

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Turkey Point Unit 3	DOCKET NUMBER (2) 050000250	PAGE (3) 1 OF 3
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TITLE (4)
Intake Cooling Water System

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 NAME	DOCKET NUMBER (9)
0	2	14	8	6	8	6	0	0	8	0
									Turkey Point Unit 4	050000251
									N/A	050000

OPERATING MODE (10) _____

POWER LEVEL (11) 1, 0, 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 2.106 (Check one or more of the following) (12)

<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(a)	<input type="checkbox"/> 20.736(a)(2)(iv)	<input type="checkbox"/> 72.71(b)
<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 20.736(a)(1)	<input checked="" type="checkbox"/> 20.736(a)(2)(v)	<input type="checkbox"/> 72.71(c)
<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 20.736(a)(2)	<input type="checkbox"/> 20.736(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 305A)
<input type="checkbox"/> 20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 20.736(a)(2)(i)	<input type="checkbox"/> 20.736(a)(2)(vii)(A)	
<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 20.736(a)(2)(ii)	<input type="checkbox"/> 20.736(a)(2)(vii)(B)	
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 20.736(a)(2)(iii)	<input type="checkbox"/> 20.736(a)(2)(viii)	

LICENSEE CONTACT FOR THIS LER (13)

NAME: Randall D. Hart, Licensing Engineer

TELEPHONE NUMBER: AREA CODE 310 6, NUMBER 214 51-129110

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (14)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC

SUPPLEMENTAL REPORT EXPECTED (15)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (16)

MONTH	DAY	YEAR

ABSTRACT (Limit to 1000 words. I.e., approximately 1000 single-space typewritten lines) (17)

Event: On February 14, 1986, while Unit 3 was at 100% power and Unit 4 was in a scheduled refueling outage, a shutdown of Unit 3 was commenced, due to a potential concern on the ability of the Intake Cooling Water (ICW) system to meet flow requirements for a design basis accident. This concerns a failure of temperature control valves TCV-2202 (outlet flow control valve for the component cooling water (CCW) heat exchangers) and TCV-2201 (outlet flow control valve for the turbine plant cooling water heat exchangers). Assuming TCV-2202 failing closed or TCV-2201 failing open coincident with a loss of offsite power, a valid safeguard signal and a loss of an emergency diesel generator could result in the ICW System not being able to provide the required flow to the CCW heat exchangers for a design basis accident. Interim corrective actions were taken and reviewed by the Plant Nuclear Safety Committee, which determined that continued operation of Unit 3 was acceptable. The Unit 3 shutdown was terminated and Unit 3 was returned to full power.

Cause of Event: A review of the design of the ICW System, revealed the potential concerns for TCV-2201 and TCV-2202.

Corrective Actions:

- The manual bypass valve around TCV-2202 was previously opened to provide the required ICW flow without reliance on TCV-2202.
- Upon initial notification of this concern by Engineering, during the evening of February 13, 1986, on-the-spot-changes (OTSC) were written to applicable procedures to require an operator to isolate TCV-2201, in the event of a design basis accident with only one ICW pump operating.
- Administrative operating guidelines have been established based on ICW flow, ICW inlet temperature and CCW heat exchanger performance. These guidelines provide conditions under which continued operation is justified.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
					0 2	OF	0 3

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

Event: On February 14, 1986, at 1227, while Unit 3 was at 100% power and Unit 4 was in a scheduled refueling outage, a shutdown of Unit 3 was commenced due to a potential concern on the ability of the ICW System to meet flow requirements for a design basis accident. This concerns a failure of temperature control valves TCV 2201 and TCV-2202. TCV-2201 is the outlet ICW flow control valve for the turbine plant cooling water (TPCW) heat exchangers.

In addition to the normal control function, TCV-2201 receives a closure signal in the event of a safety injection signal and a loss of voltage (i.e., loss of offsite power). Assuming TCV-2201 failing open coincident with a loss of offsite power, a valid safeguards signal and a loss of an emergency diesel generator could result in the ICW System not being able to provide the required flow to the CCW heat exchangers for a design basis accident.

TCV-2202 is the outlet flow control valve for the CCW heat exchangers, which regulates the ICW flow through the CCW heat exchangers. The safety function of TCV-2202 is to remain open (or open further in response to higher CCW temperatures) so that the CCW System heat can be removed. Assuming TCV-2202 failing closed when it is required to be open, degradation of the ability to provide the required ICW System flow through CCW heat exchangers during a design basis accident could result.

Plant Management decided to declare the ICW System out of service and began a shutdown of Unit 3 following the guidance of Technical Specification (TS) 3.0.1. An unusual event was declared in accordance with the Turkey Point Emergency Plan and the required notifications were made. An operator was stationed at TCV-2201, who was in radio communication with the control room to isolate TCV-2201, if it failed to close when required. The manual bypass valve around TCV-2202 had previously been opened to provide the required ICW flow, without reliance on TCV-2202. These corrective actions were reviewed by the Plant Nuclear Safety Committee (PNSC) and it was determined that continued operation of Unit 3 was acceptable. The unusual event was terminated at 1630 and Unit 3 was returned to full power operation.

Cause of Event: The original design of TCV-2201 provided two functions. One function was for the valve to fail as is on loss of instrument air to ensure adequate ICW flow to the TPCW heat exchangers. The other function was to close upon receiving a safeguards signal coincident with a loss of voltage to ensure adequate ICW flow is directed to the CCW heat exchangers. A review of the design of the ICW System revealed the previously described potential concern for TCV-2201 and TCV-2202.

Analysis of Event: During the event, Unit 4 was in a scheduled refueling outage with the core off-loaded. Upon determination of this potential concern, a shutdown of Unit 3 was commenced. Administrative operating guidelines have been put in place dependent upon ICW flow, ICW inlet temperatures and CCW heat exchanger performance. These guidelines provide conditions under which continued operation is justified. Based on the above, the health and safety of the public were not affected.

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

Corrective Actions:

1. Operating Procedure (OP) 3400.1, Intake Cooling Water System - Normal Operation, has been revised to require the manual bypass valve around TCV-2202 to be maintained open. TCV-2202 has been left closed and placed in the automatic mode, with a high temperature setpoint of 110 degrees Fahrenheit for operation. This flowpath is capable of accommodating the required ICW flow, without reliance on TCV-2202. In addition, administrative operating guidelines, based on ICW System inlet temperature, pump and heat exchanger arrangement, has been incorporated into OP 3400.1.
2. Upon initial notification of the potential concern by Engineering during the evening of February 13, 1986, on-the-spot-changes (OTSCs) were made to Off-Normal Operating Procedure (ONOP) 3408.1, Intake Cooling Water-Malfunction, Emergency Operating Procedure (EOP) 20000, Immediate Actions and Diagnostics and EOP 20004, Loss of Offsite Power, which direct the operator to isolate TCV-2201 in the event of a design basis accident with only one ICW pump operating.
3. On shift discussions were initiated to review these concerns and corrective actions taken. Training Brief 115 was written on February 14, 1986, describing this potential concern and interim corrective actions taken.
4. As an interim action, an operator was stationed at TCV-2201 on February 14, 1986, who was in radio communication with the control room to isolate TCV-2201, if it failed to close when required.
5. Additional evaluations by Engineering have determined that the need for operator action for TCV-2201 is dependent upon ICW flow, ICW inlet temperature and CCW heat exchanger performance. Special instructions have been provided the perform calculations periodically to determine when an operator is required to be stationed at TCV-2201.

Additional Details:

Similar Occurrences: LER 250-84-025



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L-86-120

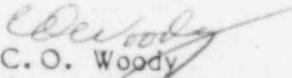
U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Gentlemen:

Re: Reportable Event 86-08
Turkey Point Unit 3
Date of Event: February 14, 1986
Intake Cooling Water System

The attached Licensee Event Report is being submitted pursuant to the requirements of 10 CFR to provide notification of the subject event.

Very truly yours,


C. O. Woody
Group Vice President
Nuclear Energy

COW/PLP:dee

Attachment

cc: Dr. J. Nelson Grace, Region II, USNRC
Harold F. Reis, Esquire
PNS-LI-86-86

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