



Commonwealth Edison
Dresden Nuclear Power Station
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July 20, 1994

MDL Ltr. 94-0029

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

Attention: Document Control Desk

Subject: Dresden Nuclear Power Station Units 2 and 3 Responses to Notices of Violation and Cover Letter Request for Information; Inspection Report 50-237/94008; 50-249/94008
NRC Docket Numbers 50-237 and 50-249

Reference: E.G. Greenman letter to M.D. Lyster, dated June 20, 1994 transmitting Inspection Report 50-237/94008; 50-249/94008.

Enclosed as Attachments 1, 2, and 3 are Commonwealth Edison Company's (ComEd) responses to Notices of Violation regarding review, approval and use of procedures, instructions, and drawings, and control of measuring and test equipment, which were transmitted with Inspection Report 50-237(249)/94008. Enclosed as Attachment 4 is ComEd's response to the cover letter request for information regarding Dresden's efforts in the area of improving contamination control which was transmitted with the same Inspection Report. The responses are being submitted as requested in the referenced letter.

If your staff has any questions concerning this letter, please refer them to JoAnn Shields, Regulatory Assurance Supervisor at (815) 942-2920.

Sincerely,

Michael D. Lyster
Site Vice President
Dresden Station

MDL/JMS/cls

Attachments: As described

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

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ATTACHMENT 1
RESPONSE TO NOTICE OF VIOLATION
NRC INSPECTION REPORT
50-237/94008; 50-249/94008

VIOLATION: (50-237/249-94008-01)

10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings", required that activities affecting quality shall be prescribed by documented instructions or procedures of a type appropriate to the circumstances.

- A. Contrary to the above, on May 4, 1994, during return-to-service activities for Transformer 32, the instructions used did not include steps to reset the transformer undervoltage relays.
- B. Contrary to the above, on May 4, 1994, during breaker manipulations for a modification test, instructions used for breaker sequencing were not reviewed and approved as required.

This is a Severity Level IV (Supplement I)

REASON FOR THE VIOLATION:

- A. The reason for the lack of undervoltage resetting instructions has been determined to be a delinquent special procedure (SP). The SP that was in use during the return to service of Transformer 32, SP 94-4-62, Rev 0, "Backfeeding of Main Power Transformer (MPT) and Unit Auxiliary Transformer (UAT)", did not contain instructions to reset the undervoltage relays upon clearing the Out-Of-Service (OOS) on the transformer, nor did it refer to the existing approved Dresden Operating Procedure, DOP 6400-10, for returning Transformer 32 to service.
- B. Dresden Station accepts this violation, but based on the following information, respectfully requests that this example be retracted as a supportive example. The review of the circumstances surrounding this incident determined that reviewed and approved instructions were used for the breaker sequencing as part of the modification testing. The reviewed and approved instructions were part of SP 94-3-59, Rev 0, "Perform Mod Test for Transformer 31 Feed, Transformer 32 Feed, and Transformer 35 Feed". Prior to conducting the actual testing, the test director discussed the evolution, including the sequence in which steps of the SP would be performed, with the Control Room Outage Engineer (CROE), and with the Nuclear Station Operator (NSO) that would be performing the evolution. As allowed by Dresden Administrative Procedure (DAP) 09-13, Rev 01, "Procedural Adherence", Section E.8, "Policy for Performance of Procedure Steps Out-of Sequence", and consistent with the expectations of the Operations Manager, steps from two different sections of the SP were being performed in a sequence other than "as written" to allow the Operations Department to perform a "live bus" transfer as opposed to a "dead bus" transfer. The sequence of step performance was addressed and agreed upon by the individuals involved after consideration was given to procedural intent, safety implications, and past experience with feed breaker testing and manipulation.

ATTACHMENT 1
RESPONSE TO NOTICE OF VIOLATION
NRC INSPECTION REPORT
50-237/94008; 50-249/94008
(Continued)

CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED:

- A. The originator of SP 94-4-62, Rev 0, was contacted and informed of the event and the ramifications of the delinquent SP.

The Station Manager, Maintenance Superintendent, System Engineering Supervisor, Site Engineering and Construction Manager, Operations Manager, and the Regulatory Assurance Supervisor discussed the event and the investigation findings at the plant on-site review committee (PORC) meeting conducted on July 14, 1994. Part of the discussion focussed on the expectations of the on-site review participants that reviewed the SP. It was agreed that SP originators should be challenged by on-site review participants, as to encourage the use of, or reference to, existing approved station procedures whenever possible.

Dresden Administrative Procedure (DAP) 09-09, "Special Procedures", was reviewed to determine if adequate guidance existed for generating a quality SP. The review determined that the DAP is adequate, and therefore no revisions to the DAP related to this event are planned.

Since Special Procedures are generated for one time use, and since the delinquent SP has been completed, it is therefore no longer approved for use.

CORRECTIVE ACTIONS TAKEN TO AVOID FURTHER VIOLATION:

- A. To prevent this delinquent SP from being duplicated with the same inadequacy in the future for similar testing, a warning has been added to the SP history file to indicate the delinquency regarding resetting the undervoltage relays upon restoring Transformer 32 to service.

The roles and responsibilities, and procedural requirements of specific departments are being reviewed to determine if the level of interface between the department and Operations is appropriate. This review will focus on improving the quality of the interface so as to improve the Operating reviews of OOS requests, SPs, and complicated modification tests. Appropriate corrective actions will be taken based on the results of the review.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED:

Full compliance will be achieved upon implementing appropriate corrective actions regarding the interface between the Operations Department and other departments (Site Engineering, System Engineering, and production departments) that submit OOS requests, SPs, and complicated modification tests for review and approval.

ATTACHMENT 2
RESPONSE TO NOTICE OF VIOLATION
NRC INSPECTION REPORT
50-237/94008; 50-249/94008

VIOLATION: (50-237/249-94008-02)

10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings", requires that activities affecting quality shall be prescribed by documented instructions or procedures and shall be accomplished in accordance with these instructions or procedures.

- A. Dresden Operating Procedure (DOP) 6500-01, "Transfer of 4160 Volt Bus Power Supply", required the operator to verify appropriate breaker indicates closed when positioning the appropriate breaker control switch to close.

Contrary to the above, on May 4, 1994, during modification testing an operator failed to ensure the Transformer 32 feed breaker indicated closed prior to opening the Transformer 31 feed breaker.

- B. Dresden Administrative Procedure (DAP) 07-01, "Operations Department Organization", required that the shift control room engineer (SCRE) coordinate equipment operation and plant status with surveillance and testing activities to ensure plant safety.

Contrary to the above, on May 4, 1994, the control room outage engineer (CROE) failed to adequately coordinate 4 kv breaker manipulations during modification testing activities. The CROE failed to ensure plant conditions and procedures used were suitable for the proposed test activities to ensure plant safety.

- C. DAP 15-06, "Preparation, Approval, and Control of Work Requests", delineated minimum requirements for each work package at the work site.

Contrary to the above, on May 5, 1994, mechanical maintenance personnel uncoupled the 3B standby liquid control (SBLC) pump; and electrical maintenance personnel unbolted the base of the 3B SBLC motor without the required work package at the work site.

- D. DAP 03-05, "Out-of-Service and Personnel Protection Cards", required that to ensure a system/component is properly isolated, all potential points of inducing energy in or out of the system must be investigated and protected. These points must be included on the out-of-service.

Contrary to the above, on May 5, 1994, the 3B SBLC motor heater was not electrically disabled prior to removing the motor from its base.

This is a Severity Level IV (Supplement I)

ATTACHMENT 2
RESPONSE TO NOTICE OF VIOLATION
NRC INSPECTION REPORT
50-237/94008; 50-249/94008
(Continued)

REASON FOR THE VIOLATION:

- A. The reason for the operator failing to ensure Transformer 32 feed breaker was closed prior to opening the Transformer 31 feed breaker has been attributed to operator error, i.e., failure to self check and employ the self check methodology while performing the task. The Nuclear Station Operator (NSO) performing the task did not use all indications available to him to ensure that one breaker was closed prior to opening the other, including the procedurally required indication of a closed breaker.
- B. The reason for the Control Room Outage Engineer (CROE) failing to ensure that conditions were adequate for the testing of feed breakers for Transformer 31, 32, and 35, has been attributed to operator error, i.e., inattention to detail. The CROE failed to adequately understand the scope of the SP sections about to be performed and their relationship to current plant status. This resulted in an inappropriate determination that plant conditions were adequate for successful performance of the breaker testing. During the actual breaker manipulations by the NSO, the CROE attempted to stop the NSO when he noticed unexpected actions occurring, but was not successful, since the time frame available for intervention was minimal.
- C. The reason for the Mechanical and Electrical Maintenance Department personnel performing work without the required work package at the work site has been attributed to workers failing to meet management's expectations regarding this procedural requirement, combined with the fact that each work group assumed the other was bringing the package to the work site.
- D. The reason for the inadequate out-of-service (OOS) on the Standby Liquid Control (SBLC) pump/motor has been attributed to operations department failing to understand the scope of work when determining the isolation points to be designated for the OOS. The scope of work was not understood because the work package did not accompany the OOS request when delivered to the Operations Department as required by procedure. Additionally, the Operations Department personnel assumed that the "canned" OOS for the SBLC pump/motor identified all isolation points.

The Maintenance Department personnel who walked down the OOS prior to starting work also failed to identify the inadequate OOS. This failure has been attributed to inattention to detail and lack of self check.

ATTACHMENT 2
RESPONSE TO NOTICE OF VIOLATION
NRC INSPECTION REPORT
50-237/94008; 50-249/94008
(Continued)

CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED:

- A. A Shift Engineers Review Board (SERB) was convened and the event, as well as possible consequences, were discussed with the individual involved.

The event was tailgated to all Operations Department crews. The tailgate included discussions about the expectation to self-check and pay attention to detail when performing plant operations. Additionally, the Training Department was notified of the event to ensure that the self check philosophy and attention to detail continue to be covered and discussed during training sessions.

The individual involved disseminated to the rest of the Operations Department a personal self assessment of his performance and how he could have prevented the event so others could learn from his performance.

- B. Operations Management counseled the CROE on his supervisory performance. More specifically, the CROE did not ensure the plant was in a configuration to perform the task by not being aware of panel alarms which would have prevented his operator from making an error.
- C. The work on the SBLC pump was stopped until the work package was retrieved from the Maintenance Department and brought to the work site.

The current revision of Dresden Administrative Procedure, DAP 15-06, "Preparation, Approval and Control of Work Packages and Work Requests", and the current revision of Maintenance Memo 300.02, "Definition of Work Package Content and Craft Capability" were reviewed to determine if adequate administrative guidance regarding requirements for work packages at the job site is contained in each. The DAP and the Maintenance Memo have been determined to be adequate.

Based on the determination that appropriate administrative guidance existed, and therefore determining that a direct violation of procedural requirements occurred, the appropriate management personnel from the Mechanical and Electrical Maintenance Departments have counseled the maintenance workers involved with the procedure violation event. Furthermore, appropriate disciplinary action was taken.

ATTACHMENT 2
RESPONSE TO NOTICE OF VIOLATION
NRC INSPECTION REPORT
50-237/94008; 50-249/94008
(Continued)

CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED: (cont.)

- D. The work on the SBLC pump/motor was stopped until the OOS was corrected to include the motor heater breaker.

Prior to work continuing, the Shift Outage Manager conducted a heightened level of awareness meeting with the working departments to discuss the problems encountered, and to stress the need to pay attention to detail, and to follow their procedures and work instructions. The rest of the job was completed without any further problems.

The "canned" OOS for the SBLC pump/motor has been revised to include the motor heater breaker.

CORRECTIVE ACTIONS TAKEN TO AVOID FURTHER VIOLATION:

A, B, C, & D

Station Management is continuing its efforts in the area of improving procedure usage and adherence by station personnel. Through on-going coaching, tailgate sessions, communication meetings, training, and employee evaluations, Station Management is delivering a consistent message, and is detailing their expectations for procedure usage and adherence, and employment of the self check philosophy. Furthermore, personnel that are involved with procedure usage and adherence events are being held accountable for their performance by the administration of appropriate remedial action.

Basic expectations for Dresden Station Management personnel, included in every management person's performance review, define the basic work habits and attitude that are expected by Station Management. Compliance with these expectations is evaluated and appropriate actions are taken during performance evaluations. In addition, the Dresden Employee Record Policy, which defines the same expectations for bargaining unit personnel, has been approved and will be used to determine appropriate remedial actions.

The SBLC motor OOS event will be tailgated to all Electrical Maintenance Department personnel. The tailgate will include discussions about the expectation to self-check and pay attention to detail when performing plant maintenance, including the performance of OOS walkdowns.

The Operations Department management will re-emphasize to their personnel the expectation and procedural requirement to have work packages delivered with OOS requests by the working department.

ATTACHMENT 2
RESPONSE TO NOTICE OF VIOLATION
NRC INSPECTION REPORT
50-237/94008; 50-249/94008
(Continued)

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED:

Dresden Station is in full compliance with regards to the specific examples that were used to support this violation. Continuous improvements will be made in the area of procedure usage and adherence as the site continues to focus its efforts on human performance issues, which include the underlying root causes related to procedural noncompliance.

ATTACHMENT 3
RESPONSE TO NOTICE OF VIOLATION
NRC INSPECTION REPORT
50-237/94008; 50-249/94008

VIOLATION: (50-237/249-94008-04)

10 CFR 50, Appendix B, Criterion XII, "Control of Measuring and Test Equipment", stated that measures shall be established to assure that tools, gages, instruments, and other measuring and testing devices used in activities affecting quality are properly controlled, calibrated and adjusted at specified periods to maintain accuracy within necessary limits.

Contrary to the above, during April 1993, the voltage generator, used to calibrate the second level undervoltage relays for safety related busses, had characteristics important to the quality of the surveillance performed that were not verified to be within specification.

This is a Severity Level IV (Supplement I)

REASON FOR THE VIOLATION:

The cause of the violation has been attributed to the fact that the AC voltage generator used for the calibration of the second level undervoltage relays was not periodically checked to verify that its output characteristics met specific acceptance criteria. The AC voltage generator is classified as a "general usage" piece of test equipment, and was not designated to be checked at any set frequency.

The testing methodology for the undervoltage relays involves using a "certified" multimeter, which is periodically calibrated, connected in parallel with the AC voltage generator to measure the AC voltage generator output (undervoltage relay input). The multimeter measures the root mean squared (RMS) value of the voltage generator output. For a symmetric AC sinusoid waveform, there is a direct correlation between the RMS voltage value indicated by the multimeter and the peak output voltage value of the AC voltage generator, thereby providing confidence in the calibration methodology.

Due to an internal failure of the AC voltage generator, an asymmetrical distortion was present in the generator output waveform. The distortion eliminated the direct correlation between RMS and peak voltage values, and therefore introduced error in the RMS voltage value measurement. The result was improper calibration of the second level undervoltage relays.

CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED:

The AC voltage generator was sent to the Operational Analysis Department (OAD) for analysis. The "as received" total harmonic distortion (THD) readings were 1.73%. The generator was repaired, resulting in an "as left" THD of 0.095%. The generator vendor specification for THD is less than or equal to 0.3%.

ATTACHMENT 3
RESPONSE TO NOTICE OF VIOLATION
NRC INSPECTION REPORT
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(continued)

CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED: (cont.)

The second level undervoltage relays that were found out of tolerance using the faulty AC voltage generator were rechecked and recalibrated using a different AC voltage generator that was recently checked by OAD.

A review of other undervoltage relays that may have been calibrated using the defective AC voltage generator was performed. The review identified three additional relays on each unit that may have been affected by the AC voltage generator harmonic distortion. A review of the calibration histories for those six relays has determined that the amount of error that may have been introduced by the harmonic distortion is less than the range allowed by the calibration tolerance for the relays, therefore, recalibration was not warranted and not performed.

A review of past undervoltage relay calibrations was performed to determine if any other AC voltage generator was used in a similar manner. The review determined that no other AC voltage generator is used in a similar manner for undervoltage relay calibrations, therefore no other undervoltage relay recalibrations were warranted, and no other AC voltage generators were sent to OAD for analysis because of this event.

Discussions with personnel responsible for the measuring and test equipment (M&TE) in the Instrument and Electrical Maintenance Departments, and OAD were conducted to ensure they were knowledgeable of this event, and to determine if similar vulnerabilities existed in their areas. Based on the discussions, no similar vulnerabilities were identified. Further discussions were conducted with Instrument and Electrical Maintenance Department, and OAD personnel to ensure that the implications of this event, and the associated requirements regarding use of measuring and test equipment were understood.

CORRECTIVE ACTIONS TAKEN TO AVOID FURTHER VIOLATION:

A general surveillance (GSRV) program surveillance item was created to ensure an annual check of the AC voltage generator against vendor specifications is performed. The generator will still be classified as "general usage" equipment, and will be used in conjunction with "certified" test equipment whenever the situation warrants, such as when used to calibrate second level undervoltage relays on safety related busses.

A review of the use and application of electrical/electronic M&TE at the site, both certified and general usage, will be conducted to determine if similar vulnerabilities exist regarding the determination of a critical parameter by relying on the measurement of another parameter which has a direct correlation. Appropriate actions will be initiated based upon the results of the review.

ATTACHMENT 3
RESPONSE TO NOTICE OF VIOLATION
NRC INSPECTION REPORT
50-237/94008; 50-249/94008
(continued)

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED:

Full compliance will be achieved upon the completion of the review of use and application of electrical/electronic M&TE at the site, and the implementation of the appropriate actions based upon that review.

ATTACHMENT 4
RESPONSE TO COVER LETTER CONCERN - PERSONNEL CONTAMINATIONS
NRC INSPECTION REPORT
50-237/94008; 50-249/94008

REQUEST FOR ADDITIONAL INFORMATION

EXCERPT FROM COVER LETTER:

"We are also concerned about the inordinately high number of personnel contamination events, a problem that also occurred in 1993 during the Unit 2 refueling outage. To date in 1994, the station has recorded almost 3000 such events. Our review during the current inspection identified a lack of strong upper management focus on this problem. We do not believe that the problem can be solved through the efforts of only your radiation protection and station laborer groups. In addition to your response to the Notice of Violation, please provide us with a description of your plans to address this problem and a schedule of expected completion dates."

STATION RESPONSE TO COVER LETTER REQUEST:

In an effort to improve the contamination controls at the site, the following actions have completed:

Several recent meetings with senior management and department heads have been conducted to highlight the severity of current and recent performance in the area of personnel contaminations and contamination control.

An assessment was conducted by Failure Prevention International (FPI) on the station's current radiological work practices. The result of the assessment was a draft report dated June 14, 1994. The draft report has been evaluated by station management and appropriate recommendations are being incorporated into site Radiological Protection improvement initiatives.

As of June 6, 1994, the site organization has been changed to result in a transfer of the System Engineering Department oversight responsibilities from the Technical Services Superintendent to the Station Manager. This transfer will allow for more senior management focus (by the Technical Services Superintendent) on the site's radiological protection performance.

An increase in personnel contaminations have occurred due to increased ambient temperatures in the plant. With the higher temperatures, plant personnel perspire more which results in an increase in the leaching of residual contamination from the laundered protective clothing. Actions completed for this cause include: 1) A significant increase in use of "cool suits" to reduce personnel perspiration; 2) A reduction in the acceptable level of fixed contamination from 100nCi to 25nCi for laundered protective clothing (non-rubber gear type) returning to the site from the laundry vendor; and 3) The use of new protective clothing for significant heat areas.

ATTACHMENT 4
RESPONSE TO COVER LETTER CONCERN - PERSONNEL CONTAMINATIONS
NRC INSPECTION REPORT
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(continued)

STATION RESPONSE TO COVER LETTER REQUEST: (cont.)

In addition to the actions listed above regarding the leaching of contamination from protective clothing due to increased ambient temperatures, the use of a supplemental chiller for the reactor building ventilation system to reduce building temperatures is being evaluated.

As of June 27, 1994, the personnel decontamination room has been staffed with a dedicated, full-time Radiation Protection Technician during the day shift, and back shift coverage options are being evaluated. This will allow for more consistent real-time evaluations of personnel contamination trends, and an earlier opportunity to investigate and resolve anomalous trends.

A key cause to the increases in personnel contaminations has been the lack of sufficient dedicated personnel to perform plant decontamination. Additional staff personnel have been assigned to a dedicated plant decontamination crew. The crew is being lead and managed by Radiation Protection Department personnel. An additional aspect of the decontamination effort will be to assure that plant leakage contributing to contaminations are identified, work requests are generated for repairs as needed, and repair schedules are established to support decontamination. The decontamination crews have been initiated as of June 27, 1994.

The site has established an "RPA Greeter" program similar to the program in place at LaSalle County Station. Individuals are stationed at the Unit 2 and Unit 3 trackway RPA entry points. The RPA greeters challenge and quiz personnel entering the RPA. The purpose of the challenge is to assure the individuals entering the RPA understand the radiological precautions, conditions, and actions necessary for them to conduct their work in a radiologically correct manner. The greeter program was initiated on June 30, 1994.

All of the above actions listed above have been initiated as described. These actions will be reviewed for effectiveness by station management. Based on the results of the reviews, station management may continue, enhance, modify, or terminate these actions. Station management will continue to communicate with NRC Regional and Resident inspectors regarding contamination control and the station's efforts to improve performance in this area.