

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

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ACCESSION NBR: 8808160442    DOC.DATE: 88/08/05    NOTARIZED: NO    DOCKET #  
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 AUTH.NAME    AUTHOR AFFILIATION  
 ROTHERT, W.C.    Iowa Electric Light & Power Co.  
 RECIP.NAME    RECIPIENT AFFILIATION  
 DAVIS, A.B.    Region 3, Ofc of the Director

SUBJECT: Responds to violations noted in Insp Rept 50-331/88-09.

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Iowa Electric Light and Power Company

August 5, 1988  
NG-88-2657

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

Subject: Duane Arnold Energy Center  
Docket No: 50-331  
Op. License No: DPR-49  
Response to Notice of Violation Transmitted  
with Inspection Report 88-009

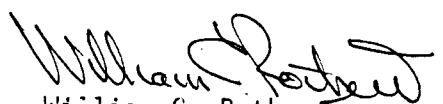
File: A-102, A-103

Dear Mr. Davis:

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

If you have any questions regarding this response, please feel free to contact our office.

Very truly yours,

  
William C. Rothert  
Manager, Nuclear Division

WCR/WWD/go

Attachment: Response to Notice of Violation Transmitted  
with Inspection Report 88-009

cc: U. S. NRC Document Control Desk (Original)  
L. Liu  
L. Root  
R. McGaughy  
J. R. Hall (NRR)  
NRC Resident Inspector - DAEC  
W. Douglass  
Commitment Control No. 880259

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IOWA ELECTRIC LIGHT AND POWER COMPANY

RESPONSE TO NOTICE OF VIOLATION

TRANSMITTED WITH INSPECTION REPORT 88-009

NRC NOTICE OF VIOLATION (SEVERITY LEVEL IV)

"The Duane Arnold Energy Center Technical Specifications, Section 6.8.1, states in part, that written procedures involving nuclear safety, including applicable check-off lists and instructions, covering areas listed below shall be prepared and approved as specified in Subsection 6.8.2. All procedures shall be implemented and maintained. This list includes normal startup, operation, and shutdown of systems and components of the facility; and surveillance and testing requirements of equipment that could have an effect on the nuclear safety of the facility.

1. Surveillance Test Procedure (STP) 46F002, "APRM/LPRM Operating Noise Data Collection and Thermal Limits Calculations for Single Loop Operation (SLO)", Revision 3, dated January 27, 1988, requires in Step 4.16.1 that 0.03 be added to the limiting MCPR for Single Loop Operation.

Contrary to the above, on April 19, 1988, while in SLO, the licensee failed to increase the operating limit MCPR by 0.03 as required by STP 46F002.

2. Operating Instruction (OI) No. 170, "Standby Gas Treatment System", Revision 3, dated October 29, 1987, requires in Attachment 4, SGBT System Control Panel Lineup, that HS-5825A and HS-5825B be placed in the Open positions.

Contrary to the above, on April 23, 1988, during a walkdown of control room panels 1C24A and 1C24B the inspector observed HS-5825A and HS-5825B in the Closed positions."

RESPONSE TO NOTICE OF VIOLATION ITEM I

Replacement of brushes on a Reactor Recirculation System Pump M/G generator on April 18, 1988 required entry into Single Loop Operation. The Duane Arnold Energy Center Technical Specifications Section 3.6.F.2 requires that, following entry into Single Loop Operation, Surveillance Test Procedure (STP) 46F002, "APRM/LPRM Operating Noise Data Collection and Thermal Limits Calculations for Single Loop Operation," be performed. Difficulties were encountered when the new plant process computer would not accept manually inserted core flow data and therefore did not produce a P-1 plant performance evaluation report required for the calculation. A Backup Core Limit Evaluation (BUCL) was therefore performed by the Reactor Engineer and utilized by Operations personnel to complete STP 46F002 calculations.

The cited violation occurred during calculation of the Reactor Minimum Critical Power Ratio (MCPR). Technical Specification 3.12.C.2 states that, during Single Loop Operation with core thermal power greater than or equal to 25% of rated, the Operating Limit Minimum Critical Power Ratio is increased by adding a value of 0.03 to the determined operating limit MCPR. The Technical Specification Bases explain that this is "to account for the increased uncertainty in the core flow and Traversing In-core Probe (TIP) readings used in statistical analyses to derive the Safety Limit MCPR." The Technical Specification is complied with by entering the 0.03 MCPR additive in the numerator of the Maximum Fraction of Limiting Critical Power Ratio (MFLCPR) equation. STP 46F002 specified the 0.03 additive term but it was erroneously omitted during calculation due to a personnel error. The result was a non-conservative error in MFLCPR of 0.013 with calculated value of 0.740 versus the correct 0.753. This error was identified to Iowa Electric by the NRC Senior Resident Inspector when he reviewed the completed STP. Neither the Technical Specification MCPR Safety Limit nor MCPR Operating Limit was violated during the Single Loop Operation evolution.

1. Corrective Actions Taken and the Results Achieved:

As an immediate corrective action, when the error was identified applicable steps of STP 46F002 were recalculated by the reactor engineer. The correct MFLCPR of 0.753 was determined and reactor operation within Technical Specification thermal limits was verified.

A constructive critique on the conduct of Single Loop Operation was provided to responsible plant supervisory personnel by the Technical Support Supervisor. Operating crews were verbally briefed by the Operations Supervisor on the necessity for constant attention to detail and precision in completing Surveillance Test Procedures.

STP 46F002, "APRM/LPRM Operating Noise Data Collection and Thermal Limits Calculations for Single Loop Operations" has been modified as of June 8, 1988 to reduce the possibility of miscalculation. The MFLCPR calculation has been clarified by specifying the source of data and structuring the calculation into two less complicated steps. A supervisory level review of the procedure prior to its completion has also been added.

Additional corrective actions have been taken to address the process computer problems which contributed to this event. An attachment was added to STP 46F002 on July 15, 1988 which gives step-by-step instructions for manual insertion of reactor core flow data and for obtaining a P-1 Core Evaluation Report. Precautionary instructions have also been added to the procedure to prevent intermixing of P-1 and BUCLE data while performing thermal calculations.

2. Corrective Actions Which Will Be Taken to Prevent Recurrence:

The conduct of reactor Single Loop Operation and the correct method of performing STP 46F002 with emphasis given to the avoidance of error will be included in the next regular cycle of Requalification Training for Licensed Personnel and Plant Performance Reactor Engineers to be completed by November 30, 1988.

3. Date When Full Compliance Will Be Achieved:

Iowa Electric was in full compliance when recalculation and review of the STP 46F002 thermal limit calculation was completed on April 28, 1988.

RESPONSE TO NOTICE OF VIOLATION ITEM 2

1. Corrective Steps Taken and the Results Achieved:

An investigation was initiated to determine the cause for mispositioned handswitches HS-5825 A and B. System maintenance, surveillance tests, and the startup lineup were reviewed. The system lineup of October 30, 1987 for reactor startup indicated the handswitches were in the "Open" position. The next pertinent record is an equipment tagout of November 30, 1987 which indicated the switches were erroneously left in the "Closed" position after testing and inspection of SBGTS deluges. No record of switch manipulation was found between November 30, 1987 and April 23, 1988, the date the NRC Resident Inspector noticed the handswitches in the "closed" position. It is most probable that handswitches HS-5825 A and B remained in the "closed" position during this period. The handswitches control the position of SBGTS intake valves AV-5825 A and B only when the mode switch is in "manual". SBGTS operation includes verification on each shift that the train mode switches are in "auto", a position which aligns the system for operation including opening of intake valves. The SBGTS availability for automatic operation was not affected while HS-5825 A and B were mispositioned.

The Operations Supervisor has briefed operating crews on the problem of mispositioned switches and the requirement for strict adherence with Plant Operating Instructions.

Quality Control has increased its surveillance inspection of the tagout procedure to a monthly basis for the remainder of Calendar Year 1988. Frequency of inspection may be adjusted based upon the results during this period which includes the 1988 Refueling Outage. The QA surveillance procedure has been revised to better address this incident and has been in use since June 30, 1988.

A review of Surveillance Tests involving the Standby Gas Treatment System was performed. The annual surveillance test of the SBGTS Bypass Cooling operability, STP 47B006, contained procedural steps which did not ensure that handswitches HS-5825 A and B were returned to the "open" position after having been positioned to "closed" during the STP. The procedural steps were revised and a post-STP system lineup verification added to preclude handswitch mispositioning. STP 47B006 had been last performed on May 7, 1987 and is not considered a causal factor in this incident.

2. Corrective Actions Which Will Be Taken to Prevent Recurrence

An Operations Supervisor review of Administrative Control Procedure 1410.5, "Tagout Procedure" is in process and will include consideration of the mispositioning incident discovered on April 23, 1988. The sections prescribing actions to remove tagouts, restore equipment/systems to operation, and verify proper restoration will be examined and strengthened. This review and any resulting change will be completed by September 30, 1988.

The correct performance of equipment tagout for service and system restoration will be included in Requalification Training for Licensed Personnel and second assistant/auxiliary operator training program to be completed by November 30, 1988.

3. Date When Full Compliance Will be Achieved

Iowa Electric was in full compliance when handswitches HS-5825 A and B were placed in the "Open" position on April 23, 1988.