ACCELERATED DOCUMENT DISTRIBUTION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9212220130 DOC.DATE: 92/12/14 NOTARIZED: NO DOCKET #
FACIL:50-331 Duane Arnold Energy Center, Iowa Electric Light & Pow 05000331
AUTH.NAME AUTHOR AFFILIATION
FRANZ,J.F. Iowa Electric Light & Power Co.
RECIP.NAME RECIPIENT AFFILIATION
MURLEY,T.E. Office of Nuclear Reactor Regulation, Director (Post 870411

SUBJECT: Responds to NRC ltr re violations noted in insp rept 50-331/92-20.Corrective actions:licensee will develop written guidance to provide means for mgt to express expectations for communication site personnel.

DISTRIBUTION CODE: IE01D COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 7
TITLE: General (50 Dkt)-Insp Rept/Notice of Violation Response

NOTES:

	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL
	PD3-3 PD	1	1	PULSIFER,R	1	1
INTERNAL:	ACRS	2	2	AEOD	1	1
	AEOD/DEIB	2	2	AEOD/DSP/TPAB	1	1
	AEOD/TTC	1	1	DEDRO	1	1
	NRR MORISSEAU,D	1	1	NRR/DLPQ/LHFBPT	1	1
	NRR/DLPQ/LPEB10	1	1	NRR/DOEA/OEAB	1	1
	NRR/DREP/PEPB9H	1	1	NRR/PMAS/ILPB	2	2
	NRR/PMAS/ILRB12	1	1	NUDOCS-ABSTRACT	1	1
	OE DIR	1	1	OGC/HDS2	1	1
	REG FILE 02	1	1	RGN3 FILE 01	1	1
EXTERNAL:	EG&G/BRYCE,J.H.	1	1	NRC PDR	1	1
	NSIC	1	1			

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK, ROOM P1-37 (EXT. 504-2065) TO ELIMINATE YOUR NAME FROM DISTRIBUTION LISTS FOR DOCUMENTS YOU DON'T NEED!

TOTAL NUMBER OF COPIES REQUIRED: LTTR 26 ENCL 26

R I D S / A D D S / R I D S / A D D S

Iowa Electric Light and Power Company

December 14, 1992
NG-92-5420

JOHN F. FRANZ, JR.
VICE PRESIDENT, NUCLEAR

Dr. Thomas E. Murley, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station P1-137
Washington, DC 20555

Subject: Duane Arnold Energy Center
Docket No: 50-331
Op. License No: DPR-49
Reply to Notices of Violation Transmitted with Inspection Report 92020
File: A-105, A-102

Dear Dr. Murley:

This letter and attachment are provided in response to Notices of Violation concerning activities at the Duane Arnold Energy Center (DAEC).

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

Very truly yours,

John F. Franz, Jr.
Vice President, Nuclear

JFF/TS/pjv

Attachment: Reply to Notices of Violation Transmitted with Inspection Report 92020

cc: T. Sims
L. Liu
L. Root
R. Pulsifer (NRC-NRR)
A. Bert Davis (Region III)
NRC Resident Office
Commitment Control
DCRC

IE01

IOWA ELECTRIC LIGHT AND POWER COMPANY
REPLY TO NOTICES OF VIOLATION
TRANSMITTED WITH INSPECTION REPORT 92020

VIOLATION 1

Technical Specification 6.8.1 requires, in part, that written procedures covering areas of normal startup, operation, and shutdown of systems and components of the facility, and emergency and off-normal condition procedures be implemented and maintained.

a. Integrated Plant Operating Instruction 2, "Startup, Section 4.3 step (17); Operating Instruction 563, "Hydrogen Water Chemistry," Section 3.4.; and Plant Chemistry Procedure 7.26 requires that the offgas oxygen analyzers be placed in service when Hydrogen Water Chemistry was placed in service.

   Contrary to the above, between the period of April 24, 1992, and September 2, 1992, the offgas oxygen analyzers were not placed in service when Hydrogen Water Chemistry was placed in service.

b. Surveillance test procedure (STP) 42B015, "ECCS Trip System Bus Power Monitors Monthly Functional Test," step 7.2.1, requires that breaker 1D23 Circuit 7 be opened.

   Contrary to the above, on September 10, 1992, during the performance of STP 42B015, step 7.2.1, operators opened breaker 1D21 Circuit 7 instead of breaker 1D23 Circuit 7.

c. Contrary to the above, Annunciator Response Procedure (ARP) 1C08B D7, "MCC 1B44A TIE Breaker 1B4401 Trip," revision 5, was incorrectly maintained in that it listed loss of power to breaker 1D23 Circuit 7 as a probable cause for the annunciator instead of the correct breaker, 1D21 Circuit 7, and did not direct operators to reset the bell alarm lockout push button prior to restoration of the normal swing bus lineup, which was necessary to prevent loss of the swing bus.

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

VIOLATION 2

Technical Specification 4.6.G.2 requires, in part, that inservice testing (IST) of American Society of Mechanical Engineers (ASME) valves be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable addenda as required by 10 CFR 50, Section 50.55a(g). The ASME Boiler and Pressure Vessel Code 1980 Edition, Section XI, Article 3417, "Corrective Action," requires an increased testing frequency of once each month until corrective action is taken for power operated valves with full-stroke times less than 10 seconds exhibiting an increase in stroke time of 50 percent or more from the previous test. Reactor Core Isolation Cooling (RCIC) system pump minimum flow bypass valve MO-2510 is part of the IST program at the Duane Arnold Energy Center and has a stroke time of less than 10 seconds.

Contrary to the above, RCIC system pump minimum flow bypass valve MO-2510 was not tested from the period July 8, 1992, until August 25, 1992, (48 days) even though during testing on July 8, 1992, it exhibited an increase in stroke time of greater than 50 percent from the previous test conducted on April 26, 1992.

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

Response to Violation 1a

1. The Reason for the Violation

On September 9, 1992, during the performance of corrective maintenance, it was discovered that the offgas oxygen analyzers were lined up to sample the area room atmosphere rather than offgas flow at the outlet of the recombiners. Specifically, the offgas sample line isolation valve, V-89-75, was found closed while the drain valve for the in-line moisture separator, V-89-79, was found in the open position. Corrective maintenance was being performed because local grab samples taken on offgas flow resulted in a 9% oxygen concentration while the offgas oxygen analyzer indicated 20%. Disagreement between certain plant procedures and confusion as to which was the controlling procedure were the main cause of the misaligned valves.

Prior to reactor startup, the Hydrogen Water Chemistry Operating Instruction (OI-563) valve lineup required that V-89-75 be closed. Also prior to reactor startup, the analyzers were calibrated and the moisture separator valve lineup was checked in accordance with Plant Chemistry Procedure (PCP) 7.26. The calibration section of PCP 7.26 alone had been performed at other times since the reactor startup of April 1992. The calibration section of PCP 7.26 does not require the operation of either V-89-75 or V-89-79.

Chemistry Technicians were reviewing the valve lineup and noted on the instrument log book for the offgas oxygen analyzers that V-89-75 was closed. The position of V-89-75 was not questioned further because it was believed that the OI-563 valve lineup was in progress and that the Operations Department, which controlled these valves, would position them correctly prior to Hydrogen Water Chemistry (HWC) initiation. The plant startup procedure (IPOI-2) specified when to initiate hydrogen and oxygen injection during startup. However, it did not provide instructions on placing the appropriate HWC support systems in service (such as the offgas oxygen analyzers).

2. The Corrective Steps That Have Been Taken and the Results Achieved

V-89-75 and V-89-79 were placed in their required positions on September 9, 1992. The following changes were made to OI-563 to define ownership of the valves.

1) The required valve lineup position for V-89-75 was changed from closed to open.

2) OI-563 now directs that the offgas oxygen analyzers be placed in service per the applicable Plant Chemistry Procedure (PCP 7.26).

PCP 7.26 has been updated to give specific instructions on when to perform a valve lineup. A new procedure (PCP 2.17) has been written which provides a valve lineup for these valves.

3. The Corrective Steps That Will Be Taken to Avoid Further Violations

The steps taken in paragraph 2 are sufficient to avoid further violations.

4. The Date When Full Compliance Will Be Achieved

Full compliance was achieved on October 7, 1992 when OI-563 was revised.

Response to Violations 1b and 1c

1. The Reason for the Violation

On September 10, 1992, at approximately 1430 hours with the facility operating at 100% power, the Low Pressure Coolant Injection (LPCI) swing bus was deenergized for approximately two minutes. This electrical distribution bus supplies power to LPCI components (e.g. the LPCI injection valves), such that the LPCI subsystem was rendered inoperable during the time the bus was deenergized.

During performance of the ECCS Trip System Bus Power Monitor Monthly Functional Surveillance Test, STP 42B015, (not associated with LPCI), power was lost to one LPCI swing bus supply breaker when a station operator misread the step being performed and opened the wrong breaker. The opening of the incorrect 125V DC control power breaker was due to a personnel error when a station operator misread and combined parts of separate steps in the surveillance test being performed. Specifically, when told to perform the next step, he read CKT 7 (which was part of the correct step in which 1D23 CKT 7 was to be tested) and 1D21 from the previous step he had performed in which 1D21 CKT 14 was energized. He proceeded to deenergize 1D21 CKT 7. This action removed breaker control power from 1B4401 (one of the two LPCI swing bus supply breakers). Due to loss of control power, 1B4401 tripped open and the redundant power supply breaker (1B3401) automatically closed as designed.

Following the 1B4401 trip and restoration of control power, operators were attempting to restore the LPCI swing bus power supplies to their normal configuration. After a loss of control power, a feature unique to the LPCI swing bus supply breakers causes the local breaker tripper bar to actuate. The tripper bar must be locally reset prior to breaker operation. The Annunciator Response Procedure (ARP) and Operating Instructions (OIs) did not provide adequate information on these features. Due to these procedural inadequacies, the LPCI swing bus was

deenergized for approximately two minutes when transfer to the normal lineup was attempted. When the LPCI swing bus supply breakers failed to operate as expected during the return to a normal lineup, the operators quickly realized that the cause might be the local tripper bar reset and an operator was dispatched to the breaker. The small, white 'Reset' trip indicator button was discovered in its "popped out" position at 1B4401. The button was reset at which time 1B3401 automatically closed restoring LPCI swing bus power. The normal bus lineup was then properly restored.

Additionally, only one-way communications via radio were utilized for the control room to direct the operator actions at the control power breaker panels. Lack of a communication feedback mechanism may have contributed to this event.

The cause of the deenergization of the LPCI swing bus was the breaker transfer problem during restoration of the LPCI swing bus to a normal lineup. This problem was caused by insufficient procedural guidance. Specifically, the ARP and OI led operators to believe 1B4401 would automatically close when 1B3401 was opened. That is not true for these breakers which require the tripped condition to be manually reset locally. When 1B4401 failed to close, the operators took its handswitch to open believing 1B3401 would reclose. This did not happen due to the 1B4401 trip being interlocked with the 1B3401 close permissive circuit.

2. The Corrective Steps That Have Been Taken and the Results Achieved

Following the event, senior management led a meeting with all involved personnel and their supervision to review the factors that led to the event and corrective actions to be taken. Management reiterated their expectations for two-way communication and attention to detail with those involved in the event. Additionally, the importance of self-checking was re-emphasized.

This event was presented to all operating crews by the individuals involved. The presentations emphasized the need for attention to detail, self-checking, and the administrative controls and procedural requirements for two-way communication.

A Human Performance Enhancement System (HPES) Evaluation was performed by the HPES Coordinator. This evaluation concluded that the cause of the event was problems with communication, both verbal and written (in the case of the procedural problems).

ARP 1C08B D7 has been revised to provide adequate instructions concerning LPCI swing bus supply breaker trips and power transfer operations.

3. The Corrective Steps That Will Be Taken to Avoid Further Violations

In addition to the steps taken above, the DAEC will develop

written guidance to provide a means for management to express the expectations for communication to site personnel. This will be completed by February 28, 1993.

4. The Date When Full Compliance Will Be Achieved

Full Compliance was achieved on September 11, 1992 when ARP 1C08B D7 was revised.

Response to Violation 2

1. The Reason for the Violation

On July 8, 1992, stroke time testing of the Reactor Core Isolation Cooling (RCIC) pump minimum flow bypass valve (MO-2510) was performed in conjunction with the RCIC System Quarterly Operability Test, STP 45E001-Q. The valve exhibited an increase in stroke time greater than 50 percent since the previous test. This placed the valve in the increased frequency test status in accordance with administrative control procedure (ACP) 1407.3, "ASME Section XI Pump and Valve Testing," and the Duane Arnold Energy Center (DAEC) Inservice Testing (IST) program manual. The ACP and ASME Section XI, Paragraph IWV-3417, "Corrective Action," requires valves with normal stroke times of less than or equal to 10 seconds and which exhibit a stroke time under the maximum allowable value but equal to or greater than 150 percent of the previous stroke time to be tested at an increased frequency of once each month until corrective action is taken. Valve MO-2510 was not tested until August 25, 1992, or 48 days after exceeding the stroke time of the previous test by 150 percent.

The immediate cause of the missed surveillance was the use of a 45 day interval for increased frequency valve testing instead of the monthly interval specified in ACP 1407.3, "ASME Section XI Pump and Valve Testing."

2. The Corrective Steps That Have Been Taken and the Results Achieved

Immediately upon discovery of the incorrect interval for MO-2510, the surveillance was satisfactorily completed.

Training was conducted within the Codes and Materials Group to ensure that all personnel involved with STP review and scheduling are cognizant of the ASME Code increased frequency scheduling requirements. Additionally, the date of the last STP performance has been added to the monthly increased surveillance letter to assist in supervisory review and verification of the testing schedule.

An IST Self-Assessment Team was formed to investigate the causes of the missed surveillance and to suggest corrective actions. Relevant portions of this assessment are discussed in (3) below.

3. The Corrective Steps That Will Be Taken to Avoid Further Violations

The IST Self-Assessment Team identified several weaknesses and suggested improvements. We have responded to the deficiencies cited in the Self Assessment report by taking the following actions:

- Significant turnover in the IST program and reliance on contractors resulted in personnel unfamiliar with program requirements and software.

  Corrective Actions:

  Efforts are underway to fill the IST Engineer position with a permanent IE employee. In the meantime, a contractor more familiar with IST requirements has been brought in to administer the IST program. To help eliminate future turnover problems, better documentation is being provided, including the development of notebooks containing plots and trends for program components.

- Notifications to the surveillance and operations groups on equipment to be tested on an increased frequency was conducted by means of a letter issued every 30 days. This left very little time to plan and conduct a surveillance in the case of a valve tested shortly after the previous letter was issued.

  Corrective Actions:

  A meeting with representatives from appropriate DAEC departments is now conducted prior to issuance of the monthly increased surveillance letter. The meeting typically includes representatives from the Surveillance & Testing, Maintenance and appropriate Engineering Groups. Testing and component performance is discussed during this meeting and possible corrective actions are developed and assigned. Components displaying erratic behavior or abnormal trends, including trending toward alert values, are also addressed at this meeting. The increased communication and involvement of these various groups aids in the development of a cohesive action plan to address any abnormalities identified by the plant trending/monitoring programs.

- The IST evaluation and data entry were not being verified by an independent engineer. The IST Engineer reviewed the STPs, entered data, performed calculations, and established testing windows without quality checks being performed.

  Corrective Actions:

  The Codes and Materials Group has initiated an independent review of completed IST-related STPs. This review includes a check of the STP recorded values against the computer printout generated after data entry. This independent review is indicated by the IST Engineer's initials and the Codes and Materials Group Leader signature on the STP review sheet.

4. The Date When Full Compliance Will Be Achieved

Full Compliance was achieved with the satisfactory completion of the IST surveillance on August 25, 1992.