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ComEd

November 18, 1994

JSP Ltr. 94-0019

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; Inspection Report 50-
237/94016; 249/94016
NRC Docket Numbers 50-237 and 50-249

Reference: E.G. Greenman letter to J. Stephen Perry, dated
October 21, 1994 transmitting Inspection Report
50-237/94016; 249/94016.

Enclosed as Attachment 1 is Commonwealth Edison Company's (ComEd) response to Notice of Violation regarding failure to implement proper test controls, which were transmitted with Inspection Report 50-237(249)/94016. Enclosed as Attachment 2 is ComEd's response to the cover letter request for information regarding inspection follow-up items 237/249/94016-01, -04, -05, -06, and -07, transmitted with the same Inspection Report. The structure of this attachment is at the request of D. Butler - SBICI Team Lead. The responses are being submitted as requested in the referenced letter.

If your staff has any questions concerning this letter, please refer them to Pete Holland, Dresden Station Regulatory Assurance Supervisor, at (815) 942-2920, extension 2714.

Sincerely,


J. Stephen Perry
Vice President
BWR Operations

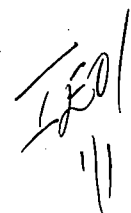
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Attachments: As described

cc: J. B. Martin, Regional Administrator, Region III
J. F. Stang, Project Manager, NRR
M. N. Leach, Senior Resident Inspector, Dresden
File: NRC Inspection Report 50-237(249)/94016

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ATTACHMENT 1
RESPONSE TO NOTICE OF VIOLATION
NRC INSPECTION REPORT
50-237(249)/94016

VIOLATION: (50-237/249-94016-08A, 08B)

10 CFR 50, Appendix B, Criterion XI, states, in part, that a test program shall be established to assure that all testing required to demonstrate that structures, systems and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents.

Contrary to the above, prior to September 16, 1994, the team noted that:

- A. The post modification test for Modification P12-3-93-614 used unverified acceptance criteria (+ 6°F) that was greater than the limits specified in applicable design documents (+ 5°F).
- B. The post modification test for Modification M12-0-90-025 did not verify four standby gas treatment relay contacts would perform satisfactorily in service, in that, other parallel relay contacts were actuated during the test that performed the same function.

This is a Severity Level IV violation (Supplement 1).

REASON FOR VIOLATION:

- A. A specific calculated acceptance criterion was not incorporated into the modification design documents due to a previous programmatic deficiency in our modification program. The specific deficiency was not specifying appropriate acceptance criteria at the time the design was prepared. The design documents for the Unit 2 and 3 modifications were prepared in 1992 concurrent with the development and implementation of corrective actions from the Electrical Distribution System Functional Inspection (EDSFI) audit. This audit identified a weakness in the area of defining test requirements and appropriate test acceptance within our modification program.

For modification P12-3-93-614 it was appropriately recognized in the implementation phase, that an acceptance criteria for instrument loop accuracy performance was needed and one was identified for use in the test. The acceptance criteria was determined through engineering judgement (2 percent of scale) rather than scientific analyses. An Instrument Loop Accuracy Calculation was performed during the SBIC Inspection and validated the engineering judgement.

ATTACHMENT 1
RESPONSE TO NOTICE OF VIOLATION
NRC INSPECTION REPORT
50-237(249)/94016
(Continued)

REASON FOR THE VIOLATION: (continued)

- B. Due to a previous programmatic deficiency in our modification program, the test performed did not assure that the modified portion of each circuit (new trip relays) was in fact the initiator of the fan trips which were to be observed as the acceptance criteria. The test methodology description was not specific enough to require the monitoring of the contacts of the new relays while requiring the parallel relays to be isolated. Instead, both the modification approval letter and the test procedure, which had been based on the goals stated in the modification approval letter, described only the functional requirements to be demonstrated in the test without specifically requiring a unique examination or monitoring of which contacts in the modified portion of the circuit demonstrate the functional performance intended.

CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED:

- A. The acceptance criteria used in the test was verified to be consistent with the loop accuracy calculation subsequently developed. To assure that each of the torus temperature channels are appropriately tracking the increasing or decreasing trend of process variations, chart recordings from the past two months were examined. This analysis revealed that all points track well together, yet they are sensitive enough for individual sensors to monitor the introduction of cold water into the section of the torus monitored by each thermocouple. The test results indicate that the thermocouple loops perform within the appropriate calculated acceptance criteria and the analysis of the chart recorder traces indicates that the increasing/decreasing trend of torus temperature is being tracked. Therefore, additional testing is not required.
- B. The modification test was successfully re-performed on October 9, 1994 per Special Procedure 94-9-104, appropriately isolating the individual circuit paths and verifying the circuit responses for the questioned circuits.
- A/B A self assessment of additional modifications was also performed due to the identification of the testing weaknesses concurrent to the System Based Instrumentation and Control Inspection (SBICI). The purpose of the self assessment was to evaluate the effectiveness of training which was performed in October 1993 regarding the appropriate selection of post modification testing requirements and regarding the use of the guidelines documents which have been prepared in this area. Examples of modification testing before and after the training were evaluated. The assessment concluded that the described test requirements and acceptance criteria had been adequately demonstrated and that the design requirements had been met.

ATTACHMENT 1
RESPONSE TO NOTICE OF VIOLATION
NRC INSPECTION REPORT
50-237(249)/94016
(Continued)

CORRECTIVE STEPS TAKEN TO AVOID FURTHER VIOLATION:

- A. We consider this violation another example of the weaknesses that were identified during EDSFI associated with post modification testing. The corrective actions that were implemented to address the weaknesses would have encompassed the subject modification if it had not been processed prior to the completion of the corrective actions. All corrective actions associated with the modification testing portion of the modification program identified during the Electrical Distribution System Functional Inspection (EDSFI) have been fully implemented.
- B. Additional training is needed in the area of appropriately specifying test methods in the modification test procedures. The training will emphasize how to verify the system level functional goals as stated in the modification approval letters by breaking down and translating the testing into smaller demonstrable parts. This will increase the probability that testing requirements have been identified, acceptance criteria have been stated, and modification requirements have been met.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED:

- A. Dresden Station is in full compliance.
- B. The immediate action to re-perform the testing corrected the discrepant condition identified with the testing for Modification M12-0-90-025 .
- A/B The changes to the modification testing training will be incorporated into the station Engineering Support Personnel Training program by June 1, 1995. Training for the reviewers of modification packages will be completed by January 10, 1995.

ATTACHMENT 2
RESPONSE TO COVER LETTER REQUEST - INSPECTION FOLLOWUP ITEMS
237(249)/94016-01, -04, -05, -06, and -07
NRC INSPECTION REPORT
50-237(249)/94016

EXCERPT FROM INSPECTION REPORT:
Inspection Follow-up Item 237(249)/94016-01

3.2 Suppression Pool (Torus) Temperature and Level

The instruments selected for review included torus bulk temperature (TR-3-1641-9) and water level (LI-3-1602-3, narrow range and LI-3-1640-10A, wide range). These indication channels are used to maintain suppression pool operating limits within technical specification limiting conditions for operation and are considered RG 1.97, Category 1 instruments. In addition, the team reviewed high torus level float switches (LS-2351A/B) located in float chambers. These switches are used following an accident for automatic High Pressure Coolant Injection (HPCI) suction transfer from the condensate storage tank to the torus.

3.2.1 Setpoint Calculation and Basis

- B. Post accident monitoring channels, torus wide range level (Calculation No. NED-IEIC-0149) and torus bulk temperature (Calculation No. NED-IEIC-0251) did not include environmental terms in the tolerance calculation. The bulk temperature calculation excluded seismic effects and the level calculation selectively excluded seismic effects for the recorders and panel meters. In addition, temperature, humidity, and radiation effects were unknown. This is considered an inspection follow-up item (237/94016-01(DRS); 249/94016-01(DRS)) pending NRC review of the licensee's actions to obtain and incorporate this information in the calculations.

Based on other margins identified in the calculations, the team concluded the above items would not affect operability. However, these items represent another example of weak design calculation control.

STATION RESPONSE TO COVER LETTER REQUEST:

This item reflects a formal question (No. 175) asked during the System Based Instrumentation and Control Inspection (SBICI). The response to this question was provided during the SBIC Inspection and ComEd has taken no further actions on this item.

ATTACHMENT 2
RESPONSE TO COVER LETTER REQUEST - INSPECTION FOLLOWUP ITEMS
237(249)/94016-01, -04, -05, -06, and -07
NRC INSPECTION REPORT
50-237(249)/94016
(Continued)

EXCERPT FROM INSPECTION REPORT:

Inspection Follow-up Item 237(249)/94016-04

3.3.2 Environmental and Seismic Performance

- B. The team noted that original equipment Static-O-Ring (SOR) drywell pressure switches and Yarway Reactor Water Level (RWL) switches were classified as "commercial grade". Information provided in the calculations did not address their seismic qualification.

In response, the licensee provided the "commercial grade" dedication packages, however, the packages did not address the instruments' seismic capability. This is considered an inspection follow-up item (237/94016-04(DRS); 249/94016-04(DRS)) pending NRC review of the seismic documentation for these instruments.

Based on other margins identified in the calculation, the team concluded the above items would not affect operability. However, these items represent another example of weak design calculation control.

STATION RESPONSE TO COVER LETTER REQUEST:

This item reflects a formal question (No. 162) asked during the System Based Instrumentation and Control Inspection (SBICI). The response to this question was provided during the SBIC Inspection and ComEd has taken no further actions on this item.

ATTACHMENT 2
RESPONSE TO COVER LETTER REQUEST - INSPECTION FOLLOWUP ITEMS
237(249)/94016-01, -04, -05, -06, and -07
NRC INSPECTION REPORT
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(Continued)

EXCERPT FROM INSPECTION REPORT:
Inspection Follow-up Item 237(249)/94016-05

3.4 HPCI Turbine Trips

The HPCI turbine instruments selected for review included high reactor water level (LIS-3-0263-72A), high HPCI turbine exhaust pressure (PS-3-2368A) and low HPCI pump suction pressure (PS-3-2360). The setpoints must be set with adequate margin for equipment protection and must have adequate margin to prevent spurious HPCI trips during a DBA.

3.4.1 Setpoint Calculation and Basis

- A. Calculation No. NED-I-EIC-096 (HPCI turbine high exhaust pressure trip and suction pressure trip) did not evaluate Mercoird pressure switch seismic effects.
- B. Calculation No. NED-I-EIC-096 identified the Mercoird pressure switch temperature limit as 180°F, but the identified accident temperature was 230°F.
- C. The calculation did not identify any setpoint margin for the HPCI low suction pressure trip.

The licensee was unable to retrieve information on the above items during the inspection. This is considered an inspection follow-up item (237/94016-05(DRS); 249/94016-05(DRS)) pending NRC review of the licensee's actions to address the above. Based on other margins identified in the calculation, the team concluded the above items would not affect operability. However, these items represent another example of weak design calculation control.

STATION RESPONSE TO COVER LETTER REQUEST:

This item reflects formal questions (No. 183, 184, 185) asked during the System Based Instrumentation and Control Inspection (SBICI). The response to this question was provided during the SBIC Inspection and ComEd has taken no further actions on this item.

ATTACHMENT 2
RESPONSE TO COVER LETTER REQUEST - INSPECTION FOLLOWUP ITEMS
237(249)/94016-01, -04, -05, -06, and -07
NRC INSPECTION REPORT
50-237(249)/94016
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EXCERPT FROM INSPECTION REPORT:

Inspection Followup Item 237(249)/94016-06

The HPCI isolation instruments selected for review included high steamline flow (DPIS-3-2391-3), high steamline area temperature (TS-3-2370-A) and low reactor pressure (PIS-3-2391-1A).

3.5.1 Setpoint Calculation and Basis

- A. Calculation No. NED-I-EIC-108 (HPCI turbine/pump trip on high area temperature) did not evaluate temperature switch seismic effects.
- B. Calculation No. NED-I-EIC-108 stated, in part, that ". . . post-accident radiation induced errors are assumed to be small. . . ." No basis was provided in the calculation to support this assumption.

The licensee was unable to retrieve information on the above items during the inspection. This is considered an information follow-up item (237/9401606(DRS); 249/94016-06(DRS)) pending NRC review of the licensee's actions to address the above. Based on other margins identified in the calculation, the team concluded the above items would not affect operability. However, these items represent another example of weak design calculation control.

STATION RESPONSE TO COVER LETTER REQUEST:

This item reflects formal questions (No. 187, 189) asked during the System Based Instrumentation and Control Inspection (SBICI). The response to this question was provided during the SBIC Inspection and ComEd has taken no further actions on this item.

ATTACHMENT 2
RESPONSE TO COVER LETTER REQUEST - INSPECTION FOLLOWUP ITEMS
237(249)/94016-01, -04, -05, -06, and -07
NRC INSPECTION REPORT
50-237(249)/94016
(Continued)

EXCERPT FROM INSPECTION REPORT:

Inspection Followup Item 237(249)/94016-07

3.7 ATWS Recirculation Pump Trip and Alternate Rod Insertion (ARI)

The anticipated transient without scram system was installed as a backup to the reactor protection system. The instruments selected for recirculation pump trip (ATWS RPT) and ARI review included high reactor pressure (PT-2-0263-20B) and lo-lo RWL (LT-2-0263-B).

3.7.1 Setpoint Calculation and Basis

- B. Calculation No. 0349-E-10 (0349-E-30) did not include instrument drift data, calibration tolerances and environmental effects in the setpoint determination. The setpoint was determined from a scaling calculation. This is considered an inspection follow-up item (237/94016-07(DRS); 249/94016-07(DRS)) pending NRC review of the licensee's actions to obtain and incorporate this information in the calculation.

Based on other margins identified in the calculation, the team concluded the above items would not affect operability. However, these items represent another example of weak design calculation control.

STATION RESPONSE TO COVER LETTER REQUEST:

This item reflects a formal question (No. 170) asked during the System Based Instrumentation and Control Inspection (SBICI). The response to this question was provided during the SBIC Inspection and ComEd has taken no further actions on this item.