to the evaluator of the Condition Report written on the emergency event. The procedure also contains an "Emergency Preparedness Program Worklist," specifying those tasks typically performed in a year, with columns for those assigned and scheduled and actual completion dates.

The inspectors reviewed the Site Emergency Plan, Section 5.0, "Organizational Control of Emergencies," Revision 14. Section 5.0 identified the site's normal operating organization, emergency response organization, emergency staffing, and the recovery organization. The inspectors identified the Plant Staffing and Augmentation Guidelines table, Figure 5-2, contained a significant inconsistency from the regulatory guidance in NUREG 0654, Table B-1. On shift chemistry technicians, mechanical maintenance technicians, electrical maintenance technicians, and inplant health physics technicians listed in the Site Emergency Plan were not available on shift for holidays and one of the three daily shifts. NUREG 0654 indicates that these staff positions are needed for minimum staffing for nuclear power plant emergencies. The licensee provided an NRC

letter dated November 1, 1988, that approved these changes to minimum emergency staffing commitments. The NRC and licensee's evaluation of appropriate minimum staffing levels for response to possible nuclear plant emergencies will be tracked as an **Inspection Followup Item (IFI 50-255/98016-01(DRS))**.

Health Physics Procedure HP-7.0, "Respiratory Protection Program," Section 5.1.4, adequately identified that emergencies are unplanned events that require preparations to be made in advance for the provision of necessary and sufficient respiratory protection for use in such cases. The procedure also clearly spelled out the applicable medical requirements, training requirements, respirator fitting requirements, and restrictions.

The inspectors reviewed the Site Emergency Plan, Section 7.0, "Emergency Facilities and Equipment," Revision 10. Section 7.0 included identification of onsite emergency facilities, emergency operations facility, county, and state emergency centers, communications, monitoring and assessment equipment, protective equipment, and supplies. Section 7.8.6.a. adequately identified that respiratory protection devices will be issued when necessary to survey teams, rescue teams, and other personnel required to be in areas of suspected or known high airborne radioactivity.

The inspectors reviewed EPIP EI-5.1, "Recovery," Revision 0, dated July 14, 1998. The procedure provided criteria for the declaration of the recovery phase of incident response, guidelines for the recovery organization structure, and a recovery organization worksheet for assignment of personnel to the recovery organization. The licensee appropriately addressed NRC needs in the recovery phase. Generalized recovery plans for various departments were included, as was a description of the Federal Emergency Response.

The EP staff had developed a Government Liaison Handbook, which contained detailed information about the responsibilities of the Government Liaison position, plant emergency responses, Emergency Operations Centers (EOC) floor plans, telephone numbers and descriptions of key plant equipment. Copies of the handbook have been placed in the State and county EOCs for training and reference purposes.

c. Conclusions

Reviewed sections of the emergency plan and implementing procedures were consistent with regulatory guidance with one exception concerning a difference between NRC guidance and the licensee's approved emergency plan. The difference related to on-shift minimum staffing numbers for chemistry technicians, mechanical maintenance, electrical maintenance, and inplant health physics technicians. Reviewed EIPs were detailed and easy to use.

P5 Staff Training and Qualification in EP

a. Inspection Scope (82701)

The inspector reviewed various aspects of the licensee's EP training program. This included interviews with selected key emergency response organization (ERO) personnel, including a TSC Site Emergency Director, Auxiliary Operator/Shift Emergency Communicator, EOF Director, and control room Shift Supervisor/Site Emergency Director. Current attendance records, examinations, Palisades Emergency Response Organization listing, Site Emergency Plan (SEP) Training Report, Requirement Status For Individual By Job Title/Role Listing, and Emergency Employee Augmentation Listing were reviewed to determine whether ERO personnel were currently qualified. A Severe Accident Management Guidelines (SAMG) overview class was also observed. Additionally, a status report of the respirator and Self-Contained Breathing Apparatus (SCBA) qualifications of plant personnel was reviewed.

b. Observations and Findings

Interviews with four key emergency response personnel indicated appropriate knowledge of procedures and emergency responsibilities. Personnel could describe their response process in detail and use the EIPs, checklists, and forms. The control room and TSC Site Emergency Directors demonstrated appropriate knowledge of their responsibilities and emergency procedures. During the interviews, personnel commented that the EP program and training were appropriate and showing general improvement.

Review of respirator and SCBA qualification documentation provided the following information:

Respirator/ SCBA Qualifications				
DEPARTMENT	NUMBER OF INDIVIDUALS	RESPIRATOR QUALIFIED	TRAINING/MEDICAL EXAMINATION	SCBA QUALIFIED
Chemical & Radiological Services	39	20	32	23
Operations	81	13	63	56
Instrument & Control	24	7	16	2
Electrical Maintenance	15	9	13	2
Mechanical Maintenance	53	38	43	4
Chemistry	18	0	3	0
Welders	5	4	5	1

NRC Information Notice 98-20, "Problems With Emergency Preparedness Respiratory Protection Programs," was issued June 3, 1998. This information notice alerted licensees to multiple generic weaknesses in respiratory protection programs supporting emergency preparedness. The information outlined in the above chart seems to indicate that some Departments may need to consider qualifying additional staff. Discussion indicated that licensee personnel were aware of this Information Notice, and were evaluating its information.

The inspectors observed classroom training for SAMG overview for control room operators in preparation for additional detailed training. The training consisted of historical, current program status, and a brief summary of the Phase 1 and 2 Initial Diagnosis and Verification of Diagnosis flowcharts. The instructor was concise and to-the-point and periodically summarized and repeated concepts to make a point. The instructor provided adequate opportunities for comments and questions from the attendees.

A review of selected records indicated that drills and training were formally critiqued. Training records were compared with the Emergency Employee Augmentation Listing to verify that ERO personnel listed on the call list were qualified. All ERO personnel reviewed were currently qualified for their emergency response positions as indicated by their training records.

Documentation for the 1996 and 1997 exercises was reviewed. Exercise documentation was highly detailed, including comprehensive critique information. A "mock NRC" group, consisting of four EP personnel from other utilities both participated in the 1997 "utility-only" exercise and provided insightful comments and recommendations. An excellent "PALEX97- Evaluation Summary" provided a detailed exercise overview including strengths and weaknesses and determinations as to whether they had met exercise objectives.

c. Conclusions

The EP training program was effective. Selected key ERO personnel demonstrated competent knowledge of emergency responsibilities and procedures. All personnel reviewed in the Emergency Employee Augmentation Listing were qualified for their emergency response positions. Appropriate training was observed during SAMG training observed by the inspectors. Emergency response organization personnel respiratory qualifications were being appropriately tracked.

P6 EP Organization and Administration

The EP program reporting structure remained unchanged since the last inspection, with the Emergency Planning Section Supervisor reporting to the Plant Manager through the Training Manager. The EP Section consisted of the EP supervisor, four EP Planners, and an administrative Technical Support individual. One of the four EP Planners also serves as the EP trainer, and was a recent addition to the section. Discussion indicated that the EP Section Supervisor meets with the Training Manager, Plant Manager, and

Site Vice President on a quarterly basis to discuss Emergency Planning issues. Management support for the emergency preparedness program continued to be strong, as indicated by the quarterly meetings with senior management and additions to the EP section.

P7 Quality Assurance in EP Activities

a. Inspection Scope (82701)

The inspectors reviewed the Emergency Planning audit reports for 1997 and 1998 and relevant Field Monitoring Reports (FMRs).

b. Observations and Findings

The inspectors reviewed Nuclear Performance Assessment Department (NPAD) audit PA-97-06, "Palisades Emergency Preparedness," conducted by three individuals during May 5-30, 1997. The audit reviewed the Emergency Planning Organization, 1997 exercise performance, offsite interfaces, emergency plan and implementing procedures, corrective actions, and past audit items. The audit contained four condition reports concerning exercise performance, an open item relative to the threshold for writing condition reports, and recommendations regarding security involvement in EP planning. The audit concluded that the program was being effectively implemented.

The inspectors reviewed NPAD Audit PA-98-08, "Palisades Emergency Preparedness Audit," conducted by two individuals from June 29 to July 8, 1998. The Emergency Preparedness Coordinator from the Maine Yankee plant assisted with the audit. The audit covered the same areas as the 1997 audit and resulted in one Condition Report and three recommendations. The audit concluded that the Palisades EP program is "being effectively implemented, is consistent with industry standards, and continues to meet regulatory.... and Procedural requirements." Program strengths were observed with self-assessments, including industry benchmarking for program enhancements, interfaces with the Michigan State Police Office of Emergency Management and other utilities, and ownership of EP emergency facilities and equipment." Portions of the assessment of the adequacy of offsite interfaces were included with the 1998 audit; discussion indicated that they would conduct additional effort in the last quarter of 1998. The audit was well-detailed and comprehensive.

Also reviewed were six field monitoring reports and a surveillance related to emergency preparedness conducted between November 1996 and August 1998. Field monitoring reports dealt with training drills and evaluated an actual response to a contaminated injured person. NPAD surveillance report NPAD/P-96-018, "State and Local Government Emergency Preparedness Interfaces," conducted December 16-20, 1996 (dated January 13, 1997) evaluated offsite interfaces. NPAD surveillance report NPAD/P-97-007, "State and Local Government Emergency Preparedness Interfaces," conducted December 1-12, 1997, (dated December 19, 1997) evaluated the same interfaces the following year.

The Emergency Planning section has an ongoing program of performing self-assessments of various aspects of the EP program. Documents indicated 37 self-assessments were performed during 1996, 16 in 1997, and 11 completed during 1998 as of August 1998. These self-assessments were very worthwhile in examining aspects of the program or comparing other utilities programs with the Palisades program. An example of such a self-assessment was the evaluation of facility "job aids." As a result of the assessment, each job aid was identified, reviewed, approved, numbered, and indexed. Provided job aids were laminated, and a reminder to conduct an annual review to ensure job aid information remains current was created. The inspectors concluded that the job aids' content and trackability had improved significantly as a result of this effort.

The inspectors reviewed five open and forty closed Condition Reports (CR) generated between January 1997 and August 1998 that contained references to emergency preparedness. The threshold for writing a CR appeared to be acceptably low, and CRs reviewed were very well detailed.

c. Conclusions

The licensee's 1996 and 1997 EP program audits and the 1998 program observation reports were effective and satisfied the requirements of 10 CFR 50.54(t). The audits were of good scope and depth. Program self-assessments were a worthwhile initiative. The threshold for writing a Condition Report (CR) appeared to be acceptably low, and CRs reviewed were very well detailed.

P8 Miscellaneous EP Issues

- P8.1 (Open) Inspection Followup Item No. 50-255/96013-01(DRS): In-plant radiation survey information not displayed in the OSC. A status board designed for depicting or posting in-plant radiation levels had been designed and ordered, but had not been completed. This item will remain open pending completion of appropriate corrective actions.
- P8.2 (Closed) Inspection Followup Item No. 50-255/96013-02(DRS): Air sampler head should protrude from clothing. Health Physics procedure HP 2.19 had been reviewed and found to be correct. Personnel had received additional reminders to follow the procedure's requirements. Similar problems had not been observed during the drills in 1996, the 1997 Exercise, or Radiation Safety Job Coverage Training. This item is closed.
- P8.3 (Closed) Inspection Followup Item No. 50-255/96013-03(DRS): In-plant team location or status not continuously known. OSC personnel were advised of the requirement for inplant teams to provide updates to the OSC every 30 minutes. Relevant procedures had been modified to provided preferred telephone numbers to be utilized for updates should radio communication be unavailable. This item is closed.
- P8.4 (Closed) Inspection Followup Item No. 50-255/96013-04(DRS): The function of the Engineering Support Group self-assessment in 1997. An evaluation of the Engineering

Support Team in the EOF had been completed. A determination had been made to maintain the Engineering Support Team but reduce its membership by one position. Part of the assumptions in this decision was the implementation of Severe Accident Management and expected need for engineering expertise in the EOF to support TSC engineering efforts. This item is closed.

P8.5 (Closed) Inspection Followup Item No. 50-255/96013-05(DRS): No senior representative of the security organization in the EOF. The licensee had reviewed the involvement of security personnel and determined that the proceduralized communication links with security personnel had not been routinely utilized during drills and exercises. The Property Protection Supervisor was responsible for onsite and offsite security matters for emergencies at the Alert level or higher. One of the responsibilities of the Property Protection Supervisor was to ensure that the TSC Administrative Group Leader and EOF Property Protection Team Leader are apprised of all security-related events. A follow-up self-assessment of the actions taken to improve the security interface was conducted. The self-assessment identified that weaknesses in the interface with the security organization were evident during the 1997 Exercise. Condition report C-PAL-97-0856 was initiated and was evaluated by the Emergency Planning section. They determined that additional training is needed, and a simulator training session was developed utilizing security events. During October and November of 1997 each operating crew practiced classifying security-related events, making required notifications, formulating Protective Action Recommendations, and performing dose assessment. A series of drills, held in December of 1997, February and July of 1998, each included security events which required effective communication between the security organization and the Emergency Response Organization. This item is closed.

P9 FSAR Review

The inspectors reviewed section 12.5, "Emergency Planning," revision 19, of the Final Safety Assessment Report (FSAR). This section had been modified since the last routine inspection. The revised section provided an excellent overview description of the Site Emergency Plan. No problems were identified.

V. Management Meeting

X1 Exit Meeting Summary

The inspectors presented the inspection results to licensee management at the conclusion of the onsite inspection on August 14, 1998. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

G. Alkire, Shift Supervisor
N. Brot, EP Planner
J. Brunett, EP Planner
B. Dotson, Licensing General Tech Analyst
K. Haas, Director, Engineering
N. Haskell, Licensing Director
M. Hobe, Business Analyst
D. Jones, NPAD
E. Karpe, EP Section Supervisor
R. Kasper, Maintenance
T. Loudenslager, EP Planner/EP Trainer
D. Malone, Licensing Manager
R. McCaleb, NPAD
M. Moore, NPAD Lead Auditor
T. Neal, Environmental Supervisor
T. Palmisano, Site Vice President and General Manager
K. Penrod, EP Planner
C. Plachta, Radiation Protection Manager, Radiological Services Supervisor
D. Rogers, General Manager Plant Operations
D. Smedley, Licensing Supervisor
G. Szczotka, Manager, NPAD
B. Taylor, Administrative/Technical Support
A. Williams, Manager, Nuclear Engineering
H. Winter, Operations Training Section Supervisor

NRC

P. Prescott, Senior Resident Inspector, Duane Arnold

INSPECTION PROCEDURES USED

IP 82701 Operational Status of the Emergency Preparedness Program

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-255/98016-01(DRS) IFI Evaluation of Emergency Plan figure 5-2, "Plant Staffing and Augmentation Guidelines."

Closed

50-255/96013-02 (DRS) IFI Air sampler head should protrude from clothing.

50-255/96013-03 (DRS) IFI In-plant team location or status not continuously known.

50-255/96013-04 (DRS) IFI The function of the Engineering Support Group self-assessment in 1997.

50-255/96013-05 (DRS) IFI No senior representative of the security organization in the EOF.

Discussed

50-255/96013-01(DRS) IFI In-plant radiation survey information not displayed in the OSC.

LIST OF ACRONYMS USED

CFR	Code of Federal Regulations
CR	Condition Report
DPR	Demonstration Power Reactor
DRS	Division of Reactor Safety
EAL	Emergency Action Level
EM	Emergency Manager
EOC	Emergency Operations Center (State or County)
EOF	Emergency Operations Facility
EP	Emergency Preparedness
EPIP	Emergency Plan Implementing Procedure
ERF	Emergency Response Facility
ERO	Emergency Response Organization
FMR	Field Monitoring Report
FT	Field Team
IFI	Inspection Followup Item
NPAD	Nuclear Performance Assessment Department
NRC	Nuclear Regulatory Commission
NRR	Office of Nuclear Reactor Regulation
OSC	Operations Support Center
PAR	Protective Action Recommendation
PDR	NRC Public Document Room
PWS	Public Warning System
SCBA	Self Contained Breathing Apparatus
SEC	Shift Emergency Communicator
SED	Site Emergency Director
SM	Shift Manager
TSC	Technical Support Center

PARTIAL LIST OF DOCUMENTS REVIEWED

Palisades Nuclear Generating Plant Emergency Plan

Nuclear Performance Assessment Department (NPAD) Audit PA-97-06, "Palisades Emergency Preparedness."

Nuclear Performance Assessment Department (NPAD) Audit PA-98-08, "Palisades Emergency Preparedness Audit."

Emergency Plan Implementing Procedure (EPIP) EI-5.1, "Recovery", Revision 0, dated July 14, 1998.

Palisades Nuclear Plant Administrative Procedure No. 1.08, "Emergency Preparedness Program", Revision 1, dated October 23, 1997.

NPAD surveillance report NPAD/P-96-018, "State and Local Government Emergency Preparedness Interfaces", dated January 13, 1997.

NPAD surveillance report NPAD/P-97-007, "State and Local Government Emergency Preparedness Interfaces", dated December 19, 1997.

Emergency Plan Implementing Procedure (EPIP) EI-2.2, "Emergency Staff Augmentation", revision 4, dated December 22, 1997.

Emergency Plan Implementing Procedure (EPIP) EI-16.1, "Maintenance of Emergency Equipment", revision 13, dated August 6, 1998,

Health Physics Procedure HP-7.0, "Respiratory Protection Program," Revision 9.