



**Entergy
Operations**

Ref: 10CFR50.73(a)(2)(i)

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A4.05

QA

June 27, 1990

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

Subject: Waterford 3 SES
Docket No. 50-382
License No. NPF-38
Reporting of Licensee Event Report

Gentlemen:

Attached is Licensee Event Report Number LER-90-006-00 for Waterford Steam Electric Station Unit 3. This Licensee Event Report is submitted pursuant to 10CFR50.73(a)(2)(i).

Very truly yours,

J.R. McGaha
for J.R. McGaha

J.R. McGaha
Plant Manager - Nuclear

JRM/LDC/glp

(w/Attachment)

cc: Messrs. R.D. Martin
J.T. Wheelock - INPO Records Center
E.L. Blake
W.M. Stevenson
D.L. Wigginton
NRC Resident Inspectors Office

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) **Waterford Steam Electric Station Unit 3** DOCKET NUMBER (2) **0 5 0 0 0 3 1 8 2** PAGE (3) **1 OF 0 4**

TITLE (4) **Shutdown Cooling System Relief Valve Setpoint Not Set In Accordance With Technical Specifications Due To Procedural Inadequacy**

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)									
1	2	18	8	4	9	0	0	0	6	2	7	9	0	N/A	0	5	0	0	0
														N/A	0	5	0	0	0

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

OPERATING MODE (9) 1	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.406(c)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
POWER LEVEL (10) 1 0 0	<input type="checkbox"/> 20.406(a)(1)(iii)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)
	<input type="checkbox"/> 20.406(a)(1)(iv)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> OTHER (Specify in Abstract below and in Text, NRC Form 766A)
	<input type="checkbox"/> 20.406(a)(1)(v)	<input checked="" type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	
	<input type="checkbox"/> 20.406(a)(1)(vi)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	
	<input type="checkbox"/> 20.406(a)(1)(vii)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 50.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME **T.H. Smith, Plant Engineering Superintendent** TELEPHONE NUMBER **5 0 4 4 6 4 - 3 1 2 7**

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO X

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

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

On May 31, 1990, a review of technical specification (TS) surveillance procedures revealed that the lift pressure of the shutdown cooling (SDC) system relief valve SI-406A was 438 psia, which exceeded the maximum TS allowable setpoint pressure of 430 psia. A further review of TS surveillance procedures revealed that both SDC system relief valves (SI-406A & SI-406B) had been set above the maximum allowed pressure on two previous occasions. This event is therefore reportable as plant operation prohibited by TS.

The root cause of this event was an inadequate maintenance procedure. The allowable lift setpoint tolerance of ±2% was incorrectly applied to the maximum allowed setpoint pressure (430 psia) which allowed the TS maximum setpoint to be exceeded. Plant operation with SDC system reliefs set 2% above 430 psia would still have ensured that reactor coolant system (RCS) pressure limits were met during the limiting pressure transient; therefore, this event did not result in an increased risk to the health and safety of the public or plant personnel.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		9 0	— 0 0 6	— 0 0	0 2	OF	0 4

TEXT (If more space is required, use additional NRC Form 388A's) (17)

On May 31, 1990, plant operating in Mode 1, a review of technical specification (TS) surveillances revealed that the setpoint lift pressure for the shutdown cooling (SDC) (EIIS Identifier BP) system relief valve SI-406A (EIIS Identifier RV) was set at 438 psia, exceeding the maximum TS allowable setpoint pressure of 430 psia. TS limiting condition for operation (LCO) 3.4.8.3 requires low temperature overpressure protection be provided by either of the following:

- Both operable SDC relief valves (SI-406A & SI-406B) with a lift set pressure less than or equal to 430 psia aligned to the reactor coolant system (RCS) (EIIS Identifier AB).
- RCS depressurized with a RCS vent path greater than or equal to 5.6 square inches.

TS 3.4.8.3 is applicable in mode 4 (when either RCS cold leg temperature is less than or equal to 285 °F), mode 5, and mode 6 with the reactor vessel head on.

A further review of TS surveillances revealed that the following lift pressures were incorrectly set on the dates listed:

<u>relief valve</u>	<u>set press (psia)</u>	<u>dates</u>
406A	433	07/26/83
406B	435	07/18/83
406A	437	03/15/86
406B	433	03/14/86
406A	438	10/15/89

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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TEXT (If more space is required, use additional NRC Form 386A's) (17)

The SDC System Relief valves are tested in accordance with Mechanical Maintenance (MM) procedure (MM-007-006) on a 30 month interval. MM-007-006 revision 0 was approved on June 4, 1982 and incorrectly listed the setpoint pressure as 415 psig $\pm 2\%$ (407-423 psig) which converts to a band of (422-438) psia. This $\pm 2\%$ tolerance allowed the maximum allowed set pressure to be exceeded by as much as 8 psi. The two subsequent revisions to procedure MM-007-006 contained the same error and were approved on December 24, 1985 and January 21, 1987 respectively.

From December 1984 through February 1990, the plant was operated in violation of TS LCO 3.4.8.3 on sixteen different occasions for a total of 277 days.

The root cause of this event is an inadequate maintenance procedure. MM-007-006, Maintenance Procedure Safety Injection Relief Valve Test, incorrectly allowed a lift pressure in excess of TS limits. The $\pm 2\%$ setpoint tolerance is established in accordance with ASME performance test code 25.3, but the lift setpoint tolerance was incorrectly applied to the maximum allowed setpoint pressure (430 psia) as specified by TS LCO 3.4.8.3.

Contributing to this event was an inadequate technical review in verifying conformance of procedure MM-007-006 to TS requirements. Technical reviews are required by administrative procedure UNT-001-003 for development, revision, changes, and bi-annual review of work procedures. UNT-001-003 specifically requires the technical reviewer to address the following: "Does this procedure, revision, change, or deletion adequately address and/or reference technical specifications and other matters that may affect nuclear safety?" The MM-007-006 procedural review and revision process failed to adequately ensure compliance with TS 3.4.8.3, allowing this condition to exist intermittently since issuance of the operating license (December 18, 1984).

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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TEXT (if more space is required, use additional NRC Form 305A's) (17)

To prevent recurrence of this event, procedure MM-007-006 is being revised to include a lower setpoint pressure tolerance of 415 psig +0% - 2% (421-430 psia). The revision will be completed by October 15, 1990. SDC System Relief valve SI-406A will be adjusted to the correct setpoint pressure within the allowed 7 days after entering TS 3.4.8.3 applicability. A review of other work procedures involving relief valves was conducted to identify any other misapplications of setpoint tolerances. No discrepancies were found. A sampling of other TS surveillance procedures will be reviewed to ensure that acceptance criteria meets TS requirements. This review is expected to be complete by October 1, 1990 and will include any TS surveillance procedures not previously reviewed by the plant TS coordination group.

The design basis of SI 406A and 406B is to provide overpressure protection of the RCS at low temperatures during heatup, cooldown, and cold shutdown. The limiting pressure transient includes simultaneous, inadvertent operation of three high pressure safety injection (HPSI) pumps (EIIIS Identifier BQ-P), three charging pumps (EIIIS Identifier CB-P), with all pressurizer backup heaters (EIIIS Identifier AB-PZR-EHTR) in operation. A 20% margin is realized because only two HPSI pumps are started by Safety Injection Actuation Signal (SIAS) (EIIIS Identifier JE). Plant operation with both setpoints for the SDC system reliefs set 2% above the maximum set pressure would not have allowed any plant pressure limits to be exceeded during the limiting pressure transient; therefore, this event did not result in an increased risk to the health and safety of the public or plant personnel.

Similar Events

None

Plant Contact

T.H. Smith, Plant Engineering Superintendent, 504/464-3127.