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SUBJECT: Forwards special rept pursuant to requirements of facility tech specs 4.8.1.1.3 & 6.9.2 re emergency diesel generator failure.

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

Gentlemen:

Re: St. Lucie Unit 1
Docket No. 50-335
Special Report
Date of Event: July 5, 1991
Emergency Diesel Generator Failure

The attached Special Report is being transmitted pursuant to the requirements of St. Lucie Unit 1 Technical Specifications 4.8.1.1.3 and 6.9.2. The report provides notification of a 1A Emergency Diesel Generator failure on July 5, 1991, when St. Lucie Unit 1 operators were performing a fast start of the 1A Emergency Diesel Generator (EDG) in accordance with Technical Specification Surveillance requirement 4.8.1.1.2.a.4.

Should there be any questions on this information, please contact us.

Very truly yours,

A handwritten signature in dark ink, appearing to read 'D. A. Sager', is written over the typed name.

D. A. Sager
Vice President
St. Lucie Plant

DAS/JJB/kw

Attachment

cc: Stewart D. Ebnetter, Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, St. Lucie Plant

DAS/PSL #486-91

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NRC SPECIAL REPORT

VALID FAILURE OF THE 1A DIESEL GENERATOR

On July 5, 1991, St. Lucie Unit 1 control room operators were performing a fast start of the 1A Emergency Diesel Generator (EDG) in accordance with Technical Specification Surveillance requirement 4.8.1.1.2.a.4 which requires a ten second start from ambient conditions at least once per 184 days. This was a post maintenance surveillance following routine PM work performed by the Electrical Maintenance department the previous night. The EDG was started at 0915 and came to rated speed and voltage in 7.18 seconds. At 0917, the EDG output breaker was closed, allowing the operators to pick up load on the diesel. At approximately 1100 kw, the EDG would not pick up any more load with governor control. The 1A EDG was unloaded and shut down for investigation/repair.

The 1A EDG 16 cylinder governor was suspected to be the cause of the failed surveillance and troubleshooting was performed on it. During troubleshooting, the 1A EDG was restarted but again would only load to 1000 kw. The 1A diesel was stopped, remaining out of service. Subsequently, it was discovered that the 16 cylinder engine's governor face plate was installed such that it was coming into contact with the governor speed adjust knob connected to the Bodine motor. This interference prohibited the Bodine motor from operating at full speed, preventing proper governor operation. The governor face plate clearance was corrected and an area was bored out to insure adequate clearance between the governor face plate and the speed adjust knob. Additionally, the Bodine motor was damaged while running with this interference, and it was replaced. The 1A EDG was surveilled successfully following these repairs and declared back in service at 0151 on July 6. The total time that the 1A EDG was out of service was 28 hours and 14 minutes.

The cause of this failed surveillance was due to equipment failure in that the Bodine motor was damaged. This was due to improper installation of the 1A EDG governor face plate following preventive maintenance. This improper installation allowed the plate to come into contact with the governor speed adjust knob, preventing the Bodine motor from running at the required speed to allow adequate fuel delivery to the 16 cylinder motor and ultimately prohibiting the diesel from picking up more than 1100 kw of load.

Corrective actions were to restore proper clearance between the governor face plate and speed adjust knob, bore out additional material on the face plate to insure adequate clearance, to replace the damaged Bodine motor, and to perform a successful surveillance of the 1A EDG. The modification to the governor face plate will be made to the other diesel generators at St. Lucie during performance of maintenance that requires removal/reinstallation of the face plate.

In accordance with NRC Regulatory Guide 1.108 C.2.e.5, this event was evaluated as

a valid failure in that the unsuccessful loading of the 1A diesel was due to equipment malfunction. However, this equipment malfunction was due to improperly performed maintenance, rather than a preexisting condition in the 1A Emergency Diesel Generator.

Failure Summary:

With the recent incorporation of amendments to Technical Specification 3.8.1.1 (July, 1990), there have been no other recorded valid failures of the 1A Emergency Diesel Generator. Therefore, with 1 valid failure in the last 20 valid starts, the surveillance frequency remains once per 31 days as per Technical Specification 3.8.1.1.