

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-440
License No: NPF-58

Report No: 50-440/93012(DRS)

Licensee: FirstEnergy Nuclear Operating Company

Facility: Perry Nuclear Power Plant

Location: P. O. Box 97, A200
Perry, OH 44081

Dates: July 12 - 16, 1999

Inspector: Robert D. Jickling, Emergency Preparedness Analyst

Approved by: Gary L. Shear, Chief, Plant Support Branch
Division of Reactor Safety

EXECUTIVE SUMMARY

Perry Nuclear Power Plant, Unit 1 NRC Inspection Report 50-440/99012(DRS)

This inspection reviewed the emergency preparedness (EP) program, an aspect of Plant Support. The inspector selectively evaluated the quality of the 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 followed up on previous inspection findings. This was an announced inspection conducted by one regional inspector.

Plant Support

- Licensee personnel performed proper classifications and timely notifications during two actual activations of the emergency plan. (Section P1)
- Emergency response facilities, equipment, and supplies were well maintained and in a very good state of operational readiness. Demonstration of emergency response equipment verified that the equipment was operable and ready for use. (Section P2)
- The Condition Report system was an effective method to track and close Emergency Planning Unit (EPU) issues. Procedures were clear and easy to use. (Section P3)
- The EPU training program appeared effective. All personnel reviewed were qualified for their emergency response positions. Interviewed emergency response organization personnel successfully demonstrated very good knowledge of their emergency roles and procedures. (Section P5)
- Continued management support for the emergency preparedness program was indicated during discussions with site and EPU staff. The new EPU staff and management were professional and proactive. (Section P6)
- The licensee's 1998 and 1999 Quality Assurance Section audits of the emergency preparedness program were of good scope and depth and satisfied the requirements of 10 Code of Federal Regulations 50.54(t). (Section P7)

Report Details

IV. Plant Support

P1 Conduct of Emergency Preparedness Activities

P1.1 Actual Emergency Plan Activations

a. Inspection Scope (82701)

The inspector reviewed records and documentation packages regarding plant response for emergency plan activations that occurred since the last routine emergency preparedness program inspection.

b. Observations and Findings

An Unusual Event was declared at 3:10 a.m. (EST) on January 23, 1998, due to a liquid refrigerant (trichloroethylene) leak from the non-safety related off-gas brine cooling system into the off-gas room in the off-gas building. The Unusual Event was appropriately declared using Emergency Plan Implementing Instruction EPI-A1, "Emergency Action Levels (EALs)," MU1, "Release of toxic gases affecting the Protected Area boundary deemed detrimental to the safe operation of the plant." The classification was made in a timely manner and the communicator initiated the State and local counties notification within 15 minutes from the Technical Support Center (TSC) after identifying problems with the "5-Way Ringdown" line and the auto-dialer. The Emergency Notification System (ENS) call to the NRC was completed at 3:36 a.m. and within the one hour requirement. The Unusual Event was terminated at 2:45 p.m. after a team was able to re-enter the Off-Gas Building to verify the leak was stopped.

An Unusual Event was declared and terminated at 1:15 a.m. (EST) on February 9, 1998, due to a loss of all offsite communications for greater than 15 minutes. The licensee was notified by the local telephone company that all commercial communications to the plant had been lost from 12:22 a.m. to 12:47 a.m. (25 minutes). A fiber cut had been in progress and the telephone company circuits failed to automatically transfer to the backup circuits. The licensee was unaware of the loss until the telephone company informed them. The licensee appropriately declared and simultaneously terminated an unusual event based upon EAL KU2, "Significant degradation of offsite communications capability." Notifications to the State and local counties were completed in a timely manner at 1:23 a.m. The ENS notification to the NRC was made at 1:32 a.m., well within the one hour requirement.

On February 26, 1999, the licensee requested a retraction of the February 9, 1999 Unusual Event due to subsequent investigations by the phone company. The investigations determined that only long distance calling via the fiber optic cables to the Perry Central Office was out of service. Five other long distance and local communications circuits were unaffected.

The EPU staff conducted assessments of the plant personnel's emergency response. These assessment packages included assessments, documents, and records related to

the events. The packages were organized and detailed. Documents reviewed indicated that the event classification and related notifications of offsite authorities and the NRC were made properly and in a timely manner. Problems were identified regarding the restrictiveness of the EAL used and a Dialogic Callout System failure which were entered into the Potential Issue Form (PIF) tracking system.

c. Conclusions

The inspector concluded that the licensee appropriately implemented the emergency plan for these two events. The emergency classifications were made correctly with the available information and offsite notifications were timely. The evaluation packages were detailed and provided appropriate assessments of plant personnel response to the actual events. PIFs and corrective actions were properly initiated for the problems identified during the licensee's response to these events.

P2 Status of EP Facilities, Equipment, and Resources

P2.1 Material Condition of Emergency Response Facilities

a. Inspection Scope (82701)

The inspector evaluated the material condition of the control room, TSC, Operations Support Center (OSC), Emergency Operations Facility (EOF) and the offsite radiological monitoring team (RMT) vehicles. RMT kits and equipment were also inspected. The licensee demonstrated the operability of numerous pieces of emergency response equipment during an integrated training drill, including radiological survey instruments, dose assessment and plant data computer terminals, and communications equipment. Records of periodic inventories and equipment tests were also reviewed.

b. Observations and Findings

Each facility was well maintained and in a very good state of operational readiness. No concerns were identified during the inspections of emergency supplies, procedures, forms, and equipment in these facilities. Dose assessment programs, phone lines, fax machines, RMT radios, and the new Integrated Computer System (ICS) were effectively demonstrated by the licensee during the integrated drill and verified operable in the control room simulator, TSC and EOF. The offsite RMT vehicles and emergency kits and supplies were in a very good state of readiness.

The inspector also reviewed the 1998 and 1999 records for the augmentation call out system tests. Unannounced quarterly pager tests and weekly pager test data for 112 pagers revealed no significant problems with the process or results.

Records for the 76 prompt alert and notification sirens for 1998 and 1999 were reviewed by the inspector. Annual operability for 1998 was 98.9 percent with 93.4 percent for the lowest month's average. The current 1999 annual operability average was 98.7 percent with 96.1 percent for the lowest month's average. Siren operability exceeded the annual acceptability limit of greater than or equal to 90 percent.

c. Conclusions

Emergency response facilities, equipment and supplies were well maintained and in a very good state of operational readiness. Demonstration of emergency equipment during the licensee's integrated drill verified that the equipment was operable. Siren operability records indicated the prompt alert and notification sirens had been well maintained.

P3 EP Procedures and Documentation

a. Inspection Scope (82701)

The inspector reviewed a sample of Emergency Plan Implementing Instructions (EPIs) and emergency plan sections. Also, the Condition Report (CR) issue tracking system reports related to the EPU program were examined.

b. Observations and Findings

The inspectors reviewed changes to the Emergency Plan, Revision 14, Temporary Change (PIC) Number 5, dated December 17, 1998. The changes for this revision included adding a 15 minute goal for assessing and classifying an emergency once indications are available that an EAL has been exceeded and changes due to implementation of the new Severe Accident Guidelines.

Emergency Plan Implementing Instruction EPI-A1, "Emergency Action Levels," Revision 6, PIC 4, dated December 17, 1998, EPI-B8, "Protective Actions And Guides," Revision 8, PIC 3, dated September 21, 1998, and EPI-A6, "Technical Support Center Activation," Revision 10, PIC 2, dated April 21, 1997 were reviewed by the inspector. EPI-A1 included a revision establishing a 15 minute goal for assessing and classifying an emergency. Fitness for duty status had been inserted for call-in requirements in EPI-A6. EPI-B8, Attachment 1, "Protective Action Recommendation Decision Flowchart (PAR)," Attachment 2, "General Emergency Default PAR," Attachment 3, "PAR Based On Actual Or Projected Dose," and Attachment 4, "10 Mile Emergency Planning Zone (EPZ) Sectors Versus Subareas Map," were clear and easy to use.

The inspectors reviewed the CR system to determine the range of issues identified and the effectiveness of identified issue tracking and disposition. Approximately 51 PIFs and CRs related to the EPU were tracked since January 5, 1998. Of the total 51 CRs, 45 had been closed. The items reviewed were clearly identified by number, date, category, and description, with responsible organization identified, initiated dates and close-out dates listed. These reports documented and tracked the status of corrective actions related to a wide range of items identified by any plant personnel.

c. Conclusions

The CR system was an effective method to track and close EPU related issues. CRs had a wide range of categories and had been appropriately used by the EPU staff. Emergency Plan Implementing Instructions were clear and easy to use.

P5 Staff Training and Qualification in EP

a. Inspection Scope (82701)

The inspector reviewed various aspects of the EPU training program. The review included interviews with selected key emergency response organization personnel (a control room Emergency Coordinator, TSC Emergency Coordinator, and an EOF Emergency Coordinator), review of drill and related critique records, attendance records, and the Emergency Telephone Directory Emergency Response Organization (ERO) call out list. Records from the training tracking program were compared with the call out list to determine whether listed personnel were qualified. Respirator and Self Contained Breathing Apparatus (SCBA) qualifications of plant personnel were also reviewed. Additionally, an integrated training drill was observed by the inspector.

b. Observations and Findings

Interviews with three key emergency response personnel indicated very good to excellent knowledge of procedures and emergency responsibilities. The EOF Emergency Coordinator displayed appropriate knowledge of the NRC's incident response program, however he was unfamiliar with the Federal Radiological Monitoring and Assessment Center (FRMAC) program. Discussion with the licensee provided additional information regarding the FRMAC purpose and location. During the interviews, personnel uniformly commented that the new EPU staff were professional, proactive, and focused on their responsibilities and duties.

The training tracking printout was compared with the ERO call out list to verify personnel on the call out list were qualified. All ERO personnel reviewed were currently qualified for their emergency response positions. Training files contained appropriate documentation, including tests and attendance forms. Formal feedback forms were available, which provided an open forum for comments related to EPU training and indicated that appropriate training was being conducted.

Discussions and records reviewed indicated that quarterly, and as-needed revisions to the ERO call out list were issued, as appropriate, since the last inspection. Review of the call out list indicated that the numbers of personnel assigned to specific positions in the ERO were acceptable.

During an integrated training drill, good performance by the participants were observed by the inspector in the control room simulator, TSC, and EOF. In the OSC, the inspector noted the emergency repair team and priority status boards effectively matched the status boards in the TSC. Controllers stepped in to provide appropriate training in the facilities, when needed, as participants missed drill opportunities or had difficulties with their response.

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

Respirator/ SCBA Qualifications				
SECTION	NUMBER OF INDIVIDUALS	TRAINING/MEDICAL QUALIFIED	RESPIRATOR QUALIFIED	SCBA QUALIFIED
Radiation Protection	39	39/28	28	28
Operations	80	80/80	80	80
Instrument & Control	31	31/26	24	0*
Electrical Maintenance	18	18/18	10	10
Mechanical Maintenance	35	35/35	17	17
Rad Waste, Environmental & Chemistry	42	31/31	31	21
Welders	12	10/6	1**	1**

* Instrument and Control relied on a procedure that stated Health Physics personnel who are currently trained to use SCBAs and who are trainer/evaluator qualified provide training in the use of SCBAs on an as needed basis during urgent and/or emergency situations.

** Four required fit tests and nine required physicals.

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. Respiratory protection qualifications included three parts; respiratory training, medical testing, and a mask fit. The numbers above represented the current respiratory qualifications by department. The results of this review indicated that there appeared to be sufficient respirator and SCBA qualified personnel to respond in the event of an emergency. Discussion indicated that licensee personnel were aware of the information notice, and had evaluated its information.

c. Conclusions

The overall effectiveness of the EPU training program was good. Training, drills, and exercises were properly critiqued. Interviewed ERO personnel demonstrated very good to excellent knowledge of their emergency roles. Personnel listed on the ERO call out list were currently qualified for their emergency response positions. Overall, good training and performance was observed during the integrated drill.

P6 EP Organization and Administration

a. Inspection Scope (82701)

The inspector conducted discussions with the EPU staff regarding the current organization and any changes to the program and personnel.

b. Observations and Findings

Significant changes have occurred in the EPU organization since the last routine inspection in December 1997. The new Supervisor of Emergency Planning currently reported to the Training Section Manager, who reported to the Plant Manager. The new Nuclear Technologists reported to the Supervisor of Emergency Planning along with the new Lead Nuclear Instructors and the new Nuclear Associates.

Discussions with the EPU staff identified a number of enhancements that had been completed. In addition to the new EPU personnel, one enhancement was the new Integrated Computer System in the emergency response facilities (ERFs) and plant data screens in the control room. Also, Severe Accident Management (SAM) has been implemented by the licensee and SAM personnel would be located in the TSC for emergency response.

c. Conclusions

Discussions with the EPU staff and site personnel indicated appropriate management support had been provided to the program. Enhancements to the program and the new EPU staff with their professional proactive approach, have maintained both the program and training in an effective condition.

P7 Quality Assurance in EP Activities

P7.1 Audits

a. Inspection Scope (82701)

The inspector reviewed Quality Assurance Section (QAS) audits PA 98-06, "Emergency Preparedness," dated April 30, 1998, and the PA 99-05, "Emergency Preparedness," dated June 8, 1999.

b. Observations and Findings

Emergency Preparedness audit PA 98-06 was conducted by four individuals during February 23 through March 31, 1998. The audit reviewed drills and exercises, interfaces with State and local governments, agreements and interfacing with public agencies, maintenance and testing of emergency plan equipment, operational readiness of ERFs, actions taken to NRC tracking items, PIFs issued to the EPU, ERO training, effectiveness of media interaction, and control of implementing procedures and

instructions. The audit concluded that implementation of the emergency preparedness program has been effective and that the plant organization and facilities are able to support an emergency plan activation. Six PIFs were generated during this audit which included the following:

- Material condition and maintenance for the plant's communications and telecommunications equipment for emergency preparedness is suspect.
- A number of precursors which challenge the success of the emergency preparedness program may be a result of staff reductions to the EPU and supporting organizations.
- Key required reading for ERO personnel was not being completed within the required 30 days following procedure changes.
- Inadequately trained personnel performing periodic test instructions erroneously documented unsatisfactory communications system test results as acceptable.
- Minor administrative concerns were identified and fixed.
- The QAS copy of the Emergency Plan was not current. This was immediately corrected.

These items had been appropriately tracked and closed. The audit also contained an evaluation of the adequacy of interfaces with State and local governments, which is required by 10 Code of Federal Regulations (CFR) 50.54(t). The evaluation of adequacy of interface of State and counties had been accomplished by interviews.

Emergency Preparedness audit PA 99-05 was conducted by four individuals during February 22 through May 13, 1999. The audit reviewed interfaces with State and local governments, maintenance and testing of emergency plan equipment, operational readiness of ERFs, CRs on emergency plan issues and self-assessments, ERO training, and control of the Emergency Plan, implementing procedures, and instructions. The audit concluded that the Emergency Plan is being effectively implemented to meet emergency preparedness objectives. Four CRs were generated during this audit which included the following:

- Multiple discrepancies with the conduct and documentation of communication tests were noted.
- Several deficiencies with the Emergency Plan and implementing procedures were observed. These included untimely procedure reviews, untimely procedure revisions, and procedure discrepancies.
- A review of the current ERO indicated 13 vacancies.
- The EPU should evaluate the need for additional/proficiency training of ERO personnel.

These four items had been appropriately tracked and closed. The audit also contained an evaluation of the adequacy of interfaces with State and local governments, which is required by 10 Code of Federal Regulations (CFR) 50.54(t). The evaluation of adequacy of interface of State and counties had been accomplished by interviews and concluded that the State and counties relationships and communications ensure that emergency response actions can be effectively implemented.

c. Conclusions

The licensee's 1998 and 1999 emergency preparedness program audits satisfied the requirements of 10 CFR 50.54(t). Corrective actions resulting from the audits were properly tracked and completed within reasonable times. Evaluation of adequacy of interfaces with State and local governments for the audits were adequate.

P8 Miscellaneous EP Issues

- P8.1 (Closed) Inspection Followup Item No. 50-440/97017-01(DRS): A number of problems with the EOF/Training Building heating and ventilation system including an out-of-service intake fan and a failed system leak test. All repairs and tracking for this system were currently captured via work orders. Regularly scheduled maintenance testing were completed under a procedure, FTI-F0017, "EOF Ventilation System Verification Of Emergency Isolation Mode." The system is being adequately maintained, management attention is appropriate, and detailed records are adequate. This item is closed.
- P8.2 (Closed) Inspection Followup Item No. 50-440/97017-02(DRS): An item was opened to evaluate the impact that the loss of six experienced EPU members might have on the emergency preparedness program. Through discussions, interviews, and a program inspection, the inspector concluded that the new EPU personnel have effectively maintained the emergency preparedness program in operational readiness. This item is closed.

X1 Exit Meeting Summary

The inspector presented the inspection results to members of licensee management at the conclusion of the inspection on July 16, 1999. The licensee acknowledged the findings presented. The licensee did not identify any items discussed as proprietary.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

C. Angstadt, Senior Engineer
D. Bauguess, Lead Nuclear Instructor
H. Bergendahl, Director, Perry Nuclear Services
D. Cleavenger, Emergency Planner
R. Collings, Manager, Quality Assurance
M. Ginn, Emergency Planner
H. Hegrat, Manager, Regulatory Affairs
T. Henderson, Supervisor, Compliance
V. Higaki, Supervisor, Emergency Planning Unit
J. Hubbaltt, Quality Evaluator, Corrective Action Unit
W. Kanda, Plant Manager
J. Kloosterman, Supervisor, Corrective Action Program
T. Lentz, Supervisor, Design Engineering
R. Lockwood, Quality Assurance Specialist
B. Luthanen, Compliance Engineer
M. McFarland, Shift Supervisor, Operations
J. Pelck, Coordinator, Self Assessment
J. Powers, Manager, Design Engineering
T. Raab, Manager, Operations
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R. Schrauder, Director, Perry Nuclear Engineering Department
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F. Von Ahn, Manager, CMIT
J. Wood, Vice President - Perry Nuclear Power Plant/FirstEnergy Nuclear Operating Company

NRC

C. Lipa, Senior Resident Inspector

State of Ohio

E. Edwards, Radiation Analyst

INSPECTION PROCEDURES USED

IP 82701: Operational Status Of The Emergency Preparedness Program

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

50-440/97017-01	IFI	Evaluate the materiel condition of the EOF's HVAC system. (Section P2.1)
50-440/97017-02	IFI	Evaluate the effects of the loss of six experienced EP Unit staff members to the program. (Section P6)

Discussed

None

LIST OF ACRONYMS USED

CFR	Code of Federal Regulations
CR	Condition Report
DRS	Division of Reactor Safety
EAL	Emergency Action Level
ENS	Emergency Notification System
EOF	Emergency Operations Facility
EP	Emergency Preparedness
EPI	Emergency Plan Implementing Instruction
EPU	Emergency Planning Unit
EPZ	Emergency Planning Zone
ERF	Emergency Response Facilities
ERO	Emergency Response Organization
EST	Eastern Standard Time
FRMAC	Federal Radiological Monitoring and Assessment Center
ICS	Integrated Computer System
OSC	Operations Support Center
PAR	Protective Action Recommendation
PIF	Potential Issue Form
RERP	Radiological Emergency Response Preparedness
RMT	Radiological Monitoring Team
SAG	Severe Accident Guidelines
SAM	Severe Accident Management
SCBA	Self Contained Breathing Apparatus
TSC	Technical Support Center
UE	Unusual Event