

ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8809260179 DOC. DATE: 88/09/19 NOTARIZED: NO DOCKET #
 FACIL: 50-250 Turkey Point Plant, Unit 3, Florida Power and Light C 05000250
 AUTH. NAME AUTHOR AFFILIATION
 GROSS, K.W. Florida Power & Light Co.
 CONWAY, W.F. Florida Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 88-016-00: on 880811, containment spray pump out of
 service for maint exceeding Tech Spec limits. W/880919 ltr.
 W/8 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR / ENCL / SIZE: 5
 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

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PD2-2 LA	1	1	PD2-2 PD	1	1
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INTERNAL: ACRS MICHELSON	1	1	ACRS MOELLER	2	2
ACRS WYLIE	1	1	AEOD/DOA	1	1
AEOD/DSP/NAS	1	1	AEOD/DSP/ROAB	2	2
AEOD/DSP/TPAB	1	1	ARM/DCTS/DAB	1	1
DEDRO	1	1	NRR/DEST/ADS 7E	1	0
NRR/DEST/CEB 8H	1	1	NRR/DEST/ESB 8D	1	1
NRR/DEST/ICSB 7	1	1	NRR/DEST/MEB 9H	1	1
NRR/DEST/MTB 9H	1	1	NRR/DEST/PSB 8D	1	1
NRR/DEST/RSB 8E	1	1	NRR/DEST/SGB 8D	1	1
NRR/DLPQ/HFB 10	1	1	NRR/DLPQ/QAB 10	1	1
NRR/DOEA/EAB 11	1	1	NRR/DREP/RAB 10	1	1
NRR/DREP/RPB 10	2	2	NRR/DRIS/SIB 9A	1	1
NUDOCS-ABSTRACT	1	1	REG FILE 02	1	1
RES TELFORD, J	1	1	RES/DSIR DEPY	1	1
RES/DSIR/EIB	1	1	RGN2 FILE 01	1	1
EXTERNAL: EG&G WILLIAMS, S	4	4	FORD BLDG HOY, A	1	1
H ST LOBBY WARD	1	1	LPDR	1	1
NRC PDR	1	1	NSIC HARRIS, J	1	1
NSIC MAYS, G	1	1			

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Turkey Point Unit 3										DOCKET NUMBER (2) 0 5 0 0 0 2 5 0										PAGE (3) 1 OF 0 4	
TITLE (4) Containment Spray Pump Out of Service For Maintenance For Greater Than Technical Specifications Allowed Period Due to Lack of Knowledge Regarding Break-In Period																					
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)						
0 8	1 1	8 8	8 8	0 1 6	0 0	0 9	1 9	8 8							0 5 0 0 0						
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)																			
1		20.402(b)					20.406(c)					60.73(a)(2)(iv)					73.71(b)				
POWER LEVEL (10)		20.406(a)(1)(i)					60.36(e)(1)					60.73(a)(2)(v)					73.71(c)				
1 0 0		20.406(a)(1)(ii)					60.36(e)(2)					60.73(a)(2)(vi)					OTHER (Specify in Abstract below and in Text, NRC Form 366A)				
		20.406(a)(1)(iii)					X 60.73(a)(2)(i)					60.73(a)(2)(viii)(A)									
		20.406(a)(1)(iv)					60.73(a)(2)(ii)					60.73(a)(2)(viii)(B)									
		20.406(a)(1)(v)					60.73(a)(2)(iii)					60.73(a)(2)(x)									
LICENSEE CONTACT FOR THIS LER (12)																					
NAME Karl W. Gross, Compliance Engineer										TELEPHONE NUMBER AREA CODE 3 0 5 2 4 6 - 6 7 4 9											
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																					
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPD		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPD											
X	B	E	P	G	2 0 0	Y															
SUPPLEMENTAL REPORT EXPECTED (14)												EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR					
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)												<input checked="" type="checkbox"/> NO									

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

On August 11, 1988 at 1800 hours, the Turkey Point Unit 3 B Containment Spray Pump (CSP) exceeded the Technical Specification Limiting Condition for Operation by remaining out of service for greater than 24 hours. The CSP was removed from service at 1800 on August 10, 1988 to allow replacement of the rotating element. The pump rotating element was being replaced due to an upward trend in inboard bearing temperature detected during in-service testing. The pump rotating element was replaced and tested, however the newly installed pump experienced high bearing temperatures. Discussions were held with NRC and discretionary enforcement obtained to allow extension of the LCO by 48 hours. Evaluation of the bearing temperatures identified a break-in period for the new bearings installed with the new assembly. The pump was declared operable at 1740 on August 13, 1988, within the extended limit of 72 hours. The root cause was a lack of knowledge regarding the need for a break-in period for the new bearings. Corrective actions include personnel familiarity with the potential need for break-in operation in similar circumstances, and evaluation of material and experience gained during this event for inclusion in future training or system files.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
Turkey Point Unit 3	05000250	88	016	00	02	OF	04

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

Event Description

On August 11, 1988 at 1800 hours, the Turkey Point Unit 3 B Containment Spray Pump (3B CSP, EIIS System Code BE, Component Code P) exceeded the Technical Specification (TS) Limiting Condition For Operation (LCO) limit by remaining out of service for greater than 24 hours. Turkey Point TS 3.4.2.b.2 limits the period a CSP can be out of service to less than 24 hours. The 3B CSP was removed from service at 1800 hours on August 10, 1988, and returned to service on August 13, 1988 at 1740 hours.

Prior to August 10, 1988, inservice testing of the 3B CSP had identified an upward trend in temperature of the inboard pump bearing. The stabilized temperatures observed were not excessive, but the upward trend was evaluated as a potential indication of a problem. Based on this, it was determined prudent to investigate possible corrective measures.

The design of the 3B CSP was investigated during pre-planning and it was determined that to meet the TS LCO limit of 24 hours, changing the inboard bearing alone was not a viable solution. The design of the CSP is such that changing the bearing alone takes longer than replacing the entire rotating element of the pump. Based on this, and in an effort to assure continued pump operability and LCO compliance, the replacement of the pump rotating element was determined appropriate.

A spare rotating assembly for the pump had been previously obtained which was designed to be functionally identical to the existing pump. The spare assembly replacement fits within the same pump case and has an identical impeller to the originally supplied pump. The assembly includes new bearings, and replaces the entire pump except the casing.

To further assure that the LCO for a CSP out of service was met, extensive additional preplanning was performed. This included assurance of adequate qualified personnel available throughout the period. Finally to assure prompt availability of the CSP, a second maintenance crew was tasked to inspect the CSP assembly which was being removed and performing repairs needed in parallel with work to install the new assembly. This was done in the event the old assembly would have to be reinstalled due to a unforeseen circumstance.

The 3B CSP was declared out of service at 1800 on August 10, 1988 and work initiated. The replacement of the assembly went as expected with the required work completed by 1200 hours on August 11.

The new pump assembly was post-maintenance tested at this time.. Although new bearings were installed as part of the rotating assembly, the test determined that both the inboard and outboard bearing temperatures were showing an unexpected upward trend. The test was stopped prior to completion to resolve this issue. A minor oil leak and pump vibration were also identified.

The cause of the unexpected upward trend was investigated, and various engineering and vendor organizations were contacted for additional

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

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Turkey Point Unit 3	05000250	88	016	00	03	OF	04

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

support. While this was being done the minor oil leak and vibration problem were investigated and work begun to resolve them.

As the LCO limit approached, resolution of the bearing temperature issue was not apparent. The pump performance appeared appropriate based on the other test parameters, however the bearing temperatures remained unexplained. Plant management conservatively determined it inappropriate to declare the pump in-service without a full explanation of the observed bearing temperatures.

Turkey Point has been converting the existing custom Technical Specifications to a form similar to the Westinghouse Standardized Technical Specifications issued by the NRC. This TS project has reached the Proof and Review stage, with draft TS issued by the NRC. The proposed new TS limit for a single CSP out of service is 72 hours. Based on this imminent change, the operability of the other train CSP, and the emergency containment coolers and filters, the NRC Region II office was contacted to request discretionary enforcement for further investigation and resolution of the bearing temperature problem. The resident inspectors and the region reviewed the circumstances and agreed to extension of the LCO limit from 24 hours to 72 hours in accordance with the proposed new TS.

The oil leak and vibration problems on the pump were resolved while the investigation into the bearing temperatures continued. The CSP was retested a number of times. Vendors were contacted and consulted regarding possible explanations for the bearing temperatures being observed. This included contact with NSSS, pump, bearing, and lubricating oil vendor representatives. Periodically during this time, the results and available information was reviewed with the responsible plant management and NRC representatives.

Based on the information gathered and evaluations performed, on August 13, 1988, the bearing temperatures were determined to be at an expected level, based primarily on the need for a break-in run of the bearings. This was confirmed by a slight downward trend in bearing temperatures as the pump was run for additional periods during the retesting. Since the temperatures were at a level which was expected, the pump was returned to service at 1740 hours on August 13, 1988, within the extended LCO limit.

Cause of Event

The root cause of the event was a lack of knowledge related to the break-in run required for the bearings in the replacement pump rotating assembly. This lack of knowledge led to the conservative decision not to declare the pump in service until the observed phenomena could be fully explained. These delays were discussed with NRC personnel and discretionary enforcement obtained based on mitigating factors, to allow full resolution of the issue.

A minor oil leak and a vibration problem were also identified during post-work testing. Although they were not the direct cause of the delay in returning the pump to service, they did require resolution. The oil leak was caused by a defective seal supplied by the manufacturer. The vibration problem was determined to be due to an inadequate procedure for installation of the pump-to-motor coupling balance weights.

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

Analysis of Event

The Turkey Point Containment Spray System consists of two pumps, either of which is capable of removing the postulated post-accident containment atmosphere heat loads. The opposite train of the Containment Spray System remained operable during the period the 3B CSP was out of service. The three emergency containment coolers and the three emergency containment filters were also maintained operable during this period. Based on the above, this event did not affect the health and safety of the public.

Corrective Actions

- 1) The research and investigation into the higher than expected bearing temperatures has increased the awareness of responsible personnel of the potential need for a break-in period for similar circumstances. The engineering staff has assembled the detailed information related to this event and will evaluate its potential for use in training or incorporation into appropriate technical manuals or system files.
- 2) Inservice test procedure 3-OSP-068.2 was revised to reflect the bearing temperature limit established for the break-in period of the 3B pump.
- 3) The oil leak identified on the CSP bearing housing was repaired by replacement of the gasket supplied by the pump vendor. Subsequent tests did not display evidence of further leakage.
- 4) A revision to maintenance procedure MP 4207.2 will be made to ensure that personnel working on the CSP will be aware of the fact that the balance weights exist and must be installed in the correct position. This action will be completed by October 31, 1988.

Additional Information

The 3B CSP was manufactured by Goulds Pumps, model number 3736.

No similar events have been reported.

FPL

SEPTEMBER 19 1988

L-88-399
10 CFR 50.73


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

Gentlemen:

Re: Turkey Point Unit 3 .
Docket No. 50-250
Reportable Event: 88-16
Date of Event: August 11, 1988
Containment Spray Pump Out of Service For Maintenance For
Greater Than Technical Specifications Allowed Period
Due to Lack of Knowledge Regarding Break-In Period

The attached Licensee Event Report (LER) is being submitted pursuant to the requirements of 10 CFR 50.73 to provide notification of the subject event. A one week extension for the submittal of the report was made by FPL. This request was approved by a member of the NRC Region II Staff.

Very truly yours,


W. F. Conway
Senior Vice President - Nuclear

WFC/SDF/gp

Attachment

cc: Dr. J. Nelson Grace, Regional Administrator,
Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant