

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-331/89002(DRSS)

Docket No. 50-331

License No. DPR-49

Licensee: Iowa Electric Light and Power
Company
IE Towers, P. O. Box 351
Cedar Rapids, IA 52406

Facility Name: Duane Arnold Energy Center
Palo, Iowa

Inspection At: Palo, Iowa

Inspection Conducted: January 9-13, 1989

Inspector:

William Snell
for James P. Patterson

1/25/89
Date

Approved By: *William Snell*
William Snell, Chief
Emergency Preparedness and
Effluents Section

1/25/89
Date

Inspection Summary

Inspection on January 9-13, 1989 (Report No. 50-331/89002(DRSS))

Areas Inspected: Routine, announced inspection of the following areas of the emergency preparedness program: Operational Status of the Emergency Preparedness Program (IP 82701) and Shift Staffing and Augmentation (IP 82205). Followup on previously identified items (IP 92701) and on actual emergency plan activations (IP 92700) plus licensee actions on NRC Information Notice 87-58 were also addressed. The inspection involved one NRC inspector. Results: Of the areas inspected, one violation was identified under IP 82701. One quarterly update of the Emergency Response Telephone Book was omitted. A Notice of Violation was not issued in accordance with 10 CFR 2, Appendix C, Section G.1. The Emergency Planning Group has just been expanded with increased staffing to better address the offsite as well as the onsite emergency preparedness program.

DETAILS

1. Persons Contacted

W. Rothert, Manager, Nuclear Division
P. Serra, Manager, Emergency Planning
G. Harper, Senior Emergency Planner
S. Marshall, Emergency Planner
G. Van Middlesworth, Assistant Plant Superintendent, Operations/Maintenance
R. Salmon, Technical Services Superintendent
H. Giorgio, Radiation Protection Supervisor
R. Browning, Group Leader, Nuclear Licensing
J. Probst, Technical Support Engineer
E. McGrath, Emergency Planning Training Instructor
M. Craver, Emergency Planning Training Instructor

All persons listed above attended the exit interview on January 13, 1989.

Other Personnel

V. Root, Director, Civil Defense and Emergency Management, Linn County, Iowa

2. Licensee Actions on Previously Identified Items (IP 92701)

- a. (Closed) Open Item No. 331/86020-01): A backup power supply for the TSC electrical equipment and systems has been established, as recommended in the Emergency Response Facility (ERF) Appraisal conducted in November 1986. Installation and testing of a diesel standby generator has been completed. Surveillance tests have been implemented including weekly operability tests, as verified by the inspector. This item is closed.
- b. (Closed) Open Item No. 331/87009-01 (NRC Information Notice 87-58): Licensee has provided for continuous communication following an emergency condition notification. This capability is initially provided in the Control Room. The Emergency Coordinator ensures that for all events classified at the Alert or higher, continuous communications are maintained. These conditions are specified in Emergency Plan Implementing Procedure (EPIP) No. 1.2, Section 3.3.2 and 4.2.7. Dedicated NRC Communicators are part of the emergency response organization (ERO) and are listed in the ERO telephone book. This item is closed.
- c. (Open) Open Item No. 331/88003-01: The last routine inspection, January 1988, determined that the licensee was not conducting, on a routine basis, shift augmentation or emergency response activation (ERA) drills. The licensee agreed to conduct two ERA drills in calendar year 1988. This inspection determined that only one drill

was conducted in 1988, specifically February 29, 1988. The second portion of this item was an agreement to revise the Duane Arnold Energy Center (DAEC) Emergency Plan to include statements that two ERA drills shall be conducted in a year. This revision to the emergency plan has been made. It was decided that the drill frequency was not needed in the implementing procedures. This second portion of the open item has been completed satisfactorily.

To meet the conditions of this item, the licensee has made a verbal commitment to conduct an ERA drill within 30 days of the exit interview or by February 13, 1989. The NRC will be informed of the results of this drill. This item remains open.

- d. (Closed) Open Item No. 331/88020-01: During the November 9, 1988 exercise on OSC team dispatched to obtain an offgas sample at the offgas stack had several problems in obtaining access to the offgas building and in handling equipment necessary to transport the simulated contaminated sample. The steel access door to the sampling area has now been repaired to allow normal access without jamming. The plug for the lead container is now readily removable. Vehicles used to transport the cart containing the lead containers will be checked to assure the proper hitch is attached to the vehicle. In addition, a "safety belt" type hitch is kept with the cart to use to pull the cart if a vehicle without the hitch is the only one available. These actions, which were taken within two weeks after the November 9, 1988 exercise should solve handling problems with offgas samples. This item is closed.

3. Emergency Plan Activations (IP 92700)

Licensee records and Licensee Event Reports established that there were four activations of the DAEC Emergency Plan which occurred since the last routine inspection. The correct Emergency Action Level (EAL) was identified in each event. Each was correctly classified as a Notification of Unusual Event. Documentation review confirmed that Procedure EPIP 1.3 Notification, was followed correctly. Attachment 2 of EPIP 1.2 was completed for each activation; and notifications were made to the State, county and NRC within the specified time limits. As recommended in the 1988 inspection, the licensee has amended EPIP 1.2 in Section 4.2.8 to include sending a copy of each attachment to the Emergency Planning Coordinator.

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

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

a. Emergency Plan and Implementing Procedures

A major emergency plan revision, Revision 8, was made to the DAEC Emergency Plan in September, 1988. EALs were revised to reflect more accurate values for radiological release rates based on fuel

damage. This approach followed the guidelines of NRC Information Notice 83-28. The fuel supplier performed a study to develop 10% and 100% gap release curves for the drywell and torus radiation monitors. This study was based on this reactor's core size/inventory, rather than on the more generic based, WASH-1400 study.

Application of these changes were reviewed as incorporated in a portion of the Control Room display panels which now includes an added panel segment which coordinates the "alert" and "alarm" settings on the drywell and torus radiation monitors with Site Area Emergency and General Emergency annunciating alarms. When radiation levels reach the alert setting on either the drywell or the torus monitors the Site Area Emergency alarm panel activates. When either reach the alarm level on the monitors, the General Emergency alarm panel activates.

These updates and revisions should result in more accurate and functional EALs and improve the licensee's emergency response capability. These revised EALs have been incorporated into EPIP 1.1 on a timely basis as required. Review of a random selection of changes to the emergency plan and implementing procedures determined that changes were submitted to the NRC within 30 days after changes were made.

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

b. Emergency Facilities, Equipment and Supplies

The ERFs were evaluated as part of the November 9, 1988 annual exercise and found to be satisfactory. One noticeable improvement observed then was the lowered noise level in the TSC. There have been no significant changes in the ERFs since then.

Relating to dose assessment capability, an additional dose projecting model has been proceduralized in Corporate EPIP 2.1. This model identified as MESOREM now gives the EOF emergency response personnel an option to use a model for dose projections which is the same as that used by the State of Iowa. This option was unavailable during the November 1988 exercise.

One emergency kit located in the Control Room was selected for a random physical inventory of its contents. No errors were identified in equipment present or calibration dates on instruments. The physical inventory was satisfactory. New Emergency Planning Zone (EPZ) maps which include the expanded area of Cedar Rapids, have been supplied to all onsite and offsite emergency kits.

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

c. Organization and Management Control

Trying to solve the problems encountered with expanding the EPZ to include the entire city of Cedar Rapids, plus FEMA's decision that the State and county plans were unsatisfactory, led to a tremendous drain of resources, at all levels of management, staff and administration. Training for offsite support agencies has also been very time consuming in terms of labor and staff. The proposed reorganization of the Emergency Planning Department (EPD) should provide continued emphasis on training and administrative needs in maintaining a high quality of emergency response capability for offsite agencies. The State of Iowa has proposed that the licensee provide all training for State and local agencies. The Director of Civil Defense and Emergency Management of Linn County, in an interview with the inspector, proposed a sharing of radiation protection training between his staff and that of the licensee.

The proposed reorganization of the EPD was finalized with higher level management approval, a week after this inspection. The approved organization change will contain three additional Emergency Planners, two Trainers for training offsite agencies plus a full time clerical person. At the time of this inspection, the new Emergency Manager, appointed in December, 1988, had only two full time assistants; one a contractor employee, the other an Iowa Electric employee. These two individuals provided nearly the entire EP effort in monitoring and administering the licensee's emergency preparedness program prior to the hiring of contractor personnel within the last three quarters of calendar 1988 and the temporary reassignments of many staff and managerial level personnel.

The licensee should establish and document minimum training requirements for the new EP Manager and his first level supervisors to enhance their understanding of EP principles and issues. Interactions through meetings with their counterparts at other Region III facilities or those outside the Region's jurisdiction would also be very helpful.

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

d. Training

Discussions were held with the two Training Department Instructors who are responsible for onsite EP training. Some of the main topics discussed were the current status of the EP training program, lesson plans and content of certain selected courses, and the mechanisms established to assure that those scheduled for EP training are notified soon enough before the classes are scheduled. The areas discussed were considered adequate as evaluated by the inspector.

To determine whether required annual EP training was given to those having emergency response functions, 16 names were selected at random. All 16 individual training records were completed with all required courses being taken according to the EP training matrix. The Training Department has continually been responsive in incorporating suggestions, recommendations and improvement items identified in NRC inspection reports. One example was a suggestion to put more emphasis in training on the fact that only the Operations Shift Supervisor as the initial Emergency Coordinator can authorize approval of radiation exposure levels in excess of 10 CFR Part 20 limits for emergency workers. The EP Department has also included this statement in Revision 8, Section B, Page B-3 of the DAEC Emergency Plan. There appears to be good communications and interactions between the EP Department and the Training Department in this regard.

A means of reducing some of the annual classroom training sessions should be considered for certain corporate-based personnel with job positions in Administration, Transportation, Industrial Relations, Legal, and Safety. Once initial classroom training is completed, the licensee should consider either a "test-out" or reading list type of training for those difficult to reach personnel. Those job titles identified by the instructors are not critical segments of the emergency response organization, even though they do perform a contributing function. Offsite annual training of ambulance and hospital personnel was conducted by a private contractor in October 1988 prior to the exercise. Annual media training was offered by the licensee, but none of the media chose to attend. The Training Department's instruction staff, consisting of 8-10 persons, was utilized to train from 1,700 to 2,000 offsite agency emergency support personnel prior to the exercise. From the licensee's current plans it appears that this large number of personnel will continue to be trained on courses ranging from a six hour Radiation Monitoring Course to a two hour course on Operations of a County EOC. Two additional trainers assigned to offsite training are being scheduled as part of the newly revised Emergency Planning Department.

All required health physics drills, radiological drills, medical drills, and communications drills have been conducted within the required frequency as verified by review of documentation. The quarterly updates of the Emergency Telephone Book has been previously addressed in Section 5. The sampling and analyses required of all sample media such as water, vegetation, and soil and air, although part of the annually required Radiological Monitoring Drill, was conducted in conjunction with the semiannual Health Physics Drills. This was acceptable.

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

e. Independent Reviews/Audits

Quality Assurance (QA) Audit Report No. I-88-15 consisted of an independent annual audit of the Emergency Planning Department and met the NRC requirements of 10 CFR Part 50.54(t). No "findings", which are items of highest significance, were identified. Of lesser significance were six "observations" and five "comments" identified as "Performance Particular." These terms used to categorize and identify specific comments should be defined on the cover sheet of the report to clarify the significance of the comments. This annual audit also included an evaluation of the adequacy of the interfaces with State and local governments as required by 10 CFR Part 50.54(t).

This audit identified the lack of the quarterly review of the Emergency Telephone Book for the second quarter of 1988. This has been identified in Section 5. Another observation related to the difficulty in ascertaining whether the drills and exercises address all of the NRC and FEMA objectives over specified time periods. A better tracking system could be used to correlate the objectives and the six year schedule as referenced in CPIP 4.2.

From a review of this independent audit there seems to be a view that documentation, including followup on critique findings, objective conclusions, and a useful efficient tracking system, were not entirely satisfactory in the past year. The licensee has demonstrated better control and discipline of the plant-related EP program in previous years. The priority given to offsite matters referred to earlier had a definite detrimental effect on the administration and quality related EP program. The one staff person largely responsible for on-site activities had to limit the time spent on these tasks to assist in the licensee's overall efforts to revise State and county radiological emergency plans. Licensee management has indicated to the inspector that with additional approval for staffing and a lesser percentage of time needed to meet offsite demands, the quality of the on-site program will be greatly improved.

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

5. Shift Staffing and Augmentation (82205)

A review of the documentation for updating the Emergency Telephone Book revealed that the quarterly review and update was not done for the second quarter of 1988. This omission was identified in the licensee's annual independent audit, Report No. I-88-15. This omission was also identified in July of the third quarter, and prior to the audit, by the EP staff. The audit finding took place later in the audit review period of October 31 to December 9, 1988. This Emergency Telephone Book is the basic document used to contact those with emergency response organization positions. It relates directly to the minimum shift staffing organization as specified in Table B-1, Section B of the DAEC Emergency Plan.

This omission would normally be a violation of NRC requirements as specified in 10 CFR 50.54(q) for not following the DAEC Emergency Plan as specified in Section P, Page P-3 of the plan. However, since the licensee identified the problem and it meets the Severity Level V criteria along with other conditions as specified in 10 CFR Part 2, Section V.G. - Exercise of Discretion, no violation will be issued.

Minimum shift staffing as specified in Table B-1, Section B, Pages B-15 and B-16 was reviewed with the EP group. The current staff augmentation table appears to meet the guidance for onshift, 30-minute responders and 60 minute responders. The inspector recommends that a more in-depth review of this table be made particularly as to how it relates to any job titles which may have changed. Such job title changes could affect the EP training required for that position.

As addressed in Section 2, as part of an open item, the licensee did not conduct two shift augmentation drills in calendar year 1988, as was agreed upon in the previous routine inspection. The Manager, Emergency Planning, has agreed to conduct a second drill within 30 days of this inspection, i.e., by February 13, 1989.

The shift staffing and augmentation function and capabilities of the licensee's emergency preparedness program needs some improvement. The quality of documentation for these drills with supporting evidence of followup for items of concern could be better. This area requires a certain discipline and professionalism in carrying out the various facets of the program. Interactions with many separate operational disciplines as part of the new EP organization and better quality for this part of the EP program will be expected.

Based on the above findings, and subject to the comments listed above, this portion of the licensee's program was acceptable.

6. Exit Interview

On January 13, 1989 the inspector met with those licensee representatives identified in Section 1 to present the preliminary inspection findings. The inspector summarized the results of the inspection and identified a potential violation for not conducting a quarterly review and update of the Emergency Telephone Book. This omission was identified by the licensee and corrective actions taken before this inspection.

The licensee indicated that none of the information discussed was proprietary in nature.