

JUL 09 1981

Docket Nos. 50-317  
and 50-318

Mr. A. E. Lundvall, Jr.  
Vice President - Supply  
Baltimore Gas and Electric Company  
Post Office Box 1475  
Baltimore, Maryland 21203



Dear Mr. Lundvall:

Subject: Information Request Regarding Station Blackout, Unresolved  
Safety Issue A-44, Calvert Cliffs Units 1 and 2

The NRC staff is currently addressing Unresolved Safety Issue (USI) A-44, Station Blackout. The purpose of this work is to establish the safety significance of an event resulting in a loss of all alternating current power and, if significant, to consider the need for any specific changes. Over the past several years information requests have been forwarded which requested information that is being used in the USI analysis. Your interest and cooperation in the past have been appreciated.

At this time the USI A-44 effort is being directed toward determining the reliability of the onsite standby diesel generators. The enclosed questionnaire has been prepared to provide accurate operating experience to serve as a basis for such a determination. More specifically, its purpose is to obtain more detailed data than were available in previous diesel generator studies such as AEC-00E-ES-002, NUREG/CR-0660, and NUREG/CR-1362.

The questionnaire (enclosure 1) requests information in tabular form and solicits data for the years 1976 through 1980, inclusive. There are four tables enclosed: (1) Diesel Generator Operations Data, (2) Diesel Generator Scheduled Down Time Record, (3) Diesel Generator Unscheduled Down Time Record, and (4) Onsite Emergency Diesel Generator and Auxiliary Equipment Modification Record. Also enclosed are examples of completed tables as well as a clarification of what should be entered. Please note that, although it may appear that only Licensee Event Report (LER) information is sought, data on all diesel generator malfunctions, independent of whether an LER was prepared, is requested.

Please find enclosed LER documentation (enclosure 2) presently docketed for your facility. You are requested to review these and to indicate if there are other reports which have not been enclosed. Finally, please find enclosed a copy of the appropriate portions of your response (enclosure

OFFICE	B107220001 B10709					
SURNAME	PDR A: JCK 05000317					
DATE	F PDR					

Mr. A. E. Lundvall, Jr.

- 2 -

3) to our letter of March 6, 1978 which requested related, but different, information. This is being forwarded for your information only and should aid in preparing Tables 1 through 4.

In consideration of the time and effort necessary to obtain this information, the completion of Table 4 should be considered voluntary. However, it should be noted that if operational and hardware modifications are not identified, the positive or negative influence of these features on emergency alternating current power reliability may be lost in the evaluation of the data. The expected effect is that our generic reliability estimates may be lower than that which actually exists.

The above information is requested in accordance with Sections 103.b.(3) and 161.c of the Atomic Energy Act of 1954, as amended. To meet our schedule requirements for the resolution of USI A-44 and to incorporate as much real experience as possible into the reliability model for emergency power systems, it is requested that your response be provided within 90 days of the receipt of this letter. However, if this schedule is inconsistent with priority requirements for other licensing work, please provide us with your proposed date of response within 30 days. We plan to complete our analysis of this data by February 1982. Your data should be provided by that time so that an accurate assessment of onsite alternating current power sources can be made.

Mr. P. Baranowsky has been designated Task Manager for USI A-44. Should you have any questions, please feel free to contact him at (301) 443-5921. Your time and efforts are appreciated.

DISTRIBUTION

See attached list

Sincerely,

Original signed by  
Robert A. Clark

Robert A. Clark, Chief  
Operating Reactors Branch #3  
Division of Licensing

Enclosures:  
As Stated

cc: w/enclosures  
See next page

This request for information was approved by the Office of Management and Budget under clearance number 3150-0067 which expires May 31, 1983. Comments on burden and duplication may be directed to the Office of Management and Budget, Washington, D. C. 20503.

OFFICE	DSF GIB	DL:ORB#3	DL:ORB#3	DL:ORB#2			
SURNAME	PE Norian:jb	E Conner	RAClark	RTPark			
DATE	07/6/81	07/7/81	07/7/81	7/8/81			

DISTRIBUTION

Docket File(s) 50-317  
(and) 50-310

**NRC PDR**

Loca PDR

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F. Schroeder

T. Muriey

P. Baranowsky

A-44 File







TABLE 2  
Plant Record of Scheduled Downtime Record  
Calendar Year 19 \_\_\_\_\_

Reason for Downtime	Hours of Downtime			Comments
	Reactor Shutdown	Reactor Not Shutdown	DCG#	
Scheduled Maintenance	DCG#	DCG#	DCG#	
	DCG#	DCG#	DCG#	
	DCG#	DCG#	DCG#	
	DCG#	DCG#	DCG#	

Time DG is unavailable  
for emergency service  
because of required  
tests



Plant Name \_\_\_\_\_

Unit No. \_\_\_\_\_

Source and Date of Study, Details of Construction and  
Modifications of Equipment Modification Record

TABLE 4

Equipment or procedure modified	Date of Mod.	Reason for modification and desired improvement	Description of Modification

TABLE ENTRIES  
EXPLANATION/CLARIFICATION

Table 1

**Reason for DG Operation and Scheduled Duration of Run:** This column contains the different categories of diesel generator operation. The categories are structured such that the start and run conditions are similar for all of the tests in a category. In this column, enter the scheduled run duration for each of the test categories. Also enter the number of diesel generator starts that are done for each type of test. For example, if on the monthly test there is one start from the local controls and one start from the remote controls, the number of starts per test is two. If two or more diesels are started simultaneously for any reason, please record it as a multiple start.

**DG No.:** Enter each diesel generator's identification number in this column as shown in the example.

**Number of Starts:** Enter the sum of the successful and unsuccessful start attempts for each category. If there are several starts for each test, include all of them, but be certain to record the number of starts per test in column one.

**Number of Failures:** Enter the sum of the failures for each category. A failure is counted if the objectives of the test are not achieved. A subsystem failure that does not cause failure of the diesel generator system is not counted as a failure. If the diesel generator did not start, run, and load as required by the test, a failure should be recorded. However, if the diesel generator would have supplied power in some capacity for an emergency, please explain in Table 3. For example, if the diesel started on the second attempt or the diesel was tripped to repair a minor oil leak that would not have been a problem in an emergency, this should be noted in Table 3.

**Percent Loading of DG (KW):** Enter the percentage that the diesel is loaded for each category. The continuous kilowatt rating is considered to be 100%.

**Duration of Run Before Stop for each DG Failure:** Record the run-time for each failure. If the diesel failed to start, the run-time would be 0 min.

**Identification of Failures:** Attached to this questionnaire are abstracts of the LERs related to the diesel generators. The abstracts are numbered starting with one. Refer to this number to identify the failures, but if there was a failure for which there is no abstract, assign the failure a number and include it in Table 3.

Table 2

**Reason for Downtime:** Enter in this column the categories of schedule maintenance that make the diesel generator unavailable for emergency service. If the diesel generator is unavailable for emergency service during surveillance testing, report that also.



Table 2 (cont'd)

Hours of Downtime: Enter the number of hours that the diesel generator is unavailable for emergency service. Report the hours under the column reactor down or reactor not shutdown as appropriate.

Comments: Comment on time to return to service after maintenance has begun, or other pertinent information.

Table 3

LER Abstract No. (Refer to attached LER Abstracts): The attached LERs are numbered starting from one. Refer to this LER number in column one. Each LER abstract should have an entry in this table. If there was a failure not included in the attached abstracts, please assign it a number and enter it in this table.

Downtime Hours: Enter the number of hours that the diesel generator is unavailable for emergency service. Subdivide these total hours into troubleshooting, parts delivery, and repair or replacement.

Comments: Use this column to comment on the downtime and the failure. If the reported failure was only a technical specification violation, but would not be a complete failure of the diesel generator to supply power or would only be a delay, please elaborate in this column.

Table 4

Equipment or procedure modified: List in this column the equipment or procedures related to the emergency onsite power system that have been modified since the reactor became critical.

Date of Mod.: Enter the date that the modification was completed.

Reason for Modification and Desired Improvement: Report the reason for the modification and the desired or observed improvement in the system.

Description of Modification: Briefly describe what modification was made.

diesel Generator Operations Data  
 Calendar Year 1976

TABLE 1  
 (Sample)

Reason for DG Operation, & scheduled Duration of Run	DG No.	Date of Start	Number of Failures	Percent Loading of DG (KW)	Duration of Run before Stop for Each of Failure	Identification of Failures (Refer to attached IERs or Table 3)
Tech. Spec Req'd Test Monthly Surveillance (1 hour) (1 start/test)	1	12	2	100	30 min; 0 min	IER # 1 & 4
	2	12	0	100	---	
	3	12	1	100	0 min	IER # 2
Refueling Outage (12 hours) (1 start/test)	1	1	0	100	---	
	2	1	0	100	---	
	3	1	1	100	1 hour	IER # 3
Misc. Tech Spec Req'd Tests (Start Only) (1 start/test)	1	2	0	100	---	Table 3 No. 9
	2	4	0	100	---	
	3	2	0	100	---	
DG Actual Demand Starts not for Testing STAS Signal (1 hour)	1	1	0	0	---	IER # 8 Multiple start of 3 DGs
	2	1	0	0	---	"
	3	1	0	0	---	"
All other operations (Scheduled Starts (not full test) (Start Only)	1	6	0	1	0 min	Table 3 # 10
	2	4	0	0		
	3	4	0	0		

TABLE 2  
 (Sample)  
 Diesel Generator Scheduled Downtime Record  
 Calendar Year 19\_\_

Reason for Downtime	Hours of Downtime							Comments	
	Reactof shutdown		Reactof not shutdown		Reactof				
	DCB 1	DCB 2	DCB 1	DCB 2	DCB 3	DCB 4	DCB 5		
Scheduled Maintenance									
Preventive Maintenance Semi-annual & Annual	24	16	--				16		
Equipment Modification				8	8	8	8		Modified lube oil on each diesel. Diesels down at different times.
							40	40	
			8						Diesel cannot be automatically started during test or for three hours afterwards

Time DC is unavailable for emergency service because of required tests  
 down 4 hrs per test

Diesel Generator Unscheduled Downtime Record  
 Calendar Year 19\_\_

TABLE 5  
 (Sample)

LER Abstract No. (Refer to attached LER Abstracts)	Downtime Hours		Total Hours	Parts, Delivered, etc.		Repair/Replace	Comments - if any of the reported failures would not have been a failure under emergency conditions, please explain here. Refer to attached LERs or the failures listed in Table 1.
	Trouble-shooting	0.5		Parts, Delivered, etc.	Repair/Replace		
1	1		4	1		2	
2	0.5		3	1		1.5	
3	1		12	10		1	
4	0		0	0		0	
5	0		0	0		0	Diesel started in 15 sec instead of required 10 sec
6	0		0	0		0	Secondary air pressure low. Primary air satisfactory.
7	0		0	0		0	Secondary air pressure low. Primary air satisfactory.
8	0		0	0		0	Diesel started in 20 sec instead of required 10 sec.
No LER	0		0	0		0	False DG start signal. DG satisfactory
9	0		0	0		0	Required DG starts after the failure of one diesel.
10	0		0	0		0	Starts to verify repairs.



Plant Name \_\_\_\_\_  
 Unit No. \_\_\_\_\_

Gasite Emergency Diesel Generator and  
 Auxiliary Equipment Modification Record

TABLE 4  
 (Sample)

Equipment or procedure modified	Date of Mod.	Reason for modification and desired improvement	Description of Modification
Lube oil system	2/76	Improve turbo charger lubrication for emergency starts.	Soak-back pump was removed and replaced with a continuous lube oil pump. New pump also continuously lubricates the crankshaft.
Relay cabinets	1/78	Prevent dirt from fouling relay contacts.	Cabinet doors with gaskets were installed.
Instrument Relocation	6/79	Eliminate vibration damage to instruments	Control and monitoring instrument panel was relocated from the engine skids to a free standing panel mounted on the engine room floor.

2175/00000001-000004077 1  
 ACCSSION NO. 000102770  
 TITLE DIESEL GENERATOR BEWER FAILURE AT CALVERT CLIFFS 1  
 CORP AUTH BALTIMORE GAS & ELECTRIC CO.  
 DATE 1980  
 TYPE U  
 NWD LTR 7/28-79 TO U.S. NRC, REGION 1, DEC 30, 1980, DCKET 50-317, TYPE--PAR, NFO--COMB, AD--TECH, DCS NO.--81010504009  
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE \$2.00)  
 ABSTRACT DATE OF EVENT - 011879. POWER LEVEL - 000%. CAUSE - OPERATOR ERROR. DURING PERFORMANCE OF OVERSPEED TESTING, 12 DIESEL GENERATOR AUXILIARY BEWER FAILED. THIS IS NOT A REPETITIVE EVENT. BEWER FAILED DUE TO THERMAL GROWTH AND SUBSEQUENT CONTACT BETWEEN LOBES AND BEWER HOUSING. HEAT RISE WAS CAUSED BY RUNNING THE ENGINE IN AN OVERSPEED TEST FOR AN EXTENDED PERIOD. A CAUTION HAS BEEN ADDED TO THE DIESEL GENERATOR OPERATING INSTRUCTIONS TO PREVENT RE-CURRENCE.  
 COMPONENT CODE ENGINES-ENGINES  
 SYSTEM CODE BEWER GENERATOR SYS & CONTROLS

2175/00000001-000004077 2  
 ACCSSION NO. 000101939  
 TITLE DIESEL GENERATOR BEWER FAILS AT CALVERT CLIFFS 1  
 CORP AUTH BALTIMORE GAS & ELECTRIC CO.  
 DATE 1980  
 TYPE U  
 NWD LTR 7/28-79 TO U.S. NRC, REGION 1, DEC 19, 1980, DCKET 50-317, TYPE--PAR, NFO--COMB, AD--TECH, DCS NO.--81012230061  
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE \$2.00)  
 ABSTRACT DATE OF EVENT - 001879. POWER LEVEL - 000%. CAUSE - OPERATING ERROR. DURING OVERSPEED TESTING 12 DIESEL GENERATOR AUXILIARY BEWER FAILED. 12 DIESEL GENERATOR WAS SHUT DOWN FROM 7000 RPM ON 042079. BEWER FAILED DUE TO THERMAL GROWTH AND SUBSEQUENT CONTACT BETWEEN LOBES AND BEWER HOUSING. HEAT RISE WAS CAUSED BY RUNNING THE ENGINE IN AN OVERSPEED TEST FOR AN EXTENDED PERIOD. A CAUTION HAS BEEN ADDED TO THE DIESEL GENERATOR OPERATING INSTRUCTIONS TO PREVENT RE-CURRENCE.  
 COMPONENT CODE ENGINES-ENGINES  
 SYSTEM CODE BEWER GENERATOR SYS & CONTROLS

2175/00000001-000004077 3  
 ACCSSION NO. 000101025  
 TITLE DIESEL GENERATOR INOPERABLE AT CALVERT CLIFFS 1  
 CORP AUTH BALTIMORE GAS & ELECTRIC CO.  
 DATE 1980  
 TYPE U  
 NWD LTR 8-0-80 TO U.S. NRC, REGION 1, NOV 24, 1980, DCKET 50-317, TYPE--PAR, NFO--COMB, AD--TECH, DCS NO.--8012010006  
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE \$2.00)  
 ABSTRACT DATE OF EVENT - 101880. POWER LEVEL - 700%. CAUSE - HIGH CYLINDER TEMPERATURE DUE TO FOULING INJECTOR TIPS. DURING THE PERFORMANCE OF SURVEILLANCE TESTING, IT WAS DISCOVERED THAT 11 EMERGENCY DIESEL GENERATOR (EDG) WOULD NOT CARRY MORE THAN 2500 KW FOR MORE THAN 60 MINUTES PER 1.5. DIESEL WAS DECLARED INOPERABLE DUE TO HIGH CYLINDER TEMPERATURE ON 11 CYLINDERS. THE HIGH TEMPERATURE WAS DUE TO FOULING OF INJECTOR TIPS. THE INJECTOR TIPS HAVE ALL BEEN REPLACED AND THE DIESEL IS NOW OPERATING NORMALLY.  
 COMPONENT CODE ENGINES-ENGINES,INTERNAL COMBUSTION  
 SYSTEM CODE BEWER GENERATOR SYS & CONTROLS

2175/00000001-000004077 4  
 ACCSSION NO. 0021159417  
 TITLE DIESEL GENERATOR SPEED AND VOLTAGE CONTROLS FAIL AT CALVERT CLIFFS  
 CORP AUTH BALTIMORE GAS & ELECTRIC CO.  
 DATE 1980  
 TYPE U

MAIL

DIR MAIL ROOM 30-1076 TO U.S. NRC, REGION 1, 405 20, 1960, TICKET 50-317, TYPE--PAR, RFG--CORE, AL--CH  
AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (08 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ABSTRACT

DATE OF EVENT - 072180. POWER LEVEL - 100%. CAUSE - REGULATOR CABINET SPRAYED WITH WATER. AFTER PERFORMING ROUTINE PREVENTIVE MAINTENANCE ON #11 DIESEL GENERATOR IT WAS DISCOVERED THAT #11 DIESEL GENERATOR HAD NO SPEED OR VOLTAGE CONTROL. DURING VENTING OF THE JACKET COOLING SYSTEM, PLASTIC TUBING CONNECTED TO THE VENT PETCOCK TO DIRECT WATER TO A FLOOR DRAIN SLIPPED OFF THE FITTING RESULTING IN WATER SPRAY TO #11 DIESEL GENERATOR ROOM COMPONENTS ABOVE THE GENERATOR REGULATOR CABINET.

COMPONENT CODE SYSTEM CODE

ENGINE-ENGINES, INTERNAL COMBUSTION  
RE-EMERG GENERATOR SYS & CONTROLS

MAIL

DIR MAIL ROOM 30-1077 TO U.S. NRC, REGION 1, 405 20, 1960, TICKET 50-317, TYPE--PAR, RFG--CORE, AL--CH  
AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (08 CENTS/PAGE -- MINIMUM CHARGE \$2.00)  
DATE OF EVENT - 072180. POWER LEVEL - 100%. CAUSE - FAILED #11 DIESEL GENERATOR FAILS TO REACH SPEED IN TIME AT CALVERT CLIFFS 1  
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD  
1960

MAIL

DIR MAIL ROOM 30-1078 TO U.S. NRC, REGION 1, JUN 13, 1960, TICKET 50-317, TYPE--PAR, RFG--CORE, AL--CH  
AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (08 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ABSTRACT

DATE OF EVENT - 071580. POWER LEVEL - 100%. CAUSE - FAILED #11 DIESEL GENERATOR. DURING THE PERFORMANCE OF A ROUTINE MAINTENANCE CHECK ON #11 DIESEL GENERATOR (G) FAILED TO REACH RATED SPEED IN 10 MINUTES TO SUCCEED UNTIL THE THIRD ATTEMPT. THE FIRST ATTEMPT WAS AT 0800. AT 0827 THE DIESEL WAS LEFT RUNNING AS ADVISED BY 149. AT 1005 #11 DIESEL WAS TAKEN OUT OF SERVICE FOR REPAIRS. THE #11 WAS WITHDRAWN TO SERVICE AT 1440 ON 071774. THIS OCCURRENCE WAS NOT A REPETITIVE OCCURRENCE. INVESTIGATION REVEALED AN INTERMITTENT POLYMERIZATION OF THE OIL AND A CRACK IN THE CONTACT SPACER OF THE #11 DIESEL CONNECTOR FOR THE 250 RPM SPEED SWITCH. IT IS CONSIDERED THAT THIS CONNECTOR HAD BEEN DISASSEMBLED AT SOME POINT. THE OPEN CIRCUIT OF THE SPEED SWITCH CAUSED THE STARTING CIRCUIT TO TIME OUT AND INITIATE A START FAILURE AND EXCITER STOPDOWN SEQUENCE.  
ENGINE-ENGINES, INTERNAL COMBUSTION  
RE-EMERG GENERATOR SYS & CONTROLS

MAIL

DIR MAIL ROOM 30-1079 TO U.S. NRC, REGION 1, 405 20, 1960, TICKET 50-317, TYPE--PAR, RFG--CORE, AL--CH  
AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (08 CENTS/PAGE -- MINIMUM CHARGE \$2.00)  
DATE OF EVENT - 080780. POWER LEVEL - 000%. CAUSE - LICENSED OPERATOR ERROR. AT 1012 START FAILURE ALARM (RENDERING THE DIESELS INOPERABLE) WAS RECEIVED FOR #11, #12, & #21 DIESEL GENERATORS FOLLOWING THEIR STOPDOWN AFTER AN INADVERTENT UNIT 1 START. THE ALARM WAS RESET AND ALL DIESELS WERE TESTED AND RETURNED TO SERVICE BY 1027. THE OFFSITE POWER SYSTEM REMAINED OPERABLE. THIS IS NOT A REPETITIVE OCCURRENCE. A TECHNICIAN PERFORMING A TEST CAUSED AN INADVERTENT STARTING ALL DIESELS. SIAS FAILED TO FULLY RESET BEFORE THE DIESELS WERE STOPPED, CAUSING A START FAILURE ALARM. STANDING ORDER 50-1 HAS BEEN ISSUED REQUIRING OPERATORS TO VERIFY THE SIAS MODULES WERE TRIPPED PRIOR TO STOPPING DIESELS AFTER A FALSE SIAS.

COMPONENT CODE SYSTEM CODE

ENGINE-ENGINES, INTERNAL COMBUSTION  
RE-EMERG GENERATOR SYS & CONTROLS

CONTROL NO. 0020159013  
 TITLE DIESEL GENERATOR PLACED OUT OF SERVICE AT CALVERT CLIFFS 1  
 COMPANY BALTIMORE GAS & ELECTRIC CO.  
 DATE 1979  
 TYPE 9  
 AC ID LTR 72LEN 79-074 TO U.S. NRC, REGION 1, DEC 20, 1979, DOCKET  
 50-217, TYPE--PWK, NEG--COMB, AC--BECH CONTROL--027812  
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,  
 WASHINGTON D.C. 20555, (08 /PAGE -- MINIMUM CHARGE \$2.00)  
 ABSTRACT DATE OF EVENT - 120479, POWER LEVEL - 070%, CAUSE - REPAIR  
 VARIOUS FUEL OIL LEAKS. DURING STEADY STATE OPERATION, #12  
 DIESEL GENERATOR WAS PLACED OUT OF SERVICE AT 0650 FOR REPAIR  
 OF VARIOUS FUEL OIL LEAKS. WHILE #12 DIESEL WAS INOPERABLE,  
 THE REMAINING A.C. POWER SOURCES WERE TESTED. #12 DIESEL  
 GENERATOR WAS RETURNED TO SERVICE AT 1150. UNIT 2 WAS IN MODE  
 2. LTR 77-102 (U-1) DESCRIBES A SIMILAR EVENT. VARIOUS FLARE  
 AND FERRULE FITTING LOOSE FROM VIBRATION OF DIESEL WERE  
 TIGHTENED TO STOP LEAKS. ONE 4" PIECE OF 1/2" COPPER TUBING  
 WAS SHEARED DUE TO A CRACK. THESE SMALL LEAKS DO NOT DELAY OF  
 SERVICE OF THE DIESEL; USUALLY THEY ARE DETECTED AND REPAIRED  
 BY ATTENDING OPERATORS.  
 COMPONENT CODE 0020159013, INTERNAL COMBUSTION  
 SYSTEM CODE DIESEL GENERATOR SYS & CONTROLS

CONTROL NO. 0020159022 8  
 TITLE DIESEL GENERATOR REMOVED FROM SERVICE AT CALVERT CLIFFS 1  
 COMPANY BALTIMORE GAS & ELECTRIC CO.  
 DATE 1979  
 TYPE 9  
 AC ID LTR 72LEN 79-009 TO U.S. NRC, REGION 1, DEC 13, 1979, DOCKET  
 50-217, TYPE--PWK, NEG--COMB, AC--BECH CONTROL--027804  
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,  
 WASHINGTON D.C. 20555, (08 /PAGE -- MINIMUM CHARGE \$2.00)  
 ABSTRACT DATE OF EVENT - 112779, POWER LEVEL - 060%, CAUSE - LEAKY FUEL  
 OIL SUPPLY LINE. DURING STEADY STATE OPERATION #11 DIESEL  
 GENERATOR WAS REMOVED FROM SERVICE AT 1420 TO REPAIR A FUEL OIL  
 LINE LEAK. THE REMAINING DIESELS AND POWER SOURCES WERE  
 VERIFIED OPERABLE. AT 2125 #11 DIESEL GENERATOR WAS RETURNED  
 TO SERVICE. THIS IS NOT A REPETITIVE EVENT. THE DIESEL WAS  
 TAKEN OUT OF SERVICE FOR AN ATTEMPTED REPAIR ON THE FUEL OIL  
 SUPPLY LINE. THE 1 1/2" PIECE OF 1/2" COPPER TUBING WAS  
 REMOVED & TESTED FOR LEAKS, BUT NONE COULD BE FOUND. LINE WAS  
 CLEANED & DIESEL WAS RETURNED TO SERVICE. LEAK WAS THEN  
 LOCATED & MARKED FOR FUTURE REFERENCE. A FOLLOW-UP REPORT WILL  
 BE ISSUED AT A LATER DATE.  
 COMPONENT CODE 0020159022, INTERNAL COMBUSTION  
 SYSTEM CODE DIESEL GENERATOR SYS & CONTROLS

CONTROL NO. 0020159030 9  
 TITLE DIESEL GENERATOR REMOVED FROM SERVICE AT CALVERT CLIFFS 1  
 COMPANY BALTIMORE GAS & ELECTRIC CO.  
 DATE 1979  
 TYPE 9  
 AC ID LTR 72LEN 79-005 TO U.S. NRC, REGION 1, DEC 13, 1979, DOCKET  
 50-217, TYPE--PWK, NEG--COMB, AC--BECH CONTROL--027803  
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,  
 WASHINGTON D.C. 20555, (08 /PAGE -- MINIMUM CHARGE \$2.00)  
 ABSTRACT DATE OF EVENT - 112779, POWER LEVEL - 050%, CAUSE - SERVICE  
 WATER VALVE FAILURE. DURING NORMAL STEADY STATE OPERATION #12  
 EMERGENCY DIESEL GENERATOR WAS PLACED OUT OF SERVICE AT 1020 TO  
 REPLACE AN AUTOMATIC VENT VALVE ON THE SERVICE WATER RETURN  
 LINE. THE REMAINING DIESELS AND POWER SOURCES WERE VERIFIED  
 OPERABLE. AT 1140 #12 DIESEL GENERATOR WAS RETURNED TO  
 SERVICE. THIS IS NOT A REPETITIVE EVENT. THE "HOFFMAN AIR  
 VENT" FLOAT VALVE FAILED DUE TO NORMAL WEAR ON THE VALVE SEAT.  
 THE VENT WAS REMOVED (SHEARED PIPE FITTING) AND REPLACED WITH  
 ONE FROM STOCK.  
 COMPONENT CODE 0020159030, VALVES/VALVES  
 SYSTEM CODE DIESEL GENERATOR SYS & CONTROLS



ACCIDENT NO.  
TITLE  
CONTRACT  
DATE  
TYPE  
REMO  
AVAIL  
ABSTRACT

1-000000077 11  
DIESEL GENERATOR REMOVED FROM SERVICE AT CALVERT CLIFFS 1  
MILLIFORD GAS & ELECTRIC CO.  
1979  
0  
LIR NUMBER 79-005 TO U.S. NRC, REGION 1, DEC 04, 1979, BUCKET  
50-317, TYPE--PAR, AFG--COMB, AE--TECH CONTROL--027707  
AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,  
WASHINGTON D.C. 20555, (CB ZPAGE -- MINIMUM CHARGE \$2.00)  
DATE OF EVENT - 111379, POWER LEVEL - 050%, CAUSE - GOVERNOR  
STICKING DUE TO SLUDGE. AT 1205 ON NOVEMBER 13, 1979, #12  
DIESEL GENERATOR WAS TAKEN OUT OF SERVICE TO INSPECT AND  
CORRECT GOVERNOR OPERATION. THE DIESEL GENERATOR WAS RETURNED  
TO SERVICE AT 1452 ON NOVEMBER 13. THE OPERABILITY OF THE  
REMAINING A.G. SOURCES WAS DEMONSTRATED. THIS IS NOT A  
REPETITIVE OCCURRENCE. INSPECTION OF #12 DIESEL GENERATOR'S  
GOVERNOR ANGLE WAS DISCOVERED THAT SLUDGE DEPOSIT  
WAS THE CAUSE OF STICKING. THE GOV. WAS CLEANED AND  
RETURNED TO SERVICE. PREVENTIVE MAINTENANCE (CLOSERS  
FOR THE GOV. FLOCH OF THE GOVERNOR ANGLE) HAVE SINCE THIS  
DATE BEEN MANUFACTURER'S RECOMMENDATION.  
MILLIFORD OPERATOR SYS & CONTROLS

ACCIDENT NO.  
TITLE  
CONTRACT  
DATE  
TYPE  
REMO  
AVAIL  
ABSTRACT

1-000000077 11  
DIESEL GENERATOR SEQUENCE INITIATE ALARM FAILS TO CLEAR AFTER  
TEST AT CALVERT CLIFFS 1  
MILLIFORD GAS & ELECTRIC CO., MILLIFORD, MD  
1979  
0  
LIR NUMBER 79-005 TO NRC OFFICE OF I & E, REGION 1,  
DEC 04, 1979, BUCKET 50-317, TYPE--PAR, AFG--COMB, AE--TECH  
AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,  
WASHINGTON D.C. 20555 (CB ZPAGE -- MINIMUM CHARGE  
\$2.00)  
DATE OF EVENT - 110479, POWER LEVEL - 070%, CAUSE - BREAKER  
STICKING SWITCH STICKING. AFTER OPERATION OF WICKLY TESTING  
CIRCUIT BREAKER, IT WAS DISCOVERED THAT THE ASSOCIATED  
SEQUENCE INITIATE ALARM DID NOT CLEAR. AT 1020, THE WICKLY WAS  
REMOVED FROM SERVICE TO INVESTIGATE THE PROBLEM AND EFFECT OF  
WICKLYS ON THE OUTPUT BREAKER. THE BREAKER AUXILIARY SWITCH  
WAS FOUND TO BE BINDING AND WOULD NOT RETURN TO THE OPEN  
POSITION. THE FAULTY SWITCH WAS RELEASED, (MODEL #BXK TYPE 10  
BX 0160). THE PROPER OPERATION OF THIS SWITCH CAN BE OBSERVED  
DURING THE WICKLY FUNCTIONAL TEST OF THE DIESEL GENERATORS.  
ADDITIONALLY, THE BREAKER AND ITS AUXILIARY SWITCHES ARE  
PERIODICALLY INSPECTED UNDER THE PREVENTIVE MAINTENANCE  
PROGRAM.  
MILLIFORD OPERATOR SYS & CONTROLS

ACCIDENT NO.  
TITLE  
CONTRACT  
DATE  
TYPE  
REMO  
AVAIL  
ABSTRACT

1-000000077 12  
0120195004  
SEWER START SYSTEM PIPE HANGERS NEED MODIFICATION AT CALVERT  
CLIFFS 1  
MILLIFORD GAS & ELECTRIC CO.  
1979  
0  
LIR NUMBER 79-001 TO U.S. NRC, REGION 1, NOV 07, 1979, BUCKET  
50-317, TYPE--PAR, AFG--COMB, AE--TECH CONTROL--027609  
AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,  
WASHINGTON D.C. 20555, (CB ZPAGE -- MINIMUM CHARGE \$2.00)  
DATE OF EVENT - 102479, POWER LEVEL - 092%, CAUSE - DESIGN  
ERROR. DURING A REANALYSIS OF THE #11 AND #12 DIESEL GENERATOR  
PIPE SUPPORTS, IT WAS DISCOVERED THAT THE AIR START SYSTEM  
HANGERS DID NOT MEET SEISMIC REQUIREMENTS. GO'S WERE STARTED  
WITHIN ONE HOUR AND WERE RUN CONTINUOUSLY, THEREBY REMOVING  
STRESS FROM DIESEL AIR START SYSTEM. A SIMILAR OCCURRENCE  
WAS REPORTED IN LIR 79-47 (0-1). THE PORTION OF THE DIESEL AIR  
START SYSTEM WHICH HAD PREVIOUSLY BEEN THOUGHT TO HAVE SEISMIC  
SUPPORTS HAD BEEN REANALYZED AND THE EXISTING SUPPORTS UPGRADED  
AND NEW SUPPORTS ADDED. THIS IS THE ONLY ITEM OF NONCOMPLIANCE  
THAT WAS IDENTIFIED BY THE REQUIRED 12 BULLETIN 79-14

2175/001-00004077  
 COMMENTS: DIESEL ENGINE, INTERNAL COMBUSTION  
 SYSTEM: DIESEL GENERATOR SYS & CONTROLS

2175/001-00004077 13  
 ACCESSION NO. 0120152991  
 TITLE DIESEL GENERATOR FAILS AT CALVERT CLIFFS 1  
 CORP/PATH BALTIMORE GAS & ELECTRIC CO.  
 DATE 1979  
 TYPE 0  
 RECD LTR 7/LEK 79-000 TO U.S. NRC, REGION 1, NOV 15, 1979, DOCKET  
 50-317, TYPE--PRR, MFG--COMB, AE--TECH CONTROL--027376  
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,  
 WASHINGTON D.C. 20555, (CG 2/PAGE -- MINIMUM CHARGE \$2.00)  
 ABSTRACT DATE OF EVENT - 10/07/79, POWER LEVEL - 100%, CAUSE - CLOGGED  
 INJECTORS. WHILE PERFORMING A LOAD TEST OF #12 DIESEL  
 GENERATOR, THE OPERATOR WAS UNABLE TO ACHIEVE FULL LOAD (2800  
 KW) DUE TO HIGH EXHAUST TEMPERATURE ON NUMBER 2 CYLINDER. THE  
 ENGINE WAS REMOVED FROM SERVICE AT 1940. #12 DIESEL GENERATOR  
 WAS RETURNED TO SERVICE AT 1940 ON 10/22/79. UNIT 2 WAS IN  
 MODE 1. THE ENGINE WAS INSPECTED AND THE INJECTORS WERE FOUND  
 TO BE CLOGGED AND OUT OF ADJUSTMENT. ALL INJECTORS ON #12  
 DIESEL WERE OVERHAULED & ADJUSTED. WHEN #12 D/G WAS PLACED  
 BACK IN SERVICE, THE REMAINING DIESEL GENERATORS (#11 & #21)  
 HAD THEIR INJECTORS INSPECTED AND ADJUSTED AS NECESSARY.  
 INJECTOR INSPECTION FREQUENCY CHANGED FROM EVERY 18 MOS. TO  
 30 MONTHS.  
 COMMENTS: DIESEL ENGINES, INTERNAL COMBUSTION  
 SYSTEM: DIESEL GENERATOR SYS & CONTROLS

2175/001-00004077 14  
 ACCESSION NO. 0120152992  
 TITLE DIESEL GENERATOR TRIP ON UNDERVOLTAGE AT CALVERT CLIFFS 1  
 CORP/PATH BALTIMORE GAS & ELECTRIC CO.  
 DATE 1979  
 TYPE 0  
 RECD LTR 7/LEK 79-000 TO U.S. NRC, REGION 1, OCT 12, 1979, DOCKET  
 50-317, TYPE--PRR, MFG--COMB, AE--TECH CONTROL--027315  
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,  
 WASHINGTON D.C. 20555, (CG 2/PAGE -- MINIMUM CHARGE \$2.00)  
 ABSTRACT DATE OF EVENT - 10/17/79, POWER LEVEL - 100%, CAUSE - A MINOR  
 FAILURE. DURING A SURVEILLANCE TEST OF 11 DIESEL GENERATOR,  
 THE INDICATED OUTPUT VOLTAGE WENT TO 4800 VOLTS. WHILE  
 ATTEMPTING TO LOWER THE VOLTAGE, THE DIESEL TRIPPED ON  
 UNDERVOLTAGE. #11 DIESEL GENERATOR WAS REMOVED FROM SERVICE AT  
 1808 10/17/79 AND RETURNED TO SERVICE AT 1810 10/17/79. WHILE  
 THE DIESEL WAS INSUPERATIVE, REMAINING A.C. SOURCES WERE  
 CHECKED. THIS IS NOT A REPETITIVE OCCURRENCE. INVESTIGATION  
 OF FAULTY VOLTMETER SHOWED ITS A.C. CALIBRATING SERIES RESISTOR  
 HAD GONE OUT OF TOLERANCE & WAS CAUSING METER TO INDICATE 900  
 VOLTS NUMBER. FAULTY RESISTOR WAS REPLACED WITH NEW 73.5 KAPPA  
 OHM RESISTOR & THE METER RECALIBRATED.  
 COMMENTS: DIESEL ENGINES, INTERNAL COMBUSTION  
 SYSTEM: DIESEL GENERATOR SYS & CONTROLS

2175/001-00004077 15  
 ACCESSION NO. 0120152993  
 TITLE DC AIR START SYSTEM HANGERS FAIL TO MEET SEISMIC CRITERIA AT  
 CALVERT CLIFFS 1  
 CORP/PATH BALTIMORE GAS & ELECTRIC CO.  
 DATE 1979  
 TYPE 0  
 RECD LTR 7/LEK 79-047 TO U.S. NRC, REGION 1, SEP 27, 1979, DOCKET  
 50-317, TYPE--PRR, MFG--COMB, AE--TECH CONTROL--027175  
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,  
 WASHINGTON D.C. 20555, (CG 2/PAGE -- MINIMUM CHARGE \$2.00)  
 ABSTRACT DATE OF EVENT - 05/14/79, POWER LEVEL - 050%, CAUSE - DESIGN  
 ERROR. INSPECTION OF 11 AND 12 DIESEL GENERATOR PIPE HANGERS  
 PER 15 COLLECTION 79-14 DISCOVERED THAT THE AIR START SYSTEM  
 HANGERS WERE NOT DESIGNED TO MEET SEISMIC REQUIREMENTS. TO MEET  
 T.S. 4 D/GS WERE STARTED WITHIN ONE HOUR AND RAN CONTINUOUSLY TO  
 ELIMINATED RELIANCE ON THE AIR START SYSTEM FOR OPERABILITY.  
 THIS IS NOT A REPETITIVE OCCURRENCE. INSTALLATION OF SEISMIC  
 PIPE SUPPORTS UPGRADED DIESEL STARTING AIR SYSTEM TO MEET

SCIENTIFIC EQUIPMENT. SUPPORTS HAD NOT BEEN PREVIOUSLY  
INSTALLED DUE TO LACK OF CURSIFIED THESE LINES AS  
NORTH-10. DIESEL ENERS ELECTRICALLY LOADED FOR ONE FY. OF  
EVERY FIVE FRS. TO PRECLUDE EXCESSIVE CARBON BUILD-UP.  
SUPPORT-SHOCK SUPPRESSORS AND SWP JRS  
DELIVERED GENERATOR SYS & CONT

COMPONENT CODE  
SYSTEM CODE

2175/0010001-00004077 16  
ACCESSION NO. 0020191271  
TITLE DIESEL GENERATOR EXCITER POTENTIAL TRANSFORMER FAILS AT CALVERT  
CLIFFS 1  
CORPORATION BALTIMORE GAS & ELECTRIC CO.  
DATE 1979

TYPE 4  
REMO LTR W/LEA 79-026 TO U.S. NRC, REGION 1, AUG 23, 1979, DCKET  
SC-17, TYPE-PWR, REG-COMB, AE-TECH CONTROL-022675  
AVAIL AVAILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,  
WASHINGTON D.C. 20555, (08 PAGE -- MINIMUM CHARGE \$2.00)  
DATE OF EVENT - 12/17/78, POWER LEVEL - 000%, CAUSE - CALVERT  
CLIFFS 1, 11 DIESEL GENERATOR #11 OPERATING #11 DIESEL GENERATOR #11  
EXCITER POTENTIAL TRANSFORMER T-54 WAS FOUND TO HAVE A BROKEN  
PRIMARY WINDING. THE TRANSFORMER, PART NO. 13102747-001,  
WAS REPLACED WITH A CURRENT, IMPROVED DESIGN TRANSFORMER  
FURNISHED BY SAME MFG IN ACCORDANCE WITH FOR 79-1034. ADD'L  
TRANSFORMERS ARE BEING PROCURED TO REPLACE THE SAME TRANSFORMER  
IN ENERGY DIV NOS. 12 AND 21.  
GENERAL-GENERATORS  
GENERAL-GENERATOR SYS & CONTROLS

2175/0010001-00004077 17  
ACCESSION NO. 0020190320  
TITLE DIESEL GENERATOR AUXILIARY BLOWER FAILS AT CALVERT CLIFFS 1  
CORPORATION BALTIMORE GAS & ELECTRIC CO.  
DATE 1979

TYPE 4  
REMO LTR W/LEA 79-017 TO U.S. NRC, REGION 1, JAN 11, 1979, DCKET  
SC-17, TYPE-PWR, REG-COMB, AE-TECH CONTROL-022675  
AVAIL AVAILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,  
WASHINGTON D.C. 20555, (08 PAGE -- MINIMUM CHARGE \$2.00)  
DATE OF EVENT - 08/19/79, POWER LEVEL - 000%, CAUSE -  
EXCESSIVE OVERLOAD DURING PERFORMANCE OF OVERSPEED  
TESTING. 12 DIESEL GENERATOR AUXILIARY BLOWER FAILED AT 0930  
DURING DIESEL TESTATIVE. DIESEL GENERATORS 11 & 21 WERE  
REMOVED AND ASSIGNED TO UNIT 2 WHICH WAS OPERATING AT 100% LOAD.  
UNIT 1 WAS TESTED WITH NO CORE ALTERATIONS OR REACTIVITY  
CHANGES IN PROGRESS. 12 DIV RETURNED TO SERVICE 0720. THE  
BLOWER FAILURE WAS CAUSED BY AN INTERFERENCE DEVELOPING BETWEEN  
THE FLOWS OF THE BLOWER. THE BEARINGS WERE INSPECTED AND NO  
ABNORMALITIES WERE NOTED. THE BLOWER HAS BEEN RETURNED TO THE  
WORKSHOP FOR REWELDING.  
GENERAL-GENERATORS  
GENERAL-GENERATOR SYS & CONTROLS

2175/0010001-00004077 18  
ACCESSION NO. 0020196525  
TITLE 06-004 VENTILATION FAN FAILS TO START AT CALVERT CLIFFS 1  
CORPORATION BALTIMORE GAS & ELECTRIC CO.  
DATE 1979

TYPE 4  
REMO LTR W/LEA 79-058 TO U.S. NRC, REGION 1, JAN 04, 1979, DCKET  
SC-17, TYPE-PWR, REG-COMB, AE-TECH CONTROL-023380  
AVAIL AVAILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,  
WASHINGTON D.C. 20555, (08 PAGE -- MINIMUM CHARGE \$2.00)  
DATE OF EVENT - 12/17/78, POWER LEVEL - 003%, CAUSE - B PHASE  
OVERLOAD IMPROD. DURING SURVEILLANCE TESTING ON 11 DIESEL  
GENERATOR THE GENERATOR ROOM VENTILATION FAN FAILED TO START AT  
0923. 11 DIESEL GENERATOR WAS IMMEDIATELY SHUTDOWN. AT 0940 A  
B PHASE OVERLOAD WAS FOUND TO BE TRIPPED AND WAS RESET. THE  
FAN WAS STARTED AND 11 DIESEL SATISFACTORILY TESTED AT 0949. 12  
DIESEL GENERATOR & TWO TIES WITH OPPOSITE TRANSMISSION NETWORK

REPAIRED OPERATED THROUGHOUT THIS EVENT. LEAKS 77-3 (U-1) AND 77-3 (U-2) DESCRIBE SIMILAR EVENTS. TESTS CONDUCTED ON THE VENTILATING FAN SHOWED NORMAL CURRENT AND NO MECHANICAL DAMAGE.

COMPONENT CODE  
SYSTEM CODE

LEAK-FOLLOWERS  
AHEAD COND, HEAT, COOL, VENT SYSTEM

217579-01-0001-00004077 19

ACCESSION NO.

0070143264

TITLE

DIESEL GENERATOR REMOVED FROM SERVICE AT CALVERT CLIFFS 1

COMPANY

BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD

DATE

1977

TYPE

9

NR TO

2 PGS, LTR W/LEN 77-12273L TO NRC OFFICE OF I & E, REGION I, SEC. 5, 1977, DUCSIT 50-317, TYPE--PWR, WFG--COMB., AE--BECHTEL  
AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (08 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

AVAIL

ABSTRACT

DATE OF EVENT - 11/1977. POWER LEVEL - 90%. CAUSE - REPAIR SEVERAL FUEL LEAKS. DURING NORMAL OPERATION, 12 DIESEL GENERATOR WAS REMOVED FROM SERVICE FOR 10 HOURS TO REPAIR FUEL LEAKS. FUEL OIL, LUBE OIL, AND COOLING WATER LEAKS. SEVERAL MINOR FUEL OIL, LUBE OIL, AND COOLING JACKET WATER LEAKS DEVELOPED ON 12 DIESEL. ALL LEAKS WERE REPAIRED BY TIGHTENING FITTINGS, TIGHTENING FLANGES, OR REPLACING GASKETS. ENGINE-ENGINES, INTERNAL COMBUSTION  
DIESEL GENERATOR SYS & CONTROLS

COMPONENT CODE  
SYSTEM CODE

217579-01-0001-00004077 20

ACCESSION NO.

0070143263

TITLE

DIESEL GENERATOR REMOVED FROM SERVICE AT CALVERT CLIFFS 1

COMPANY

BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD

DATE

1977

TYPE

9

NR TO

2 PGS, LTR W/LEN 77-11973L TO NRC OFFICE OF I & E, REGION I, SEC. 5, 1977, DUCSIT 50-317, TYPE--PWR, WFG--COMB., AE--BECHTEL  
AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (08 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

AVAIL

ABSTRACT

DATE OF EVENT - 11/1977. POWER LEVEL - 90%. CAUSE - REPAIR SEVERAL FUEL LEAKS. 12 DIESEL GENERATOR WAS REMOVED FROM SERVICE TO CORRECT MISCELLANEOUS COOLING WATER AND OIL LEAKS. SEVERAL MINOR FUEL OIL, LUBE OIL, AND COOLING WATER LEAKS WERE DEVELOPED ON 12 DIESEL. ALL LEAKS WERE REPAIRED BY TIGHTENING FITTINGS, FLANGES, AND REPLACEMENT OF A COMPRESSION FITTING (PART #16 105 401 OF VENDOR DRAWING 4006).  
ENGINE-ENGINES, INTERNAL COMBUSTION  
DIESEL GENERATOR SYS & CONTROLS

COMPONENT CODE  
SYSTEM CODE

217579-01-0001-00004077 21

ACCESSION NO.

0070143259

TITLE

DIESEL GENERATOR FAILS TO REACH REQUIRED SPEED IN TIME AT

COMPANY

CALVERT CLIFFS 1

DATE

1977

TYPE

9

NR TO

2 PGS, LTR W/LEN 77-10473L TO NRC OFFICE OF I & E, REGION I, SEC. 5, 1977, DUCSIT 50-317, TYPE--PWR, WFG--COMB., AE--BECHTEL  
AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (08 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

AVAIL

ABSTRACT

DATE OF EVENT - 10/1977. POWER LEVEL - 80%. CAUSE - LOOSE FUSE HOLDERS IN EXCITATION CIRCUITRY. DURING SCHEDULED SURVEILLANCE TESTING, 12 DIESEL GENERATOR FAILED TO REACH RATED VOLTAGE WITHIN 10 SECONDS THEREBY PREVENTING ITS OUTPUT BREAKER FROM CLOSING. CORRECTIVE ACTION WAS INITIATED IMMEDIATELY AND 12 DIESEL GENERATOR WAS TESTED SATISFACTORILY WITHIN 5 HOURS. UPON INVESTIGATION, TWO LOOSE FUSE HOLDERS WERE FOUND IN THE EXCITATION CIRCUITRY. THE FUSE HOLDERS (UNION 250V 30 AMP) WERE TIGHTENED, FUSES REPLACED, AND THE DIESEL RETURNED TO SERVICE.

COMPONENT CODE  
SYSTEM CODE

ENGINE-ENGINES, INTERNAL COMBUSTION  
DIESEL GENERATOR SYS & CONTROLS



2175011001-000477 23  
 TITLE DIESEL GENERATOR SHUTS IN ALARM RECEIVED AT CALVERT CLIFFS 1  
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD  
 DATE 1978  
 CORP AUTH 0  
 DATE 2 PMS, LTR W/LR 77-4173L TO NRC OFFICE OF I & E, REGION I,  
 OCT. 20, 1977, DOCKET 50-317, TYPE--PWR, MFG--COMB.,  
 AE--SCHEIL  
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,  
 WASHINGTON, D. C. 20555 (08 CENTS/PAGE -- MINIMUM CHARGE  
 \$2.00)  
 ABSTRACT DATE OF EVENT - 098177. POWER LEVEL - 96%. CAUSE - RESET  
 FUNCTION OUT OF CALIBRATION. DURING PREVENTIVE MAINTENANCE, A  
 "DIESEL EXHAUST SHUTDOWN ALARM" WAS RECEIVED FOR #12 DIESEL  
 GENERATOR. THIS CONDITION WOULD PREVENT #12 DIESEL FROM  
 STARTING. THE RESET FUNCTION OF A GASKET COOLING WATER  
 PRESSURE SWITCH WAS FOUND TO BE OUT OF CALIBRATION AND COULD  
 NOT BE MANUALLY RESETTED WITH DG #12 ON-LINE. (UNCLASSIFIED  
 CONTROL FILE 186750CAF).  
 COMMENTS CODE ENGINE-DRIVE EXTENSION AND CONTROLS  
 SYSTEM CODE BEHAVIOR GENERATOR SYS & CONTROLS

2175011001-000477 23  
 TITLE DIESEL GENERATOR SERVICE WATER VALVE FAILS TO OPEN AT CALVERT  
 CLIFFS 1  
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD  
 DATE 1978  
 CORP AUTH 0  
 DATE 2 PMS, LTR W/LR 78-1973L TO NRC OFFICE OF I & E, REGION I,  
 APRIL 17, 1978, DOCKET 50-317, TYPE--PWR, MFG--COMB.,  
 AE--SCHEIL  
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,  
 WASHINGTON, D. C. 20555 (08 CENTS/PAGE -- MINIMUM CHARGE  
 \$2.00)  
 ABSTRACT DATE OF EVENT - 041978. POWER LEVEL - 50%. CAUSE - VALVE  
 REVERSE SPRING BACK SPRING LINKAGE LOOSE. DURING REGULAR  
 SURVEILLANCE TESTING DIESEL GENERATOR 12 SERVICE  
 WATER VALVE FAILED TO OPEN AUTOMATICALLY WHEN THE DIESEL  
 WAS STARTED AT 11:20 A.M. THE VALVE WAS MANUALLY OPENED. THE  
 CONTROL VALVE FAILED TO OPEN DUE TO ITS POSITIONER (AMORPHOUS  
 NYLON VALVE) HOLD BACK SPRING LINKAGE HAVING COME LOOSE. THE  
 SPRING BRACKET SCREWS, WITH LOCKWASHER IN GOOD CONDITION, WAS  
 RESET AND TIGHTENED.  
 COMMENTS CODE VALVE-VALVE OPERATORS  
 SYSTEM CODE BEHAVIOR GENERATOR SYS & CONTROLS

2175011001-000477 24  
 TITLE DIESEL GENERATOR TRIPS ON OVERSPEED AT CALVERT CLIFFS 1  
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD  
 DATE 1978  
 CORP AUTH 0  
 DATE 2 PMS, LTR W/LR 78-2573L TO NRC OFFICE OF I & E, REGION I,  
 APRIL 17, 1978, DOCKET 50-317, TYPE--PWR, MFG--COMB.,  
 AE--SCHEIL  
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,  
 WASHINGTON, D. C. 20555 (08 CENTS/PAGE -- MINIMUM CHARGE  
 \$2.00)  
 ABSTRACT DATE OF EVENT - 041078. POWER LEVEL - 50%. CAUSE - NOT  
 DETERMINED. DURING REGULARLY SCHEDULED SURVEILLANCE TESTING,  
 DIESEL GENERATOR 12 OVERSPEED AND TRIPPED WHEN STARTED AT 11:2  
 A.M. THE CAUSE OF THE OVERSPEED CONDITION COULD NOT BE  
 DETERMINED. THE DIESEL GENERATOR OPERATED SATISFACTORILY WHEN  
 RESTARTED AT 2:05 A.M.  
 COMMENTS CODE ENGINE-ENGINES, INTERNAL COMBUSTION  
 SYSTEM CODE BEHAVIOR GENERATOR SYS & CONTROLS

2175011001-000477 25  
 TITLE DIESEL GENERATOR BREAKER FAILS TO CLOSE FOLLOWING LOSS OF  
 OFFSITE POWER AT CALVERT CLIFFS 1  
 BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD  
 DATE 1978

2 PAGES, LTR W/ENCL 77-5173L TO NRC OFFICE OF I & E, REGION I, BALTIMORE, MD, APRIL 27, 1977, DOCKET 50-317, TYPE--PAR, MFG--COMB, AB--RECHTEL

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (05 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ABSTRACT DATE OF EVENT - 041175. POWER LEVEL - 10%. CAUSE - NOT DETERMINED. PROTECTIVE RELAYING AUTOMATICALLY OPENED BREAKERS IN THE 500 KV SWITCHYARD THAT RESULTED IN DEENERGIZING VITAL 4 KV BUS 11. EMERGENCY D/G 11 AUTOMATICALLY STARTED BUT THE OUTPUT BREAKER FAILED TO AUTOMATICALLY CLOSE. THE BREAKER WAS MANUALLY CLOSED. NO CAUSE COULD BE DETERMINED FOR THE FAILURE OF THE D/G BREAKER TO AUTOMATICALLY CLOSE. DURING SUBSEQUENT INVESTIGATION AND TESTING, IT WORKED CORRECTLY.

COMPONENT CODE SYSTEMS - INSTRUMENTATION AND CONTROLS

177-50-317-0004077 26  
0020135002  
DIESEL GENERATOR FAILED TO START FOLLOWING LOSS OF A L OPERATE BREAKER AT CALVERT CLIFFS 1  
BALTIMORE GAS & ELECTRIC CO., MD  
1977

2 PAGES, LTR W/ENCL 77-5173L TO NRC OFFICE OF I & E, REGION I, BALTIMORE, MD, APRIL 14, 1978, DOCKET 50-317, TYPE--PAR, MFG--COMB, AB--RECHTEL

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (05 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ABSTRACT DATE OF EVENT - 041178. POWER LEVEL - 0%. CAUSE - NO CAUSE DETERMINED. AT 1240 SWITCHYARD BREAKER PROTECTIVE RELAYING AUTOMATICALLY OPENED BREAKERS THAT RESULTED IN LOSS OF ALL DIESEL POWER. DIESEL GENERATOR 11 FAILED TO START AND EMERGENCY D/G 12 TO 4 KV BUS 11. D/G 12 WAS STARTED IN 14 SECONDS WITHIN 1 MINUTE AFTER THE LOSS OF DIESEL POWER. D/G 11 WAS STARTED AND RAN FOR ABOUT 50 MINUTES LATER. A GENERATOR FAILURE ALARM WAS DISPLAYED AT D/G 11. HOWEVER, NO PROTECTIVE RELAYING OR RELAY WAS ACTUAL WHICH SHOULD HAVE CAUSED THIS FAILURE TO START. THE D/G WAS SUCCESSFULLY RESTARTED AND SUCCESSFULLY STARTED TO PROVE ITS OPERABILITY.

COMPONENT CODE SYSTEMS - INSTRUMENTATION AND CONTROLS

177-50-317-0004077 27  
0020135002  
DIESEL GENERATOR UNABLE TO START AT CALVERT CLIFFS 1  
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD  
1977

2 PAGES, LTR W/ENCL 77-5173L TO NRC OFFICE OF I & E, REGION I, BALTIMORE, MD, APRIL 28, 1977, DOCKET 50-317, TYPE--PAR, MFG--COMB, AB--RECHTEL

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (05 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ABSTRACT DATE OF EVENT - 041177. POWER LEVEL - 96%. CAUSE - MAINTENANCE WORK. DURING PREVENTIVE MAINTENANCE WHILE AT WORK, A DIESEL EXHAUST SHUTDOWN ALARM WAS RECEIVED FOR DIESEL GENERATOR 12. THIS CONDITION WOULD PREVENT THE DIESEL FROM STARTING. THE ROOT CAUSE OF A GASKET COOLING WATER PRESSURE SWITCH WAS FOUND TO BE OUT OF CALIBRATION AND COULD NOT BE PROPERLY ADJUSTED. WHEN THE COMPLICATED CONTROLS, THE BELLYCROFT, SWITCH WAS REMOVED, THE DIESEL BECAME OPERABLE. THE SWITCH WAS REPLACED AND THE DIESEL RETURNED TO SERVICE.

COMPONENT CODE SYSTEMS - INSTRUMENTATION AND CONTROLS

177-50-317-0004077 28  
0020135001  
SERVICE WATER SUPPLY CONTROL VALVE TO LG OPERATES ERRATICALLY AT CALVERT CLIFFS 1  
BALTIMORE GAS & ELECTRIC CO., BALTIMORE, MD  
1977

COMPONENT CODE SYSTEMS - INSTRUMENTATION AND CONTROLS

3 PAGES, LTR W/EX 77-10173L TO NRC OFFICE OF I & E, REGION 1, JULY 27, 1977, SOCKET 50-317, TYPE--PAR, MFG--COMB., AB--SCHEMEL  
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (66 CENTS/PAGE -- MINIMUM CHARGE \$2.00)  
 ABSTRACT DATE OF EVENT - 100077, POWER LEVEL - 96%. CAUSE - DEFECTIVE VALVE POSITIONER. WHILE OPERATING DIESEL GENERATOR 11 FOR ROUTINE SURVEILLANCE, THE SERVICE WATER SUPPLY CONTROL VALVE WAS NOTED TO OPERATE ERRATICALLY. THE DIESEL WAS REMOVED FROM SERVICE TO WORK ON THE CONTROL VALVE. THE VALVE CONTROLLED IMPROPERLY IN THE AUTOMATIC MODE. THE PNEUMATIC CONTROLLER WAS RETURNED TO SERVICE IN THE MANUAL MODE AND A NEW VALVE POSITIONER WAS PLACED ON ORDER.  
 COMMENT CODE CRISIS-CIRCUIT CLOSERS/INTERRUPTERS  
 SYSTEM CODE WASHINGTON SERV WATER SYS & CONT

11/17/77 11-00000077 28  
 ACCEPTED BY 002012732  
 TITLE DIESEL GENERATOR OUT OF SERVICE FOR 54 FLOW CONTROL VALVE AT CALVERT CLIFFS 1  
 OR AUTH METTROME GAS & ELECTRIC CO., BALTIMORE, MD  
 DATE 1977  
 TYPE 4  
 REVD 3 PAGES, LTR W/EX 77-10173L TO NRC OFFICE OF I & E, REGION 1, JULY 27, 1977, SOCKET 50-317, TYPE--PAR, MFG--COMB., AB--SCHEMEL  
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (66 CENTS/PAGE -- MINIMUM CHARGE \$2.00)  
 ABSTRACT DATE OF EVENT - 100077, POWER LEVEL - 78%. CAUSE - CONTROLLER OUT OF ADJUSTMENT. DURING NORMAL OPERATION, DIESEL GENERATOR 11 WAS OUT OF SERVICE FOR 3 HOURS TO REPAIR ITS SERVICE WATER CONTROL VALVE. THE CONTROL VALVE WAS CONTROLLING IMPROPERLY IN THE AUTOMATIC MODE. A PNEUMATIC CONTROLLER CALIBRATION CHECK WAS CONDUCTED TO VERIFY OPERATION OF THE CONTROLLER AND THE PNEUMATIC LINE AND AIR RESET WERE ADJUSTED.  
 COMMENT CODE CRISIS-CIRCUIT CLOSERS/INTERRUPTERS  
 SYSTEM CODE WASHINGTON SERV WATER SYS & CONT

11/17/77 11-00000077 30  
 ACCEPTED BY 002012732  
 TITLE SMALL FIRE OCCURS ON DIESEL GENERATOR AT CALVERT CLIFFS 1  
 OR AUTH METTROME GAS & ELECTRIC CO., BALTIMORE, MD  
 DATE 1977  
 TYPE 4  
 REVD 3 PAGES, LTR W/EX 77-8470L TO NRC OFFICE OF I & E, REGION 1, AUGUST 10, 1977, SOCKET 50-317, TYPE--PAR, MFG--COMB., AB--SCHEMEL  
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (66 CENTS/PAGE -- MINIMUM CHARGE \$2.00)  
 ABSTRACT DATE OF EVENT - 071177, POWER LEVEL - 100%. CAUSE - LOOSE OIL SPRAYED FROM FAILED GASKET. DURING A TEST RUN TO VERIFY AVAILABILITY OF DIESEL GENERATOR 11 AFTER PREVENTATIVE MAINTENANCE WORK, A SMALL FIRE DEVELOPED WHEN LOOSE OIL SPRAYED FROM THE LOOSE OIL STRAINER AND ILLUMINATED ON CONTACT WITH THE HOT EXHAUST PIPEFOLD. THE O/G WAS SHUT DOWN AND THE FIRE QUICKLY EXTINGUISHED. THE O-RING GASKET IN THE OIL STRAINER FAILED AT ITS GLEED JOINT DUE TO THE NORMAL PRESSURE BUILDUP. THE JOINT WAS NOT LEAKING GLEED PROPERLY. NO DAMAGE OCCURRED TO THE O/G.  
 COMMENT CODE CRISIS-CIRCUIT CLOSERS/INTERRUPTERS  
 SYSTEM CODE WASHINGTON SERV WATER SYS & CONT

11/17/77 11-00000077 31  
 ACCEPTED BY 002012732  
 TITLE DIESEL GENERATOR TRIPS ON LOW JACKET COOLANT PRESSURE AT CALVERT CLIFFS 1  
 OR AUTH METTROME GAS & ELECTRIC CO., BALTIMORE, MD  
 DATE 1977  
 TYPE 4  
 REVD 3 PAGES, LTR W/EX 77-8573L TO NRC OFFICE OF I & E, REGION 1, AUGUST 12, 1977, SOCKET 50-317, TYPE--PAR, MFG--COMB., AB--SCHEMEL  
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (66 CENTS/PAGE -- MINIMUM CHARGE \$2)

ABSTRACT DATE OF EVENT - 061777. POWER LEVEL - 100%. CAUSE - NOT FULLY  
 ISOLATION VALVE CLOSED. DURING A TEST WHEN THE STAS  
 SIGNAL FOR DIESEL GENERATOR 11 WAS OBTAINED, THE DIESEL INDICATOR  
 ON LOW JACKET COOLANT PRESSURE. A SECOND ATTEMPT TO START  
 SHOWED THE PRESSURE TO BE IN THE PROPER RANGE. THE ISOLATION  
 VALVE TO THE JACKET COOLANT PRESSURE SWITCHES WAS FOUND SHUT.  
 IT IS NOT KNOWN WHEN OR WHY THIS VALVE WAS SHUT. THE D/G WAS  
 LAST TESTED ON 7/11/77. THE VALVE WAS OPENED AND THE DIESEL  
 TESTED AND RETURNED TO SERVICE.

COMPONENT CODE VALVES-VALVES  
 SYSTEM CODE 28-EMERG GENERATOR SYS & CONTROLS

21757000001-00000077 32  
 ACCESSION NO. 0000186406  
 TITLE CYLINDER RELIEF VALVE FALLS OFF DIESEL GENERATOR AT CALVERT  
 CLIFFS 1  
 CONTRACTOR THE HILFORD GAS & ELECTRIC CO., BALTIMORE, MD  
 DATE 1977  
 3 POS, LTR VALER 77-58736 TO NRC OFFICE OF I & E, REGION 1,  
 JUNE 17, 1977. BUCKET 50-317, TYPE-PWR, NRC-COM 1, AD-DCENTEL  
 AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,  
 WASHINGTON, D. C. 20545 (08 CENTS/PAGE -- MINIMUM CHARGE  
 \$2.00)

ABSTRACT DATE OF EVENT - 061777. POWER LEVEL - 100%. CAUSE - NOT FULLY  
 ISOLATION VALVE CLOSED. DURING A TEST WHEN THE STAS  
 SIGNAL FOR DIESEL GENERATOR 11 WAS OBTAINED, THE DIESEL INDICATOR  
 ON LOW JACKET COOLANT PRESSURE. A SECOND ATTEMPT TO START  
 SHOWED THE PRESSURE TO BE IN THE PROPER RANGE. THE ISOLATION  
 VALVE TO THE JACKET COOLANT PRESSURE SWITCHES WAS FOUND SHUT.  
 IT IS NOT KNOWN WHEN OR WHY THIS VALVE WAS SHUT. THE D/G WAS  
 LAST TESTED ON 7/11/77. THE VALVE WAS OPENED AND THE DIESEL  
 TESTED AND RETURNED TO SERVICE.

COMPONENT CODE PIPEX-PIPES, FITTINGS  
 SYSTEM CODE 28-EMERG GENERATOR SYS & CONTROLS

21757000001-00000077 33  
 ACCESSION NO. 0000186409  
 TITLE DIESEL GENERATOR REMOVED FROM SERVICE AT CALVERT CLIFFS 1  
 CONTRACTOR THE HILFORD GAS & ELECTRIC CO., BALTIMORE, MD  
 DATE 1977  
 3 POS, LTR VALER 77-58736 TO NRC OFFICE OF I & E, REGION 1,  
 JUNE 22, 1977. BUCKET 50-317, TYPE-PWR, NRC-COM 1, AD-DCENTEL  
 AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,  
 WASHINGTON, D. C. 20545 (08 CENTS/PAGE -- MINIMUM CHARGE  
 \$2.00)

ABSTRACT DATE OF EVENT - 060877. POWER LEVEL - 100%. CAUSE -  
 MINOR AIR LEAKAGE. DURING NORMAL OPERATION,  
 DIESEL GENERATOR 11 WAS REMOVED FROM SERVICE TO PERFORM  
 CORRECTIVE MAINTENANCE ON THE SCAVENGER AIR FLOWERS. MISSING  
 FLANGE BOLTS WERE REPLACED ON THE FLOWER DISCHARGE PIPE WHICH  
 WAS APPARENTLY VIBRATED LOOSE. ALSO, 2 BOLTS PROVIDING SUPPORT  
 FOR THE DISCHARGER, WHICH HAD STAINED DUE TO  
 CORROSION, WERE REPLACED. WHEN UNIT WAS RE-STARTED  
 ALL BOLTS WERE TIGHTENED. THE FOLLOWING SHIFT  
 RECOGNIZED THE REQUIREMENT TO DEMONSTRATE OPERABILITY OF UNIT 2  
 POWER SERVICES.

COMPONENT CODE PIPEX-PIPES, FITTINGS  
 SYSTEM CODE 28-EMERG GENERATOR SYS & CONTROLS

21757000001-00000077 34  
 ACCESSION NO. 0000186413  
 TITLE DIESEL GENERATOR REMOVED FROM SERVICE AT CALVERT CLIFFS 1  
 CONTRACTOR THE HILFORD GAS & ELECTRIC CO., BALTIMORE, MD  
 DATE 1977  
 3 POS, LTR VALER 77-58736 TO NRC OFFICE OF I & E, REGION 1,  
 JUNE 24, 1977. BUCKET 50-317, TYPE-PWR, NRC-COM 1, AD-DCENTEL  
 AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,  
 WASHINGTON, D. C. 20545 (08 CENTS/PAGE -- MINIMUM CHARGE  
 \$2.00)

ABSTRACT DATE OF EVENT - 060877. POWER LEVEL - 100%. CAUSE - MINOR



DATE  
TYPE  
NO  
AVAIL  
ABSTRACT

1177  
3 PAGES, LTR WATER 70-25471E TO NRC OFFICE OF I & S, REGION 1,  
D.C. 20, 1970, DOC# 50-217, TYPE--R, MFG--COMM., AB--TECHNICAL  
AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,  
WASHINGTON, D. C. 20545 (68 CENTS/PAGE -- MINIMUM CHARGE  
12.00)

CAUSE - OPERATOR ERROR. WHILE OPERATING AT 100% POWER, AN  
OPERATOR OBSERVED THAT THE RELIEF VALVE ON THE SERVICE WATER  
SUPPLY TO DIESEL 12 WAS LIFTING. A CHECK OF THE VALVE LINEUP  
REVEALED THAT BOTH SERVICE WATER OUTLET MANUAL STOP VALVES WERE  
SHOT. AN OPERATOR HAD BEEN REQUESTED TO CLEAR TAGS ON THE UNIT  
& SERVICE WATER SUPPLY AND RETURN VALVE FOR DIESEL 12 3.5 HOURS  
EARLIER. IT IS ASSUMED THAT AT THIS TIME THE UNIT 1 OUTLET  
VALVE WAS SHOT AND UNIT 2 OUTLET VALVE WAS NOT OPENED. THIS  
PREVENTED SERVICE WATER FLOW TO THE DIESEL. THE VALVE LINEUP  
WAS IMMEDIATELY CORRECTED.

DATE  
TYPE  
NO  
AVAIL  
ABSTRACT

1178  
3 PAGES, LTR WATER 70-25471E TO NRC OFFICE OF I & S, REGION 1,  
D.C. 20, 1970, DOC# 50-217, TYPE--R, MFG--COMM., AB--TECHNICAL  
AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,  
WASHINGTON, D. C. 20545 (68 CENTS/PAGE -- MINIMUM CHARGE  
12.00)

CAUSE - COLD SOLDER JOINT ON RELAY LEAD. DURING TESTING WITH  
THE DIESEL AT 95% POWER, DIESEL OPERATOR 11 FAILED TO SENSE  
ANALOG VOLTAGE OF WHICH SHORTLY AFTER STARTING EVEN THOUGH IT  
WAS AT 95% POWER. THIS SHOULD PREVENT THE OUTPUT BREAKER  
FROM CLOSING AUTOMATICALLY SHOULD IT BE REQUIRED. A COLD  
SOLDER CONNECTION ON A LEAD TO THE 4A RELAY (41 VOLTAGE)  
CAUSED THE MALFUNCTION. THE CONNECTION WAS RE-MADE AS WERE  
SEVERAL OTHERS HAVING THE APPEARANCE OF A COLD SOLDER  
CONNECTION.

DATE  
TYPE  
NO  
AVAIL  
ABSTRACT

1179  
3 PAGES, LTR WATER 70-25471E TO NRC OFFICE OF I & S, REGION 1,  
D.C. 20, 1970, DOC# 50-217, TYPE--R, MFG--COMM., AB--TECHNICAL  
AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,  
WASHINGTON, D. C. 20545 (68 CENTS/PAGE -- MINIMUM CHARGE  
12.00)

CAUSE - COOLING WATER SYSTEM AIRBOUND. DURING 100% POWER  
TESTING, 500 KV BUS 10S AND 4 KV BUS 14 WERE TEMPORARILY  
REMOVED DURING MAINTENANCE PERSONNEL WORKING ON A 500 KV  
BREAKER CONTACT. BUS 14 WAS  
TEMPORARILY RECONNECTED FROM ITS ALTERNATE SUPPLY BUT DIESEL  
GENERATOR 12 FAILED TO START. IT TRIPPED ON LOW JACKET COOLING  
WATER PRESSURE. 10 12 JACKET COOLING WATER SYSTEM WAS  
PARTIALLY DRAINED THE DAY BEFORE. ALTHOUGH IT HAD BEEN TEST  
RUN, THE COOLING WATER SYSTEM LATER BECAME AIRBOUND. IT WAS  
VENTED AND THE DG SATISFACTORILY TESTED.