

ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9107230404 DOC. DATE: 91/07/19 NOTARIZED: NO DOCKET #
 FACIL: 50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylv 05000387
 AUTH. NAME AUTHOR AFFILIATION
 WEHRY, R.R. Pennsylvania Power & Light Co.
 STANLEY, H.G. Pennsylvania Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 91-007-01: on 910619, C EDG failed to reach Tech Spec
 required speed, frequency & voltage within required time.
 Caused by air entrapment in fuel supply header. C EDG being
 tested once every seven days. W/910719 ltr..

DISTRIBUTION CODE: IE22T COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 70
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES: LPDR 1 cy Transcripts. 05000387 A

		RECIPIENT	COPIES	RECIPIENT	COPIES	
		ID CODE/NAME	LTR ENCL	ID CODE/NAME	LTR ENCL	
		PD1-2 LA	1 1	PD1-2 PD	1 1	
		THADANI, M.	1 1			
INTERNAL:		ACNW	2 2	ACRS	2 2	
		AEOD/DOA	1 1	AEOD/DSP/TPAB	1 1	
		AEOD/ROAB/DSP	2 2	NRR/DET/ECMB 9H	1 1	
		NRR/DET/EMEB 7E	1 1	NRR/DLPQ/LHFB10	1 1	
		NRR/DLPQ/LPEB10'	1 1	NRR/DOEA/OEAB	1 1	
		NRR/DREP/PRPB11	2 2	NRR/DST/SELB 8D	1 1	
		NRR/DST/SICB8H3	1 1	NRR/DST/SPLB8D1	1 1	
		NRR/DST/SRXB 8E	1 1	REG-FILE 02	1 1	
		RES/DSIR/EIB	1 1	RGN1 FILE 01	1 1	
EXTERNAL:		EG&G BRYCE, J.H	3 3	L ST LOBBY WARD	1 1	
		NRC PDR	1 1	NSIC MURPHY, G.A	1 1	
		NSIC POORE, W.	1 1	NUDOCS FULL TXT	1 1	
NOTES:			2 2			

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK,
 ROOM P1-37 (EXT. 20079) TO ELIMINATE YOUR NAME FROM DISTRIBUTION
 LISTS FOR DOCUMENTS YOU DON'T NEED!

FULL TEXT CONVERSION REQUIRED
 TOTAL NUMBER OF COPIES REQUIRED: LTR 35 ENCL 35

AD

R
I
D
S
/
A
D
D
S





Pennsylvania Power & Light Company

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

July 19, 1991

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

SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 91-007-00
FILE R41-2
PLAS - 491

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

Attached is Licensee Event Report 91-007-00. This event was determined reportable per 10CFR50.73(a)(2)(vii) in that a single condition resulted in the potential for two or more independent channels to become inoperable in a single support system designed to shut down the reactor, maintain it in a safe shutdown condition and mitigate the consequences of an accident. Namely, air entrapment in the Emergency Diesel Generator (EDG) fuel oil headers, identified as the cause of a 'C' EDG slow start time on June 19, 1991, could potentially result in start times exceeding those required, when the EDGs are tested once per 31 days in accordance with the Technical Specifications.

H.G. Stanley
Superintendent of Plant - Susquehanna

RRW/mjm

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

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

9107230404 910719
PDR ADOCK 05000387
S PDR

IR22
11

LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Susquehanna Steam Electric Station - Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 3 8 7	PAGE (3) 1 OF 0 9
--	--	----------------------

TITLE (4)
'C' Emergency Diesel Start Time Exceeded Technical Specification Requirements

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		
06	19	91	91	007	00				SSES-Unit 2		
									DOCKET NUMBER(S) 0 5 0 0 0 3 8 8		

OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)										
POWER LEVEL (10) 1 0 0	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 60.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)							
	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 60.38(c)(1)	<input type="checkbox"/> 60.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)							
	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 60.38(c)(2)	<input checked="" type="checkbox"/> 60.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)							
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 60.73(a)(2)(i)	<input type="checkbox"/> 60.73(a)(2)(viii)(A)								
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 60.73(a)(2)(ii)	<input type="checkbox"/> 60.73(a)(2)(viii)(B)								
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 60.73(a)(2)(iii)	<input type="checkbox"/> 60.73(a)(2)(ix)									

LICENSEE CONTACT FOR THIS LER (12)										
NAME Richard R. Wehry - Power Production Engineer							TELEPHONE NUMBER 71 1 7 51 41 21 -1 31 61 61 4			

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)											
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS	

SUPPLEMENTAL REPORT EXPECTED (14)										
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)										<input checked="" type="checkbox"/> NO
EXPECTED SUBMISSION DATE (15)								MONTH	DAY	YEAR

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

At 1458 hours on June 19, 1991, with both Unit 1 and Unit 2 in Condition 1 at 100% power, the 'C' Emergency Diesel Generator (EDG) failed to reach Technical Specification required speed, frequency and voltage within the required time of 10 seconds or less during its monthly operability test per Technical Specification surveillance requirement 4.8.1.1.2.a. Measured start time was 24 seconds. The 'C' EDG was declared inoperable and a root cause investigation was commenced. The most probable cause of the slow start was attributed to air entrapment in the fuel supply header which led to slower engine acceleration on fuel oil. The cause of the fuel header air entrapment was attributed to a fuel system flowing vent modification implemented on EDGs 'A' through 'D' in 1990. The modified fuel piping design can potentially result in partial draining of the fuel supply header when the EDG is only run once every 31 days for its monthly operability test. An effective means to vent the air upon startup was not provided by the modification. Since this problem was a potential contributor to a 'D' EDG slow start during a troubleshooting run on 3/25/91, the flowing vents had been re-modified on that engine and were to be implemented as a precautionary measure on 'A', 'B' and 'C' EDGs at their next inspection outage. These re-modifications have been completed on 'A' and 'C' and will be implemented on the 'B' EDG by August 16, 1991. Until implementation, the 'B' EDG is being tested once every 15 days as a prudent measure. The 'C' EDG is being tested once every 7 days per Tech Spec Table 4.8.1.1.2-1. There were no safety consequences or compromise to public health or safety since three EDGs remained OPERABLE as required by the SSES Safety Analysis.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Unit 1 Susquehanna Steam Electric Station	DOCKET NUMBER (2) 0 5 0 0 0 3 8 7	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		9 1	— 0 0 7	— 0 0	0 2	OF	0 9

TEXT (If more space is required, use additional NRC Form 368A's) (17)

DESCRIPTION OF EVENT

At 1458 hours on June 19, 1991, with both Unit 1 and Unit 2 in Condition 1 at 100% power, the 'C' Emergency Diesel Generator (EDG; EIIS Code: EK) failed to reach Technical Specification required speed, frequency and voltage within the required time of 10 seconds or less during its monthly operability test per Technical Specification 4.8.1.1.2.a. Measured start time was 24 seconds. The 'C' EDG was shutdown, Limiting Condition for Operation (LCO) ACTION 3.8.1.1 was taken for both Unit 1 and Unit 2 and a root cause investigation was commenced.

CAUSE OF EVENT

During the surveillance start on 6/19/91, Maintenance personnel were present to monitor key engine functions during the start. An installed visicorder provided a good record of important diesel generator parameters. The monitoring conclusively identified the cause of the slow start as a fuel oil delivery problem. This conclusion was based on the following:

- 0 Fuel oil pressure was observed to stay low for an extended duration into the start instead of rising in 2 to 8 seconds as is normal.
- 0 The Fuel Control Rack remained fully open for the start duration (normal operation)
- 0 Observed Air Start System operation was normal.
- 0 Visicorder traces showed all generator parameters to be normal.

Potential causes of a delay in fuel delivery to the engine cylinders are improper fuel control rack operation, failure of the Fuel Oil Booster Pump/Valves or excessive air in the fuel oil header.

The fuel control rack operation was normal, as observed by Maintenance personnel during the start. Inspection immediately after the slow start verified no fuel piping leaks which could have caused the failure. A manual start of the Fuel Oil Booster Pump was initiated to determine if a pump or pressure regulator valve problem was evident. During the manual start, fuel oil pressure rise was normal and within 2 seconds, demonstrating proper manual operation of the Booster Pump and a completely "solid" (no air voiding) fuel oil supply header.

To verify proper automatic Booster Pump operation, a troubleshooting start was performed on the 'C' EDG at 1611 hours, 6/19/91. The Booster Pump was observed to start immediately and stop after a few seconds, per its design. Fuel pressure was observed to rise to rated pressure within 3 seconds. All observations confirmed correct Booster Pump operation. The 'C' EDG start time during the troubleshooting run was 7.7 seconds.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Unit 1 Susquehanna Steam Electric Station	DOCKET NUMBER (2) 0 5 0 0 0 3 8 7	LER NUMBER (8)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		9 1	- 0 0 7	- 0 0	0 3	OF	0 9

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

The monthly surveillance test was repeated at 1715 hours on 6/19/91. The start time was normal at 7.6 seconds. Again, monitoring by Maintenance personnel confirmed proper fuel system operation. The test was successfully completed in its entirety and the 'C' EDG was shutdown at 2132 hours on 6/19/91.

Based on the investigation, the most probable cause of the 'C' EDG slow start has been concluded to be excessive air trapped in the fuel supply header existing prior to the initial surveillance run on 6/19/91. The cause of air entrapment within the fuel supply header is believed to be due to an injection pump flowing vent modification which had been implemented on the 'C' EDG in August 1990. The flowing vent modification had been installed to alleviate an injection pump overheating problem at idle or low power engine operation by draining excess fuel oil back to the main fuel oil storage tanks. The new flowing vents have been found ineffective in venting air from the fuel header during startup. This modification had been installed on EDGs 'A' through 'D' between August and October 1990. It should be noted that EDG 'E', which is a fifth and spare EDG at Susquehanna, is of a different design and did not require this modification. Warmer outside temperatures experienced recently have made the problem more evident as decreased fuel oil viscosity results in faster draining, thus increasing the rate at which air enters the fuel header.

Prior to the 'C' EDG 6/19/91 slow start, a concern for potential voiding of a fuel supply header had only been surmised for the 'D' EDG. The 'D' EDG had experienced a slow start on March 25, 1991 during a maintenance troubleshooting run. Although the root cause of the 'D' EDG slow start could not be conclusively determined, one potential contributor was identified as the modification to the fuel oil flowing vent lines. As a result, the flowing vent lines were re-modified to eliminate a potential fuel header voiding problem (see attached sketches). Similar re-modifications were developed at that time to be implemented as a precautionary measure on the 'A', 'B' and 'C' EDGs during their next inspection outages.

A start failure was experienced on the 'A' EDG on April 22, 1991 (see Docket 50-388 LER 91-006-00). In-depth investigations determined the most likely cause of that event to be a sticky pneumatic valve which was not repeatable during testing. Incorrect fuel control rack operation resulting in the start failure was observed by maintenance personnel. Proper fuel oil pressure rise had been observed during that test and, as such, it is not believed that the flowing vent modification was the cause of that slow start.

REPORTABILITY/ANALYSIS

This event was determined to be reportable per 10CFR50.73(a)(2)(vii) in that a single condition resulted in a potential for two or more independent channels to become inoperable in a single support system designed to shut down the reactor, maintain it in a safe shutdown condition and mitigate the consequences of an accident. Namely, air entrapment in the fuel supply headers of the EDGs, identified as the most probable cause of the 6/19/91 'C' EDG slow start and caused by a modification performed on 'A' through 'D' EDGs in 1990, could

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH, (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Unit 1 Susquehanna Steam Electric Station	DOCKET NUMBER (2) 0 5 0 0 0 3 8 7	LER NUMBER (6)			PAGE (3)		
		YEAR 9 1	SEQUENTIAL NUMBER 0 0 7	REVISION NUMBER 0 0	0 4	OF	0 9

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

potentially result in start times exceeding those required when the engines are started once per 31 days in accordance with the Technical Specifications.

An injection pump flowing vent modification was implemented on the 'A' through 'D' EDGs between August and October 1990. The flowing vent modification was installed to alleviate an injection pump overheating problem at idle or low power engine operation (The 'E' EDG (spare EDG) is a different design and did not require this modification). Prior to the 6/19/91 'C' EDG slow start, a concern for potential fuel supply header voiding had only been identified relative to the 'D' EDG, which had experienced a slow start on March 25, 1991 during a troubleshooting run. Although the root cause investigation did not identify a definitive cause for the 03/25/91 slow start, voiding in the fuel supply header as a result of the flowing vent modification was identified as a potential contributor. As a precautionary measure, the flowing vent design was re-modified to eliminate the potential for fuel header voiding. Similar re-modifications were scheduled for the 'A', 'B' and 'C' EDGs at that time, to be implemented as a precautionary measure during their next inspection outages.

Following the 'C' EDG slow start at 1458 hours on 6/19/91, a Maintenance troubleshooting start was performed at 1611 hours. The EDG successfully started in 7.7 seconds. The monthly surveillance test was repeated at 1712 hours on 6/19/91, with a successful 'C' EDG start time of 7.6 seconds. To verify 'C' EDG OPERABILITY, the monthly surveillance test was again repeated at 0535 hours on 6/20/91 from ambient conditions in order to verify that no other failure mechanism was being masked by the relatively short shutdown time between the previous three starts. This start was also successful and the 'C' EDG was declared OPERABLE at 0535 hours on 6/20/91.

As a result of the 6/19/91 slow start, the 'C' EDG Start Log indicated that there were two (2) 'C' EDG failures in the last 20 valid tests. The 'C' EDG test interval, therefore, is one start at least once per 7 days per Technical Specification Table 4.8.1.1.2-1. Per Table 4.8.1.1.2-1, this test frequency shall be maintained until seven consecutive failure free demands have been performed and the number of failures in the last 20 valid demands has been reduced to one or less. However, in light of the potential for fuel supply header air entrapment during longer periods of no operation, as determined by the root cause analysis investigation, PP&L shall continue the 'C' EDG test interval of one start at least once per seven days until the re-modification to the flowing vents is implemented. Potential partial draining of the header appears to be dependent on the time the engine sits idle. The problem has not been experienced when the engine is run more frequently than once per 31 days. The once every 7 days testing of the 'C' EDG to date has been successful with no recurrences of start times exceeding 10 seconds.

Following the 6/19/91 'C' EDG slow start, the 'A' and 'B' EDGs were started to demonstrate that a voiding problem was not affecting their start times. Both starts were successful (previous starts on both EDGs had been 19 days earlier). As a prudent measure, PP&L has implemented a testing interval on the 'A' and

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Unit 1 Susquehanna Steam Electric Station	DOCKET NUMBER (2) 0 5 0 0 0 3 8 7	LER NUMBER (6)			PAGE (3)	
		YEAR 9 1	SEQUENTIAL NUMBER - 0 0 7	REVISION NUMBER - 0 0	0 5	OF 0 9

TEXT (If more space is required, use additional NRC Form 368A's) (17)

'B' EDGs of one start every 15 days. This test interval shall continue for each EDG until the flowing vent re-modification is implemented.

The flowing vent re-modification has been completed on the 'C' and 'A' EDGs and is expected to be implemented on the 'B' EDG by August 16, 1991.

Three EDGs remained OPERABLE during this event as required by the SSES Safety Analysis to perform their design function, if required to do so. As such, there were no safety consequences or compromise to public health or safety as a result of this event. Although the 'C' EDG was inoperable per Tech Spec 3.8.1.1 for 14 hours and 37 minutes during the investigation and troubleshooting, it was actually available for operation after the 24 second start time following the purging of air from its fuel header.

CORRECTIVE ACTIONS

Inspections immediately after the failure verified no fuel piping leaks that could have lead to the slow start. A manual Fuel Oil Booster Pump start was initiated to determine if a pump or pressure regulator valve problem was evident. Fuel pressure rise was normal and within 2 seconds, demonstrating proper operation of the Booster Pump and a completely "solid" (no air voiding) fuel supply header.

Fuel Control rack operation was observed to be normal.

A troubleshooting start was performed and the 'C' EDG start time was 7.7 seconds. The Booster Pump was observed to start immediately and stop a few seconds later per its design. Fuel pressure was observed to rise to rated pressure within 3 seconds.

The monthly surveillance test was repeated. Start time was 7.6 seconds. Proper fuel system operation was again observed.

The 'C' EDG was started from ambient conditions at 0535 hours on 6/20/91. The purpose of this restart was to verify that no other failure mechanism was being masked by the relatively short shutdown times between the previous starts. Following the successful start, the 'C' EDG was declared OPERABLE.

The 'C' EDG is being tested once every seven days in accordance with the Technical Specification requirements. Additionally, PP&L performed start tests on the 'A' and 'B' EDGs. As a prudent measure, these EDGs are being started once every 15 days until the flowing vent re-modification is implemented on them. The flowing vent re-modification has been completed on the 'A' and 'C' EDGs. It is anticipated that the flowing vent re-modification will be implemented on the 'B' EDG by August 16, 1991.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Unit 1 Susquehanna Steam Electric Station	DOCKET NUMBER (2) 0 5 0 0 0 3 8 7	LER NUMBER (6)			PAGE (3)		
		YEAR 9 1	SEQUENTIAL NUMBER - 0 0 7	REVISION NUMBER - 0 0	0 6	OF	0 9

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

ADDITIONAL INFORMATION

This Licensee Event Report also fulfills the requirement for issuance of a Special Report per Technical Specification 4.8.1.1.4 for all EDG failures, valid or non-valid.

Failed Component Identification: None identified

Previous Similar Events: LER 90-015-00 reported a slow start on the 'A' EDG 7/26/90. The cause of the slow start was a sheared 1" reducer on the air start header piping.

PLAS-455 (Special Report) described a slow start on the 'D' EDG on 10/30/90. No positive root cause was determined.

PLAS-428 (Special Report) described a slow start on the 'E' EDG on 5/15/90. This slow start was attributed to air infiltration into the fuel oil piping as a result of a Fuel Oil Booster pump suction flange leak.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: SEND THIS FORWARD COMMENT REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH, 300 U.S. NUCLEAR REGULATORY COMMISSION BUILDING, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (6)

PAGE (3)

Unit 1

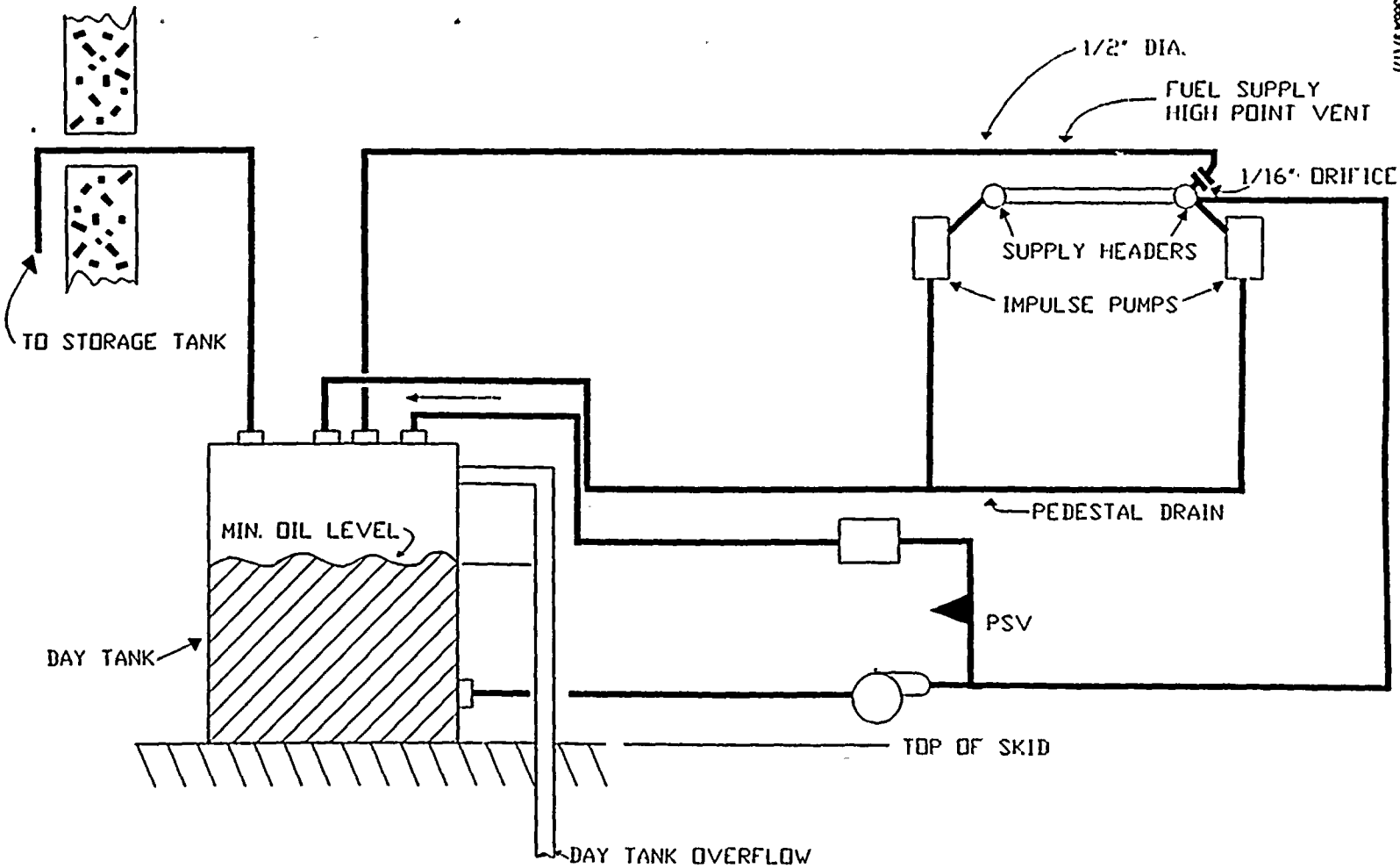
Susquehanna Steam Electric Station

05101003817

YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	OF
91	1	0	1
17	0	10	7
			019

TEXT (If more space is required, use additional NRC Form 368A 9/1/87)

ORIGINAL DIESEL DESIGN



LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUIREMENT IS 300 HRS. FORWARD COMMENTS ON THIS BURDEN ESTIMATE TO THE RECORDS AND IDENTIFICATION MANAGEMENT BRANCH (P-530) U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (6)

PAGE (3)

Unit 1

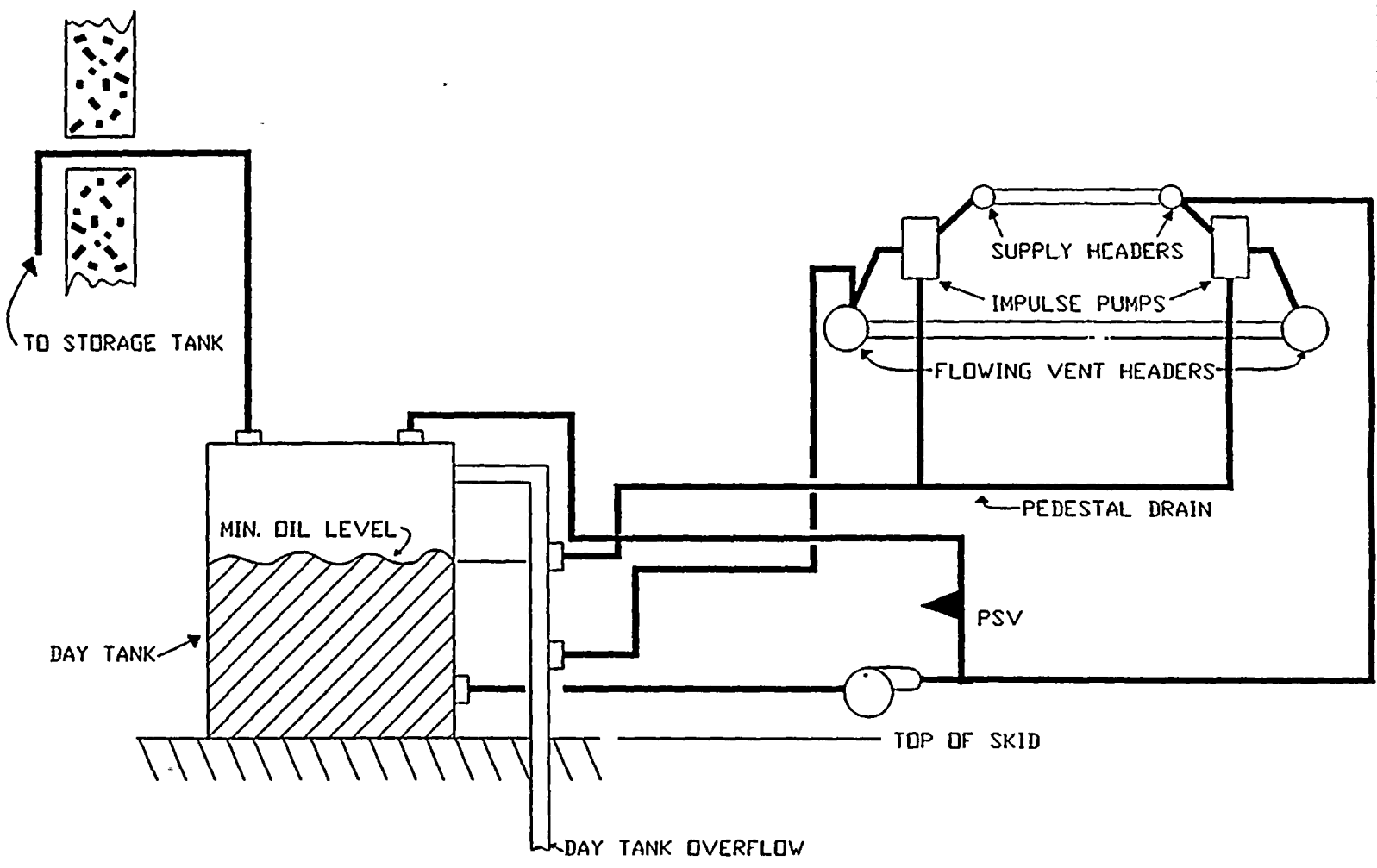
Susquehanna Steam Electric Station

0 1 5 1 0 1 0 0 1 3 1 8 1 7

9 1 1 - 0 1 0 1 7 - 0 1 0 0 1 8 OF 10 1 9

TEXT (if more space is required, use additional NRC Form 388A (7/117))

INITIAL FLOWING VENT MOD.



LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 300 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (R-230), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545. OFFICE OF THE PAPEWORK REDUCTION PROJECT (150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (6)

PAGE (3)

0 1 5 1 0 1 0 1 0 3 1 8 1 7

9 1 1 - 0 1 0 7 - 0 1 0 0 1 9 OF 0 1 9

YEAR	SEQUENTIAL NUMBER	REVISION NUMBER
911	0107	010

TEXT (If more space is required, use additional NRC Form 366A(1) (17))

AFTER COMPLETION OF NEW DESIGN

