NOTICE OF VIOLATION

Iowa Electric Light and
Power Company
Duane Arnold Energy Center

Docket No. 50-331

License No. DPR-49

During an NRC inspection conducted on October 15 through 25, 1991, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C (1991), the violation is listed below:

A. 10 CFR Part 50, Appendix B, Criterion VI, Document Control, requires, in part, that drawings for safety-related equipment are reviewed for adequacy. Plant piping and instrument diagram (P&ID) M-132 showed the four lube oil makeup table level alarm switch test connection valves open, pipe caps installed on each connection, and no connection between the three way lube oil drain valve for each emergency diesel generator (EDG) and a fitting on the lube oil makeup tank.

Contrary to the above, on October 17, 1991, P&ID M-132 for the EDG had not been properly reviewed for adequacy as evidenced by:

1. Three of four lube oil makeup table level alarm switch test connection valves closed with the pipe caps missing and;

2. A rubber hose connecting the lube oil drain valve for each EDG and a fitting on the lube oil makeup tank.

This is a Severity Level V violation (Supplement I).

Pursuant to the provisions of 10 CFR 2.201, Iowa Electric Light and Power Company is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington D.C. 20555 with a copy to the U.S. Nuclear Regulatory Commission, Region III, 799 Roosevelt Road, Glen Ellyn, Illinois, 60137, and a copy to the NRC Resident Inspector at Duane Arnold Energy Center, within 45 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. If an adequate reply

is not received within the time specified in this Notice, an order may be issued to show cause why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

Dated at Glen Ellyn, Illinois
this 22nd day of November 1991

Edward G. Greenman, Director
Division of Reactor Projects

EXECUTIVE SUMMARY

From October 15 through 25, 1991, a team of five NRC inspectors performed a modified Operational Safety Team Inspection (OSTI) at the Duane Arnold Energy Center (DAEC). The purpose of the inspection was to evaluate the licensee's progress in addressing problems and issues discussed in the last Systematic Assessment of Licensee Performance (SALP) report (SALP 9 - January 1, 1990, through March 31, 1991) and other concerns that arose subsequently. The team focused primarily on the licensee's programs and initiatives directed at addressing the concerns in the Engineering/Technical Support and Maintenance areas. Specific aspects reviewed included: engineering support to operations and maintenance; modification controls; configuration control and labeling; trending; engineering efforts in balance of plant (BOP) activities; procurement and spare parts; vendor recommendation followup and disposition; lessons learned from the 1990 refueling outage; prioritization and timely performance of technical specification and safety-related work; programs for post-maintenance testing and predictive maintenance; coordination of maintenance; and maintenance backlog. The team also focused, though to a lesser degree, on programs and initiatives directed at addressing the concerns in the Safety Assessment/Quality Verification and Operations areas. Specific aspects reviewed included: management oversight and accountability; self-assessment capabilities; quality assurance and quality control; corrective action and commitment control programs; root cause analysis; operating experience feedback; and operations control of support activities.

The licensee had earlier committed to upgrade system engineering by increasing staffing and by increasing the system engineer's involvement in performance monitoring, operations data review, review of common mode failures, and preventive maintenance and testing, and to reduce the backlog of open engineering work requests. Progress in these areas generally appeared good. The increased staffing levels in the system engineer area appeared appropriate. However, a considerable number of these individuals were new to DAEC. One weakness noted was the lack of a formal program for system engineer qualification. As a result, managements expectations in this regard were not clear. It did appear that the system engineers were actively supporting the operation of the facility. Review of several issues in which system engineering was involved indicated generally good understanding of system design and use of engineering principles and calculations to backup or develop conclusions. However, three examples of inadequate review or followup were noted. Two of these issues will be tracked as Unresolved Items.

The review of the vendor manual program indicated that the licensee had recently completed a review to ensure that copies of all available manuals for both safety-related and nonsafety-related equipment were on hand. It was noted that the licensee

had committed to, but had not yet performed, a review of the safety-related manuals to ensure that the surveillance, preventive maintenance, and maintenance recommendations were either followed or justification provided for deviation. The team's review of the technical manuals for three systems for surveillance, preventive maintenance, and maintenance actions, as they compared to the procedures in operations and maintenance, did not identify any deficiencies.

In order to increase management attention to the review and prioritization of modifications which should be performed, the licensee established a priority review board (PRB). A weakness identified in this area was that modifications cut from the budget might not get the same level of review as new projects. The project engineering group, which was established as part of the licensee's reorganization in order to provide better support to the design change process, appeared to be effective at controlling the outage work scope. Design documentation packages were also being completed at or near the desired dates. One weakness in the design change process was that in some cases the system engineers felt that they were not getting management support to make minor improvements. This lack of support for these issues, a number of which date back to 1983, appeared to be due to the prioritization process and design change process that treated even the most minor modification to a safety-related system as a major design change, thus substantially increasing the cost.

Walkdowns of the Emergency Diesel Generators (EDGs) revealed a weakness in the licensee's configuration control program as evidenced by valve positions that were different from those shown on the system drawings and hoses where none were shown on the drawings. This finding was of minor safety significance and was considered to be a violation. The plant labeling requirements were found to be well defined in the program guidelines. However, a weakness was noted in that there were tags in the plant leftover from a previous initiative that were not in accordance with the current labeling program.

Evaluation of the licensee's implementation of corrective actions to the lessons learned from the 1990 refueling outage indicated that the licensee had restructured the outage organization to more effectively control contractor work activities. The various actions taken, including implementation of a training program for contractors, the assignment of project team leaders and technical leaders, using DAEC procedures for all work activities, and providing DAEC quality control coverage, appeared to be positive steps. The changes in the procurement process and spare parts program, including increased staffing, implementation of computer tracking of spare parts and for inventory control, and efforts at developing a bill of material for major pieces of equipment, were also viewed as positive steps.

Overall, maintenance appeared to be effectively implemented. The Maintenance Quality Improvement Program appeared to be a good

initiative that should show benefits. Prioritization and timely performance of safety-related work packages appeared adequate. A review of the Post-Maintenance Test Program, as well as a review of a sample of work requests, was performed with no significant problems noted. The post-maintenance test matrix that the licensee developed for motor operated valves (MOVs) was considered a strength. However, a concern regarding current practices with respect to packing adjustments was identified. The licensee committed to a review of these practices and to formalize a basis for them. The team found that while the current maintenance work request backlog was acceptable it was approximately 20% higher than at the same point in the previous cycle, though it had recently shown an improving trend.

The licensee's equipment performance monitoring program was considered adequate. Evaluation of this area was difficult due to the lack of formalization and the large number of organizations participating. Although a large amount of data was being collected it was not obvious how, and to what extent, the data was applied. The licensee's vibration monitoring program had yielded a number of successes but was not successful in detecting several catastrophic failures of deep-draft pumps. The licensee's efforts to resolve this issue were only partially successful. The instrument trending program appeared to be well run and effective. The inspection found that calibration data for both BOP and technical specification instrumentation was collected and trended. It was noted that while the program was currently effective, improved proceduralization would probably be required to ensure that this level of performance would be maintained if key personnel were lost. The team noted that the licensee had recently implemented thermography and oil analysis programs that were slowly and deliberately being incorporated into the predictive maintenance program while incorporating lessons learned by the rest of the industry. Though in their infancy, these programs had already shown some benefits. Coordination of maintenance activities was generally adequate. Of three examples reviewed, no problems were noted for two. The third example involved corrective maintenance on the diesel fire pump. Several opportunities existed for performing the repair, however, several breakdowns occurred in the licensee's control system for Limiting Condition of Operation maintenance that prevented a timely correction of the deficiency.

Management attitude towards operational safety, response to events, identification and documentation of significant deficiencies, and corrective actions appeared appropriate. Subsequent to the SALP 9 report the licensee made changes to the Business Plan to reflect the identified problem areas. With these changes the Business Plan appeared to be a sound, well thought out, and well implemented mechanism to ensure good operation of the facility. Of the portions of the Business Plan selected for evaluation for the status of their implementation, all were found to have been completed on schedule or the schedule appropriately revised with no undue patterns of slippage. Of the portions selected for review for effectiveness only one weakness

was identified concerning the lack of engineering involvement in the initial development and review of Technical Specification Interpretations (TSIs). In addition, of the four TSIs reviewed, the team disagreed with two of them and identified a concern with the timeliness of resolving a question on a third. One of the issues identified was the licensee's bypassing of two Average Power Range Monitors (APRMs) since the beginning of the current operating cycle. The APRMs were placed in bypass to overcome a design problem that had the potential to allow a reactor scram on a spurious electrical spike. This issue was considered an Unresolved Item. The Safety Committee (offsite review) appeared to be very effective with a good interchange of information taking place. Items that were reviewed by the Operations Committee (onsite review) received an appropriate amount of discussion.

Operations control of support activities was evaluated by observation of the daily plan-of-the-day meetings. These meetings were held with wide participation from the DAEC departments and this was considered a strength. However, increased structure and accountability for commitments were areas where improvement could be made. Tours of the plant indicated that housekeeping and the material condition of equipment were generally very good. Of particular note was the torus area. While the licensee had, over a period of time, recovered much of the contaminated areas in the plant, it was noted that recent trends were unfavorable.

Conclusions:

The team determined that the plant was staffed by competent and knowledgeable personnel who executed their duties in a professional manner and were capable of operating the plant safely. As a result of the NRC concerns communicated to the licensee through the SALP, other inspections, and management meetings, they implemented numerous new programs, or revised existing programs, and increased staffing resources to support these new initiatives. At the time of the inspection, most of these programs had only recently been implemented and much of the additional staff had only been on site a relatively short period of time. As a result, the inspection could not assess the effectiveness of the changes. However, in general, the programs the licensee initiated looked promising and if properly implemented and maintained should result in improved performance in the previously identified areas of concern.