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D. R. Keuter
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Waterford 3

W3F1-96-0092
A4.05
PR

June 13, 1996

U.S. Nuclear Regulatory Commission
Attn: 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-96-005-00 for Waterford Steam Electric Station Unit 3. This Licensee Event Report is submitted in accordance with 10CFR50.73(a)(2)(i)(B).

Very truly yours,

for DR Keuter

D.R. Keuter
General Manager
Plant Operations

DRK/GCS/tjs
Attachment

cc: L.J. Callan, NRC Region IV
C.P. Patel, NRC-NRR
D.F. Packer
J.T. Wheelock - INPO Records Center
R.B. McGehee
N.S. Reynolds
NRC Resident Inspectors Office
Administrator - LRPD

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NRC FORM 366 (4-95) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 04/30/98

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND 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.

LICENSEE EVENT REPORT (LER)

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

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
WATERFORD STEAM ELECTRIC STATION UNIT 3	05000 382	1 OF 9

TITLE (4)

FAILURE TO MEET TECH SPEC ACTION REQUIREMENTS

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
									N/A	05000
03	23	96	96	-- 005 --	00	06	13	96	FACILITY NAME: N/A	DOCKET NUMBER: 05000

OPERATING MODE (9)	1
POWER LEVEL (10)	100

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

	20.2201(b)		20.2203(a)(2)(v)	X	50.73(a)(2)(i)		50.73(a)(2)(viii)
	20.2203(a)(1)		20.2203(a)(3)(i)		50.73(a)(2)(ii)		50.73(a)(2)(x)
	20.2203(a)(2)(i)		20.2203(a)(3)(ii)		50.73(a)(2)(iii)		73.71
	20.2203(a)(2)(ii)		20.2203(a)(4)		50.73(a)(2)(iv)		OTHER
	20.2203(a)(2)(iii)		50.36(c)(1)		50.73(a)(2)(v)		Specify in Abstract below or in NRC Form 366A
	20.2203(a)(2)(iv)		50.36(c)(2)		50.73(a)(2)(vii)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
T.J. GAUDET, ACTING LICENSING MANAGER	(504) 739-6706

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
X	YES (If yes, complete EXPECTED SUBMISSION DATE).	NO		09	16	96

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On March 23, 1996, temporary netting was installed in the Wet Cooling Tower (WCT) A area to prevent debris from entering the WCT basin while prepping the catwalk for painting. An engineering input attached to the work package indicated that installation of the temporary netting would block the air inlet of the wet cooling tower and that all four fans of the cell should not be operated due to concerns of damage from the effect of airflow restrictions. On four separate occasions from March 23, 1996 to May 8, 1996 the netting was configured around the basin such that it would restrict air flow to the fans. The restricted air flow rendered the WCT Fans inoperable. Primarily due to a miscommunication between Engineering, Operations and Constructions personnel, Operations personnel did not fully understand the conditions the engineering input analyzed and were not aware that the netting would cause the fans to be inoperable. As a result, the fans were not declared inoperable and the technical specifications action requirements for an inoperable wet cooling fan were not performed. This event had no safety significance and did not compromise the health and safety of the public.

REQUIRED NUMBER OF DIGITS/CHARACTERS FOR EACH BLOCK

BLOCK NUMBER	NUMBER OF DIGITS/CHARACTERS	TITLE
1	UP TO 46	FACILITY NAME
2	8 TOTAL 3 IN ADDITION TO 05000	DOCKET NUMBER
3	VARIES	PAGE NUMBER
4	UP TO 76	TITLE
5	6 TOTAL 2 PER BLOCK	EVENT DATE
6	7 TOTAL 2 FOR YEAR 3 FOR SEQUENTIAL NUMBER 2 FOR REVISION NUMBER	LER NUMBER
7	6 TOTAL 2 PER BLOCK	REPORT DATE
8	UP TO 18 -- FACILITY NAME 8 TOTAL -- DOCKET NUMBER 3 IN ADDITION TO 05000	OTHER FACILITIES INVOLVED
9	1	OPERATING MODE
10	3	POWER LEVEL
11	1 CHECK BOX THAT APPLIES	REQUIREMENTS OF 10 CFR
12	UP TO 50 FOR NAME 14 FOR TELEPHONE	LICENSEE CONTACT
13	CAUSE VARIES 2 FOR SYSTEM 4 FOR COMPONENT 4 FOR MANUFACTURER NPRDS VARIES	EACH COMPONENT FAILURE
14	1 CHECK BOX THAT APPLIES	SUPPLEMENTAL REPORT EXPECTED
15	6 TOTAL 2 PER BLOCK	EXPECTED SUBMISSION DATE

REPORTABLE OCCURRENCE

This event resulted in a failure to enter Technical Specification Limiting Condition for Operations TS LCO 3.7.4. and comply with Action f which states that with more than one fan inoperable and the outside air temperature greater than 70 degrees Fahrenheit, determine the dry bulb temperature at least once every 2 hours. During the period of time when the fans were inoperable and ambient temperatures exceeded 70 degrees Fahrenheit, dry bulb temperatures were not being monitored. Therefore this event is reported pursuant to 10CFR50.73(a)(2)(i)(B) as operation or condition prohibited by the plant's Technical Specifications.

INITIAL CONDITIONS

At the start of this event on March 23, 1996, Waterford 3 was in mode 1 at 100 percent power. The installation of the temporary netting was being performed under work authorization (WA) 01144587.

EVENT DESCRIPTION

This report is being submitted as a preliminary report because the investigation into the event described in this report is still ongoing. A revision to this Licensee Event Report will be submitted when the investigation is complete.

On February 1, 1996 a work authorization, WA# 01144587, was generated to clean and repaint structural steel, piping, and pipe supports in the west Wet Cooling Tower (WCT) Area (A WCT consists of two independent cells with connecting basins. Each cell has 4 fans with at total of 8 fans per WCT (EIIS identifier B1-CTW-FAN)).

On 3/20/96 Construction requested an evaluation from Design Engineering that would allow a net to be placed in front of the WCT. Due to concerns of water spilling over the WCT basin walls when the fans are not operating, Construction requested that Design Engineering consider the effect of isolating water flow through the portion of the WCT in front of the catwalk (isolation of water flow would also reduce the moisture on the catwalk while being painted). Design Engineering prepared the evaluation which indicated that installation of the temporary netting would block the air inlet area of the WCT. The evaluation further stated that only one of the two cells at a time shall have temporary netting installed and that ambient temperatures shall be less than or equal to 85 °F dry bulb and 72 °F wet bulb. The engineering input suggested that up to two WCT fans may be operated, but added a caution that all four fans should not be operated due to concerns of damage from possible airflow restriction.

On 3/22/96 at approximately 1730 hours, Construction carried the engineering evaluation to the control room to obtain approval for installing the net. After approval the net was installed by Construction on the back shift, but was drawn back and restrained such that there was no blockage of inlet air to WCT A.

On 3/23/96 at approximately 0700 hours Construction went to the control room and obtained permission to pull the net in place (in front of WCT A north cell). Operations reviewed the engineering evaluation and granted permission for Construction to proceed. At 1700 hours Construction suspended painting in WCT A area, withdrew and restrained the net.

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

The following are additional dates/times that the temporary netting was installed in front of a cell of WCT A. On each occurrence Construction contacted Operations .

From	To
5-5-96 / 2100	5-6-96 / 0730
5-6-96 / 2100	5-7-96 / 0730
5-8-96 / Approx. 3 hours	

During the times the netting was installed in front of a cell of WCT A, the ambient temperature exceeded 70 degrees for approximately 16 hours.

CAUSAL FACTORS

The causal factors are currently being investigated by a Root Cause Analysis (RCA) team. The causal factors stated here represents preliminary information and will be finalized in the next revision of the LER.

Part of the RCA team investigation included a review of the generic implications of using engineering inputs for determining operability of equipment, and establishing operational restrictions while work is being performed. Approximately 300 engineering inputs were collected by requesting the engineering staff to provide all inputs written since refuel 7. The format of these engineering inputs consisted of 11 memorandums, 212 Plant Procedure UNT-007-053 " Engineering Work Authorization Processing " engineering input forms, 72 ccmail messages, and 5 Site Directive W4.101 " Operability/Qualification Confirmation Process " evaluations. Each input was reviewed by the RCA team

to determine if a system operability determination or operational restriction was recommended. This review produced 21 engineering inputs used for operability determination or operational restrictions.

The preliminary causal factors are as follows:

There were inadequate administrative controls in place. There was no method or process to establish administrative controls for the format, required level of review/approval, and operations interface for engineering evaluations that result in plant operational restrictions or make recommendations for component operability. Plant Procedure UNT-007-053 " Engineering Work Authorization Processing " did not include any limitations on the use of an engineering input form, and did not require more than one signature on the input form.

The Standards/Expectations were not clear for the use of engineering input forms. A review of previous engineering inputs demonstrated that the engineering input form is used for a variety of purposes. These include, recommendations for rework not expected in original work package, clarification of work instruction steps, recommendations for component operability, instructions for changing setpoints and valve positions, and operational restrictions under which work can be performed.

Work instructions were incomplete. The work instructions did not include limitations assumed to be imposed in the engineering input. The engineering input only provided a basis that ACCW (EIIS identifier B1) could be isolated under ambient conditions specified. Currently the work packages for a task such

as painting are written with general instructions. The planner assumes that any specific work instructions not included in the WA will be added via engineering input form.

Communication was poor. Proper communication did not exist between Operations, Construction, and Engineering to ensure Operations was cognizant of assumptions in the engineering input. There was ineffective communication between Engineering and Operations. Engineering assumed Construction would request that Operations isolate ACCW flow to one cell of the WCT, and Operations would transfer the information in the engineering input into an operational instruction to perform that task. Since Construction never needed to isolate ACCW flow, Operations was never requested to perform any action.

No evaluation was performed to address concerns of the netting falling into the WCT basin due to a tornado event or seismic event.

IMMEDIATE CORRECTIVE MEASURES

The temporary netting that was placed over the Wet Cooling Tower Basin was removed on May 14, 1996, at approximately 1500 hours.

A Root Cause Analysis team was formed to identify the root cause of the event as described in the LER.

A letter to all Engineering personnel, Construction and Operations departments was issued which provides guidance on the proper use of engineering inputs, Operations and Engineering interfaces, and approval requirements.

The Operations department has issued Standing Instruction 96-06 which states that " Should any system, sub-system, or component become unable to perform its intended safety function at any time for any reason, declare that equipment inoperable and enter the appropriate Tech. Spec. Action." The Standing Instruction requires that Operations personnel question all procedures, engineering inputs, and work packages. Also stated in the Standing Instruction is that if there is any question as to the operability of a component at any time, it is most likely Inoperable and should be logged as such and the appropriate LCO action entered.

The Operations department has issued Standing Instruction 96-07 that states:

a. All engineering inputs should have at least two signatures indicating that a technical review has been performed.

b. All engineering inputs must be specifically bounded against any applicable Technical Specifications.

c. All engineering inputs should be reviewed by the Shift Technical Advisor to provide a recommendation to the Shift Supervisor concerning the adequacy of the input.

d. Whenever an engineering input is provided to establish a basis for an operability determination with a degraded component or non-standard line-up, a 50.59 evaluation shall accompany the engineering input.

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

ACTIONS TO PREVENT RECURRENCE

The following action to reduce the potential of recurrence has been taken. However, subsequent to the com' 'etion of the RCA team investigation other action(s) may be put in place to address the concerns of the LER.

Plant Administrative Procedure UNT-007-053 "Engineering Work Authorization" has been revised to specify the following:

An engineering input will not be used to make operability determinations for technical specifications or safety related equipment, nor will it be used to implement configuration changes.

All nonconforming conditions are addressed by the Condition Report procedure, UNT-006-011.

An engineering input is used to facilitate work such as bolting, torquing, gasketing, material condition improvements, troubleshooting and venting requirements.

All engineering inputs require a technical reviewer signature.

Complex engineering questions or informal requests should be asked and answered using the Problem Evaluation/Information Request (PEIR) process.

A review will be performed of plant procedure NOCP-210 " Maintenance and Construction Painting " to determine if the procedure's painting checklist should be revised so that all potential safety concerns are addressed prior to performing any painting activity.

SAFETY SIGNIFICANCE

During the four occasions when the netting was drawn closed in the WCT area, four of the eight fans on WCT A were inoperable. The number of fans that are required to maintain the UHS operable is based on ambient wet and dry bulb temperature conditions. During this event the wet and dry bulb ambient temperatures were such that the Ultimate Heat Sink (UHS) remained capable of performing its safety function.

Engineering personnel reviewed the configuration of the netting and determined that during certain design basis wind/tornado load conditions there was a potential for the netting to completely detach from it support restraints and land into the WCT basin. The netting material is buoyant. The force of the water spray in the basin may cause the netting to drop slightly below the water surface, however the netting would remain buoyant and would not submerge enough to effect the operability of the ACCW pump and accordingly not effect operability of the UHS.

The probability of a Design Basis Event concurrent with a single failure that would render both loops of the UHS inoperable during the period of time the netting was installed has been determined to be very improbable.

On the basis of the information above, the event did not compromise the health and safety of the public.

SIMILAR EVENTS

There have been no similar events reported as LERs.