

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

Entergy Operations, Inc. (10 (bs.)) Edison, IA (1008)

D. F. Packer Garrier of Marriagon Parist Atomaticans

W385-92-0011 A4.05 QA

February 21, 1992

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

Submittal of Licensee Event Report

Guntlemen:

Attached is Licensee Event Report Number LER-92-001-00 for Waterford Steam Electric Station Unit 3. This Licensee Event Report is submitted pursuant to 10CFR50.73 (a)(2)(i).

Very truly yours,

D.F. Packer

General Manager - Plant Operations

DFP/WEF/jrr Attachment

cc: Messrs. R.D. Martin

G.L. Florreich

J.T. Wheelock - INPO Records Center

E.L. Blake

N.S. Reynolds

NRC Resident Inspectors Office

(1638)

LICENSEE EVENT REPORT (LER)

APPROVED CHAR NO 3180-0104 EXPIRES 4/30/87

ESTIMATED SURDEN PER RESPONSE TO COMPLY WIN THE INFORMATION COLLECTION REQUEST BOD HAS FORWARD COMMENTS RECARLING SURDEN ESTIMATS TO THE RECORD AND REPORTS MANAGEMENT BRANCH (FACE) U.S. NUCLEAR REGULATORY COMMISSION WASHINGTON DC 200556 AND THE FAPERWORK REDUCTION PROJECT 13150-01041 OFFICE OF MANAGEMENT AND SUDGET WASHINGTON DC 20067.

	-	NAME AND ADDRESS OF	-						OF MAN	AGEMENT AND BU	DOET WASHING	TON DC 201	603
PACILITY NAME !	11								The state of the s	DICKET NUMBER	(2)	1 P.	ST /S
Water	ford	Ste	am E	lectric	Station	Unit 3				0 5 0 0	1013181	1 0	0.18
TITLE IN FR	ilure		Sat	isty To		Specific	ation S	urvel	llance Re	quirement	due to		ake audani
In	adequ	ate	Adm	inistra	tive Con	trols an	d Inade	rquate	Attentio	n to Deta	11		
EVENT DATE					16/	REPORT D	To the second second second		CONTRACTOR OF THE PARTY OF THE	FACILITIES INVO			
MONTH DAY	YEAR	YEA		BEQUENTIA	HE VERCEN	MONTH DAY	YEAR		FACILITYNA	WES	DOCKET NUMB	ER/S	-
			-	-			-		N/A		0 5 0	0 : 0 :	
	Harris .	100	That	100				-		-	-1-1-1	-1-1	4-4-
0 1 2 2	9 2	9	2 -	00011	0.0	0 2 2 1	1 9 12 1		N/A		6 6 6	5 - B -	
OPERATING	-	THIB	REPORT	15 BURDOLTT	and the same of the same of the same of	TO THE REQUIRE		O CER L	THE RESIDENCE AND ADDRESS.	of the following (1	0 5 0	101	
MACKE 18			20 402 (4	THE RESIDENCE OF	-	P0 468(a)		-	60.73is1(211iv)	E. une designation 11	planting of the column	-	
POWE A		-	20 456-1	4683111	-	80.50141111		- Personal	00 TSW1(\$114)		73.71(6:		
LEVEL	0.0	-	80 408 u	111 Hai	-	80.30 (a) (2)		1.00	60.73(a)(2)(v)		73.71(4)		
en e	-	-	20 405 u		-	60 7 Sw 1(2)(1)		-			berned \$600 and	Text At	
		-	30 MB6 U			60 7 Sta 1(2)(1)			40.734a1(21(ear))		365.4		
		-	20 MOS II		personal districts of the least			******	#6.734e1(2):eski1	*			
	-	-	25 400 0			80.79m1(2)(H)	_		80 73(61(81(x)				
NAME	-	rick drawn	ni kale mjesticam			CEMBER CONTA	CT FOR THIS	LER (12)	THE REAL PROPERTY AND ADDRESS.				
										AREA CODE	TELEPHONE NU	MEER	
	W.R.	Bri	an _x .	Plant I	ingineeri	ng Super	intende	nt				4 6	
		-						-		15/0/4	416 1 41.	13 17	1-11
	Name and Address	-	-	COMMUNE	DAR LINE FOR	EACH COMPONE	MT FAILURE	DESCRIBE	D IN THIS REPOR	17 (13)	_		
CAUSE SYSTEM	COMP	NENT		ANUFAC YURER	MEFORTABLE TO NAMOS		SAUAS	5×575W	COMPONENT	MANUFAC TURER	REPORTABLE TO NPROS		
													THE PERSON
		-	-		-	-	-	-		+		-	
							H	1	1.1.1	111			
			-	BUPP LEM	ENTAL REPORT	EXPECTED (14)				1-47-14	MONT	H DAY	TEAR
menny										EXPECTE SUBMISSIO	DN:	TO SECURE A SECURE A SECURE A SECURE A SECURE A SECURITARION A SEC	-
MES IN ME C						X NO				DATE III		1.4	1 1
APETRACT LONG	10 1 4 (RC) age	erer a	688791	imately filtered	arright appears by pur-	eriten ing. (14)				*	· · · · · · · · · · · · · · · · · · ·	-	

At 0122 hours on January 22, 1992, while reviewing the Plant Monitoring Computer (PMC) point values for Azimuthal Tilt (Aztilt), the Operations Control Room Staff discovered that the Core Operating Limit Supervisory System (COLSS)-Core Protection Calculator (CPC) Aztilt Limit was set lower than the CPC Aztilt Allowance. Due to the inconsistency in Aztilt values, the requirements of the Technical Specification Surveillance 4.2.3.2 were not met.

The cause of this event is a combination of inadequate administrative controls in ensuring that changes in CFC Aztilt Allowance initiated a corresponding change in the COLSS-CFC Aztilt Limit and operator inadequate attention to detail. Waterford 3 is revising procedures to ensure that CFC Aztilt Allowance values are equal to the COLSS Aztilt Limit and Operations personnel involved in this event were counseled.

NRC FORM 366A (E-03)

U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED ONE NO 3160-0104 EXPIRES 4/30/97

ESTIMATED BURDEN PER RESPONSE TO COMPLY WTH THIS INFORMATION COLLECTION REQUEST 600 HRS FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MARIAGEMENT BRANCH (F430) U.S. NUCLEAR REGULATORY COMMISSION WASHINGTON DC 20565 AND TO THE PAPERWORS REDUCTION PROJECT (3150-0104) CFFICE OF MANAGEMENT AND BUDGET WASHINGTON DC 20503

FACILITY NAME II	DOCKET NUMBER (2)	LER NUMBER IS	FAGE (3)
Waterford Steam		VERE SEDUENTIAL NUMBER	MEVISION NUMBER
Electric Station Unit 3	0 5 0 0 0 3 8 2	912 - 0011 -	010 012 00 18

TEXT IH more apace a required, use additional NAC Aurer 386A a. (17)

Reportable Occurrence:

Technical Specification (TS) surveillance requirement 4.2.3.2a requires that the Azimuthal Power Tilt be determined to be within the Azimuthal Core Protection Calculator (CPC)(EIIS Identifier-JC-CPU) Limit above 20% of Rated Thermal Power by continuously monitoring the Aztilt with the Core Operating Limit Supervisory System (COLSS)(EIIS Identifier · ID), when the COLSS is operable. Since the improper value of the COLSS-CPC Azimuthal Tilt was present. TS surveillance requirement 4.2.3.2a was not met during the time period from July 20, 1991 until January 21, 1992. In addition, TS surveillance requirement 4.2.3.2c requires that at least every 31 days the COLSS Aztilt Alarm is actuated at an Aztilt value greater than or equal to the Aztilt Allowance used in CPCs. Nuclear Engineering surveillance procedure NE-005-103, COLSS Verification Alarm, did not require that the COLSS Aztilt Alarm actuate at an Aztilt value greater than the CPC Aztilt Allowance while testing the COLSS Aztilt Alarm; therefore, TS surveillance 4.2.3.2c was not met since the issuance of the operating license on December 18, 1984. This event is reportable under 10 CFR 50.73(a)(2)(i).

NRC FORM SHEA 16-89 U.S. NUCLEAR REGULATORY COMMISSION

APPROVED DIMB NO 3180-0104 EXPIRES 4/30/92

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST BLO HARE FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH IF SID. U.S. NUCLEAR REGULATORY COMMISSION WASHINGTON, DC 200656 AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104) OFFICE OF MANAGEMENT AND BUDGET WASHINGTON, DC 2000).

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCK	TN	ME E	A (2)					1.6	A RUMBER	181			-	FAGE	(30)	
Waterford Steam Electric Station Unit 3	0 1	10	10	0	13	1 8	2			0 0			1	13	OF	0	8

TEXT If more apace a required, use additional NRC Form 3864 til 171

Initial Conditions:

Plant Power. 100%

Mode: 1

Procedure Bying Performed:

NONE

Technical Specification LCOs in Effect Specific to this Event:

NONE

Major Equipment Out of Service Specific to this Event:

NONE

NRC FORM MEA

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED DME NO 3180-0104 EXPIRES A/30/92

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER REPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST BEG HRS FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530) U.S. NUCLEAR REGULATORY COMMISSION WASHINGTON DC 20055 AND TO THE FAPERWORK REDUCTION PROJECT (3150-010) OFFICE OF MANAGEMENT AND BUDGET WASHINGTON DC 2016/3.

FACILITY NAME (1)	51010	KÉT	NUB	Ab t F	(2)	o Lacrom			-	1.6	E NU	HB E FI	(4)		1049	130	_
Waterford Steam Electric Station Unit 3	0	6	10	0	0	3	18	12						OLO	OF	0	8

TEXT If more apace is required, use additional NRC Form 365A \$7 (17)

Event Sequence

The Waterford 3 Plant Monitoring Computer (PMC)(EIIS Identifier-ID) is a centralized, real-time computer system which integrates traditional computerized balance-of-plant moniforing with nuclear applications software for normal plant operation and emergency conditions. One program run by the PMC is the COLSS. One of the functions of COLSS is to calculate Aztilt. Limitations on Aztilt are provided to ensure that design safety margins are maintained. COLSS calculates Aztilt by utilizing inputs from the incore detector (EIIS Identifier-IC) system. However, the CPC utilizes a fixed value of Aztilt that can be changed by the operator, via an addressable constant. It is necessary to use an addressable constant because the radial peaking factors used in the CPCs to calculate power distribution are based on an untilted power distribution. In order to make the operator aware of situations when actual Aztilt is greater than the fixed CPC value (i.e. nonconservative), COLSS generates an alarm whenever this occurs. Since there is no direct connection between the COLSS and CPC systems, the operator uses a COLSS addressable constant (K24500) to enable COLSS to know the value of the CPC Aztilt Allowance.

While verifying point values for Aztilt on the PMC, Operations personnel noticed that the COLSS-CPC Aztilt Limit (PID K24500) was set lower than the CPC Aztilt Allowance (PID 063). On July 20, 1991, COLSS-CPC Aztilt Limit (PID K24500) was changed to 0.0178 and CPC Aztilt Allowance (PID 063) was changed to 1.0178, due to a reduction in reactor power for turbine (EIIS Identifier-TA) maintenance. (Because of the software differences in COLSS and CPCs, the values for COLSS of 0.0178 and CPCs of 1.0178, are actually equal). On July 21, 1991, CPC Aztilt Allowance (PID 063) was changed to 1.0125, as reactor power was returning to 100%, but COLSS-CPC Aztilt Limit (PID K24500) was left at 0.0178. The difference in the values remained until they were discovered on January 22, 1992.

NEC FORM 366 A

US NUCLEAR REQUIATORY COMMISSION

APPROVED DIME NO STEDIOTOR
EXPURES 4/30/97

EXPIRES 4/30/97 ESTIMATED BURDEN PER RESPONSE TO COMPLY WTH THIS INFORMATION COLLECTION REQUEST 500 HRE FORWARD DOMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F630). U.S. NUCLEAR REGULATORY COMMISSION WASHINGTON DC 20065. AND TO THE PREPREDIENT REQUESTOR PROJECT (3/150-0104). OFFICE OF MANAGEMENT AND BUDDET WASHINGTON DC 20002.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

Waterford Steam
Electric Station Unit 3

TEXT IN more space a required, use additional NRC form 3664 yr (17)

On January 22, 1992, when the discrepancy between the COLSS-CPC Aztilt Limit and CPC Aztilt Allowance was discovered, the COLSS-CPC Aztilt Limit was immediately changed to a value that corresponded with the CPC Aztilt Allowance. Because of the improper COLSS-CPC Aztilt limits, the TS Surveillance requirement was not met during the period from July 21, 1991 to January 22, 1992.

0 |5 |0 |0 |0 |3 | 8 |2

During investigation of the improper COLSS-CPC constants event, it was discovered that the plant procedure NE-005-103, COLSS Verification Alarm, which was intended to implement TS Surveillance Requirement 4.2.3.2c, did not fully implement the TS requirement. The procedure, NE-003-103, used a test value to actuate the COLSS Azimuthal Tilt Alarm, thereby testing the non-qualified alarm circuitry. However, this test value did not correspond to the CPC Azimuthal Tilt Allowance value as required in the TS.

NAC FORM MEA

U.S. NUCLEAR REQUILATORY COMMISSION

APPROVED DIAB NO 3150-0104 EXPIRES 4/30/92

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST 500 HRS FORWARD COMMENTS RECARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (FESS) US NUCLEAR REGULATORY COMMISSION WASHINGTON DC 20865 AND TO THE FARERWORK REDUCTION PROJECT 1550-0104 OFFICE OF MARKETMENT AND BUDGET WASHINGTON DC 20865

FACILITY NAME (1)	DO	CKI	ET I	VI.IM	10.1	(2)	-	2000		-	1		No. record	LER	N/JA	MB.E.F	16	and the same of	o oraș	and and	-	+1	10.6	31	
Waterford Staim												EAR	I	1	100	MEL	Å.	cic ess	Rig V	SID V	-				
Electric Station Unit 3	0	11	1	0	0	0	1	3	8	12	1	4 2			01	01	1	100	0.	0		6	OF	0	8
TEXT IF more assect is required, use additional NRC Form MEA 2/(17)	-		h		A	okees	-			4	ebene,	den	-den	de	pas, tarih	or other	_	Acres 1	A-resis	A		hormai	humid		-

Sequence of Events:

7-20-91 COLSS-CPC Aztilt Limit (PID K24500) was changed to 0.0178, and CPC Aztilt Allowance (PID 063) was changed to 1.0178, due to a reduction in reactor power for turbine maintenance

7.21-91 CPC Aztilt Allowance (PID 063) value was changed to 1.0125, due to an increase in reactor power, but COLSS-CPC Aztilt Limit (PID K24500) value was left at 0.0178. Operations personnel used procedure OP-004-006, Core Protection Calculator System, section 6.2, Changing Addressable Constants, instead of section 8.2, CPC Tilt Allowance Adjustment.

1-22-92 Operations personnel were performing a review of the PMC data, which involved verifying point values for Aztilt. Operations personnel noticed that the COLSS-CPC Aztilt Limit (PID K24500) was set lower than the CPC Aztilt Allowance (PID 063)

1-22-92 When the discrepancy between the COLSS-CPC Aztilt Limit and CPC Aztilt Allowance was discovered, the COLSS-CPC Aztilt Limit was immediately changed to a value that corresponded with the CPC Aztilt Allowance

NRC FORM SEEA

U.E. NUCLEAR REGULATORY COMMISSION

NA MODERN REGISER (DR.) SCHMINGERON

APPROVED ONE NO 3150-0108 EXPIRES 4/30/92

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST 500 HRS FORWARD COMMENTS RECURDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (FASE) U.S NUCLEAR REQULATORY COMMISSION WASHINGTON OF 2006 AND TO THE FARERWORK REDUCTION PROJECT (1350-0108) OFFICE OF MANAGEMENT AND BUDGET WASHINGTON DE 2006.

FACILITY NAME (1)	DO	KET	NUA	ARER	(2)	raint)		-	1	-	1.8	R N	LIMBE	FR 16	NORTH AND	-	 7.5	GE II	1
Waterford Steam Electric Station Unit 3	0	15	10	10	0	13	18	12				Г					7	OF	0 [8

TEXT (If more apace is required, use editional NRC form 300A's) (17)

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

Causal Factors

The cause of the incorrect COLSS constant is a combination of inadequate administrative controls in ensuring that changes in CPC Aztilt Allowance initiated a corresponding change in the COLSS-CPC Aztilt Limit and operator inadequate attention to detail. Waterford 3 is revising procedures to ensure that CPC Aztilt Allowance value are equal to the COLSS Aztilt Limit and Operations personnel involved in this event were counseled.

The cause of the failure to meet TS surveillance requirement 4.2.3.2c was a misinterpretation of the TS Surveillance requirement during procedure development. Guidance was utilized from Combustion Engineering (reference letter C-CE-8075) to develop the procedure to ensure that the intent of the TS was being met. However, this interpretation of the TS does not agree with the letter of the TS Surveillance requirement.

Corrective Measures

- 1. Immediate corrective actions were to correct the discrepancy between the COLSS-CPC Aztilt Limit and CPC Aztilt Allowance.
- 2. Waterford 3 is revising OP-004-006. Section 6.2, Core Protection Calculator System, to ensure that when a change is made to the CPC Aztilt Allowance addressable constant (PID 063), a corresponding change will be made to the COLSS Aztilt Limit (PID K24500). The estimated completion date for changes to OP-004-006 is April 4, 1992.
- 3. Operations personnel involved in this event were counseled.
- 4. NE-005-103, and associated test software will be revised to fully comply with TS 4.2.3.2c alarm testing requirements. The estimated completion date for changes to NE-005-103 is February 28, 1992.

No other COLSS-CPC related procedures exist which could have a similar error.

MAKE FEMA	A DOM: N

U.S. NUCLEAR REQUILATORY COMMISSION

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED ONE NO \$180-0104 EXPIRES 4/30/92

ESTIMATED BURDEN PER RESPONSE TO DOMPLY WIN THIS INFORMATION COLLECTION REQUEST 600 MRS FORMARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH PESOL US NUCLEAR REQULATORY COMMISSION MASHINDTON DO 2005E AND TO HE PAPERWORK REDUCTION PROJECT (23500-) OFFICE OF MANAGEMENT AND BUDGET WASHINGTON DC 2005

Waterford Steam	DOCK ET NO		LER NUMBER (8)	PAGE (3)
Electric Station Unit 3			TEAR BEGIVENTIAL PREVENTAL NUMBER	
	0 6 0	0 0 0 3 8 2	9 2 _ 0 0 1 _ 0 0 0	B OF 0 8

TEXT If more apace a required, was adultional NRC horo 306.4 tr. (17)

Safety Significance

Between July 20, 1991 and January 22, 1992, COLSS-CPC Aztilt Limit (FID K24500) had lower values than the CPC Aztilt Allowance (FID 063). During this time period, the Limiting Condition for Operation (LCO) for Azimuthal Power Tilt in excess of Azimuthal Power Tilt Allowance never exceeded the time limit for the LCO action requirement; therefore, the health and safety of the public and plant personnel were not jeopardized during this event.

Previous Events

NONE