

ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9210260003 DOC. DATE: 92/10/21 NOTARIZED: NO DOCKET #
 FACIL: 50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylv 05000387
 AUTH. NAME AUTHOR AFFILIATION
 STANLEY, H.G. Pennsylvania Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION
 MARTIN, T.T. Region 1 (Post 820201)

SUBJECT: Special rept: on 920921, EDG A failed to start within 10 s during monthly operability surveillance test. Cause not positively determined. Fuel supply piping flushed, vibration analysis performed & check valve & relay replaced.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR (ENCL 0) SIZE: 3
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES: Maxwell, G

05000387/

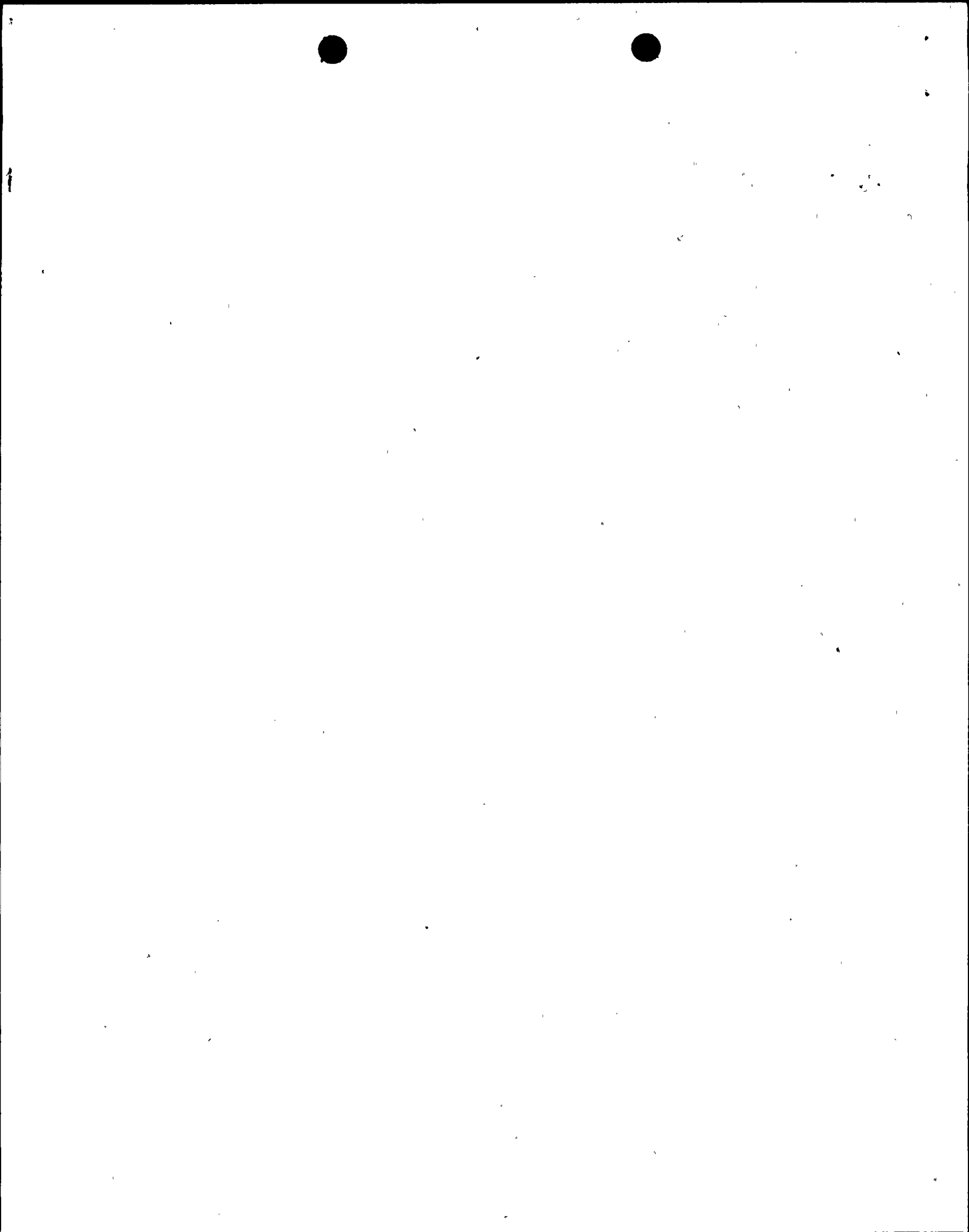
	RECIPIENT		COPIES		
	ID CODE/NAME	LTR	ENCL		
	PD1-2 LA	1	1		
	RALEIGH, J.	1	1		
INTERNAL:	ACNW	2	2		
	AEOD/DOA	1	1		
	AEOD/ROAB/DSP	2	2		
	NRR/DLPQ/LHFB10	1	1		
	NRR/DOEA/OEAB	1	1		
	NRR/DST/SELB 8D	1	1		
	NRR/DST/SPLB8D1	1	1		
	<u>REG FILE</u> 02	1	1		
	RGNI FILE 01	1	1		
EXTERNAL:	EG&G BRYCE, J.H	2	2		
	NRC PDR	1	1		
	NSIC POORE, W.	1	1		
NOTES:		1	1		

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK.
 ROOM P1-37 (EXT. 504-2065) TO ELIMINATE YOUR NAME FROM DISTRIBUTION
 LISTS FOR DOCUMENTS YOU DON'T NEED!

TOTAL NUMBER OF COPIES REQUIRED: LTR 32 ENCL 32⁰

JA 2





Pennsylvania Power & Light Company

October 21, 1992

Two North Ninth Street • Allentown, PA 18101 • 215 / 770-5151

Mr. T. T. Martin
Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

SUSQUEHANNA STEAM ELECTRIC STATION
SPECIAL REPORT - 'A' DIESEL GENERATOR
SLOW START
PLAS- 539 FILE R41-2

Docket No. 50-387
License No. NPF-14

Dear Mr. Martin:

All Diesel Generator failures, valid or invalid, are to be reported as required by Regulatory Guide 1.108, Section C.3.b, and Technical Specification 4.8.1.1.4. This Special Report describes a condition which was determined to constitute a valid test and failure on the 'A' Emergency Diesel Generator.

DESCRIPTION OF EVENT

At 0905 hours on September 21, 1992, with Unit 1 in Condition 1 at 100% power and Unit 2 in Condition 5 and defueled, the 'A' Emergency Diesel Generator (EDG; EIIS Code: EK) failed to start within 10 seconds, as required by the plant's Technical Specifications, during monthly operability surveillance testing. The times recorded to reach rated frequency, speed and voltage were 11.39, 11.15 and 10.58 seconds, respectively. The 'A' EDG was declared inoperable and Technical Specification ACTIONS 3.8.1.1.b and 3.8.1.1.d were taken.

CAUSE OF EVENT

Investigations into the cause of the 9/21/92 'A' EDG slow start have, at this time, found no positive root cause (see Corrective Actions). Additional testing is being performed to either confirm that the condition has been corrected or to identify the need for further investigations. The results of this additional testing will be provided as a followup to this Special Report.

SAFETY CONSEQUENCES/REPORTABILITY

There were no safety consequences or compromise to public health or safety as a result of this event. Three EDGs remained OPERABLE at all times, as required by the Susquehanna Safety Analysis, to perform their design safety function.

0200070
9210260003 921021
PDR ADDCK 05000387
S PDR

JEZ | C

The 9/21/92 slow start of the 'A' EDG is considered a valid test and failure, in accordance with the guidelines of Regulatory Guide 1.108, Section C.2.e., and is reportable pursuant to Technical Specification 4.8.1.1.4.

CORRECTIVE ACTIONS

A maintenance investigatory start was performed at 1116 hours on 9/21/92 while monitoring several key engine and auxiliary components and parameters. The following were monitored:

- Pneumatic control pressure
- Fuel shutoff valve operation
- Fuel rack operation
- Starting air valve operation
- Air receiver blowdown
- Fuel oil booster pump start/stop timing
- Fuel oil pressure rise on startup

A satisfactory start occurred in approximately 7.7 seconds during the maintenance investigatory start. No abnormal operation of any component was observed and no external fuel oil leaks were observed. Two relays in the start circuit for the fuel oil booster pump were removed and examined. The fuel oil booster pump is designed to start immediately upon EDG start initiation and stop when the EDG exceeds 540 rpm. Dirty contacts were observed on one relay and higher than normal contact resistance was found on the other relay. The relay with high contact resistance was replaced. The contacts were burnished on the relay whose contacts were found to be dirty and the relay was re-inserted. During a test start performed on 9/28/92 the EDG start was successful, however, the start time was 9.4 seconds, which is in excess of the start times normally seen. Again, no abnormal operation of any component was observed during the start.

Following the 9/28/92 start, several additional maintenance activities were performed as follows:

- o A flow orifice in the fuel oil supply line was inspected. It was found to be within tolerance
- o A check valve whose function is to hold a seal to prevent backflow from the engine fuel header was replaced.
- o A check valve in the fuel oil booster pump discharge line was removed and inspected. No problem was found.
- o The fuel supply piping was flushed. No debris was found in the piping.
- o A vibration analysis was performed on the fuel oil booster pump. All readings were determined to be within normal ranges.
- o The relay whose contacts had been cleaned earlier was replaced with a new relay.



Due to Unit 2 refueling outage constraints, no additional start testing of the 'A' EDG has been performed since the 9/28/92 start (the 'E' EDG, which is a fifth and spare EDG at SSES, has been in substitution for the 'A' EDG during recent Unit 2 refueling outage testing).

An action plan for further testing of the 'A' EDG has been developed by Nuclear Systems Engineering to either confirm that the condition has been corrected or to identify the need for additional investigations. The results of this additional testing will be provided as a followup to this Special Report.

The 'A' EDG Start Log indicates that there is one (1) failure in the last 20 valid tests. The 'A' EDG test interval required by Technical Specification Table 4.8.1.1.2-1 is one start at least once every 31 days.

TC Halpin for HGS

H. G. Stanley
Superintendent of Plant - Susquehanna

RRW/mjm

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

Mr. G. S. Barber
Sr. Resident Inspector
U.S. Nuclear Regulatory Commission
P.O. Box 35
Berwick, PA 18603-0035