Portland General Electric Company
Trojan Nuclear Plant
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Rainier, Oregon 97048
(503) 556-3713

October 25, 1989
CPY-277-89

US Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555

Gentlemen:

Licensee Event Report No. 89-24, is attached. This report discusses an event in which the Hydrogen Vent System might not have received an isolation signal if effluent release limits were exceeded during a containment pressure reduction.

Sincerely,

Jack Lentsch for

C. P. Yundt
General Manager
Trojan Nuclear Plant

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

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

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

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NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES 8/31/88

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 4

TITLE (4) Personnel error in connecting a Process Effluent Radiation Monitor could have prevented an automatic termination of release.

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)
									n/a	0 5 0 0 0
0 9	2 5	8 9	8 9	0 2 4	0 0	1 0	2 5	8 9		0 5 0 0 0

OPERATING MODE (9)	5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 0 0	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	X 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)	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
John D. Guberski, Compliance Engineer	AREA CODE 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)

On September 25, 1989, with the plant in Mode 5 (Cold Shutdown) it was determined that the train of the Hydrogen Vent System (CS-9) designated for use to vent Containment was not monitored by a Process Effluent Radiation Monitor (PERM-1). If a radioactive release had occurred which exceeded effluent release limits, automatic termination of the release could not be assured, unless a Safety Injection signal occurred in conjunction with the release. The wrong train of CS-9 was monitored by PERM-1 due to the craftsman signing off for installing a temporary modification on 'A' train when it was installed in 'B' train as a result of not being sure of the train on which work was performed, and use of verbal information to resolve a question as to which train of CS-9 was monitored by PERM-1. Corrective action was to prevent use of CS-9 for Containment pressure control until it could be confirmed that PERM-1 was monitoring 'B' train. The errors involved in this event were discussed with the individuals involved by their Supervisor. This event did not have any effect on public health and safety as the condition was discovered the day after the maintenance work was completed and no actual release that exceeded effluent limits occurred.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

DESCRIPTION OF OCCURRENCE

Containment pressure control at Trojan during power operation is provided by use of the Hydrogen Vent System (CS-9). This system has its own connection to the containment atmosphere but it exhausts into the Containment Purge System ductwork outside of containment. Monitoring of the exhaust from CS-9 is provided by the Process Effluent Radiation Monitor (PERM-1) located in the Containment Purge System ductwork. However, experience has demonstrated that effective monitoring is provided only if the inlet from PERM-1 is directly connected to the exhaust from CS-9. Temporary tubing between PERM-1 and the CS-9 exhaust provides this connection. The reason for installing the temporary tubing was described in LER 88-33, Revision 1, "Process Radiation Monitor Not Receiving Representative Sample". When the Containment Purge System is used to ventilate Containment the tubing is removed. The installation and removal of the tubing is controlled as a temporary modification (TM 89-072). This temporary modification was prepared to allow installation/removal of the tubing on either train of CS-9, as directed by a Maintenance Request (MR). Specific sign-offs are provided, identified as to which train they apply (separate sheets), for installation or removal. A diagram of how to connect the tubing from CS-9 to PERM-1 is provided in TM 89-072, but without any train identification.

Use of the Containment Purge System was desired for a planned outage that started on September 16, 1989. The tubing connection was removed from PERM-1 and the 'A' train of CS-9 on September 18, as directed by MR 89-8654. MR 89-8653 was written to install the tubing between PERM-1 and 'B' train of CS-9 when use of the Containment Purge system was completed. The MR work package clearly identified 'B' train as the train to work and contained TM 89-072, including the sign-off sheets for both trains. The work package did not contain a drawing identifying which exhaust pipe of CS-9 PERM-1 was to be connected. A drawing was included which identified the general physical location of the CS-9 piping connections to the Containment Purge System.

At 1930 on September 24, 1989, Operations requested that PERM-1 be connected to CS-9. The craftsman assigned to the work was the same individual who disconnected the tubing from PERM-1 on September 18, 1989. This individual did connect the tubing to the 'B' train of CS-9 as specified in the MR. However, the craftsman signed off for installing the tubing on 'A' train of CS-9 as he was not sure of the actual train on which he had worked. When asked on which train he had installed the tubing, he informed Operations that the tubing was installed on the 'A' train of CS-9. This error combined with the fact that the post maintenance work instructions contained a typographical error identifying the 'A' train as the train on which the clearance was to be released, resulted in Operations personnel performing a flow test on PERM-1 and, upon successful completion of the test, placing 'A' train of CS-9 in service. The typographical error had been corrected on the field copy used to perform the work but not on the document copy the craftsman had in the control room.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

While reviewing the previous day's control room log on September 25, an HVAC Systems Engineer noted that the 'A' train of CS-9 had been run for an operability check on PERM-1. Since this was inconsistent with the MR he had prepared to install the temporary modification on 'B' train of CS-9, he and another Systems Engineer performed an inspection of the installation of TM 89-072. They confirmed that the temporary tubing was installed between PERM-1 and the 'B' train of CS-9. This was brought to the attention of the Shift Supervisor, caution tags were placed on the 'A' train of CS-9 to prevent its use for Containment pressure control, and Event Report 89-199 was initiated to evaluate this event. Since the as found condition would not have resulted in automatic termination of a radioactive release which exceeded the effluent release limits (unless a Safety Injection signal occurred), an Emergency Notification System report was made per 10CFR50.72 (b) (2) (i) requirements.

CAUSE OF OCCURRENCE

The cause of this event was personnel error in that the craftsman failed to confirm that the train on which work was performed was the 'B' train as specified in the work instructions. Contributing causes were:

The error by the craftsman in signing off that TM 89-072 had been installed on 'A' train of CS-9. This was due to a combination of the sign-off sheet for the 'A' train occurring first in TM 89-072 within the work package and failure to compare the train identification provided in the work instructions with that on the sign-off sheet. The typographical error contributed to Operations personnel accepting the 'A' train sign-off sheet from the craftsman.

The error by Operations personnel in resolving the conflict between which train work was performed on and which equipment a clearance was to be released for by use of verbal information rather than comparing the TM 89-072 sign-off to the work requested in the MR.

CORRECTIVE ACTIONS

Immediate corrective action was to prevent use of the 'A' train of CS-9 for Containment pressure control. After confirming that the 'B' train of CS-9 was connected to PERM-1 it was tested and designated as the means of Containment pressure control.

The Mechanical Maintenance Supervisor discussed with the craftsman the need to specifically identify on which train you are working prior to commencing work. This discussion also addressed the need to assure the work closure

documentation is consistent with the work performed. This event was also discussed with all personnel in the Mechanical Maintenance Branch with emphasis on the fact that disciplinary action will be taken for any further occurrence of such events.

The Operations Manager reinforced the need for attention to detail specified in the work instructions in discussions with the Operations personnel involved.

A similar event involving a plant modification document which applied to both trains of a system leading to work being done on the wrong train was discussed in LER 88-27, Revision 1, "High Head Safety Injection Inoperable on Loss of Volume Control Tank Isolation Capability Due to Personnel Error". The corrective actions from that event were to clearly identify to which train work instructions or modifications documents apply and to use separate MRs for each train. These actions were followed. A failure to compare the train identification on the temporary modification sign-off sheet with the train specified to be worked in the MR was the cause of the repetition.

SIGNIFICANCE OF OCCURRENCE

This event did not have any effect on public health and safety as the condition was discovered the day after the maintenance work was completed and no actual release that exceeded effluent limits occurred.