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Trojan Nuclear Plant
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Rainier, Oregon 97048
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WRR-140-90

October 31, 1990

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington DC 20555

Gentlemen:

Licensee Event Report No. 90-41 is attached. This report discusses an event in which post maintenance testing of Containment Isolation Valves was not performed in the manner specified in the Trojan Technical Specifications.

Sincerely,

W. R. Robinson
General Manager
Trojan Nuclear Plant

c: Mr. John B. Martin
Regional Administrator, Region V
U.S. Nuclear Regulatory Commission

Mr. David Stewart-Smith
State of Oregon
Department of Energy

Mr. R. C. Barr
USNRC Resident Inspector
Trojan Nuclear Plant

LER Distribution

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NRC FORM 366 (6-89)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-630), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Trojan Nuclear Plant	0 5 0 0 0 3 4 4	1 OF 0 6

TITLE (4) Inadequate Administrative Controls for Identification of Post Maintenance Testing Requirements Results in Failure to Cycle Test Containment Isolation Valves

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
									NA	0 5 0 0 0
1 0	0 1	9 0	9 0	0 4 1	0 0	1 0	3 1	9 0		0 5 0 0 0

OPERATING MODE (9)	3
POWER LEVEL (10)	0 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
20.405(a)(1)(iii)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER AREA CODE
John D. Guberski, Compliance Engineer	5 0 3 5 5 6 - 5 5 2 3

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	

SUPPLEMENTAL REPORT EXPECTED (14)

		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

This report discusses events where the post maintenance testing of containment isolation valves failed to include the test method (cycle test) specified in Trojan Technical Specification 3/4.6.3.1, "Containment Isolation Valves". The failure to perform the required testing was identified by personnel reviewing work performed on containment isolation valves. In one instance the review was specifically done to ensure that proper post maintenance testing was performed. In the other instance the individual performing the review was aware of the specific test method requirement. One cause of these events was an administrative control process for post maintenance testing that failed to identify that the work performed on these valves required the performance of a cycling test to meet the requirements of Trojan Technical Specification 3/4.6.3.1. Additional causes were that some personnel/groups involved either did not recognize the need for a cycle test of the valves, or felt that the work performed did not constitute 'maintenance' and therefore the technical specification requirement was not applicable.

Immediate corrective action was to perform the cycle testing of the valves. The Master Equipment data base will be revised to reflect the need to cycle test containment isolation valves following maintenance. A review of the administrative control process for the identification of post maintenance testing requirements will be performed to identify needed changes. These events have been reviewed with work planners as an interim corrective action to prevent recurrence.

EVENT DESCRIPTION

On October 1, 1990 the Plant was in Mode 3 (Hot Shutdown) with the Reactor Coolant System average temperature 545°F. Plant Maintenance personnel were conducting inspections of Motor Control Centers to ensure that screws associated with thermal overload protective devices were properly tightened. These inspections were being performed as a corrective action from a previous event where a loose screw on the thermal overload device for a safety related valve had been identified. At approximately 1745, similar problems were identified with other safety related components, including three train 'A' containment isolation valves. The affected components were declared inoperable. Urgent Maintenance Requests were written to repair the affected safety-related components. Classification of a Maintenance Request as 'Urgent' allows the Shift Supervisor to release a Maintenance Request for work after consultation with the (Duty) Plant General Manager, with notification of affected departments that would normally be reviewing or approving authorities after release of the Maintenance Request.

The person tasked with preparing the work instructions did not have a copy of the Maintenance Requests and sought guidance from appropriate supervision as to what was appropriate post maintenance testing for the work to be performed. (Refer to Attachment 1 for a discussion of the work to be performed). Extensive discussions then took place between Planning & Control, Operations, Maintenance Engineering, and Plant Systems Engineering personnel. This discussion concluded with all parties agreeing that the work scope would be a visual inspection of the screw which connects the thermal overload heater assembly to the connecting strap associated with the stationary contact of the breaker and an inspection of the mating surfaces between the heater and connecting strap. Instructions on how to proceed if degraded conditions were found were included. Plant Systems Engineering personnel left the discussion believing that, when deficient conditions were corrected on containment isolation valves, post maintenance testing would include a cycle test of the valve as required by Trojan Technical Specification 3/4.6.3.1, "Containment Isolation Valves". Operations, Maintenance Engineering and Planning & Control personnel left the discussion believing that only a visual inspection and continuity check of the circuit would be performed as post maintenance testing.

The work scope inspections were then performed on the three train 'A' containment isolation valves and the valves were returned to service following post maintenance visual inspections and continuity checks. The three train 'A' containment isolation valves were declared operable at 2155 on October 1, 1990.

Prior to 1400 on October 2, 1990, Plant Systems Engineering personnel took action to verify that post maintenance testing had been satisfactorily completed for the three train 'A' containment isolation valves. The failure to cycle test the three valves was identified. Identification of this problem prevented a similar event from occurring on train 'B' containment isolation valves, which had been determined to have the same screw problem.

The two train 'B' containment isolation valves were cycle tested and restored to service at 1400 on October 2, 1990. Operations recognized that the train 'A' valves also required a cycle test. As a result, the three train 'A' valves were again declared inoperable, at 1420 on October 2, 1990, and remained inoperable until successfully cycle tested, at 1520 on October 2, 1990.

On October 10 and 11, 1990, with the Plant at 100 percent thermal power generating a nominal 1150 MWe, the setpoint for the pressure controllers on four Steam Generator Power Operated Relief Valves listed in Table 3.6-1, "Containment Isolation Valves", of Trojan Technical Specification 3/4.6.3.1, were checked without the performance of a cycle test of the valves upon completion of the work. Checking of the setpoint was done by performance of a calibration check of the controller, and involved the lifting/landing of two leads in the instrument loop controlling the valve position demand signal. The failure to cycle test the Steam Generator Power Operated Relief Valves was identified by a Surveillance Test Engineer (In-Service Inspection group), specifically familiar with the technical specification testing requirement, during the day of October 11, 1990. At 1600 on October 11, 1990, the four valves were declared inoperable and their associated block valves were closed by 1636. The four valves were successfully tested and restored to operable status at 1815 hours on October 11, 1990. Personnel involved did not recognize the applicability of the technical specification. Contributing to this was the fact that some personnel did not consider the work 'maintenance'.

The post maintenance test for the loose screw problem consisted of a continuity check of electrical connections, a visual verification of any parts removed/replaced being properly installed and independently verified. Post maintenance testing for the calibration check of the controllers consisted of a visual verification that lifted leads had been correctly restored to the correct terminal, with a second person verification. In both cases, the work performed would not affect valve cycle times. However, the testing performed did not satisfy Trojan Technical Specification 3/4.6.3.1 requirements.

Trojan Technical Specification 3/4.6.3.1 requires that the isolation valves specified in Table 3.6-1 be demonstrated operable prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by performance of a cycling test and verification of isolation time. Failure to perform a required surveillance is a condition prohibited by the Trojan Technical Specifications. This report is submitted in accordance with Title 10 Code of Federal Regulations Part 50.73 (a) (2) (i) (B).

CAUSE OF OCCURRENCE

One cause of these events is an administrative control process for post maintenance testing that failed to identify that the work performed on these valves required the performance of a cycling test to meet the requirements of

Trojan Technical Specification 3/4.6.3.1. Additional causes were that some personnel/groups involved either did not recognize the applicability of the technical specification requirement for a cycle test of the valves, or felt that the work performed did not constitute 'maintenance' and, therefore, the Trojan Technical Specification 3/4.6.3.1 requirement was not applicable.

CORRECTIVE ACTIONS

Immediate corrective action was to perform the cycle testing of the subject valves to demonstrate their operability.

These events have been reviewed with work planners as an interim corrective action to prevent recurrence. Also, guidance will be provided by November 30, 1990 for operations personnel on what constitutes 'maintenance'.

As permanent corrective action, the Master Equipment List entries for containment isolation valves listed in Trojan Technical Specification Table 3.6-1 will be revised to note that cycle testing of these valves is required. This will be done by November 30, 1990. In addition, a review of the administrative control process for the identification of post maintenance testing requirements will be performed to identify needed changes. Needed changes will be completed by December 31, 1990.

SIGNIFICANCE OF OCCURRENCE

This event had no affect on the health and safety of the public based on:

. Successful completion of quarterly cycling of the valves prior to work being performed.

. Successful cycling of the valves after identification that the required surveillance had not been performed.

. Two of the containment isolation valves are normally in the closed position.

. One of the containment isolation valves is on a system that is not connected to either the Reactor Coolant System or to the Containment atmosphere.

. The Steam Generator Power Operated Relief Valves, even though listed in Trojan Technical Specification Table 3.6-1, do not receive a Containment Isolation signal and are normally closed.

PREVIOUS SIMILAR EVENTS

A review of Licensee Event Reports did not identify similar events where cycle testing of a containment isolation valve was not performed following maintenance, per Trojan Technical Specification 3/4.6.3.1. Licensee Event Reports were identified that involved failure to perform other surveillances required by Trojan Technical Specification 3/4.6.3.1. However, these are not considered similar events.

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ATTACHMENT 1

The work to be performed on Motor Control Center breakers consisted of a visual inspection of the screw that attaches the overload heater assembly to the connecting strap which connects to the stationary contacts of the breaker. Note the term 'breaker' includes motor starters. The visual inspection was to determine if the screw was cross threaded or loose (parts not in proper contact). Instructions were provided to remove any cross threaded or loose screw, and to perform a visual inspection of mating surfaces. Steps were provided to chase or tap the screw holes, rework or replace degraded parts, and for assembly of parts. A visual inspection to ensure no air gap existed between the components and a continuity check were specified as post maintenance testing.

Problems were initially identified and corrected in train 'A' components. While restoring the train 'A' components to service, inspection of train 'B' components commenced. These components included motors for valves as well as motors for fans and pumps normally in operation.

Based on the control room log entries for when components were determined to be inoperable and when they were restored to service, train 'A' and train 'B' of a system were not inoperable at the same time. However, there was an approximate 4-hour time-period where the fuel oil transfer pump for the train 'B' Emergency Diesel Generator was out of service and the three train 'A' containment isolation valves were considered operable but had not been cycle tested.