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December 12, 1990

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
Reporting of Special Report

Gentlemen:

Attached is Special Report Number SR-90-003-00 for Waterford Steam Electric Station Unit 3. This Special Report is submitted per 10CFR50.36(c)(2) and Technical Specifications 4.8.1.1.3 and 6.9.2.

Very truly yours,

J.R. McGaha
General Manager Plant Operations

JRM/JEF:glp
Attachment

cc: Messrs. R.D. Martin
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SPECIAL REPORT

SR-90-003-00

Invalid Failure of Emergency Diesel Generator 'A' Due to a Control Air Reducer Failure

INTRODUCTION

At 1333 hours on November 12, 1990, Waterford Steam Electric Station Unit 3 was operating at 100% power when Emergency Diesel Generator (EDG) 'A' failed to start during the performance of "EDG Operability Verification Operating Procedure", OP-903-068. This event has been classified as an invalid failure.

The root cause of the event is a mechanical failure of the 30 psig reducer in the EDG 'A' control air system. This reducer provides air to the pneumatically operated fuel control valve (FCV). During normal starts, this FCV vents air to operate the fuel control cylinder which in-turn positions the injector fuel racks to the "on" position. Since 30 psig air was not avai' ble, the FCV would not allow the fuel control cylinder to move. The pneumatically operated FCV is in series with two electrically operated emergency mode FCVs. Operation of any one of these FCVs will vent air to operate the fuel control cylinder. The pneumatically operated FCV is not required in the emergency mode and would not have affected the ability of the EDG to perform its design safety function. Therefore, there was no hazard to plant equipment or the health and safety of the general public.

NARRATIVE

At 1333 hours on November 12, 1990, Waterford Steam Electric Station Unit 3 was operating at 100% power when Emergency Diesel Generator (EDG) 'A' failed to start during performance of operating procedure OP-903-068, "EDG Operability Verification". At 1449 hours, another attempt was made to start EDG 'A'. After cranking for approximately ten seconds, the operator returned the control switch to "off". The EDG 'A' fired briefly after the control switch was taken to "off".

Troubleshooting of the EDG was performed. The fuel rack was observed to operate when control air was removed. The 30 psig control air which operates the pneumatic fuel control valve (FCV) was found to be at atmospheric pressure. During normal starts, the FCV vents air to operate the fuel control cylinder which positions the fuel injector racks to the "on" position. Since the 30 psig air was not available, the fuel control cylinder would not move. The pneumatically operated FCV is in series with two electrically operated emergency mode FCVs. Operation of any one of these FCVs will vent air to operate the fuel control cylinder. The event has been classified as an invalid diesel generator failure by the criteria of Regulatory Guide 1.108 C.2.e(2) due to a malfunction of equipment that is non-operative in the emergency operating mode. This report is submitted pursuant to Technical Specifications (TS) 4.8.1.1.3 and 6.9.2.

The root cause of the event is equipment failure. A circumferential crack occurred on the spring cap of the 30 psig reducer in the EDG 'A' control air system which provides air to the pneumatically operated FCV. All EDG control air reducers have been inspected to ensure similar problems did not exist.

NARRATIVE (Cont'd)

There has only been one failure during a valid test of EDG 'A' at Waterford 3 since the operating license was issued. The surveillance test interval required by TS table 4.8-1 has always been "at least once per 31 days" since issuance of the operating license. The pneumatically operated FCV is not required in the emergency mode and would not have affected the ability of the EDG to perform its designed safety function. Therefore, this event did not present a hazard to plant equipment or the health and safety of the general public.

PLANT CONTACT

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