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 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 89-014-01: on 890912, CCW flow rate to ECCs below DBA
 requirement due to inadequate administrative controls.

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 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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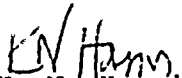
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Gentlemen:

Re: Turkey Point Units 3 and 4
Docket No. 50-250 and 50-251
Reportable Event: 89-14 Revision 1
Date of Event: September 12, 1989
Component Cooling Water Flow Rate to Emergency Containment
Coolers Below Design Basis Accident Requirement due to
Inadequate Administrative Controls

The attached Licensee Event Report Revision is being submitted pursuant to the requirements of 10 CFR 50.73 to provide supplemental information on the subject event.

Very truly yours,


K. N. Harris
Vice President
Turkey Point Plant Nuclear

KNH/DRP/DWH/rat

attachment

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

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LICENSEE EVENT REPORT (LER)

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TITLE (4) **Component Cooling Water Flow Rate to Emergency Containment Coolers Below Design Basis Accident Requirement Due to Inadequate Administrative Controls**

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)
09	12	89	89	014	01	09	10	90	Turkey Point Unit 4		0 5 0 0 0 2 5 1

OPERATING MODE (9) **1**

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

20.402(b)	20.406(e)	50.73(a)(2)(iv)	73.71(b)
20.408(a)(1)(i)	50.38(e)(1)	50.73(a)(2)(v)	73.71(c)
20.408(a)(1)(ii)	50.38(e)(2)	50.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
20.408(a)(1)(iii)	X 50.73(a)(2)(i)	50.73(a)(2)(vii)(A)	
20.408(a)(1)(iv)	X 50.73(a)(2)(ii)	50.73(a)(2)(vii)(B)	
20.408(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(viii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
David R. Powell, Superintendent of Licensing	AREA CODE: 3 0 5 NUMBER: 2 4 6 7 6 5 5 9

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

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

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

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

On September 12, 1989, with Units 3 and 4 in Mode 1 at 100 percent power, the Component Cooling Water (CCW) System Engineer (non-licensed utility personnel) discovered that the mechanical stops for the discharge valves from the Emergency Containment Coolers (ECC) to the CCW System were in positions that did not ensure that each ECC would receive the minimum design CCW flow rate during post-accident conditions. The cause of this event was inadequate administrative controls. After completion of the special tests in March and April 1986, adequate controls were not in place to prevent adjustment of the mechanical stops on the discharge valves from the ECCs to the CCW System. The as-found condition would have resulted in approximately a 3 percent reduction in ECC heat removal capability. This reduction would have resulted in a minor change in the long term post-accident containment pressure and temperature profiles. The mechanical stops of the subject valves have been re-adjusted to the settings previously determined by the appropriate special tests. Information tags have been placed on the subject valves identifying the basis for throttling the valves and the correct settings for the mechanical stops. Procedures have been revised to increase the maximum acceptable flow during surveillances and to add controls to prevent the adjustment of the mechanical stops.

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		08	9-0114	-01	02	OF	04

Turkey Point Unit 3

TEXT if more space is required, use additional NRC Form 366A's (117)

DESCRIPTION OF THE EVENT

On September 12, 1989, with Units 3 and 4 in Mode 1 at 100 percent power, the Component Cooling Water (CCW) system engineer (non-licensed utility personnel) discovered that the mechanical stops for the discharge valves from the Emergency Containment Coolers (ECC) (EIIS: BK) to the CCW System (EIIS: BI) (CV-3/4-2906, 2907, and 2908) were in positions that may not ensure that each ECC would receive the minimum design basis CCW flow rate during post-accident conditions. Sections 6.3 and 9.3 of the Final Safety Analysis Report (FSAR) require that each ECC receives a minimum CCW flow rate of 2000 gpm during post-accident conditions.

In March and April 1986, special tests were performed on Units 3 and 4, respectively, to properly balance the CCW system flows to safety-related components thereby ensuring flows to the components were within their design requirements. The mechanical stops for the subject valves were adjusted to ensure a minimum CCW System flow rate of 2000 gpm to each ECC during post-accident conditions.

In January 1989, procedure changes to Surveillance Procedures 3/4-OSP-055.1, "Emergency Containment Cooler Operability Test," were approved to change the acceptance criteria on the CCW flows to the ECCs from "2000 gpm or greater" to "2000 gpm to 3040 gpm." These changes were made to address erosion concerns involving the CCW heat exchanger tubes as a result of a concern raised by a member of the Management On Shift (MOS) Program.

In April 1989, surveillance procedures 3/4-OSP-055.1 were performed as required by Administrative Procedure 0-ADM-021, "Technical Specification Implementation Procedure." The CCW System flow rates to the ECCs were found to exceed the 3040 gpm limit. Due to this, the mechanical stops of CV-3/4-2906, 2907, and 2908 were re-adjusted, reducing the CCW System flow rate to each ECC. On September 12, 1989, during a further review of system performance criteria, the CCW system engineer (non-licensed utility personnel) determined that these re-adjustments may not ensure that each ECC would receive the design basis CCW System flow rate for post-accident conditions.

After identification of this concern, the mechanical stops for CV-3-2906, 2907, and 2908 were adjusted to the settings provided by the appropriate special test. This ensured that each ECC would receive the minimum design basis CCW flow rate during post-accident conditions.

At 1911, on September 12, 1989, Unit 4 was placed in Technical Specification 3.0.1 due to an evaluation that the CCW flows to the ECCs may be outside the design basis for post-accident conditions. Since the Technical Specification Surveillance criteria for the ECCs was met, the operability of the Unit 3 ECCs was not initially questioned. The possibility of the CCW flow rates to the ECCs being outside the design basis was addressed after the mechanical stops to the Unit 3 discharge valves from the ECCs to the CCW System were returned to the positions verified in the appropriate special test, and a review of the Unit 4 ECCs occurred.

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Turkey Point Unit 3

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

At 2007, on September 12, 1989, the NRC Operations Center was notified by a one hour significant event report in accordance with 10CFR50.72(b)(1)(ii)(B) of this potential problem. The mechanical stops to CV-4-2906, 2907, and 2908 were adjusted to the settings identified in the appropriate special test. The Unit 4 ECCs were then returned to service. At 2055, on September 12, 1989, the NRC Operations Center was notified that Unit 4 was no longer in Technical Specification 3.0.1.

CAUSE OF THE EVENT

The cause of this event was inadequate administrative controls. After completion of the special tests in March and April 1986, adequate controls were not in place to prevent adjustment of the mechanical stops on the discharge valves from the ECCs to the CCW System. Although a note had been added to Attachment 1 of Operating Procedures 3/4-OP-030, "Component Cooling Water System," identifying the use of limiters on the subject valves, no mention was made that the limiters were set by special flow balance tests to ensure adequate post-accident CCW flow rates to the ECCs. Therefore, the individuals responsible for revising Surveillance Procedures 3/4-OSP-055.1 and for re-adjusting the mechanical stops on the subject valves were not aware of the adverse impact on post-accident CCW flow rates to the ECCs.

ANALYSIS OF THE EVENT

Adequate heat removal capability for the Containment (EIIS: NH) is provided by two separate Engineered Safety Features (ESF) systems. These are the Containment Spray (CS) (EIIS: BE) System and the ECCs. The design basis for containment heat removal considers simultaneous operation of one of the two CS pumps and two of the three ECCs. However, operation of one CS pump provides sufficient heat removal capability to maintain the post-accident containment pressure below its design value of 59 psig.

The ECC performance does not affect accident peak containment temperature or pressure; therefore, the adjustment of the mechanical stops could not have impacted the containment structure or pressure retaining components. Also, since the accident offsite dose model assumes the peak accident pressure throughout an accident, the adjustment of the mechanical stops would not have any significant effect on the accident offsite dose.

The reduced ECC flows could affect the post accident long term containment pressure and temperature profiles. A review of the observed flow rates and system configuration determined that the reduction in ECC flow was less severe for Unit 4 than Unit 3; therefore, the analysis was performed only for Unit 3. This analysis determined that the ECCs would have experienced an approximate 3 percent reduction in heat removal capability. This reduction in heat transfer capability would have resulted in a minor change in the long term post-accident containment pressure and temperature profiles, but would not have had a serious effect on the qualification of equipment inside containment.

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
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TEXT: If more space is required, use additional NRC Form 366A's (17)

CORRECTIVE ACTIONS

- 1) The mechanical stops to the discharge valves from the ECCs to the CCW System were adjusted to the settings previously verified in the appropriate special tests to ensure that each ECC would receive the required CCW flow rate for the post-accident conditions.
- 2) Permanent information tags have been placed on the subject valves identifying the correct settings for the mechanical stops, that the valves were set by a special test, and to contact the Technical Department Supervisor prior to adjusting the stops.
- 3) Procedures 3/4-OSP-055.1, "Emergency Containment Cooler Operability Test," were revised to change the upper flow limit to 4600 gpm (4600 gpm is greater than the flows expected during testing). Procedure 3-OSP-055.1 was revised to state "The stops on CV-3-2906, CV-3-2907, and CV-3-2908, are preset as determined by the CCW System flow testing. The Technical Department Supervisor shall be notified prior to changing the stop settings of these valves." A similar statement was added to 4-OSP-055.1.
- 4) An engineering evaluation is being performed to determine the acceptable range of CCW flows to the ECCs. The maximum CCW flow to the ECCs in procedures 3/4-OSP-055.1 will remain at 4600 gpm until this evaluation is completed. The engineering evaluation is scheduled to be completed by June 29, 1990. Procedures 3/4-OSP-055.1 will be revised, as necessary.

ADDITIONAL INFORMATION

Licensee Event Report 50-250/86-009-0 identified a similar incident. The CCW System flow balances performed in 1986, which had set the mechanical stops, were corrective actions for that LER.