

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

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 DAVIS, A. B. Region 3, Office of Director

SUBJECT: Responds to violations noted in Insp Rept 50-331/87-004.
 Corrective actions: util performed addl surveillance testing
 prior to Cycle 9 startup & STP 42B015 revised to eliminate
 simultaneous testing of redundant components.

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Iowa Electric Light and Power Company

August 21, 1987
NG-87-3177

Mr. A. Bert Davis
Regional Administrator
Region III
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137


Subject: Duane Arnold Energy Center
Docket No: 50-331
Op. License DPR-49
Response to NRC Inspection Report 87-004

File: A-102, A-103

Dear Mr. Davis:

This letter and attachment are provided in response to the subject report concerning inspections of activities at the Duane Arnold Energy Center.

Very truly yours,


William C. Rothert
Manager, Nuclear Division

WCR/JCT/kmf

Attachment: Response to Inspection Report 87-004

~~cc: U. S. NRC Document Control Desk (Original)~~
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NRC Resident Inspector - DAEC
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Iowa Electric Light and Power Company
Response to Inspection Report 87004

NRC Item of Violation 1 (Severity Level IV)

Duane Arnold Technical Specification 4.2.B states, in part, that Core and Containment Cooling Systems logic shall be functionally tested as indicated in Table 4.2-B. Item 5 in Table 4.2-B is HPCI Subsystem Auto Isolation. Item 7 in Table 4.2-B is RCIC Subsystem Auto Isolation. Technical Specification Definition 1.22e states, in part, that a Logic System Functional Test means a test of all relays and contacts of a circuit to insure all components are operable per design intent. Where practicable, action will go to completion: i.e., pumps will be started and valves operated.

Contrary to the above, all HPCI and RCIC system isolation logic functional tests performed prior to May 18, 1987, failed to test the initiating isolation relay contacts in that the specific surveillance testing procedures (42B036 and 42B037) jumpered around the initiation relay isolation contact to simulate the logic functional input, and the initiation contacts were not tested to ensure all components were operable per design intent.

Response to Item of Violation 1

Iowa Electric presented its position on the broader issue of contact testing stated in the first paragraph above at a meeting with the NRC staff on July 13, 1987. We will continue to work with the staff to resolve the concerns of that meeting.

1. Corrective Action Taken and the Results Achieved

Iowa Electric, in addressing the NRC's immediate concerns regarding logic system functional tests, performed additional surveillance testing prior to cycle 9 startup. This testing verified the operability of the contacts, identified by the inspector, in the HPCI and RCIC isolation logics. The results of all additional testing were transmitted to the NRC by letter NG-87-2373, dated June 26, 1987 (McGaughy to Davis).

2. Corrective Action to be Taken

Iowa Electric recognizes the need for a review of our testing methods and will implement a review of these methods with our Surveillance Test Evaluation and Enhancement Program (STEEP). This program is a comprehensive, methodical review of existing surveillances aimed at improving the testing methods used at DAEC. Iowa Electric has accelerated this program and expects to complete it in September, 1988.

3. Date When Full Compliance will be Achieved

Full compliance was achieved June 25, 1987 with the testing of the identified isolation logics.

NRC Item of Violation 2 (Severity Level IV)

Duane Arnold Technical Specification 3.2.B states, in part, that the limiting conditions for operation for the instrumentation that initiates or controls the core and containment cooling systems are given in Table 3.2-B. This instrumentation must be operable when the systems(s) it initiates or controls are required to be operable as specified in Section 3.5. Table 3.2-B identifies the HPCI Area Temperature Channels and RCIC Area Temperature Channels as requiring a minimum of one operable instrument channel per trip system. Note 1 to Table 3.2-B states, in part, that whenever any CSCS subsystem is required by Subsection 3.5 to be operable, there shall be two operable trip systems. 10CFR50.36(c)(2) states, in part, that when a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specification until the condition can be met.

Contrary to the above, prior to May 15, 1987, during the performance of monthly surveillance procedure 42B015, "CSCS Trip System Bus Monitors Functional Test," both trip systems of HPCI and RCIC area temperature steam leak detecting logic were simultaneously placed in the test position, bypassing the trip function and rendering them inoperable without recognizing that a limiting condition for operation had been entered.

Response to Item of Violation 2

1. Corrective Action Taken and Results Achieved

STP 42B015 was revised to eliminate simultaneous testing of redundant components and thus removed the potential for entering a limiting condition for operation during this surveillance testing.

2. Corrective Action to be Taken

STEEP will include a review of existing surveillance procedures to insure conformance to the guidance provided by the Technical Specifications. Necessary changes to surveillance procedures will be made and Technical Specification clarifications pursued where appropriate.

3. Date When Full Compliance will be Achieved

Full compliance was achieved August 6, 1987 when STP 42B015 was revised.

NRC Item of Violation 3 (Severity Level IV)

10CFR Part 50, Appendix B, Criterion II states, in part, that the licensee shall establish a quality assurance program which complies with the requirements of this appendix. This program shall be documented by written policies, procedures or instructions, and carried out throughout plant life in accordance with those policies, procedures and instructions. 10CFR Part 50, Appendix B, Criterion XVI, as implemented by the Duane Arnold Energy Center Quality Assurance Manual, states, in part, that measures shall be established to ensure that conditions adverse to quality, are promptly identified, reported, and corrected to preclude repetition. Section 2.2.1 of the Iowa Electric Light and Power Company Quality Assurance Manual states, in part, that Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operation)" established the basis for Quality Level I. The specific issue of and any exceptions to these Regulatory Guides are presented in Table 2-1. Section 3 of Table 2-1 states that the commitment is to Regulatory Guide 1.33 Revision 2, and therefore by reference ANSI N18.7-1976. Section 5.2.7.1 of ANSI N18.7(1976) states, in part, that the causes of malfunctions shall be promptly determined, evaluated, and recorded, and any experience with malfunctioning equipment and similiar components shall be reviewed and evaluated.

Contrary to the above, during the calibration interval prior to February 20, 1985, HPCI exhaust and exhaust diaphragm pressure switches were inadequately evaluated for common failure and reviewed for similiar component failures. The inoperable condition of several of these pressure switches reduced the capability of the HPCI system to trip or isolate if a high turbine exhaust pressure condition occurred.

Response to Item of Violation 3

1. Corrective Action Taken and Results Achieved

The switch failures were evaluated to determine the consequences of simultaneous failures. This evaluation concluded that the HPCI system would have fulfilled its safety function on and prior to February 20, 1985. The deviation report data base was also reviewed for similiar switch failures and evaluated for potential failure trends.

Our review of the failure history of the 52 pressure switches installed in the plant revealed only 3 failures since initial plant startup. These failures are random, unrelated failures and no failure trend exists.

2. Corrective Action to be Taken

Iowa Electric will augment existing procedures to provide a standardized approach to the evaluation of equipment failures and for failure trends. Where firm evidence exists that a component had failed prior to the date of discovery a common failure evaluation will be performed. This is consistent with the guidance provide by NUREG 1022 and its supplements. Other applications of similiar components will be reviewed and evaluated for similiar failures. A review of the maintenance and calibration history of this type of pressure switch is in progress and will be complete by September 30, 1987.

3. Date When Full Compliance is Achieved

Full compliance will be achieved by September 30, 1987 with the completion of the evaluation on the pressure switches.