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SUBJECT: LER 90-002-01:on 900228,Unit 4 post-accident containment vent remained inoperable more than 7 days.

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L-90-344
10 CFR 50.73

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

Gentlemen:

Re: Turkey Point Unit 4
Docket No. 50-251
Reportable Event: 90-002-01
Date of Event: February 28, 1990
Post Accident Containment Vent Inoperable

The attached Supplementary Licensee Event Report is being provided pursuant to the requirements of 10 CFR 50.73 for notification of the subject event.

Very truly yours,

K. N. Harris
Plant Vice President
Turkey Point Plant Nuclear

KNH/JEK/jk

cc: Stewart D. Ebneter, Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant

IE22
1/1

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)
Turkey Point Unit 4	0 5 0 0 0 2 5 1	1 OF 0 5

TITLE (4)
Post Accident Containment Vent Inoperable Due To Unit 3 LLRT

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)
0 2	2 8	9 0	9 0	0 0 2	0 1	0 9	2 0	9 0	Turkey Point Unit 3	0 5 0 0 0 2 5 0
										0 5 0 0 0

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)			
POWER LEVEL (10)	1 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)	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
David R. Powell, Site Licensing Superintendent	3 0 5 2 4 6 - 6 5 5 9

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)

The Unit 4 post accident containment vent (PACV) is allowed to be inoperable 7 days pursuant to Technical Specification 4.4.6.b. Contrary to the Technical Specification, with Unit 4 in Mode 1 the PACV was inoperable for 13 days. On February 15, 1990, during a Unit 3 refueling outage, local leak rate tests (LLRT) were scheduled on containment penetrations prior to fuel movement. Containment integrity was established as required prior to refueling operations preventing continuation of leak rate testing on various valves. Clearance tags (for closure) installed on two normally open valves (HV-1 and HV-2) were allowed to remain on the two valves through fuel movement until after the completion of the LLRT on Unit 3 PACV penetration 16 due to a personnel error. The two closed valves also affected the operability of the Unit 4 PACV. The refueling process was completed on February 22 and the LLRT on penetration 16 was completed on February 26. The Unit 4 PACV system was returned to service on February 28 when HV-1 and HV-2 were reopened within 6 minutes of discovery . Cautions concerning the effect of the Unit 3 LLRT on Unit 4 PACV operability have been added to the Unit 3 PACV penetration 16 LLRT procedure. The occurrence is reportable in accordance with 10 CFR 50.73 (a)(2)(i)(B).

Further dose evaluations have been completed confirming the accessability of HV-1 and HV-2 during post accident conditions.

I. EVENT DESCRIPTION

On February 15, 1990, Unit 4 was in Mode 1 and Unit 3 was in Mode 6 preparing to move fuel as part of the refueling outage. Fuel movement was to begin in 3 days. Certain local leak rate tests (LLRT) were scheduled prior to fuel movement. On February 15, an LLRT, under control of OP 13404.1, "Local Leak Rate Tests," was scheduled for completion. To complete this test, two normally open valves (HV-1 and HV-2) (EIIS: BB, Component: FCV) had to be closed. The fact that the Unit 3 penetration was out of service for the LLRT was noted in the Unit 3 equipment out of service (EOOS) log. However, there were no indications in the common EOOS log that the two normally open valves (HV-1 and HV-2) for the Unit 3 test were required to be open for the post accident containment vent (PACV) system (EIIS: BB) for Unit 4 to be in service. On February 18, 1990 the refueling process began, requiring refueling integrity, and therefore LLRT testing could not proceed. The refueling process was completed on February 22 and the LLRT on penetration P-16 (EIIS: BD) was subsequently completed on February 26. The technician responsible for releasing the clearance tag series for the LLRT of penetration P-16 signed that release on February 28. That same day, prior to the removal of the tags and return of the system to its normal in-service configuration, a quality assurance review of the PACV lineup found HV-1 and HV-2 closed and the Unit 4 system out of service. Technical Specification 3.4.6.b requires that the post accident containment vent be operable for a unit in Mode 1 operation. Review of the EOOS logs revealed the Unit 4 PACV was out of service for 13 days which is longer than the Technical Specification 3.4.6.b limit of 7 days.

The system was returned to service within 6 minutes of discovery of the Unit 4 PACV out of service by opening HV-1 and HV-2.

II. EVENT CAUSE

The clearance order (3-90-02-115-R) for the penetration P-16 isolation valve LLRT was completed and verified on February 15, 1990. The EOOS log sheet noted that the Unit 3 penetration P-16 was out of service. The Technical Specification Time Limit column of the EOOS log for Unit 3 had the notation to return the PACV to operation prior to Unit 3 entry from Mode 5 to Mode 4. The cause of the event was personnel error with the following contributing factors.

1. There was no notation in the Unit 3 or Common EOOS log of the Technical Specification requirement for PACV operability of Unit 4 in Mode 1.

2. There was no indication in the controlling procedure of the impact of the Unit 3 clearance on the operability of the Unit 4 PACV system.

3. A review of the system prints should have allowed personnel to understand the affect of the clearance on the other unit.

The refueling operations precluded the completion of the LLRT and the clearance removal authorization was therefore delayed until after fuel unloading was complete. The lack of information about the Unit 4 requirements resulted in the clearance remaining in effect beyond the 7 days allowed by Technical Specifications 3.4.6.b.

III. EVENT SAFETY ANALYSIS

The isolation of a valve in the containment hydrogen control systems was addressed as part of an analysis conducted in 1986. That analysis maintained that suitable redundancy existed between the PACV system and a hydrogen recombiner connection such that a failure of either to operate could be compensated for by operating the other.

Either a hydrogen recombiner, standard portable refueling HEPA/charcoal filter or the PACV can be lined up to containment penetrations P-16 and P-51. HV-1 and HV-2 are contained in the lines leading to the common PACV only and are not part of the lineup for the hydrogen recombiner connection. HV-2 is common to both Unit 3 and Unit 4. HV-1 is only part of the Unit 4 lineup.

The recombiner connection is not isolated by the closure of HV-1 and HV-2. The recombiner connection is redundant to the PACV and can be used to control post accident hydrogen concentrations by the installation of a portable HEPA/charcoal filter.

HV-1 and HV-2 were returned to normal open position. The as-found condition of HV-1 and HV-2 being closed is mitigated by the capability to install a hydrogen recombiner or HEPA/charcoal filter on the recombiner connection. Also the procedural control for manual operation of the PACV system in 3/4-EOP-FR-Z.1, "Response to High Containment Pressure," can mitigate the as-found condition.

As discussed in the Final Safety Analysis Report, following a Loss of Coolant Accident (LOCA), H_2 concentration is calculated to increase gradually inside containment. Accordingly, the H_2 control provisions are designed to meet the gradual H_2 buildup. The FSAR indicates that the 3 volume percent limit at which purging or recombination is required would not occur until about 1000 hours after the LOCA.

In accordance with EPIP 20111, "Reentry," dose rates above 1 R/hr would require management approval for operator action in the event of an emergency. Sixteen hours after a LOCA, general area dose rates in the HV-2 area would be less than 10 R/hr. Additionally, because of post LOCA containment atmosphere temperatures, the PACV system could not be used until after 24 hours. Assuming an effort is made to use the PACV system after 24 hours, dose rates at all expected points an operator would pass to reach the HV-2 area, are calculated to be less than 11 R/hr. Based upon an estimated 4.5 minute stay time to complete the manipulation of HV-2 and exit the area, an operator dose of 3R should not be exceeded.

Therefore the condition found does not reduce the degree of protection provided to the health and safety of plant personnel or the public.

IV. CORRECTIVE ACTIONS

1. Operating procedure 13404.1, "Local Leak Rate Tests," has been revised to provide cautions concerning the effect the Unit 3 LLRT has on Unit 4 PACV operability. The Unit 4 LLRT for penetration 16 has no effect on the Unit 3 PACV operability. This revision should result in the use of the common EOOS log for the Unit 3 LLRT.

2. The Senior Reactor Operators involved have been cautioned about the care necessary in their review of clearances.

3. Emergency Operating Procedure 3/4-EOP-FR-Z.1, "Response to High Containment Pressure," will be revised to caution personnel about the potential for high radiation during and after the process of placing the PACV in operation. The revision will recommend that access prior to 100 hours post LOCA be avoided and recommend that a containment atmosphere sample be analyzed prior to using the PACV.

   The order of the valve manipulation during startup of the PACV can reduce radiation exposure to startup personnel. This information will also be included in the revision to 3/4-EOP-FR-Z.1. Operator training will be completed as part of the EOP revision process. The procedure revision and operator training will be completed by December 15, 1990.

V. ADDITIONAL INFORMATION

No other incidents involving the isolation of the PACV similar to that outlined in this LER are known to have occurred at Turkey Point during the past 24 months.