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T.R. "Ted" Leonard
General Manager
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Waterford 3

W3F1-97-0090
A4.05
PR

May 8, 1997

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 (LER) Number 97-014-00 for Waterford Steam Electric Station Unit 3. This report provides details of a deficiency in testing of logic circuit relay contacts associated with safety bus load sequencing of the motor driven Emergency Feedwater Pumps and Containment Spray Pumps. This LER Report is submitted in accordance with 10CFR50.73(a)(2)(i)(B).

Very truly yours,

T.R. Leonard
General Manager
Plant Operations

TRL/OPP/ssf
Attachment

cc: E.W. Merschoff (NRC Region IV), C.P. Patel (NRC-NRR),
A.L. Garibaldi, J.T. Wheelock - INPO Records Center,
J. Smith, N.S. Reynolds, NRC Resident Inspectors Office,
Administrator - LRPD

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Iezz



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: 500 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-8 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.

FACILITY NAME (1)

Waterford Steam Electric Station Unit 3

DOCKET NUMBER (2)

05000 382

PAGE (3)

1 OF 5

TITLE (4)

Inadequate Surveillances Identified Pursuant to Generic Letter 96-01

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																														
04	08	97	97	014	00	05	08	97	N/A	05000																														
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more) (11)																																					
1			<table border="1"><tr><td>20.2201(b)</td><td>20.2203(a)(2)(v)</td><td><input checked="" type="checkbox"/></td><td>50.73(a)(2)(i)</td><td>50.73(a)(2)(viii)</td></tr><tr><td>20.2203(a)(1)</td><td>20.2203(a)(3)(i)</td><td></td><td>50.73(a)(2)(ii)</td><td>50.73(a)(2)(x)</td></tr><tr><td>20.2203(a)(2)(i)</td><td>20.2203(a)(3)(ii)</td><td></td><td>50.73(a)(2)(iii)</td><td>73.71</td></tr><tr><td>20.2203(a)(2)(ii)</td><td>20.2203(a)(4)</td><td></td><td>50.73(a)(2)(iv)</td><td>OTHER</td></tr><tr><td>20.2203(a)(2)(iii)</td><td>50.36(c)(1)</td><td></td><td>50.73(a)(2)(v)</td><td>Specify in Abstract below or in NRC Form 366A</td></tr><tr><td>20.2203(a)(2)(iv)</td><td>50.36(c)(2)</td><td></td><td>50.73(a)(2)(vii)</td><td></td></tr></table>								20.2201(b)	20.2203(a)(2)(v)	<input checked="" type="checkbox"/>	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)	
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20.2203(a)(2)(iv)	50.36(c)(2)		50.73(a)(2)(vii)																																					
POWER LEVEL (10)			100																																					

LICENSEE CONTACT FOR THIS LER (12)

NAME

T.J. Gaudet, Licensing Manager

TELEPHONE NUMBER (Include Area Code)

(504) 739-6666

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)

YES <input checked="" type="checkbox"/> (If yes, complete EXPECTED SUBMISSION DATE).	NO <input type="checkbox"/>	EXPECTED SUBMISSION DATE (15)	MONTH 07	DAY 11	YEAR 97
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ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On April 8, 1997 at 1700, with the plant in mode 1 at 100% power, it was determined that no surveillance test procedure (nor maintenance test procedure) provided for verifying operability of sequencer relay contact S3X in the Emergency Feedwater (EFW) 'A' breaker control circuit. The same was true for the corresponding contact in the EFW 'B' breaker control circuit. It was also determined that no surveillance test procedure (nor maintenance test procedure) provided for individually verifying operability of Containment Spray (CS) Pump 'A' breaker logic circuit sequencer relay contact S2X and contact CSX. The same was true for the corresponding CS 'B' circuit contacts. The condition was preliminarily determined to be due to inadequate surveillance test procedures. Final root cause will be evaluated in an overall analysis of the Generic Letter 96-01 items identified. The contacts were tested and found to function properly. Surveillance procedures are being revised to address the deficiencies. The identified condition did not compromise the health and safety of the general public. The contacts would have performed during an accident.

**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

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TEXT CONTINUATION

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Waterford Steam Electric Station Unit 3	05000 382	97	014	00	2 OF 5

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

REPORTABLE OCCURRENCE

On April 8, 1997, during reviews associated with Generic Letter 96-01, it was determined that there was a lack of positive verification that several contacts from relays in the EDG sequencer circuits were performing their intended function. The condition was identified by the review team performing reviews associated with Generic Letter 96-01, "Testing of Safety-Related Logic Circuits". The failure to verify contact operability is reportable pursuant to 10CFR50.73(a)(2)(I)(B) as a condition prohibited by Technical Specifications (TS).

INITIAL CONDITIONS

At the time this condition was identified, Waterford 3 was operating in Mode 1 at approximately 100% power. No major systems, structures or components were out of service specific to this condition. In addition, no TS Limiting Conditions for Operation were in effect specific to this event.

EVENT DESCRIPTION

The reportable occurrence involved:

- 1.) the failure to uniquely verify operability of contact S3X [RLY] (one in each train) in the plant Emergency Diesel Generator (EDG) load sequencer [JE] circuit associated with the Emergency Feedwater (EFW) Pumps, and
- 2.) the failure to individually verify operability of two sets (one set per train) of two parallel contacts, CSX and S2X, in the plant EDG load sequencer circuits associated with the Containment Spray (CS) Pumps.

In case 1.) above, it was determined that the contact associated with the EFW pump (in each respective train) had been tested for the safety related function of starting the

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

EFW Pumps. However, the contact had not been verified to open to preclude premature start of the pump during the sequencing of loads. Therefore, in accordance with guidance provided in Generic Letter 96-01, this was determined to be inadequate TS surveillance testing of components that affect operability of the EDGs. Since the function of starting the EFW Pumps had been tested, the inadequate surveillance testing did not affect the operability of the motor driven EFW Pumps.

In case 2.) above, the parallel contacts associated with the CS Pumps had been tested; however, the contacts were tested together (in parallel). Therefore, it could not be determined (from the test results) if both contacts were operable or if only one contact was completing the circuit. Therefore, in accordance with guidance provided in Generic Letter 96-01, this was determined to be inadequate TS surveillance testing.

Operations declared both EDGs inoperable at 1700 on 4/8/97 due to inadequate surveillance verification of contact S3X (on both safety trains). The plant entered TS 3.8.1.1f due to both EDGs being inoperable. However, since the contact had not failed, but rather had inadequate surveillances, TS 4.0.3 was entered.

The CS Pump sequencer circuit parallel contacts CSX and S2X perform the safety-related function of starting the pumps in the appropriate load block. The Generic Letter review team observed that, while the contacts were being procedurally surveillance tested, the test did not individually verify the contacts. Therefore, the test could pass with one of the two parallel contacts in a failed condition. The condition was handled as an inadequate surveillance. Operations declared both CS Pumps inoperable at 1700 on 4/8/97 and entered TS 3.0.3 and 4.0.3 for this condition.

On 4/9/97, at 0143 the Operations and Engineering completed a brief for the EFW/CS logic test (STP-01158800) and began the testing shortly thereafter. The testing was completed on the 'A' Train at 0431 on 4/9/97 (within the 24hr AOT). At that time, Operations declared EDG 'A' operable and exited TS 4.0.3 and TS 3.8.1.1f. Operations then entered TS 3.8.1.1d for EDG 'B' which remained inoperable. The 'A' CS Pump was declared operable at 0431 on 4/9/97. The next morning (0247 on

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4/10/97), testing was completed such that EDG 'B' was declared operable. CS 'B' continued to comply with TS 3.6.2.1 in a 72 hr action statement. CS 'B' was declared operable on 4/10/97 at 0632.

CAUSAL FACTORS

The preliminary indication is that the inadequate surveillances were due to deficiencies in the surveillance test procedures which were recently identified in light of additional guidance to the nuclear industry provided in Generic Letter 96-01. A detailed root cause analysis will be performed at the completion of the Generic Letter 96-01 review effort. Any additional insight as to specific root cause identified in the root cause analysis will be documented in Rev. 1 to this LER.

CORRECTIVE MEASURES

- The subject contacts (identified above) were uniquely tested and verified to be operable.
- The surveillance test procedures are being updated to provide for ongoing, periodic surveillance testing of the subject contacts.
- In accordance with Generic Letter 96-01, Waterford 3 is completing a comparison of applicable drawings against plant surveillance test procedures to ensure that the procedures adequately test components. This comparison review includes relay contacts, control switches, and other relevant electrical components within logic circuits performing a safety function.
- During the current Generic Letter 96-01 review effort, the plant will appropriately test any additional applicable circuit components that affect operability of TS equipment.

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	382	97	014	00	

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found to have inadequate surveillance test procedures.

- The plant will correct any other identified surveillance procedure deficiencies found in the process of completing the Generic Letter 96-01 reviews, that impact operability of TS equipment.

The above stated corrective actions will be completed in accordance with the requirements of Generic Letter 96-01, prior to startup from Refuel 8, which is currently in progress. Any additional reportable cases of missed surveillance, etc. identified subsequent to this Rev. 0 of LER-97-014 will be reported in Rev. 1 within 30 days after the completion of Refuel 8.

SAFETY SIGNIFICANCE

Unverified operability of the subject contacts did not significantly impact nuclear safety since the contacts successfully passed the surveillance test. The contacts would have performed or supported the applicable safety functions if an accident had occurred. Therefore there was no impact upon the health and safety of the general public or employees at the plant.

SIMILAR EVENTS

There are no recent similar events reported involving contacts not being adequately verified operable that could impede the safety function of TS equipment.

Note:

EIIS Identifiers are enclosed in brackets (e.g. [JE])