

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8802260206 DOC. DATE: 88/02/19 NOTARIZED: NO DOCKET # 05000389
 FACIL: 50-389 St. Lucie Plant, Unit 2, Florida Power & Light Co.
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 RECIP. NAME: RECIPIENT AFFILIATION: Document Control Branch (Document Control Desk)

SUBJECT: Special rept: on 880112, emergency diesel generator 2A failed to start. Caused by failed speed setting Bodine motor on 12 cylinder engine governor. Motor replaced & generator returned to svc.

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	NRR/DRIS/SIB9A1	1 1	NRR/PMAS/ILRB12	1 1
	<u>REG FILE</u> 02	1 1	RES TELFORD, J	1 1
	RES/DE/EIB	1 1	RES/DRPS DIR	1 1
	RGN2 FILE 01	1 1		
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	NRC PDR	1 1	NSIC HARRIS, J	1 1
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FEBRUARY 19 1988

L-88-80
Tech Spec

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

Gentlemen:

Re: St. Lucie Unit 2
Docket No. 50-389
Date of Event: January 12, 1988
Special Report on Diesel Generator Failure

The attached Special Report is being transmitted pursuant to the requirements of Technical Specification 4.8.1.1.3 and 6.9.1 to provide notification of the 2A Emergency Diesel Generator failure.

Very truly yours,


C. O. Woody
Executive Vice President

COW/GRM/dh

Attachment

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

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SPECIAL REPORT

DIESEL GENERATOR FAILURE

At 1326 hours on January 12, 1988, St. Lucie Unit 2 2A Emergency Diesel Generator (EDG) was started for a surveillance run. The EDG unit consists of two diesel engines, a 16 and 12 cylinder, driving one generator coupled in tandem. An alarm was received, "EDG 2A ONE ENGINE START FAILURE", indicating one of the engines had failed to start. The input signal to this alarm is a high temperature differential between the 16 and 12 cylinder engines exhaust temperatures. The hottest exhaust temperature indicates the engine which is picking up more load than the other.

After the start of the 2A EDG, a plant operator noticed that the exhaust temperature differential between the two engines exhaust was approximately 300 degree F. The 12 cylinder engine exhaust temperature was the lowest (<100F) indicating it failed to start. The operator then locally tripped the 2A EDG knowing that rated load could not be carried by the one 16 cylinder engine.

However, the control room operators had timed the start of the 2A EDG to be less than the required Technical Specification of 10 seconds. To allow operations personnel to assess and evaluate the performance of the 2A EDG, it was removed from service and restarted for test with maintenance personnel on hand locally.

Again after the start, the "EDG 2A ONE ENGINE START FAILURE" alarm was received and high exhaust temperature differential was observed. This condition continued during the loading and the unit failed to accept rated load. The 2A EDG was stopped and an investigation into the failure was performed.

The investigation revealed that the 12 cylinder engine's fuel racks would open at the start but then close causing the high exhaust temperature differential and the fail to start alarm. A failed speed setting Bodine motor on the 12 cylinder engine governor was the cause for the fuel racks not to open.

The Bodine motor was replaced and a failure analysis will be performed on it, by an independent vendor, to identify the root cause of the failure.

The 2A EDG was started for operability and the surveillance was completed satisfactorily. The 2A EDG was then returned to service at 1956 hours on January 12, 1988.

This is the third failure of a St. Lucie Unit 2 EDG within the last 100 valid starts. The surveillance frequency was changed to once every seven days, which is in conformance with Technical Specifications and Regulatory Guide 1.108 c.2.d. Revision 1, August 1977. The last EDG failure was on October 15, 1987.