Commonwealth Edison
1400 Opus Place
Downers Grove, Illinois 60515

May 20, 1994

U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Document Control Desk

Subject: Dresden Nuclear Power Station Units 2 and 3 Response to Notice of Violation; Inspection Report 50-237/92033; 50-249/92033
NRC Docket Numbers 50-237 and 50-249

References: J. B. Martin letter to M. J. Wallace, dated April 21, 1994, transmitting Notice of Violation; Inspection Report 50-237/92033; 50-249/92033.

E. G. Greenman letter to L. O. DelGeorge, dated September 09, 1993, transmitting Inspection Report 50-237/92033; 50-249/92033.

E. G. Greenman letter to M. J. Wallace, dated September 28, 1993, transmitting NRC Enforcement Conference Report 50-237/93027.

D. L. Farrar letter to U.S. NRC, Document Control Desk, dated October 15, 1993, transmitting CECo's Response to weaknesses identified in Licensed Operator Examination Report 50-237/OL-93-01.

Enclosed is Commonwealth Edison Company's (CECo) response to Notice of Violation regarding the September 18, 1992 Control Rod Mispositioning Event which was transmitted with Inspection Report 50-237(249)/92033. The response is being submitted as requested in the referenced J. B. Martin letter.

If your staff has any questions concerning this letter, please refer them to Sara Reece-Koenig, Regulatory Performance Administrator at (708) 663-7250.

Sincerely,

D. Farrar
Nuclear Regulatory Services Manager

attachments

cc: J. B. Martin, Regional Administrator Region III
J. F. Stang, Project Manager, NRR
M. N. Leach, Senior Resident Inspector, Dresden

ATTACHMENT
RESPONSE TO NOTICE OF VIOLATION
NRC INSPECTION REPORT
50-237/92033; 50-249/92033

VIOLATION: (50-237(249)/92033-01,02)

During an NRC inspection conducted from November 30, 1992 through December 4, 1992 and during an NRC investigation, violations of NRC requirements were identified. In accordance with the "Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C, the violations are listed below:

A. Dresden Technical Specification 6.2.A.1 states that the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, shall be established, implemented, and maintained. Regulatory Guide 1.33, Appendix A includes administrative procedures, general plant operating procedures, and procedures for startup, operation, and shutdown of safety related systems.

Dresden Operating Abnormal Procedure (DOA) 300-12, "Mispositioned Control Rod," Revision 2, Section D.2.a.(1), "subsequent operator actions," states that if a single control rod was inserted greater than one even notch from its in-sequence position, then the mispositioned control rod must be continuously inserted to position 00 if reactor power is greater than or equal to 20% rated core thermal power and if the control rod mispositioning occurred within the past 10 minutes.

10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," states, in part, that measures shall be established to ensure that conditions adverse to quality are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall ensure that the cause of the condition is determined and corrective action taken to preclude repetition.

Contrary to the above, on April 10, 1992, a mispositioned control rod that had been inserted greater than one even notch from its in-sequence position when reactor power was greater than 20% rated core thermal power and the control rod mispositioning occurred within the previous 10 minutes, was not inserted to position 00 as required. This event was a significant condition adverse to quality because a mispositioned rod could cause degradation of fuel cladding. Furthermore, the licensee failed to identify, correct, and determine the cause of this event, or preclude repetition of this significant condition adverse to quality, resulting in the occurrence of a similar event on September 18, 1992, described in item B below. (01013)

VIOLATION: (continued)

B. Dresden Technical Specification 6.2.A.1 states that the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, shall be established, implemented, and maintained. Regulatory Guide 1.33, Appendix A includes administrative procedures, general plant operating procedures, and procedures for startup, operation, and shutdown of safety related systems.

1. Dresden Operating Procedure, (DOP) 0400-02, "Rod Worth Minimizer," Revision 6, Section F.6, and Dresden General Procedure, (DGP) 03-04, "Control Rod Movements," Revision 17, Section D.3, require an independent verifier if the rod worth minimizer is not available during control rod movement.

   Contrary to the above, on September 18, 1992, the Unit 2 nuclear station operator (NSO) inserted control rod H-1 without an independent verifier and the rod worth minimizer was not available. (01023)

2. Dresden Operating Abnormal Procedure (DOA) 300-12, "Mispositioned Control Rod," Revision 2, Section C.2, "immediate operator actions," states, in part, that if a control rod was found or moved greater than one even notch from its in-sequence position, then all control rod movement must be discontinued.

   DOA 300-12, Revision 2, Section D.2.a.(1), "subsequent operator actions," states that if a single control rod was inserted greater than one even notch from its in-sequence position, then the mispositioned control rod must be continuously inserted to position 00 if reactor power is greater than or equal to 20% rated core thermal power and if the control rod mispositioning occurred within the past 10 minutes. Section D.4 states, "In conjunction with step D.5, contact the Unit Operating Engineer or the Operations Duty Supervisor." Section D.5 states, "Compare the current Off Gas radiation level to the Off Gas radiation level prior to the suspected time of the mispositioning." Section 6 states, "An Upper Management representative will conduct an evaluation into the cause of the Control Rod mispositioning and implement immediate corrective actions prior to resuming routine Control Rod movements."

VIOLATION: (continued)

B.2. (cont.) Contrary to the above, on September 18, 1992, after the Unit 2 NSO mistakenly inserted control rod H-1 from position 48 to 36, a movement greater than one even notch, all control rod movement was not discontinued. Specifically, the Unit 2 NSO's immediate action was to insert a control rod array from position 48 to position 06. Furthermore, with reactor power at greater than or equal to 20% rated core thermal power and the control rod mispositioning having occurred within the past 10 minutes, the NSO failed to insert control rod H-1 to position 00, failed to contact the Unit Operating Engineer or the Operations Duty Supervisor, failed to compare Off Gas radiation levels, and resumed routine control rod movements without an evaluation by an upper management representative into the cause of the mispositioning. (01033)

3. 10 CFR Part 50.9(a) requires, in part, that information required by license conditions to be maintained by the licensee shall be complete and accurate in all material respects.

DOA 300-12, Revision 2, Section D.5.d requires, in part, that the NSO record data in the Unit log book, including the location of mispositioned control rod(s), the time of discovery of mispositioning, actions taken, and any other observations determined to be relevant.

Contrary to the above, the NSO failed to accurately maintain information required by license conditions in that the NSO failed to record in the Unit log book any information about a mispositioned control rod on September 18, 1992. This information is material because it is related to a condition adverse to quality, as described in Paragraph A above. (01043)

4. Dresden Administrative Procedures, (DAP) 07-29, "Reactivity Management Controls," Revision 0, Section F.1.g requires the station control room engineer (SCRE) to communicate to the NSO the requirements for procedural adherence, conservative response to abnormal reactivity events, and proper attitude toward reactivity controls.

DOA 300-12, Revision 2, Section D.5.d requires, in part, that the NSO record data in the Unit log book, including the location of mispositioned control rod(s), the time of discovery of mispositioning, actions taken, and any other observations determined to be relevant.

VIOLATION: (continued)

B.4. (cont.) Contrary to the above, on September 18, 1992, the SCRE failed to communicate to the NSO the requirements for procedural adherence. Specifically, the SCRE failed to communicate to the NSO the requirements for procedural adherence concerning mispositioned control rods, in that the SCRE did not direct the NSO to record the mispositioning of control rod H-1 in the Unit log book. (01053)

5. DAP 07-01, "Operations Department Organization," Revision 15, August 1991, Section B.5.e, requires, in part, that the SCRE notify the Shift Engineer of any abnormal operating conditions.

   Contrary to the above, on September 18, 1992, the SCRE failed to report an abnormal operating condition involving a rod mispositioning event to the Shift Engineer. (01063)

6. 10 CFR Part 50.54(1) requires the licensee to designate individuals to be responsible for directing the licensed activities of licensed operators. Further, these individuals shall be licensed as senior operators pursuant to 10 CFR Part 55. DAP 07-01, "Operations Department Organization," Revision 15, Sections B.4.n and B.5.j, state that the responsibilities for directing the licensed activities of NSOs (i.e. reactivity management) were delegated to the shift engineer (SE) and/or the SCRE.

   10 CFR 55.3 provides that a person must be authorized by a license issued by the Commission to perform the function of an operator or a senior operator as defined in this part.

   Contrary to the above, on September 18, 1992, a qualified nuclear engineer (QNE) directed an NSO, a licensed reactor operator, to insert an out-of-sequence control rod array without the knowledge or approval of an SE or a SCRE. The QNE was not licensed pursuant to 10 CFR Part 55. (01073)

7. 10 CFR 50.9(a) requires, in part, that information required by license conditions to be maintained by the licensee shall be complete and accurate in all material respects.

   DAP 14-14, "Control Rod Sequences," Revision 0, November 1991, Section F.1.d, requires, in part, that Special Instructions (Form 14-14C) provide the following: (a) list control rod movements which would help to clarify any specific event; (2) should be clearly stated and strictly adhered to; and (3) they be approved by a QNE and Operations Shift Supervisor.

VIOLATION: (continued)

B.7. (cont.) Contrary to the above, on September 18, 1992, the QNE completed a Form 14-14C, which was not complete and accurate in all material respects, in that the Form 14-14C did not reveal a rod mispositioning event and that the movement of control rods after the rod mispositioning event was contrary to DOA 300-12. This information is material because it is a condition adverse to quality, as described in Paragraph A above. (01083)

This is a Severity Level III Problem (Supplement I)

REASON FOR THE VIOLATION:

Based on the results of the investigations performed, the primary reason for the inadequate corrective actions portion of this violation was that the root cause investigation performed for the April 10, 1992 mispositioning event did not address or focus on procedural issues. The investigation's main focus was to address the mechanical problems involved with the incident. This lack of focus on procedural issues resulted in a failure to identify some opportunities for improvement in the areas of procedures, training, and practices related to control rod mispositioning events. It must be understood that these possible enhancements to procedures, training, and practices would not have precluded the willful violation of procedures that is discussed below, but may have minimized or eliminated some of the contributing causes.

Based on the results of the investigations performed by the CECo Corporate Task Force, the Dresden Station Investigation Team, and the Nuclear Regulatory Commission, the primary reasons for the procedural usage and adherence portion of this violation were inattention to detail, and willful violation of procedures with intent to conceal the facts surrounding the event by the individuals involved.

Additionally, contributing causes were identified during the investigations. These contributing causes were: (1) The process of selecting a second verifier for control rod movements was unclear; (2) The division of responsibility and interface between the Qualified Nuclear Engineer (QNE) and Operations personnel was unclear with respect to actions following a control rod mispositioning; and (3) The investigation process in use during the April 10, 1992 mispositioning event did not address the division of responsibility and interface between the QNE and Operations personnel with respect to actions following a control rod mispositioning.

CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED:

Immediately upon notification of the event, Station Management obtained proctored written statements from available individuals as well as other potentially involved individuals, and removed the five individuals directly involved in the September 18, 1992 event from their duties.

An NRC Resident Inspector was informed of the event.

The Technical Staff Management initiated a Problem Identification Form (PIF) to document the problem and to initiate an investigation.

The General Manager of BWR Nuclear Operations assigned a special task force, headed by the Manager of Nuclear Fuel Services (NFS), to investigate the event. The task force included senior corporate personnel experienced in root cause investigations. The task force arrived on site and began their investigation on November 25, 1992.

Station Management began continuous shift oversight pending completion of the investigation with the purpose of: (1) Communicating information on the event to all Operations personnel; (2) Communicating and reinforcing management expectations as they related to the event; and (3) Determining if a generic concern existed as to non-reporting of inappropriate actions.

The Station Manager issued a gatehouse memorandum reiterating Senior Station Management expectations to take appropriate actions, including full disclosure and reporting, if a mistake is made.

In addition to the gatehouse memorandum, special tailgate meetings were conducted with all station departments with the purpose of: (1) Describing the event; (2) Communicating the significance and reinforcing the need for workers to record and report problems; and (3) Reinforcing management's expectations of personal integrity and trustworthiness.

Nuclear Fuel Services (NFS), the corporate organization with corporate responsibility for the activities of nuclear engineers, began direct oversight of Qualified Nuclear Engineers (QNEs) pending completion of the investigation. This corporate oversight included a requirement that an NFS representative be present whenever a QNE was in the control room for power changes or for control rod movement.

CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED: (continued)

The corporate safety review board transmitted preliminary information on the event to the other five CECo nuclear power plants via a Lessons Learned Initial Notification report.

The CECo Chief Nuclear Operating Officer provided information summarizing the event and immediate response in a letter to the NRC Region III Administrator.

Site personnel made an Emergency Notification System (ENS) notification and CECo corporate communications services issued a press release on the event, investigation, and immediate response.

CORRECTIVE ACTIONS TAKEN TO AVOID FURTHER VIOLATION:

CECo Corporate Actions

Information and expectations related to this event were communicated through the Nuclear Division via a Lessons Learned Initial Notification report and a Significant Lessons Learned Report.

A Corporate Policy regarding QNE responsibilities, authority, and interface with NRC licensed operating personnel was developed and issued.

Lessons learned from this event were incorporated into the QNE Training program.

The new General Employee Training program was evaluated by Corporate Training with respect to this event and was determined to be adequate.

Leadership Behavior Fundamentals were updated in April 1993. These fundamentals address accountability, role clarity, decision making, and leadership behaviors.

A Corporate Vision and Values philosophy for the Nuclear Division was developed and has been presented. The philosophy is presently being implemented throughout the Nuclear Division. The central message of the Values presentation focuses on absolute integrity and overall quality. These two attributes are the foundation of the values for the CECo Nuclear Operations Division. The development and presentation of the philosophy have been completed. The implementation is an on-going process with no associated completion or due date.

All Corporate Corrective Actions have been completed.

CORRECTIVE ACTIONS TAKEN TO AVOID FURTHER VIOLATION: (continued)

Dresden Station Actions

Appropriate disciplinary actions were taken against the five individuals involved in the event for failure to report the control rod mispositioning event.

The Station Manager personally discussed this event with all station personnel emphasizing the expectation of high personal integrity.

The Station has implemented and trained personnel on a new self check program - {STAR (Stop, Think, Act, Review)}. This program was implemented to reinforce and revitalize the self check expectation.

The April 10, 1992 event was re-evaluated. The corrective actions for the April 10, 1992 event were addressed in the corrective actions for this event.

The Integrated Reporting Process (IRP) was implemented at the station and training was provided in August of 1992. Various training courses were initiated in 1992 addressing root cause analysis techniques. This training continued throughout 1993 and into 1994. All required training has been completed. Courses in the future will be offered on an as needed basis as personnel are reassigned and/or the program is revised. This action has been completed.

All Dresden Station Corrective Actions have been completed.

Operations Department Actions

In December of 1992, Dresden ensured that requests for a Nuclear Station Operator (NSO) to perform rod movements and flow changes be received and approved by a shift Senior Reactor Operator (SRO) prior to being performed.

The Corporate Policy regarding QNE responsibilities, authority, and interface with NRC licensed operating personnel has been included in: (1) The current licensed operator continuing training cycle; (2) Required reading package; and (3) The initial operator licensed training program.

Dresden Operating Abnormal Procedure, DOA 0300-12 (Mispositioned Control Rod) has been revised to clarify the QNE duties and responsibilities in response to mispositioned control rods. All licensed operating personnel and QNEs have been trained on the revised DOA 0300-12.

CORRECTIVE ACTIONS TAKEN TO AVOID FURTHER VIOLATION: (continued)

Operations Department Actions (continued)

Applicable Dresden procedures have been revised to incorporate guidance with respect to the appropriate responsible organization for performing the second verification of control rod movement when the Rod Worth Minimizer is unavailable.

Dresden evaluated the procedures for operating log keeping and confirmed that they met management expectations.

In response to the weakness regarding response to mispositioned control rods identified in Licensed Operator Examination Report 50-237/93-01, a multi-disciplined team was formed by the Operations Department to assess the effectiveness of the corrective actions for the September 1992 and other control rod mispositioning events. The team consisted of a Nuclear Station Operator, an Operations Training Supervisor, and a Reactor Engineer. The team concluded that additional corrective actions were necessary based on extensive interviews with Operations personnel. As a result, the following corrective actions have been implemented: (1) Several procedures related to control rod movement and power changes including DAP 14-14, "Control Rod Sequences", DGP 03-04, "Control Rod Movements", DOA 300-12, "Mispositioned Control Rod", DOP 400-01, "Reactor Manual Control System Operation", and DOS 300-01, "Daily/Weekly Control Rod Drive Exercise", were reviewed and revised as appropriate to ensure clear and consistent definition and use of terms such as "In Sequence", "Target Position", "Initial Position", and "Mispositioned Control Rod"; (2) Notes and Philosophy Statements found throughout various procedures regarding control rod movement were consolidated into DGP 03-04; (3) Applicable statements from G. Smith letter (GLS 92-11) dated December 10, 1992, regarding mispositioned control rods and reactor power changes, and guidance and information from Nuclear Fuel Services letter dated November 02, 1993, have been incorporated into DGP 03-04; (4) The multi-disciplined team provided one-on-one training with the Licensed Operators on the procedure changes made to DOA 300-12 and DOS 300-01, as the scope of the changes for these two procedures was greater than that for the other procedures that were changed; (5) Initial Licensed Operator Training was modified to contain material related to the control rod drive procedure changes listed above; and (6) Increased attention regarding mispositioned control rods was given during the first Operating Training cycle in 1994 to determine effectiveness of the training provided. The increased attention took the form of written examination questions as well as Job Performance Measures (JPMs). A total of thirty-two operators were involved with taking the written examination and performing the JPMs. All thirty-two operators correctly answered the questions related to mispositioned control rods and took appropriate actions during the JPMs. All of these Operations Department corrective actions have been completed.

CORRECTIVE ACTIONS TAKEN TO AVOID FURTHER VIOLATION: (continued)

Operations Department Actions (continued)

In addition to the above, a concentrated effort on Operations Department self-assessment and human performance improvement is on-going. The areas of focus for 1994 are coaching on self-check, procedure adherence, first line supervisor involvement to prevent errors, and personal self assessment. To promote self reporting and organizational learning on specific events, Operations Management has removed the perception of punitive philosophy towards human performance. This has been accomplished by clearly stating the philosophy and validating it through management actions. The implementation of a more comprehensive self-assessment process for the Operations Department was completed in November of 1993.

Systems Engineering Actions

A more rigorous and systematic QNE Training program has been developed and implemented.

Lessons learned from this event and for coastdown operation have been incorporated into the CECo QNE Training.

A discussion of this event has been incorporated into the reactivity management section of the CECo QNE class. This class is mandatory for becoming a QNE.

QNEs and Nuclear Engineers in training are included in licensed operator simulator training reactivity management scenarios.

All Systems Engineering Corrective Actions have been completed.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED:

Dresden Station is in full compliance.