



NOV 13 2003

L-2003-269  
10 CFR § 50.73

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

Re: Turkey Point Unit 3  
Docket No. 50-250  
Reportable Event: 2003-010  
Date of Event: September 16, 2003  
Operation With Two Charging Pumps Inoperable  
In Excess of Technical Specifications Allowable Limits

The attached Licensee Event Report 250/2003-010 is being submitted pursuant to the requirements of 10 CFR § 50.73(a)(2)(i)(B) to provide notification of the subject event.

If there are any questions, please call Walt Parker at (305) 246-6632.

Very truly yours,

Terry O. Jones  
Vice President  
Turkey Point Nuclear Plant

OH

Attachment

cc: Regional Administrator, USNRC, Region II  
Senior Resident Inspector, USNRC, Turkey Point Nuclear Plant

IE22

## LICENSEE EVENT REPORT (LER)

(See reverse for required number of  
digits/characters for each block)

Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503. If an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

1. FACILITY NAME Turkey Point Unit 3	2. DOCKET NUMBER 05000250	3. PAGE Page 1 of 4
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4. TITLE  
Operation With Two Charging Pumps Inoperable In Excess of Technical Specifications Allowable Limits

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
09	16	2003	2003	- 010	- 00	11	13	2003	FACILITY NAME	DOCKET NUMBER

9. OPERATING MODE 1	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more)									
10. POWER LEVEL 100	20.2201(b)		20.2203(a)(3)(II)		50.73(a)(2)(i)(B)		50.73(a)(2)(ix)(A)			
	20.2201(d)		20.2203(a)(4)		50.73(a)(2)(iii)		50.73(a)(2)(x)			
	20.2203(a)(1)		50.36(c)(1)(i)(A)		50.73(a)(2)(iv)(A)		73.71(a)(4)			
	20.2203(a)(2)(i)		50.36(c)(1)(ii)(A)		50.73(a)(2)(v)(A)		73.71(a)(5)			
	20.2203(a)(2)(ii)		50.36(c)(2)		50.73(a)(2)(v)(B)		OTHER			
	20.2203(a)(2)(iii)		50.46(a)(3)(ii)		50.73(a)(2)(v)(C)		Specify in Abstract below or in NRC Form 366A			
	20.2203(a)(2)(iv)		50.73(a)(2)(i)(A)		50.73(a)(2)(v)(D)					
	20.2203(a)(2)(v)		x 50.73(a)(2)(i)(B)		50.73(a)(2)(vii)					
20.2203(a)(2)(vi)		50.73(a)(2)(i)(C)		50.73(a)(2)(viii)(A)						
20.2203(a)(3)(i)		50.73(a)(2)(ii)(A)		50.73(a)(2)(viii)(B)						

## 12. LICENSEE CONTACT FOR THIS LER

NAME Olga Hanek, Licensing Engineer	TELEPHONE NUMBER (include Area Code) (305) 246 - 6607
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## 13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
-	-	-	-	-	-	-	-	-	-

## 14. SUPPLEMENTAL REPORT EXPECTED

YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
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## 16. ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On August 29, 2003, with Turkey Point Unit 3 operating at 100% power, and the 3A Charging Pump out of service for maintenance, when the 3C Charging pump was placed in service, the pump tripped. After the second unsuccessful attempt to restart the 3C Charging Pump, it was declared inoperable. Technical Specification 3.1.2.3 Limiting Condition of Operation requires that at least two of the three charging pumps be operable in Mode 1. With only one Charging Pump operable, TS 3.1.2.3, Action Statement requires that at least two charging pumps be restored to operable status within 72 hours or be in cold shutdown within the next 30 hours.

It was discovered that valve 3-280H, the isolation valve for the interlock pressure control switch was mispositioned closed. Since the time of valve 3-280H closure could not be determined, the 3C Charging Pump was considered inoperable since the performance of the last surveillance on August 24, 2003 at 11:56. The 3A Charging Pump had been out-of-service for maintenance since August 26, 2003 at 04:45, leaving one operable charging pump. The 3C Charging Pump was declared operable on August 29, 2003 at 16:55, following valve 3-280H alignment and verification of proper pump operation. Therefore, two charging pumps (3A and 3C) were considered inoperable for a total of 84 hours and 10 minutes, exceeding the 72 hour TS Action Statement 3.1.2.3. This event is reportable as a condition prohibited by technical specifications in accordance with 10 CFR 50.73(a)(2)(i)(B).

The valve mispositioning was corrected. The health and safety of the public were not affected by this event.

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

**Description of the Event**

On August 29, 2003, with Turkey Point Unit 3 operating at 100% power, and the 3A Charging Pump [CB] out of service for maintenance, when the 3C Charging Pump was placed in service, the pump tripped. After the second unsuccessful attempt to restart the 3C Charging Pump, it was declared inoperable. Technical Specification (TS) 3.1.2.3 Limiting Condition of Operation requires that at least two of the three charging pumps be operable in Modes 1, 2, 3, and 4. Unit 3 was operating in Mode 1 at the time. With only one charging pump operable, TS 3.1.2.3, Action Statement requires that at least two charging pumps be restored to operable status within 72 hours or be in at least hot standby and bled to a shutdown margin equivalent to at least 1%  $\Delta k/k$  at 200 °F within 6 hours; and restore at least two charging pumps to operable status within 72 hours or be in cold shutdown within the next 30 hours. Unit 3 entered the 72-hour action statement after the second unsuccessful attempt to restart the 3C Charging Pump.

A walkdown of the system revealed that valve 3-280H was in the "closed" position. Valve 3-280H is the instrument isolation valve for PS-3-201C, the interlock pressure control switch, and is required to be "open" during normal operation. PS-3-201C provides a pump protective feature that will trip the charging pump if it detects low oil pressure. Since the pressure sensor was isolated, actual oil pressure could not be detected and the 3C Charging Pump tripped as designed. On 8/29/03 at 16:55, Valve 3-280H was repositioned to the open position and the 3C Charging Pump was declared operable and placed back in service in accordance with TS 3.1.2.3 Action Statement.

NUREG-1022 provides NRC endorsed guidance with respect to discovery of conditions. NUREG-1022 states that discrepancies identified during TS surveillance tests should be assumed to occur at the time of discovery unless there is firm evidence, based on a review of the relevant information (e.g., the equipment history and the cause of failure) to indicate that the discrepancy occurred earlier. The "failure at time of discovery" assumption contained in NUREG-1022 guidance is predicated on a review of the cause of failure and implies that the failure could have occurred at the time of surveillance or at some time previously, if the cause of the failure can be attributed to a specific action and/or timeframe in the past.

On September 16, 2003, the investigation of the valve mispositioning concluded that valve 3-280H could be easily manipulated if activities being performed in the immediate vicinity accidentally contacted the valve handle. Multiple examples of previous and ongoing activities within the vicinity of valve 3-280H were identified. Since no definitive time of valve 3-280H closure could be determined, the 3C Charging Pump was considered inoperable since the performance of the last surveillance on 8/24/03 at 11:56. TS 3.1.2.3, Charging Pumps, requires two of the three charging pumps to be operable during modes 1-4. However, 3A Charging Pump had been out-of-service for maintenance since 8/26/03 at 04:45, leaving one operable charging pump at the time of the event. With only one charging pump operable, TS Action Statement 3.1.2.3 requires that at least two charging pumps be restored to operable status within 72 hours or be in cold shutdown within the next 30 hours. The 3C Charging Pump was declared operable on 8/29/03 at 16:55, following valve 3-280H alignment and verification of proper pump operation. Therefore, two charging pumps (3A and 3C) were considered inoperable from 8/26/03 at 04:45 to 8/29/03 at 16:55, a total of 84 hours and 10 minutes. This exceeds the 72 hour TS Action Statement 3.1.2.3.

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Therefore, this event is reportable as a condition prohibited by technical specifications in accordance with 10 CFR 50.73(a)(2)(i)(B).

**Analysis of Safety Significance**

The Charging System is part of the Chemical and Volume Control System (CVCS). In order to maintain the desired Reactor Coolant System (RCS) inventory, the CVCS must be capable of making up and rejecting water from the RCS. To accomplish its design functions, a continuous charging and letdown balance is maintained between the RCS and the CVCS. The charging flow is automatically controlled as a function of pressurizer level.

The design basis of the CVCS is to ensure that negative reactivity control by boric acid injection is available during each mode of operation. Boric acid injection provides the negative reactivity required for long term and reduced temperature conditions, and serves as a backup function to the control rod system, which is the primary control of short term RCS reactivity changes. The components required to perform this function include: 1) borated water sources, (2) charging pumps, (3) separate flow paths, and (4) boric acid transfer pumps. With the RCS above 200°F, a minimum of two boron injection flow paths are required to ensure single functional capability in the event an assumed failure renders one of the flow paths inoperable. The flow paths are: from the Boric Acid Tanks through the boric acid transfer pumps to the suction of the charging pumps; and from the refueling water storage tank (RWST) to the suction of the charging pumps.

Two charging pumps are required to be operable to ensure functional capability in the event an assumed failure renders one of the pumps or power supplies inoperable. Any charging pump and either boric acid transfer pump can be operated from emergency diesel generator power on loss of normal power. Each Turkey Point Unit has three charging pumps, each capable of delivering 77 gpm. The boration capability of one flow path is sufficient to provide the required shutdown margin from expected operating conditions after xenon decay and cooldown to 200°F.

Based on the above, operation of Unit 3 in Mode 1 with only one operable charging pump for 84 hours and 10 minutes, in excess of the 72 hours allowed by TS 3.1.2.3 action statement, is not safety significant. Therefore, this event did not compromise the health or safety of plant personnel or the general public.

**Risk Significance**

The increase in the Core Damage Probability (CDP) associated with Charging Pumps A and C being unavailable for 85 hours (bounding the actual unavailable time of 84 hours 10 minutes) is 6.3E-09. This is well below the threshold of CDP risk-significance of 1E-06 given in the EPRI PSA Applications Guide.

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**Cause of the Event**

The cause of the event was the mispositioning of valve 3-280H. Based on the system walkdown, it was determined that valve 3-280H could be manipulated, if activities being performed in the immediate vicinity accidentally contacted the valve handle. Multiple maintenance activities in the vicinity of valve 3-280H were performed during the period since the performance of the last surveillance on 8/24/03 and August 29, 2003, the date of the event.

**Corrective Actions**

1. All maintenance work was stopped at the time of the event. Site expectations for the use of error prevention tools, self-checking, attitude towards safety, roles and responsibilities, and stopping work when uncertain, were reiterated.
2. Valve 3-280H was repositioned to its normally open position. The 3C Charging Pump was started and run successfully.
3. A walkdown of the B and C Charging Pumps was performed to verify all valve positions. No other discrepancies were identified.
4. This event was added to the maintenance pre-job brief database.

**Additional Information**

EIIS Codes are shown in the format [EIIS SYSTEM: IEEE component function identifier, second component function identifier (if appropriate)].

**Failed Components Identified** NONE

**Similar Events**

There have been no previous similar events related to the Charging System at Turkey Point.