

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-341/91003(DRSS)

Docket No. 50-341

License No. NPF-43

Licensee: The Detroit Edison Company
6400 North Dixie Highway
Newport, MI 48166

Facility Name: Enrico Fermi Atomic Power Plant, Unit 2

Inspection At: Fermi 2 Site, Monroe, Michigan

Inspection Conducted: February 4-8, 1991

Inspector: *Daniel M. Barss*
D. M. Barss

2/14/91
Date

Approved By: *James E. Foster for*
William Snell, Chief
Radiological Controls and
Emergency Preparedness Section

2/14/91
Date

Inspection Summary

Inspection on February 4-8, 1991 (Report No. 50-341/91003(DRSS))

Areas Inspected: Routine, unannounced inspection of the following areas of the Enrico Fermi Atomic Power Plant, Unit 2 emergency preparedness program: licensee action on previously identified items (IP 92701); follow up on actual emergency plan activations (IP 92700); and operational status of the emergency preparedness program (IP 82701). The inspection involved one NRC inspector.

Results: No violations, deficiencies or deviations were identified during this inspection. The Enrico Fermi Atomic Power Plant, Unit 2 Emergency Preparedness program continues to be adequately maintained and implemented. Management continues to provide good support and oversight of emergency preparedness. One new open item was identified concerning the adequacy of the backup callout system. Three existing open items were reviewed and remain open. Six recommendations for improvement were provided for selected areas.

- *K. Morris, Emergency Response Planner
- *T. Riley, Supervisor, Compliance
- *D. Varwig, Lead Auditor
- L. Bregni, Emergency Planning Coordinator
- D. Drotar, Supervisor, Nuclear Training
- J. Kauffman, Emergency Response Specialist
- R. Webster, Chemistry Technician
- D. Ball, Security Specialist

*The above personnel attended the February 8, 1991 exit interview.

The inspector also contacted other members of the licensee's staff during the course of the inspection.

2. Licensee Action on Previously Identified Item (IP 92701)

(Open) Open Item No. 50-341/90003-01: During the February 1990 Exercise the Nuclear Shift Supervisor did not recognize that an EAL for the declaration of an Unusual Event (UE) was satisfied and did not classify the UE. The licensee has conducted a thorough review of the Abnormal Operating Procedures (AOP) and determined that references to classification of events should be removed from the AOPs. Information pertaining to the classification of events is appropriately contained in procedure EP-101, "Classification of Emergencies". AOPs have been revised to delete specific guidance on event classifications. Operators are now trained during simulator training activities to review EP-101 for event classifications whenever AOPs are entered. The licensee has implemented the use of "case studies" during Licensed Operator requalifications to provide additional opportunities for operator personnel to review emergency classification responsibilities. This open item is an exercise weakness and will remain open pending successful demonstration of event classification capabilities in an exercise/drill environment.

(Open) Open Item No. 50-341/90003-02: During the February 1990 Exercise the documentation of information in the Operational Support Center (OSC) was inadequate. The licensee has revised appropriate procedures and forms to emphasize record keeping responsibilities. All personnel effected by these procedural revisions, and responsible for implementation of documentation requirements in the OSC, have been required to review the revised procedures and instructed on the importance of record keeping responsibilities. This item will remain open pending successful demonstration of proper documentation of information in the OSC during a drill or exercise.

(Open) Open Item No. 50-341/90003-03: During the February 1990 Exercise the licensee failed to obtain emergency environmental samples in

DETAILS

1. Persons Contacted

- *S. Catola, Vice President, Nuclear Engineering and Services
- *R. McKeon, Plant Manager
- *K. Morris, Emergency Response Planner
- *T. Riley, Supervisor, Compliance
- *D. Varwig, Lead Auditor
 - L. Bregni, Emergency Planning Coordinator
 - D. Drotar, Supervisor, Nuclear Training
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(Open) Open Item No. 50-341/90003-03: During the February 1990 Exercise the licensee failed to obtain emergency environmental samples in

accordance with established procedural guidance. During the third quarter of 1990 the licensee conducted retraining for personnel assigned Radiological Emergency Team (RET) responsibilities. This training included "hands on" demonstrations of soil sampling techniques only. An environmental sampling mini-drill was evaluated during the course of the inspection with the following observations:

- Procedure EP-220, "Personnel Monitoring And Radiological Emergency Teams", Enclosure A, Tab 2, Step 2.1.3 does not include direction for, nor require, obtaining an open window, six inch off ground, ground dose rate reading. This reading could provide valuable information for determination of ground deposition. Also, Enclosure A, Tab 3, Step 2.1.2 directs the recording of count rate information but does not specify if gross or net counts should be recorded. This could cause confusion with column headings found on Attachment 5, which calls for net count rate. Attachment 4 is used for recording dose rate and contamination survey information. Soil, water, snow and vegetation samples are also to be recorded on attachment 4; however, this attachment does not provide space for identifying sample size or type.
- The size of the area selected for the soil sample was 33% larger than that directed by the procedure.
- Poor technique was used when obtaining the grass sample; a pair of scissors was available but not used until directed by the evaluator.
- The air particulate sample was potentially cross contaminated during handling, as available tweezers were not used.
- Plume tracking techniques and responsibilities were not clearly understood.
- The cold weather operational capabilities of supplied instruments were questioned by the technician.

Generally, of the four samples taken during the mini-environmental drill, the techniques used would have made three of the samples suspect for unreliable results.

Based on the above observations, it appears that additional training and practical experience are necessary to improve performance of emergency environmental sampling by RETs. This item will remain open pending further review of RET training and performance in obtaining samples during a drill or exercise.

No violations or deviations were identified.

3. Emergency Plan Activations (IP 92700)

Licensee and NRC records of actual emergency plan activations for the period of December 1990 through January 1991 were reviewed. These records included: Nuclear Shift Supervisor logs; Control Room logs; initial notification message forms to State and NRC officials; follow

up message forms prepared by onsite personnel; completed procedure checklists; and evaluations of licensee records for each event.

During this time period, the licensee declared one Unusual Event. On January 8, 1990, an Unusual Event was declared at 1517 hours due to a blown power supply fuse which lead to the commencement of a shutdown required by Technical Specification 3.0.3. The Unusual Event was terminated at 2110 hours on the same date.

This event was correctly classified per the licensee's Emergency Action Level (EAL) scheme. The emergency declaration was made in a timely manner. Records generated by onsite personnel for this declaration were sufficiently well detailed to facilitate later reconstruction of their emergency response activities. Initial notifications of State, local and NRC officials were completed within the regulatory time limits following the event declaration.

Evaluations of records associated with actual emergency plan activations were thorough, including documentation of event critiques and any identified problems and associated corrective actions.

No violations or deviations were identified.

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

a. Emergency Plan and Implementing Procedures

The licensee emergency plan has been reviewed and approved on an annual basis as required by established program commitments. Documentation was reviewed which indicated that these reviews were completed and the appropriate concurrence signatures were obtained.

The licensee's emergency plan has been revised twice since the last routine inspection. Generally, most of the changes implemented with these revisions were of a minor nature. However, the licensee did make a few changes which are of notable interest. The licensee has changed the focus of its emergency response callout to a team approach instead of on an individual basis. Individuals are now assigned to one of three teams for emergency response purposes, and each team is to participate in a drill at least once a year. Callout rosters are no longer arranged according to the location of a responders home in relation to the plant and expected travel times. Instead, the licensee has implemented a new automated callout system which has reduced the time required to complete notification of responders. Another notable change is that the training matrix for the emergency response organization (ERO) has been removed from the emergency plan and now is documented in appropriate training department documents. As part of this move the training matrix was revised. Revision of the training matrix is discussed in further detail in paragraph 4.d of this report.

Letters of agreement which the licensee maintains with offsite agencies for emergency response support have been reviewed annually and updated when necessary.

The Emergency Response Information System (ERIS) Dose Assessment User's Manual has been revised to be more "user friendly". Also, several Radiological Emergency Response Preparedness (RERP) Work Instructions have been developed to provide additional helpful information for various emergency response positions and procedures.

Plant documentation indicated that the licensee conducted its annual review of Emergency Action Levels (EAL) and Protective Actions Guidelines (PAG) meeting on November 13, 1990. This meeting was attended by individuals representing agencies of Wayne County, Michigan Department of Public Health, Michigan State Police and the Province of Ontario, Canada. This discussion/training session met the criteria for the annual review of these subjects by State and local agencies, as required by 10 CFR 50, Appendix E, Part IV, B.

Site procedures provide for the appropriate distribution of plan modifications onsite, and plan change transmittal to the NRC within 30 days of approval. Licensee personnel were aware that changes to the Emergency Plan determined to decrease the effectiveness of the plan could not be implemented without prior NRC approval. Licensee records were reviewed which indicated that plan and procedure changes had been distributed to appropriate procedure holders in a timely manner.

The inspector verified that current copies of the emergency plan and associated procedures were available in the onsite Emergency Response Facilities (ERFs) and the Control Room.

Public Information Emergency Preparedness Booklets were updated in 1990. Licensee records indicated that 40,135 copies had been distributed to permanent residents and businesses within the 10 mile EPZ. An additional 17,700 copies were provided to State and local agencies for distribution to transient populations. Emergency Preparedness information is also provided in telephone directories serving the local area.

Changes made in the licensee emergency plan have generally been appropriately reflected in other station documents and procedures. Procedure EP-290, "Emergency Notifications", was reviewed in detail concerning the new automated call out system and the new policy change to a team response philosophy.

Procedure EP-290, Revision 15, provides instructions to the Nuclear Shift Supervisor (NSS) for activation of the Emergency Callout System (ECOS). The procedure does not provide a method for determining that the system has actually activated and is functioning as required. The procedure also does not provide instructions for activation of a backup callout system or method should the primary system fail.

RERP Work Instructions for the ECOS do indicate a method for ensuring the system has activated and provides instructions to be followed if the system should fail. This work instruction also includes direction for implementation of a manual backup callout method should the computerized ECOS fail to function. However, work instructions are not considered as approved plant procedures.

The manual backup callout system was evaluated by the inspector and determined to be inadequate to ensure that callout notifications could be made in a timely manner. Only one on shift person, the shift clerk, was identified as available to implement manual callouts. One other individual, the On Call Plant Supervisor, was indicated as readily available to assist in implementing manual callouts. Both of these individuals would have other immediate responsibilities in the event of an emergency requiring activation of the ECOS. The delay which would occur in calling out additional personnel to assist in the initiation of a manual emergency callout would be unacceptable and would lead to a delayed response time by key responders. The licensee has not actually tested the current manual callout system. No information was available to indicate what overall actual response times would be when using the manual backup callout system.

The licensee should proceduralize an adequate backup callout system and a method for positive indication that the computerized ECOS has activated when required. This is an Open Item (No. 50-341/91003-01).

No violations or deviations were identified.

b. Emergency Response Facilities, Equipment, and Supplies

The onsite emergency response facilities (ERFs) (Control Room (CR), Technical Support Center (TSC), Operational Support Center (OSC), Alternate Operational Support Center (Alt-OSC), Emergency Operations Facility (EOF)) were toured and were as described in the emergency plan and relevant emergency procedures. All facilities appeared to be in an acceptable state of operational readiness. The Emergency Notification System telephone (NRC "Red Phone") was successfully tested in the Control Room.

The licensee has made several improvements to the ERFs. New maps for the 10 and 50 mile area around the site have been installed in the EOF and TSC. These maps have been updated and revised to remove unnecessary information and provide a "cleaner" more understandable and useful map. Headphones for use by communicators have been replaced with a new design to improve user comfort and reduce background noise interference. The licensee has revised and updated the backup computerized dose assessment program. The program now has an added graphical capability and was modified to more closely emulate the primary dose assessment program utilized on ERIS. The licensee has also added a computerized automated emergency callout system (ECOS) and supplied all minimum staffing positions with pagers.

Inspection of a representative sample of essential equipment, instrumentation and supplies revealed that emergency response kits were generally being maintained as described by established procedures. During the inspection several recommendations for improvements to the emergency kits were noted as follows:

- Multiple copies of forms, found in procedures as attachments, are maintained in emergency response kits for use by responders. A random selection of these forms was reviewed and found to be the current revision with one exception. In the EOF kit a copy of a nomograph for rapid air particulate activity estimation was found. This nomograph was from procedure 63.000.32 dated December 3, 1985, which had subsequently been superseded by procedure RPC-97 in 1988. The licensee does not programmatically verify that forms maintained in emergency kits are keep up to date. The licensee should implement some method of control or verification to ensure these forms are maintained current.
- The Fire Department and Ambulance kits maintained for use in support of onsite response by offsite agencies did not have listed in the inventories for these kits the "Special Dosimetry Issue Forms" needed to log issuance of dosimetry devices to responders. The appropriate forms are maintained in the kits and should be added to inventory requirements.
- Supplies for copy and "fax" machines are not maintained by inventory in respective ERFs and could be added to administrative supplies to ensure availability in emergency situations.
- The Onsite Radiological Emergency Team (RET) kit, which is designated to be used for offsite emergency response when conditions dictate, does not contain all of the supplies which may be need for offsite response. This kit should contain supplies equivalent to the Offsite RET kits. Both the onsite and offsite kits did not contain replacement environmental TLDs which may be needed during response to emergency events.
- A decontamination kit was stored in the EOF which is not maintained by any established inventory requirement. This kit should be added to existing inventory lists.

The licensee has, where appropriate, provided check sources in emergency kits to allow for response checking of survey instruments prior to use under emergency conditions.

A selective review of completed checklists for the period January 1990 through January 1991, indicated that the licensee had completed procedurally required periodic communications equipment checks and inventories of Health Physics and office supplies reserved for use by emergency responders. Records of these inventories were readily available and maintained in a orderly manner. Appropriate inventory checklists addressed periodic replacement of perishable items, verification of the current calibration of survey instruments and air samplers. Inventory procedures included provisions for conducting inventories after use of the supplies or following discovery of an unsealed supply container, in addition to the periodic inventory requirement.

Records reviewed indicated that problems identified during inventories and communications equipment checks had been corrected in a timely manner.

No violations or deviations were identified.

c. Organization and Management Control

Overall organization and management control of the Emergency Preparedness program is unchanged from the last routine inspection. No major changes have been made in the responsibilities and authorities of key emergency response personnel, or interfaces and coordination between onsite, offsite, and corporate organizations.

Several changes have been made in the staffing of the Radiological Emergency Response Preparedness (RERP) group. A new individual has been assigned as the Supervisor, RERP; a new individual replaced an Emergency Planning Specialist who moved to the training department; a Chemistry Technician has been assigned a to RERP on a six month cross-training assignment; and one of the two assigned Emergency Response Planners has been on a temporary leave of absence. The new personnel brought into the RERP group are all long term employees of the licensee and familiar with the RERP program. Management has been vigilant in ensuring that as personnel changes have occurred, assigned responsibilities have been monitored and no adverse effects on the overall program effectiveness have been observed.

Adequate numbers of personnel have been identified for specific lead and support positions in the onsite Emergency Response Organization (ERO). The licensee generally maintains at least three qualified individuals to fill ERO positions. Four ERO positions were identified which currently have only two qualified individuals. The licensee has an ongoing process to select and train additional personnel to ensure ERO staffing is maintained at acceptable levels.

The callout lists for the onsite ERO has been updated on a monthly basis. The licensee does not have in place any programmatic requirements to verify on a regular bases that personnel called out could respond in time to meet established response time commitments. However, considering the licensee's recent change to a team response approach, and the fact that the callout list is no longer arranged in consideration of responders proximity to the site, it would be prudent to consider verifying on a regular bases that response time commitments can be meet.

No violations or deviations were identified.

d. Training

The licensee has completed a major revision of the RERP training program and matrix. The matrix has been removed from the RERP Plan and is now found in the Selection, Training and Qualification Program Description, QP-ER-665. As part of this revision, the number

of RERP training program modules was reduced from seventeen to nine courses. Seven of these courses are now taught as regularly scheduled classroom training sessions, the remaining two are still offered on an individual study basis. Eliminated from the training matrix was the requirement that individuals participate in a drill or exercise annually.

A general review of the new RERP training matrix by the inspector indicated that all personnel assigned to ERO positions receive an initial training course for general orientation to the RERP program. Most positions also receive additional specific training and annual retraining concerning assigned duties and responsibilities associated with the RERP program.

Security personnel are specifically listed in 10 CFR 50, Appendix E, as requiring periodic retraining for emergency response duties. This requirement was not reflected in the licensee's RERP training matrix. Discussions with cognizant licensee personnel and a review of applicable training documents for security force personnel indicated that training was being conducted on an annual basis for security personnel concerning RERP duties. It is recommended that the RERP training matrix be revised to include appropriate references to clearly identify compliance with 10 CFR 50 requirements for the retraining of security personnel.

A review of a random sample of twelve individuals training records was conducted. For the records reviewed training had been accomplished on an annual basis as required, and in accordance with the approved training matrix. Licensee management continues to show strong support for RERP training requirements. If personnel assigned to ERO positions fail to maintain their qualification current they are denied protected area access; this ensures personnel are motivated to complete required retraining in a timely manner.

The following onsite RERP drills took place during 1990: semiannual health physics drills, annual medical drill, and an annual radiological monitoring drill. Records indicated that all required EP drills had been successfully conducted, critiqued, and adequately documented during 1990. Items identified through critiques were corrected in a timely manner.

In response to weaknesses identified with the licensee's ability to respond to contaminated injured persons, several additional medical drills were conducted. Additional training for onsite and offsite personnel was implemented, and an ongoing effort continues to strengthen response in this area.

No violations or deviations were identified.

e. Independent Reviews/Audits

The licensee's Quality Program Assurance group performs an audit of the RERP program every twelve months which meets the requirements of

10 CFR 50.54(t). Individuals assigned to perform this audit had no direct responsibilities for implementing the RERP Plan.

The RERP program audit (Audit No. 90-0035) for 1990 was conducted between January 8 and February 2, 1990. The audit was performed by a five man team which included four auditors and a technical specialist. The audit report, issued on February 12, 1990, was distributed to appropriate management personnel.

The audit was of sufficient scope and depth to provide a good review of the RERP program. Four deviation event reports and six observations were issued concerning items identified through the audit.

Records indicated that timely and adequate corrective actions had been taken on identified problems.

The audit included an evaluation of the adequacy of the interface with offsite authorities. Documentation was available that indicated that portions of the audit dealing with the interface with offsite authorities were made available to offsite authorities.

No violations or deviations were identified.

5. Exit Interview (IP 30703)

On February 8, 1991, the inspector met with those licensee representatives identified in Section 1, to present the preliminary inspection findings. The inspector provided his evaluation that the Enrico Fermi Atomic Power Plant, Unit 2 emergency preparedness program has continued to be adequately maintained and implemented as outlined in applicable documents.

The observations and concerns identified during the environmental sampling mini-drill were discussed. The inspectors' concerns for the adequacy of the backup callout system were expressed and the new open item concerning it explained. The status of the three existing open items were reviewed. The change in the licensee's focus to a team oriented response was discussed, particularly the concern that appropriate periodic retraining continue to be provided to potential responders. The lack of reference in the emergency plan program for periodic retraining of security personnel was also discussed.

The licensee indicated that none of the matters discussed during the exit interview were proprietary.