

Commonwealth Edison Company
Zion Generating Station
101 Shiloh Boulevard
Zion, IL 60099-2797
Tel 847-746-2084

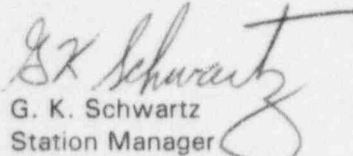


October 29, 1996

U.S. Nuclear Regulatory Commission
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The enclosed Licensee Event Report (LER) number 96-011-01, Docket No. 50-295/DPR-39 from Zion Generating Station is being transmitted to you to revise a corrective action. LER 96-011-00 was transmitted to you on April 26, 1996 pursuant to 10 CFR 50.73 (a)(2)(i)(B) which requires a thirty-day written report when any operation or condition occurs that is prohibited by the plant's Technical Specifications.

Very truly yours,


G. K. Schwartz
Station Manager
Zion Generating Station

GKS/GS/hjw

Enclosure: Licensee Event Report

cc: NRC Region III Administrator
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LICENSEE EVENT REPORT (LER)

FACILITY NAME ZION NUCLEAR POWER STATION UNIT 1	DOCKET NUMBER 0 5 0 0 0 2 9 5	PAGE 1 OF 0 7
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TITLE
Missed Inservice Testing Requirements for 1AOV-BD0008 and 1AOV-SI8870A Resulting From a Deficient Procedure

EVENT DATE			LER NUMBER			REPORT DATE			OTHER FACILITIES INVOLVED											
MONTH	DAY	YEAR	YEAR	SEQ. NUMBER	REVISION	MONTH	DAY	YEAR	FACILITY NAMES		DOCKET NUMBER(S)									
0	3	2	7	6	9	6	0	1	1	0	2	9	9	6						

OPERATING MODE 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (CHECK ONE OR MORE OF THE FOLLOWING)									
	20.402(b)		20.405(e)		50.73(a)(2)(iv)		73.71(b)			
POWER LEVEL 1 0 0	20.405(a)(1)(ii)		50.36(c)(1)		50.73(a)(2)(v)		73.71(c)			
	20.405(a)(1)(iii)		50.36(c)(2)		50.73(a)(2)(vii)		OTHER (Specify in Abstract below and in Text, NRC Form 366A)			
20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(A)						
20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(ix)						

LICENSEE CONTACT FOR THIS LER	
NAME D. Thurston, Maintenance Engineering EXT. 3979	TELEPHONE NUMBER 8 4 7 7 4 6 - 2 0 8 4

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT														
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED										EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
<input type="checkbox"/> YES, (If yes, complete EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO													

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines).

During Zion Unit 1 Maintenance Outage (Z1MO5) in March 1996, two Containment Isolation Valves (CIV's), 1AOV-BD0008 and 1AOV-SI8870A were returned to service without performing Inservice Testing (IST) after maintenance. Technical Specifications 4.0.5 requires IST to be performed prior to returning a valve to service after maintenance. This also resulted in a violation of Technical Specification 3.0.4 in that mode changes occurred without the required surveillance having been performed to demonstrate operability for 1AOV-BD0008 and 1AOV-SI8870A.

The cause of these events was a deficient procedure which did not provide sufficient instructions concerning post-maintenance testing.

Corrective actions include; revising procedures to address post-maintenance testing; training for System Engineering and Operations personnel; developing an IST Design Bases Document; and developing a Post Maintenance Test Matrix.

There was no safety significance attributable this event.

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TEXT Energy Industry Identification System (EIS) codes are identified in the text as [XX]

A. PLANT CONDITIONS PRIOR TO EVENT

Unit 1 MODE 1 - Power Operations Rx Power 100% RCS [AB]Temperature/Pressure 559°F/2235psig

Unit 2 MODE 1 - Power Operations Rx Power 100% RCS [AB]Temperature/Pressure 559°F/2235psig

B. DESCRIPTION OF EVENT

Two separate events occurred in March, 1996 during Zion Unit 1 Maintenance Outage No. Z1M05 where Inservice Testing (IST) was not performed as required by the Technical Specifications prior to returning a containment isolation valve to service following maintenance.

Technical Specifications 4.0.5 requires IST to be performed in accordance with the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Section XI. ASME Section XI, Operations and Maintenance (O&M) Part 10, requires that an inservice test be performed prior to returning a valve to service after maintenance.

1AOV-SI8870A:

On 3/10/96, 1AOV-SI8870A failed to stroke open during Safeguards Actuation testing. Work Request (960026205-01) was generated to perform necessary valve maintenance. The valve pre-load set and valve actuator closure spring were adjusted and a valve actuator instrument air supply line fitting leak was repaired. Following these repairs, a post maintenance verification full stroke check of the valve was performed satisfactorily. It was verified that the valve's control room position indication accurately reflected local valve full open and full closed physical position.

During clearance of the Out Of Service (OOS), 1AOV-SI8870A was again stroked, but exhibited dual indication. The valve open limit switch was then adjusted as required to correctly indicate valve position. 1AOV-SI8870A was stroked open and closed three times with satisfactory position indication. The OOS was cleared and Safeguards Actuation testing of 1AOV-SI8870A was completed satisfactorily.

On 3/12/96, Unit 1 RCS heatup was commenced for plant restart at the conclusion of the Z1M05 maintenance outage.

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TEXT Energy Industry Identification System (EIS) codes are identified in the text as [XX]

B. DESCRIPTION OF EVENT (Continued)

On 3/27/96, the IST Engineer determined that post-maintenance valve stroke time testing had not been performed after 1AOV-SI8870A maintenance was completed on 3/10/96. This determination was confirmed by discussion with the Shift Engineer. The Shift Engineer was then requested by the IST Engineer to immediately perform stroke time testing, as well as position indication testing, per PT-20-ST and PT-40A-20, on 1AOV-SI8870A. Both tests were performed with acceptable results.

1AOV-BD0008:

On 3/13/96, Action Request 960020909 was initiated by the Operations Department to report intermittent dual position indication problems being experienced in the control room for containment isolation valve 1AOV-BD0008. The cause for the dual position indication problem was a loose position indication actuator which was not consistently making contact with the position indication limit switches each time the valve was stroked. The Zion Station Fix-It-Now (FIN) Team was requested to investigate and resolve this problem.

On 3/14/96, the Zion Station FIN Team completed an adjustment of the 1AOV-BD0008 position indication actuator such that it correctly and consistently operated the valve position indication limit switches.

On 3/27/96, the IST Engineer determined that a post-maintenance valve position indication test had not been performed and documented per surveillance procedure PT-40-300. This determination was confirmed by discussion with the Shift Engineer at the same time 1AOV-SI8870A post-maintenance testing was discussed. The Shift Engineer was requested by the IST Engineer to immediately perform position indication testing, and stroke time testing, per PT-40-300 and PT-300-ST, on 1AOV-BD0008. Both tests were performed with acceptable results.

PT-300-ST valve stroke timing was requested to be performed, in addition to PT-40-300 position indication testing, due to incomplete knowledge of valve position indication work performed. Discussion with the Unit 1 Operating Engineer determined that the position indication actuator was rotated to line it up with the position indication limit switches. This level of detail was not revealed by the work completion comments recorded in the Action Request. Such an adjustment would not affect valve stroke timing.

A post-maintenance IST position indication surveillance test, however, would be required in such a case per IST Program requirements. As a result the IST Engineer would be made aware that the maintenance had taken place. In addition, the test information would provide the necessary input to document, as required by the ASME Code, that post-maintenance valve performance was acceptable.

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TEXT Energy Industry Identification System (EIS) codes are identified in the text as (XX)

C. CAUSE OF EVENT

The cause of these events was a deficient procedure. As a result of inadequate written communication, the post maintenance verification and testing (ZAP 400-16F) and IST Program (ZAP 500-04) procedures' content did not provide sufficient instructions concerning post-maintenance testing. Contributing to this event was inadequate change management in that training was not provided on available sources for assigning PMT prior to a procedure change to a relevant ZAP. A personnel error by the system engineer also contributed in that the system engineer misinterpreted the role of the Operations department in assigning PMT as specified in ZAP 400-16F. These factors resulted in System Engineering procedural non-compliance with respect to specification of required IST post-maintenance testing.

1. The system engineer approved the completed work package and incorrectly believed that the Operations review would assign the proper post-maintenance tests.
2. Clear guidance was not provided to correlate the maintenance work performed with the required post-maintenance test(s). For the work performed, there was no clear direction for what testing, if any, was required to return the valve to service. The document that identified the appropriate IST requirements for a given piece of equipment or component (ZAP 500-04 Appendix D) was removed from ZAP 500-04 and is currently documented in the IST computer database. As a result of inadequate change management, the risks or consequences associated with the change were not adequately reviewed, assessed (i.e., how does one access and use the computerized IST database, what is used if the computer system is down, etc) or addressed by training for System Engineering prior to implementation of the cited ZAP 500-04 procedure revision.
3. In the case of 1AOV-BD0008, IST component maintenance work was performed under an Action Request by the FIN Team without adequate communication to the system engineer or IST Engineer concerning the nature of the work performed. This work should have been performed under a Work Request according to ZAP 400-16C. However, FIN Team leadership and Operations were not aware of which plant pumps and valves are in the most current revision of the IST Program and that IST post-maintenance testing may be required for these components. Awareness of the IST program scope will ensure that 1) IST component maintenance work will only be performed under a Work Request; and 2) System Engineering or the IST Engineer will be contacted to determine what post-maintenance testing is required following work performed on an IST component.

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D. SAFETY ANALYSIS

This event is reportable per 10 CFR 50.73 (a)(2)(i)(B), which requires a 30-day report documenting any operation or condition prohibited by the plant's Technical Specifications. This LER identified operation contrary to Technical Specification 4.0.5 in that post maintenance testing of 1AOV-BD0008 and 1AOV-SI8870A was not performed and documented as required. This also resulted in a violation of Technical Specification 3.0.4 in that mode changes occurred without required surveillances having been performed to demonstrate operability for 1AOV-SI8870A and document operability for 1AOV-BD0008.

There was no safety significance attributable to the missed testing of 1AOV-SI8870A. Following the repair work, the valve was stroked open and close several times with no position indication problems. The ability of the valve to close in response to a safeguards actuation was demonstrated in the operating surveillance PT-10-4. Thus, the containment isolation function was maintained throughout this event. After the issue was discovered, the required stroke time test (PT-20-ST) and position indication verification test (PT-40A-20) were performed and found to be acceptable. In addition, the containment isolation function for the associated penetration is provided by the normally closed valve 1AOV-SI8870A (Outside Containment) and check valve 1SI9032 (Inside Containment). 1SI9032 was operable during this event. This is a class 7 penetration, which by definition is required for post-accident service.

There also was no safety significance associated with the missed testing of 1AOV-BD0008. The valve is normally open to provide blowdown from the 1A Steam Generator. In a safeguards actuation, this valve and a second valve (1FCV-BD17) are automatically failed closed for the containment isolation function. The identified deficiency, a loose actuator arm, only affects the position indication of the valve. The ability of the valve to stroke open or closed was not affected by the deficiency nor the repair. Upon discovery, the valve was stroke time tested (PT-300-ST) and the position indication was verified (PT-40-300) with acceptable results.

In summary, the containment isolation function was not impaired nor affected for 1AOV-SI8870A and 1AOV-BD0008 due to maintenance performed.

E. CORRECTIVE ACTIONS

Immediate Corrective Actions

1. Held meeting with System Engineering to discuss their responsibility for specifying IST PMT requirements. Information sources to be utilized by System Engineers to specify PMT were reviewed to ensure appropriate IST data base is utilized by all System Engineers. Informed System Engineers to consult IST Group when assistance is needed to identify IST PMT requirements.
2. Discussed with FIN Team supervisors and Operating Engineers that IST work performed by FIN Team must be done under Work Request Program to ensure proper PMT is identified.
3. Reviewed with FIN Team Leader, work performed by FIN Team to determine if other examples of missed IST requirements could be found. No other examples of missed IST requirements were found.

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E. CORRECTIVE ACTIONS (Continued)

Corrective Actions to Prevent Reoccurrence

1. ZAP 400-16F, Post Maintenance Verification/Testing, will be revised to explicitly direct system engineering to review IST requirements for post-maintenance testing following work activities and to clearly state system engineer is accountable for assigning PMT. (295-180-96-01501)
2. IST post maintenance test requirements training will be provided to the System Engineering department by the IST Engineer. (295-180-96-01502)
3. A continuing Training module covering IST post maintenance testing specification responsibilities, as delineated in ZAP 400-16F, will be provided for the Operations department by the Training department with the assistance of the Maintenance Engineering department. Training will cover the events and findings of this Licensee Event Report, and will provide guidance to Operations personnel directing them to contact the System Engineering department or the Maintenance Engineering IST Group to resolve issues concerning the specification of post maintenance testing for IST components.
4. An IST Design Bases Document describing test requirements for IST components will be made available to station personnel as an aid in assigning post maintenance test requirements for IST components. (295-180-96-01504)
5. A Post Maintenance Test Matrix will be developed. The Matrix will specify on a per-component basis testing required vs. the station procedure which implements the testing requirement. (295-180-96-01505)
6. An investigation will be performed to determine the usefulness of incorporating the IST test requirements into the Electronic Work Control System (EWCS) and populating the "IST" Y/N field on the equipment data (D030) panel in EWCS for applicable components. (295-180-96-01506)
7. Control copies of the IST Program Plan will be provided to the Operations department to allow determination of whether or not a plant component undergoing maintenance is in the IST Program and could potentially require post-maintenance IST testing. (295-180-96-01507)
8. An investigation is being performed to determine common causes for entry into Limiting Conditions for Operation. (304-200-96-CAT2-005)
9. The root cause committee will investigate adequate configuration control during mode changes. If necessary this review will result in a supplement to this LER. (295-180-96-01508)

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F. PREVIOUS EVENTS SEARCH AND ANALYSIS

No previous events have been identified.

G. COMPONENT FAILURE DATA

None