

July 14, 1993

Docket No. 50-237  
Docket No. 50-249

Commonwealth Edison Company  
ATTN: Mr. Michael Wallace  
Chief Nuclear Operating Officer  
1400 Opus Place - Suite 300  
Downers Grove, IL 60515

Dear Mr. Wallace:

SUBJECT: DRESDEN OVERSIGHT TEAM SITE VISIT, JUNE 22-25, 1993

As you are aware, Dresden Units 2 and 3 were placed on the NRC watch list after the January 1992 NRC senior management meeting. As a result of Dresden being placed on the watch list the Dresden Oversight Team (DOT) was formed. The DOT will continue to make periodic visits to Dresden to evaluate the progress of the efforts to improve performance, to provide feedback to the Commonwealth Edison Company (CECo) on the status of the improvement programs, to provide recommendations on the NRC inspection effort at Dresden, and to provide a periodic status of CECo's efforts to improve Dresden's performance.

The DOT made its sixth onsite visit to Dresden on June 22-25, 1993. We conducted numerous interviews and reviewed documentation in each of the areas discussed in the attached report. Many of the DOT issues represent impressions and viewpoints derived primarily from these interviews.

A significant amount of personnel and program changes continues to be made at Dresden, and their impact will be reviewed during future visits. The addition of experienced onsite engineering resources was positive, however these resources were not yet fully integrated into plant activities. The system engineer program and the availability of design basis information were still weak although improvements were made in both these areas. Longstanding material condition problems continue to be addressed but much remains to be done. Progress in the area of self assessment has been slow and is still considered weak. There was a lack of an effective performance monitoring system, and the contribution of QA was limited. The team also had some concern about the limited amount of time that management was spending in the plant. Improvement in this area may help in identifying and correcting deficiencies such as the ongoing problem with shoe contaminations.

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If you have any questions or comments on this report or other DOT activities, please contact me at (708) 790-5603.

Sincerely,

original signed by

T. O. Martin, Acting Director  
Division of Reactor Safety

Attachment: As stated

cc w/attachment:

- J. M. Taylor, EDO
- J. H. Sniezek, DEDR
- T. E. Murley, NRR
- H. J. Miller, RIII
- E. G. Greenman, RIII
- C. E. Norelius, RIII
- B. Clayton, RIII
- J. G. Partlow, NRR
- B. A. Boger, NRR
- J. A. Zwolinski, NRR
- J. E. Dyer, NRR
- J. Stang, NRR
- M. J. Jordan, RIII
- C. D. Pederson, RIII
- S. Stasek, SRI, Davis Besse
- L. O. DelGeorge, Vice President, Nuclear Oversight & Regulatory Services
- M. Lyster, Site Vice President
- C. W. Schroeder, Station Manager
- J. Shields, Regulatory Assurance Supervisor
- D. Farrar, Nuclear Regulatory Services Manager
- OC/LFDCB
- Resident Inspectors - Dresden, LaSalle, Quad Cities
- Richard Hubbard
- J. W. McCaffrey, Chief, Public Utilities Division
- Robert Newmann, Asst. Director State of Illinois
- Licensing Project Manager, NRR
- State Liaison Officer
- Chairman, Illinois Commerce Commission

bcc: PUBLIC - IE01

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**REPORT ON THE SIXTH VISIT OF THE  
DRESDEN OVERSIGHT TEAM  
JUNE 22-25, 1993**

**I. Scope and Participants**

The Dresden Oversight Team (DOT) made its sixth onsite visit to Dresden on June 22-25, 1993. During this visit the DOT focused on your overall improvement efforts and the results of the recent Unit 2 refueling outage and the Unit 3 forced outage. The following DOT members participated in this visit:

T. O. Martin, DOT Chairman  
J. Dyer, NRR  
J. Stang, NRR  
M. Jordan, RIII  
S. Stasek, SRI, Davis Besse

**II. Overview and Conclusions**

Progress is being made but continues to be slow. Communications and teamwork were positive as was the addition of experienced onsite engineering resources. However the new engineering resources have not been fully integrated into plant activities and the system engineer program is still weak. Longstanding material condition problems continue to be addressed but much remains to be done. The results of recent outages (Unit 2 refueling and Unit 3 forced) were positive considering the significant scope of work completed. Progress in the area of self assessment has been minimal and is still considered weak. The makeup of the site management team continues to change. Most significant is the replacement of Chuck Schroeder (Plant Manager) with Gary Spedl (former Plant Manager at LaSalle). Other changes include moving Rita Radke from Executive Assistant to Services Director, Dale Ambler from Radiation Protection Supervisor to Executive Assistant, and Lois Jordan from Principal Health Physicist to Radiation Protection Supervisor. In addition to presenting opportunities, these changes will pose a challenge to sustained progress in your improvement program.

**The self-assessment and overall strategic planning effort were weak.**

The scope of work was considerable for the limited size of the QA staff. These factors, along with the responsiveness of QA to follow up on specific plant concerns, left little time for auditors to explore areas independently. At the time of the DOT visit there was a lack of a good self-assessment tool and an effective management trending system. A system for tracking performance, similar to the one used at Zion (windows), is still in the development stage. The licensee also had in place an outline of a proposed management trending tool that would compile plant performance data in one document. This system will replace the Dresden Performance Improvement Report that has not been issued since December 1992.

**Communication and teamwork within the station were good, however management presence in the plant continued to be weak.**

**Effort continues to be put into communicating expectations to the plant staff**

mostly through group meetings between staff and management. Additionally, the team received many comments from interviewees indicating that inter-departmental teamwork was very good. The maintenance department initiative to communicate significant equipment improvements to operations was particularly noteworthy. A display was put up in the maintenance shop with pictures and pieces of hardware showing some of the improvements that were made to correct long standing equipment problems. One concern that remains was the limited amount of time that site management spent in the plant.

### **III. Plant Status**

During the visit, Units 2 and 3 were operating at power.

### **IV. Operations**

Communication within the operations department and between departments was good.

A lot had been done to communicate management expectations to operations staff and to stimulate inter-departmental communications. We saw evidence that this effort has been successful. Inter-department communications improved and teamwork appeared to be good. Within the operations department all levels of the organization were well aware of management's expectations for procedural usage, three way communications, and use of the STAR (stop-think-analyze-review) program.

Empowerment of operations to be the production leader showed some lack of accountability to meet the daily schedule.

There was a lack of accountability by the operations department on shift to assure scheduled work was accomplished on time. During the unit 2 outage a Shift Outage Manager and an extra control room SRO were assigned to assist the shift with the refueling outage. These individuals were assigned to provide oversight of outage work activities and address outage related problems from the control room. These individuals were accountable for getting outage work done. With the outage over and the crew complement returned to normal there has been a noticeable reduction in the involvement of operations staff as to whether work is started or accomplished on time. This is particularly evident at the shift turnover and the daily planning meetings. The accountability for work was being assumed by the planning department. The empowerment of operations department to be the production leaders appeared to have slipped.

Control room professionalism and demeanor were good.

The control room was properly manned with 4 ROs and 1 SRO (shift control room engineer). It was quiet and the operators were knowledgeable of the alarms that were annunciated and the work that was being done on the units. Their attitude was positive, and they seemed motivated to improving conditions at the plant. An example was their willingness to make improvements to procedures. The operators expressed more confidence than we have seen in the past that management is addressing equipment reliability issues (feedwater pump seals, condensate and condensate booster pumps, reactor water cleanup, etc.). The operators felt that there are still some nagging equipment performance problems that needs management

support (service water radiation monitors and reactor building and turbine building ventilation systems). These material problems were also recognized by management.

Daily planning schedules were not accurate at reflecting the time it will take to accomplish work.

The daily planning schedules improved in that all departments were using the same schedule to review and plan work for the day. Operations was establishing the priority work for the site. However, the operators did not have a high degree of confidence that the scheduled start or completion dates for assigned work were accurate. The station was not comparing the scheduled time with the actual time it took to accomplish a work item to determine the accuracy of their scheduling effort. The net result was a planning schedule that inaccurately reflected both when and how long a system will be out of service.

#### V. Maintenance

Recent organizational changes have strengthened the maintenance department.

A material condition manager (MCM) was recently appointed. However, his responsibilities differ from those of the previous material condition coordinator. The current concept is for plant housekeeping to be the line responsibility of each maintenance work group. The MCM function includes development of necessary procedural guidelines and as well as to ensure proper implementation of the new program. Work in this area will be evaluated during future visits.

Not all organizational changes have been completed to date. During the DOT visit, the electrical department was in process of moving about 40 percent of its support staff to different positions. This will be a challenge to accomplish without significant adverse effect in the interim. Overall plant housekeeping were considered average.

Plant material condition continues to improve and was acceptable.

Tours of the facility, both inside as well as the external yard areas, were conducted during the visit. The team noted that recovery from the recent dual unit outage was complete with overall cleanliness levels improved from that during the outage. Housekeeping and equipment condition was somewhat improved with less debris and clutter, fewer packing leaks, and less contaminated spaces evident from that of previous visits.

Vendor technical information is weak.

Several vendor manuals were under review and in process of being upgraded during our visit. Substantial portions of the manuals were found to be incomplete and/or included erroneous information regarding the as-installed equipment. The licensee currently intends to expand their review and look at the balance of onsite vendor information under the Dresden's vendor technical information program (VTIP). This will be a long term program requiring substantial time and effort to complete. Plant management indicated that, in the interim, all vendor

information would be treated as suspect, pending validation.

**Some skill-of-the-craft weaknesses were recently found.**

The licensee recently identified some of the more experienced mechanics had demonstrated certain skill-of-the-craft weaknesses. Examples included vertical pump alignment strategies, use of sealants, and certain tool usage. The licensee believes all such weaknesses have been identified but assured the team that a heightened level of sensitivity would be maintained to identify further weak areas if they arise. Additional training was anticipated to compensate for these weaknesses. Progress in this area will be reviewed during future visits.

**Adherence to the 3-day maintenance work schedule was weak.**

The licensee was not tracking the completion rate of scheduled work but acknowledged that the completion rate was very low. This was apparently due to low preliminary estimates of work duration times as well as last minute changes in work priorities. Planning personnel indicated that efforts were being made to improve both areas of concern. An 80 percent adherence rate was planning's goal to be achieved by Fall 1993.

**Work request backlog was steady.**

Although efforts have been made to reduce the number of outstanding work requests, little progress has been made. The overall numbers remain approximately constant to those of prior visits. Discussions with maintenance management indicate that with the upcoming budgetary constraints, a substantial challenge will be to adequately manage the backlog coupled with completing required emergent work.

## **VI. Engineering and Technical Support**

**The availability of design basis information is still a problem.**

Many of the engineers and supervisors indicated that the retrieval of design basis information continues to be difficult. The licensee has several programs underway to address this issue including (1) rebaselining the FSAR, which is expected to be complete by the end of this year, (2) developing a Material Equipment List, that will significantly improve the classification of equipment, and (3) developing design basis documents for some of your systems, four of these have been completed so far and more are in development. There are some problems in this area that have not been addressed including (1) providing the ability on site to access, with appropriate data retrieval equipment, the background information supporting the design basis documents and (2) the lack of a controlled calculation file. The latter item would be particularly useful in accessing information developed in calculations to support modifications.

**The organizational changes in engineering were positive.**

The changes to both the technical staff and site engineering and construction organizations appear to be positive. Overall approximately 19 engineers from

outside of Dresden have been transferred to the site in the last several months. Other engineering resources were moved within the site to strengthen both Tech Staff and the onsite engineering and construction organization. Presently Tech Staff consists of about 56 persons averaging almost 9 years of experience. The Site Engineering and Construction (SEC) organization presently consists of about 78 persons. Most of the new persons transferred to Dresden were moved into SEC including some with substantial engineering and design experience. These changes should allow site engineering to be much more responsive. At the present time SEC plans to complete the design work for non-safety-related, non-seismic modifications. Other modification work will be contracted out as has been the general practice. As recognized by the licensee there was a need to refine the responsibilities and interface of the engineering groups internally and with the rest of the station.

**System Engineers had a limited amount of experience on their respective systems.**

One concern with regard to the experience of the staff was the limited amount of experience that system engineers (SEs) had on their respective systems. Of data provided on SEs for 50 systems, 30 had 1 year or less experience on their system. This was of particular concern due to intended use of SEs as the focal point of activity on each system, involving coordination with operation, maintenance, and SEC. The limited amount of available design basis information also makes it more challenging for SEs to become fully aware of all the facets of their system. However, some SEs were found to have a high degree of credibility with plant staff, such as the SE for HPCI.

## **VII. Self Assessment**

**Dresden self assessment capabilities for individual departments were not sufficiently developed to provide meaningful appraisal of performance.**

The licensee had developed the Integrated Quality Effort (IQE) Program to monitor key indicators of organizational performance at the Dresden Nuclear Station. This program was patterned after the Zion Station Windows Program. The DOT noted that the computer software and report format for the IQE was developed, but the May 1993 Report did not accurately assess departmental performance because several Dresden Nuclear Station organizations had not established the standards to measure performance. As a result 4 of the 18 organizations assessed for "Safe Operations" were still under development and several other organizations were only partially assessed in areas that were not completely relevant to safety performance. For example, the only performance standard developed for Site Quality Verification (SQV) was in the area of security events. Because SQV did not have any security events during May 1993, its overall performance was assessed as a significant strength in the IQE report.

The licensee was also developing a similar program to be implemented CECo-wide which would offer consistent standards for all CECo sites. The DOT did not review licensee efforts with this program.

**A Nuclear Oversight Initiative was in progress on a trial basis to review station performance in four critical areas; commitment management, operations performance, work control, and procurement.**

The Nuclear Oversight Initiative was established to review the efficiency and effectiveness of the identified programs by a team comprised of members from other CECOs sites and headed up by the SQV Superintendent. The review included a detailed procedural and implementation assessment from both a regulatory and station efficiency perspective. The individual reviews were only beginning and the DOT will review the outcome of completed assessments during the next visit.

The workload of the SQV organization did not appear to be commensurate with the size of its staff.

The SQV organization consisted of seven technical staff and one manager and reported to the corporate office. At the time of the DOT visit, three of the seven technical staff had been assigned to Dresden less than three months and an Acting SQV Superintendent had been recently assigned while the actual Superintendent was assigned to lead the Nuclear Oversight Initiative. Another SQV inspector was on loan to the LaSalle Nuclear Station. The SQV activities encompassed both the normal Quality Assurance and the Independent Safety Engineering Group (ISEG) functions and included major activities such as audits, field monitoring surveillances, effectiveness reviews, lessons learned initial notifications, safety system performance monitoring and independent shutdown risk assessments. These functions appeared to be excessive for the staff assigned to the SQV organization, and a review of SQV products indicated a reduced scope of assessments from DOT expectations.

A total of seven audits were scheduled to be performed in 1993; four onsite audits performed by SQV and three offsite audits performed by the corporate office auditing group. The scope of these audits each encompassed several areas required by the Technical Specifications, and audit checklists appeared brief for the areas to be covered. Several of the checklist items were identified by the line organization and station management as areas of interest, and it appeared that these requests left little time for the audit team to explore areas independently.

A total of 33 Field Monitor Reports were completed during May 1993. Interviews revealed that this was substantially below SQV organization expectations because of the personnel transfers and additional requirements of the outages. During the month, concerns were identified with procedural adherence, procedural inadequacy, and housekeeping/material condition. A special survey accomplished on foreign material exclusion (FME) knowledge and practices within the station also found that, despite the enhanced training conducted after the Unit 3 turbine event, awareness and adherence to the FME program at Dresden was still low.

#### **VIII. Corrective Actions and Procedures Upgrade Effort**

The integrated reporting system is gaining wider acceptance.

Improvements were noted with the Integrated Reporting Program (IRP). Many more problem identification forms (PIFs) were being generated indicating a broader acceptance of the program, however operations, maintenance, and bargaining unit personnel in general were not actively generating PIFs. DOT members attended several of the daily event screening committee meetings that convene to discuss whether events from the day before warrant the generation of a PIF. These

meetings were an effective process and made good use of the IRP process, however the DOT noted some reluctance to classify issues higher than level 4. Items classified at level 4 or higher require a significant amount of effort to resolve. PIFs were still not being written in all cases for unanticipated corrective maintenance problems, in general. This is consistent with the licensee's program, and there was reluctance to change at the present time due to the potential for a much greater administrative burden. The aspect of threshold for generating PIFs will be reviewed in future visits.

The procedure upgrade program was nearly complete and has been successful.

The program began in 1992 and was intended to upgrade the level of detail and consistency of approximately 3700 procedures including the Dresden Administrative Procedures (DAP). The program was scheduled to be completed in July 1993. Since the last DOT visit the program has been successful in reducing the backlog of procedure changes and reducing the backlog of temporary procedures requiring change. Less than 1% of the procedures remain to be upgraded.

#### Technical Specification Upgrade Program (TSUP)

This program was undertaken as a result of a 1987 DET inspection finding. The program will upgrade both the Dresden and Quad Cities Technical Specifications (TS) to align them more like the Standard BWR TS. CECO currently has submitted six applications for review and approval. Another six packages were expected. NRR currently has completed the review of the first three packages and plans to finish review and approval of the entire program in early 1994. During the DOT visit the people interviewed seemed very enthusiastic about the program. Because of the complexity of the upgrade program, with both training of operators and implementation of the TS, the Regulatory Assurance group had operators temporarily reassigned to assist in the training of operators and the overall integration of the new TS into station activities. The team viewed this as a positive initiative. The procedure upgrade program was almost complete. Several thousand procedures were revised and reformatted consistently. Overall, the comments from the staff were positive on the quality of the procedures with some comments made that there may now be too much detail in certain procedures. The quality of the new procedures was considered good.

#### IX. Outages

The licensee worked several long standing material problems with important systems and components resulting in a significant increase in the D2R13 outage work scope and scheduled duration.

When the D2R13 outage was completed on May 28, 1993, 35 of the "Top 50 Material Problems" were worked and corrective actions implemented. Post maintenance testing indicated that the plant material condition was improved. For the first time, Dresden Unit 2 completed an outage with no major rotating piece of equipment in the Alert Range of the Inservice Testing Program. The outage duration was extended from a scheduled 91 days to 128, work scope increased from 1950 work requests to 2890, and work increased from approximately 500K m-h to 900K m-h. As discussed in the last DOT Report, this significant increase in emergent work was largely due to the licensee's lack of understanding of the

material condition of the station and an Equipment Reliability Issues Database that was not sufficiently developed to support D2R13 outage planning. Unit 2 operation since the end of the outage has indicated improved performance of several key systems, but the licensee believes that further outages of this scope will be needed to completely resolve some of the equipment reliability concerns at the Dresden Station. The DOT agreed with the licensee's assessment.

In preparation for the D3R13 outage currently scheduled to begin in February 1994, the licensee was taking several actions to improve outage planning. In particular, specific attention was being applied to better understanding the material condition of the station and better estimating the work that would need to be accomplished during the Unit 3 outage. Technical Support Staff System Engineers were assigned work coordination functions to identify and integrate anticipated work on their assigned systems into a single schedule for the outage. Site Engineering was performing a detailed engineering review of major work packages to better identify materials, support equipment and provide better estimates of the work package duration and exposure control requirements. The Outage Planning organization was factoring in the lessons learned from the D2R13 outage results for estimating duration of specific work items and estimates of the projected work.

#### X. Exit Meeting

An exit meeting with the licensee was held on June 25, 1993. Mr. H. J. Miller, Deputy Regional Administrator, and Mr. John Zwolinski, Assistant Director for Region III Reactors, NRR, were in attendance. Mr. Chuck Schroeder, Plant Manager, and other Dresden representatives were present.