



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

Docket file

July 9, 1981

Docket Nos. 50-321
and 50-366

Mr. J. Beckham, Jr.
(16/333) Vice President - Engineering
Georgia Power Company
Post Office Box 4545
Atlanta, Georgia 30302

Dear Mr. Beckham:

Subject: Information Request Regarding Station Blackout, Unresolved
Safety Issue A-44, Hatch 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-OOE-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

Mr. J. Beckham, Jr.

- 2 -

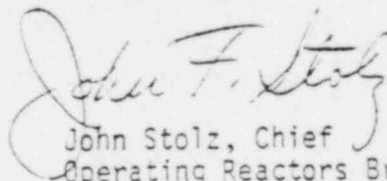
3) to our letter of March 6, 1978 which requested related, but different, information. This is being forwarded for your information only and should aid in preparing Tables 1 through 4.

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.

Sincerely,



John Stolz, Chief
Operating Reactors Branch #4
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.

Hatch 1/2
Georgia Power Company

50-321/366

cc w/enclosure(s):

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U. S. Environmental Protection Agency
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Mr. R. F. Rodgers
U.S. Nuclear Regulatory Commission
Route 1, P. O. Box 279
Baxley, Georgia 31513

Diesel Generator Scheduled Downtime Record
 Calendar Year 19 _____

TABLE 2

Reason for Downtime	Hours of Downtime										Comments
	Reactor shutdown					Reactor not shutdown					
	DC#	DC#	DC#	DC#	DC#	DC#	DC#	DC#	DC#	DC#	
Scheduled Maintenance											
Time DG is unavailable for emergency service because of required tests											

Plant Name _____

Unit No. _____

TABLE 3 Diesel Generator Unscheduled Downtime Record

Calendar Year 19 _____

LER Abstract No. (Refer to attached LER Abstracts)	Downtime Hours		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.
	Total Hours	Trouble-shooting Parts, Delivered, etc. Repair/replace	

Onsite Emergency Diesel Generator and
Auxiliary 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 shutdown 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 automatically started after 400 sec. after reactor shutdown

Time DG is unavailable for emergency service because of required tests
Down 4 hrs per test

Diesel Generator Operations Data
 Calendar Year 1976

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

Plant Name _____

Unit No. _____

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

Reason for Downtime	Hours of Downtime												Comments		
	Reactor shutdown			Reactor not shutdown			Reactor shutdown			Reactor not shutdown					
	DC#	DC#	DC#	DC#	DC#	DC#	DC#	DC#	DC#	DC#	DC#	DC#			
Scheduled Maintenance	1	2	3				1	2	3						
Preventive Maintenance Semi-annual & Annual	24	16	---							16					
Equipment Modification							8	8	8						Modified lube oil on each diesel. Diesels down at different times.

TABLE 3
(Sample)

Diesel Generator Unscheduled Downtime Record
Calendar Year 19__

Enclosure 1 - Page 9
Plant Name XXX
Unit No. 1&2

LER Abstract No. (Refer to attached LER Abstract)	Downtime Hours				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.
	Total Hours	Trouble-shooting	Parts, Delivery, etc	Repair/replace	
1	4	1	1	2	
2	3	0.5	1	1.5	
3	12	1	10	1	
4	0	0	0	0	Diesel started in 15 sec instead of required 10 sec
5	0	0	0	0	Secondary air pressure low. Primary air satisfactory.
6	0	0	0	0	Secondary air pressure low. Primary air satisfactory.
7	0	0	0	0	Diesel started in 20 sec instead of required 10 sec.
8	0	0	0	0	False DC start signal. DC satisfactory
No LER					
9	0	0	0	0	Required DC starts after the failure of one diesel.
10	0	0	0	0	Starts to verify repairs.

TABLE 4
(Sample)

Onsite Emergency Diesel Generator and
Auxiliary Equipment Modification Record

Enclosure 1 - Page 10

Plant Name _____

Unit No. _____

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.

ACCESSION NO. 0020159508
 TITLE DIESEL GENERATOR INOPERABLE DUE TO LOW AIR PRESSURE AT HATCH 1
 CORPAUTH GEORGIA POWER CO.
 DATE 1980
 TYPE 0
 MEMO LTR W/LER 80-066 TO U.S. NRC, REGION 2, JUL 8, 1980, DOCKET
 50-321, TYPE—DWR, MFG—GE, AE—SSI
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,
 WASHINGTON, D. C. 20555 (08 CENTS/PAGE -- MINIMUM CHARGE
 \$2.00)
 ABSTRACT DATE OF EVENT - 061580. POWER LEVEL - 050%. CAUSE - AIR
 COMPRESSOR UNLOADER VALVES FAIL. A "STARTING AIR PRESSURE LOW"
 ALARM WAS RECEIVED FOR THE "1C" DIESEL GENERATOR WHEN THE AIR
 RECEIVER TANK PRESSURE FELL TO 150 PSIG. THE "1C" DIESEL
 GENERATOR WAS DECLARED INOPERABLE. THE UNLOADER VALVES FOR THE
 DIESEL AIR COMPRESSORS HAD FAILED IN THE UNLOADED MODE. THE
 UNLOADER VALVES WERE REPLACED, THE AIR RECEIVERS WERE RETURNED
 TO THE PROPER PRESSURE AND THE "1C" DIESEL GENERATOR TESTED
 SATISFACTORILY.
 COMPONENT CODE BLOWER-BLOWERS
 SYSTEM CODE EE-EMERG GENERATOR SYS & CONTROLS

29/5/0000001-00000387/ 2
 ACCESSION NO. 0020158683
 TITLE DIESEL GENERATOR FAILS TO START AT HATCH 1
 CORPAUTH GEORGIA POWER CO.
 DATE 1980
 TYPE 0
 MEMO LTR W/LER 80-067 TO U.S. NRC, REGION 2, JUL 17, 1980, DOCKET
 50-321, TYPE—DWR, MFG—GE, AE—SSI
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,
 WASHINGTON, D. C. 20555 (08 CENTS/PAGE -- MINIMUM CHARGE
 \$2.00)
 ABSTRACT DATE OF EVENT - 062880. POWER LEVEL - 018%. CAUSE - NOT
 DETERMINED. WHILE PERFORMING DIESEL GENERATOR MANUAL START,
 THE 'B' DIESEL GENERATOR TRIPPED. AS THE 'D' DIESEL IS COMMON
 TO BOTH UNITS, THE REMAINING AC POWER SOURCES ON UNIT 1 AND
 UNIT 2 WERE PROVEN OPERABLE. THIS WAS A REPETITIVE EVENT AS
 LAST REPORTED ON REPORTABLE OCCURRENCE REPORT NO.
 50-366/1979-120. THE CAUSE COULD NOT BE DETERMINED. HOWEVER,
 THE VENDOR WAS CONSULTED AND THE MOST PROBABLE CAUSE WAS
 DETERMINED TO BE A FURTIOUS ALARM ON CHAINCASE PRESSURE. THE
 DIESEL WOULD NOT HAVE TRIPPED HAD IT BEEN IN THE AUTO-START
 POSITION. THE ENGINE WAS PROVEN OPERATIONAL AND RETURNED TO
 SERVICE.
 COMPONENT CODE ENGINE-ENGINES,INTERNAL COMBUSTION
 SYSTEM CODE EE-EMERG GENERATOR SYS & CONTROLS

29/5/0000001-00000387/ 3
 ACCESSION NO. 0020156978
 TITLE DIESEL GENERATOR FAILS TO START AT HATCH 1
 CORPAUTH GEORGIA POWER CO.
 DATE 1980
 TYPE 0
 MEMO LTR W/LER 80-029 TO U.S. NRC, REGION 2, APR 19, 1980, DOCKET
 50-321, TYPE—DWR, MFG—GE, AE—SSI
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,
 WASHINGTON, D. C. 20555 (08 CENTS/PAGE -- MINIMUM CHARGE
 \$2.00)
 ABSTRACT DATE OF EVENT - 032280. POWER LEVEL - 099%. CAUSE - GOVERNOR
 FAILURE. DURING NORMAL SURVEILLANCE, DIESEL GENERATOR
 1R43-500IC FAILED TO START AND REACH RATED SPEED IN 4 OR 12
 SECONDS. DURING A MAINTENANCE INVESTIGATION ON 4/5/80, THE
 DIESEL GENERATOR AGAIN FAILED TO START. THE DIESEL GENERATOR
 WAS DECLARED INOPERABLE AFTER EACH INCIDENT. THE REDUNDANT
 DIESEL GENERATORS WERE OPERABLE. THIS IS A REPETITIVE
 OCCURRENCE AND WAS LAST REPORTED ON LER 50-321/1979-101. THE
 CAUSE OF THE START FAILURES HAS BEEN ATTRIBUTED TO A BENT
 SHUTDOWN SOLENOID OPERATING ROD IN THE ENGINE GOVERNOR AND A
 FAILED GOVERNOR BOOSTER SERVO. THE BENT ROD CAUSED THE SERVO
 TO FAIL. THE ROD AND SERVO WERE REPLACED AND THE GENERATOR WAS
 RETURNED TO SERVICE. THIS WAS FOUND DURING THE INVESTIGATION
 AFTER THE FAILURE ON 4/5/80.
 COMPONENT CODE ENGINE-ENGINES,INTERNAL COMBUSTION

SYSTEM CODE EE-EMERG GENERATOR SYS & CONTROLS

29/5/0000001-0000038// 4

ACCESSION NO. 0020156095
 TITLE DIESEL GENERATOR MANUAL VOLTAGE REGULATOR INOPERABLE AT HATCH 1
 CORPAUTH GEORGIA POWER CO.
 DATE 1980
 TYPE 0
 MEMO LTR W/NO 50-024 TO U.S. NRC, REGION 2, MAR 17, 1980, DOCKET

AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,
 WASHINGTON, D. C. 20555 (08 CENTS/PAGE -- MINIMUM CHARGE
 \$2.00)

ABSTRACT DATE OF EVENT - 022980. POWER LEVEL - 099%. CAUSE - FAILED
 DIODES. WHILE PERFORMING DIESEL GENERATOR MANUAL START ON IC
 DIESEL GENERATOR, THE MANUAL VOLTAGE REGULATOR WAS DISCOVERED
 TO BE INOPERATIVE. NO SIGNIFICANT OCCURRENCES TOOK PLACE AS A
 RESULT OF THIS EVENT. THIS IS A RE-OCCURRING EVENT AS LAST
 REPORTED ON LER 50-321/1977-59. THE CAUSE WAS A FAILURE OF THE
 DIODES THAT SUPPLY VOLTAGE TO THE MANUAL ADJUSTING MOTOR. THE
 DIODES WERE REPLACED AND THE MANUAL REGULATOR WAS RETURNED TO
 SERVICE.

COMPONENT CODE INSTRU-INSTRUMENTATION AND CONTROLS
 SYSTEM CODE EE-EMERG GENERATOR SYS & CONTROLS

29/5/0000001-0000038// 5

ACCESSION NO. 0020153506
 TITLE DIESEL GENERATOR FAILS TO START WITHIN SEVEN SECONDS AT HATCH 1
 CORPAUTH GEORGIA POWER CO., BAXLEY, GA
 DATE 1980
 TYPE 0
 MEMO 4 PGS, LTR W/NO 50-321/1979-101 TO NRC OFFICE OF I & E, REGION

AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,
 WASHINGTON, D. C. 20555 (08 CENTS/PAGE -- MINIMUM CHARGE
 \$2.00)

ABSTRACT DATE OF EVENT - 121279. POWER LEVEL - 098%. CAUSE - DEFECTIVE
 GOVERNOR BOOSTER SERVO. 12/12/79 AND AGAIN ON 12/13, 'C'
 DIESEL GENERATOR, 1R43-S001C, FAILED TO START WITHIN 7 SEC
 WHILE PERFORMING PROCEDURE HNP-1-3801, DIESEL GENERATOR MANUAL
 START. THIS DIESEL ALSO FAILED ON 12/18 WITH THE REACTOR IN
 COLD SHUTDOWN. THE 'C' DIESEL WAS DECLARED INOPERABLE AFTER
 EACH INCIDENT. REFERENCE REPORTABLE OCCURRENCE NO.
 50-360/INT-02 FOR A SIMILAR INCIDENT OF THIS TYPE. AFTER THE
 START FAILURE ON 12/12, THE DIESEL WAS STARTED FROM THE LOCAL
 STATION WHICH BYPASSES THE 7 SEC CONTROL CIRCUIT. AFTER
 1R43-S001C WAS SHUTDOWN, IT WAS SUCCESSFULLY RESTARTED FROM THE
 REMOTE STATION. WHEN THE DIESEL FAILED ON 12/13, THE GOVERNOR
 BOOSTER SERVO WAS DISASSEMBLED, CLEANED AND REINSTALLED.
 HNP-1-3801 WAS THEN PERFORMED. AFTER THE 'C' DIESEL FAILED
 AGAIN, ON 12/16, THE VENDOR WAS CONSULTED AS TO THE
 AVAILABILITY OF A SPARE SERVO. THE VENDOR ADVISED SWAPPING THE
 SERVO WITH ONE OF A NEWER DESIGN. A NEW TYPE GOVERNOR BOOSTER
 SERVO WAS INSTALLED AND PROCEDURE HNP-1-3801 PERFORMED
 SATISFACTORILY ON 12/18.

COMPONENT CODE ENGINE-ENGINES, INTERNAL COMBUSTION
 SYSTEM CODE EE-EMERG GENERATOR SYS & CONTROLS

29/5/0000001-0000038// 6

ACCESSION NO. 0020153505
 TITLE STANDBY DIESEL SERVICE WATER PUMP TRIPS AT HATCH 1
 CORPAUTH GEORGIA POWER CO., BAXLEY, GA
 DATE 1980
 TYPE 0
 MEMO 4 PGS, LTR W/NO 50-321/1979-104 TO NRC OFFICE OF I & E, REGION

AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,
 WASHINGTON, D. C. 20555 (08 CENTS/PAGE -- MINIMUM CHARGE
 \$2.00)

ABSTRACT DATE OF EVENT - 121679. POWER LEVEL - 000%. CAUSE - FAILURE
 OF A NUMBER OF BOLTS. WITH THE REACTOR IN THE SHUTDOWN MODE,
 WHILE PERFORMING PROCEDURE HNP-1-3801, DIESEL GENERATOR MANUAL
 START, 2P41-C002, STANDBY DIESEL SERVICE WATER PUMP, TRIPPED.
 THIS IS NOT A REPETITIVE OCCURRENCE. THE CAUSE OF THE

2P41-COOR MOTOR TRIP WAS DUE TO A MECHANICAL OVERLOAD. UPON INVESTIGATION, IT WAS DISCOVERED THAT A NUMBER OF BOLTS USED TO ASSEMBLE THE SUCTION BELL, INTERMEDIATE BOX'S AND DISCHARGE CASE OF THE PUMP HAD DETERIORATED AND BROKEN LOOSE CAUSING MISALIGNMENT OF THE PUMP SHAFT. THERE WAS LSO EVIDENCE OF WEAR TO THE SEAL RINGS, BOWL BEARINGS AND PUMP SHAFT WHICH APPEARED TO HAVE BEEN CAUSED BY THE MISALIGNMENT OF THE PUMP SHAFT. THE DIRECT CAUSE OF THE DETERIORATION OF BOLTS IS NOT KNOWN AT THIS TIME. THE DETERIORATION OF THE BOLTS APPEARS TO HAVE BEEN CAUSED BY ELECTROLYSIS.

COMPONENT CODE PUMPXX-PUMPS
SYSTEM CODE WA-STATION SERV WATER SYS & CONT

29/5/0000001-0000038// 7

ACCESSION NO. 0020150505
TITLE DIESEL GENERATOR TRIPS DURING TESTING AT HATCH 1
CORPAUTH GEORGIA POWER CO.
DATE 1979
TYPE Q

MEMO LTR W/LEH 79-041 TO U.S. NRC, REGION 2, JUL 11, 1979, DOCKET

50-321, TYPE-BWR, MFG-GE, AC-SS1/BECH CONTROL-020327
AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,
WASHINGTON D.C. 20555, (06 /PAGE -- MINIMUM CHARGE \$2.00)
DATE OF EVENT - 062479, POWER LEVEL - 600%, CAUSE - OTHER, WITH REACTOR SHUTDOWN FOR REFUELING, WHILE PERFORMING PROCEDURE HNP-1-3801 (DIESEL GENERATOR MANUAL START), THE 1W43-5001 5 DIESEL GENERATOR TRIPPED AFTER BEING TIED TO THE BUS AND LOADED FOR APPROXIMATELY 15 MINUTES. CAUSE THAT INITIATED THE TRIP HAS NOT YET BEEN DETERMINED. AFTER THE DIESEL GENERATOR RELAYING WAS CHECKED TO VERIFY THAT A LOCKOUT HAD NOT BEEN RECEIVED, PROCEDURE HNP-1-3801 WAS PERFORMED AGAIN & FOUND SATISFACTORY ON 6-24-79. AN INVESTIGATION IS IN PROGRESS TO DETERMINE CAUSE FOR TRIP & AN UPDATE REPORT WILL BE SUBMITTED WHEN CAUSE IS DETERMINED.

COMPONENT CODE ENGINE-ENGINES, INTERNAL COMBUSTION
SYSTEM CODE EE-EMERG GENERATOR SYS & CONTROLS

29/5/0000001-0000038// 8

ACCESSION NO. 0020149902
TITLE DIESEL GENERATOR UNABLE TO CARRY RATED LOAD AT HATCH 1
CORPAUTH GEORGIA POWER CO.
DATE 1979
TYPE Q

MEMO LTR W/LEH 79-035 TO U.S. NRC, REGION 2, JUL 17, 1979, DOCKET

50-321, TYPE-BWR, MFG-GE, AC-SS1/BECH CONTROL-020327
AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,
WASHINGTON D.C. 20555, (06 /PAGE -- MINIMUM CHARGE \$2.00)
DATE OF EVENT - 062179, POWER LEVEL - 600%, CAUSE - DESIGN ERROR, DURING OPERABILITY TESTING, DIESEL GENERATOR 1A WAS ABLE TO CARRY LESS THAN 50% OF RATED LOAD. THIS OCCURRED 10 YEARS THAT THE DIESEL GENERATOR COULD NOT HAVE PERFORMED ITS DESIGN FUNCTION. DIESEL GENERATOR 1A WAS SIMULTANEOUSLY INOPERABLE DUE TO FIVE YEAR PREVENTATIVE MAINTENANCE WORK. MODIFICATIONS TO PROVIDE REMOTE MONITORING OF SYNCHRONOUS SPEED SETTING HAD BEEN MADE ON THE DIESEL GENERATOR 1A GOVERNOR BY ADDING TWO CAMS ON THE SYNCHRONIZER GEAR SHAFT. UPON REINSTALLATION, THE SYNCHRONIZER GEAR WAS NOT ALIGNED PROPERLY. REALIGNMENT OF THE SYNCHRONIZER GEAR CORRECTED THE PROBLEM.

COMPONENT CODE GENERA-GENERATORS
SYSTEM CODE EE-EMERG GENERATOR SYS & CONTROLS

29/5/0000001-0000038// 9

ACCESSION NO. 0020148553
TITLE PLANT SERVICE WATER NOT VALVED INTO DIESEL GENERATOR AT HATCH 1
CORPAUTH GEORGIA POWER CO.
DATE 1979
TYPE Q

MEMO LTR W/LEH 79-018 TO U.S. NRC, REGION 2, MAR 26, 1979, DOCKET

50-321, TYPE-BWR, MFG-GE, AC-SS1/BECH CONTROL-020404
AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,
WASHINGTON D.C. 20555, (06 /PAGE -- MINIMUM CHARGE \$2.00)
DATE OF EVENT - 031079, POWER LEVEL - 652%, CAUSE - DEFECTIVE PROCEDURES. DURING NORMAL OPERATION, IT WAS DISCOVERED THAT PLANT SERVICE WATER HAD NOT BEEN VALVED IN TO THE 1B DIESEL

ABSTRACT

GENERATOR. THE STANDBY PLANT SERVICE WATER PUMP WAS MADE INOPERABLE AT 0930 CST FOR MAINTENANCE TO REPAIR PUMP. AT 1100 CST, THE STANDBY SERVICE WATER PUMP WAS RETURNED TO OPERABLE STATUS. IT WAS DISCOVERED THAT PLANT SERVICE WATER WAS FOUND TO BE ISOLATED FROM THE 1B DIESEL GENERATOR. THE IMPROPER VALVE LINEUP WAS CAUSED BY THE PLANT SERVICE WATER MAINTENANCE PROCEDURE HNP-2-6200 WHICH DOES NOT SPECIFY THE CORRECT VALVE ALIGNMENT. A TEMPORARY PROCEDURE CHANGE HAS BEEN MADE.

COMPONENT CODE PUMPXX-PUMPS
SYSTEM CODE WA-STATION SERV WATER SYS & CONT

29/5/0000001-0000038// 10

ACCESSION NO. 00Z0142706
TITLE ERROR FOUND IN DIESEL GENERATOR LOAD SHEDDING CIRCUITS AT HATCH 1

CORPAUTH GEORGIA POWER CO., DALY, GA
DATE 1978

TYPE 0
MEMO 7 PGS, LTR W/RO 50-321/1978-18 TO NRC OFFICE OF I & E, REGION 11, MAY 8, 1978, DOCKET 50-321, TYPE--BWR, MFG--GE, AE--SSI

AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (66 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ABSTRACT DATE OF EVENT - 033078. POWER LEVEL - 0%. CAUSE - DESIGN ERROR. DURING THE 1978 UNIT 1 REFUELING OUTAGE, UNIT 2 PREOPERATIONAL TESTING REVEALED A DESIGN PROBLEM IN THE DIESEL LOSP AND LOCA LOAD SEQUENCE TIMERS AND, IN THE PLANT SERVICE WATER PUMPS LOW PRESSURE START CIRCUIT, THE TIMER PROBLEM COULD RESULT IN INCORRECT LOAD SHED AND SEQUENCES OF THE PLANT SERVICE WATER PUMPS. THE PSW PUMP AUTO START DESIGN PROBLEM COULD RESULT IN A POSSIBLE OVERLOAD OF DIESEL GENERATOR 1B IF A LOCA SHOULD FOLLOW A LOSP OR VICE VERSA BEFORE THE INITIAL CONDITION IS CLEARED. THE MECHANICAL TIMERS FUNCTION SOMEWHAT DIFFERENTLY THAN THE INTENDED DESIGN.

COMPONENT CODE ZZZZZZ-COMPONENT CODE NOT APPLICABLE
SYSTEM CODE EE-EMERG GENERATOR SYS & CONTROLS

29/5/0000001-0000038// 11

ACCESSION NO. 00Z0141518
TITLE POTENTIAL PROBLEM IDENTIFIED IN DIESEL GENERATOR CONTROL LOGIC AT HATCH 1

CORPAUTH GEORGIA POWER CO., DALY, GA
DATE 1978

TYPE 0
MEMO 4 PGS, LTR W/RO 50-321/1978-77 TO NRC OFFICE OF I & E, REGION 11, SEPT. 25, 1978, DOCKET 50-321, TYPE--BWR, MFG--GE, AE--SSI

AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (66 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ABSTRACT DATE OF EVENT - 042078. POWER LEVEL - 58%. CAUSE - DESIGN DEFICIENCY. A FOLLOW-UP REVIEW OF THE DIESEL GENERATOR CONTROL LOGIC IDENTIFIED A POTENTIAL PROBLEM UNDER THE CONDITIONS OF LOCA AND LOSP. THE PROBLEM COULD PREVENT A DIESEL WHICH FAILS TO START INITIALLY OR EXPERIENCES A PROTECTIVE SHUTDOWN FROM BEING RESTARTED FROM THE CONTROL ROOM. A DESIGN CHANGE REQUEST HAS BEEN INITIATED FOR A DESIGN CORRECTION WHICH WILL ELIMINATE THE POSSIBILITY FOR THE SUBJECT LOGIC HANG-UP TO OCCUR.

COMPONENT CODE XXXXXX-OTHER COMPONENTS
SYSTEM CODE EE-EMERG GENERATOR SYS & CONTROLS

29/5/0000001-0000038// 12

ACCESSION NO. 00Z0141489
TITLE SEVERE ARCING DAMAGES XG EXCITER COLLECTOR RING AT HATCH 1

CORPAUTH GEORGIA POWER CO., DALY, GA
DATE 1978

TYPE 0
MEMO 3 PGS, LTR W/RO 50-321-1978-89 TO NRC OFFICE OF I & E, REGION 11, NOV. 2, 1978, DOCKET 50-321, TYPE--BWR, MFG--GE, AE--SSI

AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (66 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ABSTRACT DATE OF EVENT - 102278. POWER LEVEL - 90%. CAUSE - IMPROPER BRUSH INSTALLATION. SEVERE ARCING WAS OBSERVED AT THE EXCITER

COLLECTOR RING OF 831-S000A. BEFORE THE "AM" MG SET COULD BE REMOVED FROM SERVICE, IT TRIPPED. THE COLLECTOR RING AND BRUSHES WERE FOUND TO BE BADLY BURNED AS A RESULT OF THE ARCING. BOLTS USED TO FASTEN THE BRUSH HOLDERS TO THE YOKE ASSEMBLY, ON TWO OF THE BRUSHES, WERE OF SUFFICIENT LENGTH TO FORCE THE BRUSH TENSIONING SPRING INTO THE AREA OCCUPIED BY THE BRUSH. THIS CAUSED THE BRUSHES TO ARC AS THE BRUSH ENDS WERE WORN AWAY AND THE BRUSHES COULD NOT SLIDE IN AGAINST THE COLLECTOR RING.

COMPONENT CODE GENERA-GENERATORS
SYSTEM CODE EE-EMERG GENERATOR SYS & CONTRLS

29/5/0000001-000003877 13

ACCESSION NO. 0020141203
TITLE CORE DRILLS MADE THROUGH DIESEL GENERATOR ROOM WALLS AT HATCH 1
CORPAUTH GEORGIA POWER CO., BAXLEY, GA
DATE 1978
TYPE Q

MEMO 2 PGS, LTR W/RC 50-321/1978-93 TO NRC OFFICE OF I & E, REGION II, NOV. 20, 1978, DOCKET 50-321, TYPE--BWR, MFG--GE, AB--SSI
AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (08 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ABSTRACT DATE OF EVENT - 110978. POWER LEVEL - 94%. CAUSE - TO RUN CONDUIT. WHILE IN NORMAL OPERATION, CORE DRILLS WERE MADE THROUGH THE DIESEL GENERATOR ROOM WALLS. THE SPECIFIC WALLS WERE THE WALL BETWEEN THE 1A DIESEL GENERATOR AND 2G SWITCHGEAR ROOM, THE WALL BETWEEN THE 1A DIESEL GENERATOR AND 1C SWITCHGEAR ROOM, THE WALL BETWEEN THE 1B AND 1F SWITCHGEAR ROOMS, AND THE WALL BETWEEN THE 1F AND 1B SWITCHGEAR ROOMS. THE CORE DRILLS WERE MADE TO ALLOW CONDUIT TO BE RUN THROUGH THE WALLS. A FIRE WATCH WAS ESTABLISHED UNTIL THE WALLS COULD BE REPAIRED. THE TWO HOLES MADE IN THE 1A DIESEL GENERATOR ROOM WALLS HAVE BEEN GROUTED UP, AND THE OTHER TWO HOLES HAVE BEEN PACKED WITH KAC-WOOL. THE KAC-WOOL WILL BE REMOVED WHEN THE CONDUIT IS RUN AND THESE HOLES WILL THEN BE GROUTED UP.
COMPONENT CODE ZZZZZZ-COMPONENT CODE NOT APPLICABLE
SYSTEM CODE AB-FIRE PROTECTION SYS & CONT.

29/5/0000001-000003877 14

ACCESSION NO. 0020139854
TITLE DIESEL GENERATOR BATTERY PILOT CELL NOT TESTED WHEN REQUIRED AT HATCH 1
CORPAUTH GEORGIA POWER CO., BAXLEY, GA
DATE 1978
TYPE Q

MEMO 2 PGS, LTR W/RC 50-321/1978-93 TO NRC OFFICE OF I & E, REGION II, JULY 13, 1978, DOCKET 50-321, TYPE--BWR, MFG--GE, AB--SSI
AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (08 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ABSTRACT DATE OF EVENT - 002778. POWER LEVEL - 87%. CAUSE - PERSONNEL OVERSIGHT. WEEKLY PILOT CELL SURVEILLANCE OF THE 1C DIESEL GENERATOR BATTERY WAS NOT COMPLETED WITHIN THE SPECIFIED INTERVAL. LAST ALLOWABLE DATE FOR SURVEILLANCE WAS 6/25/78 AND SURVEILLANCE WAS PERFORMED 6/27/78. THE SURVEILLANCE INTERVAL WAS EXCEEDED BECAUSE OF PERSONNEL OVERSIGHT. THE SURVEILLANCE WAS PERFORMED IMMEDIATELY AND THE PILOT CELL WAS FOUND ACCEPTABLE.

COMPONENT CODE BATTERY-BATTERIES & CHARGERS
SYSTEM CODE EE-EMERG GENERATOR SYS & CONTRLS

29/5/0000001-000003877 15

ACCESSION NO. 0020139618
TITLE DESIGN DEFICIENCY FOUND IN DIESEL GENERATOR VOLTAGE LOGIC AT HATCH 1
CORPAUTH GEORGIA POWER CO., BAXLEY, GA
DATE 1978
TYPE Q

MEMO 4 PGS, LTR W/RC 50-321/1978-39 TO NRC OFFICE OF I & E, REGION II, JUNE 12, 1978, DOCKET 50-321, TYPE--BWR, MFG--GE, AB--SSI
AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (08 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ABSTRACT DATE OF EVENT - 060278. POWER LEVEL - 0%. CAUSE - VIBRATION

NOT CONSIDERED. WHILE IN THE COLD SHUTDOWN CONDITIN FOR OFFGAS LINE REPAIR, IT WAS DISCOVERED THAT THE VOLTAGE LOGIC ON DIESEL GENERATORS 1A, 1B, AND 1C WAS SUCH THAT VIBRATION OF THE TIE BREAKER DOOR COULD CAUSE THE BREAKER TO CLOSE IMMEDIATELY UPON RECEIVING A LOSP AND LOCA SIGNED SIMULTANEOUSLY. THIS CONDITION IS A RESULT OF A DESIGN DEFICIENCY. VIBRATION OF CONTACTS WAS NOT CONSIDERED IN THE DESIGN OF THE DIESEL VOLTAGE LOGIC. A DESIGN CHANGE IS BEING IMPLEMENTED TO CHANGE THE LOGIC TO ELIMINATE THE POSSIBILITY OF THE BREAKER CLOSING AS DESCRIBED.

COMPONENT CODE ZZZZZZ-COMPONENT CODE NOT APPLICABLE
SYSTEM CODE EE-EMERG GENERATOR SYS & CONTROLS

29/5/0000001-0000038//

16

ACCESSION NO. 0020138355
TITLE DESIGN PROBLEM FOUND IN DIESEL LOAD SEQUENCE TIMERS AT HATCH 1
CORPAUTH GEORGIA POWER CO., SAXLEY, GA
DATE 1978
TYPE Q
MEMO 7 PGS. LTR W/RO 50-321/1978-18 TO NRC OFFICE OF I & E, REGION 11, MAY 8, 1978, DOCKET 50-321, TYPE--BWR, MFG--GE, AE--SSI
AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (08 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ABSTRACT DATE OF EVENT - 033078. POWER LEVEL - ON. CAUSE - LACK OF COORDINATION IN DESIGN. DURING THE 1978 UNIT 1 REFUELLING OUTAGE, UNIT 2 PREOPERATIONAL TESTING REVEALED A DESIGN PROBLEM IN THE DIESEL LOSP AND LOCA LOAD SEQUENCE TIMERS AND IN THE PLANT SERVICE WATER PUMPS LOW PRESSURE START CIRCUIT THE TIMER PROBLEM COULD RESULT IN INCORRECT LOAD SHED AND SEQUENCE OF THE PLANT SERVICE WATER PUMPS. THE FACT THAT THE MECHANICAL TIMERS FUNCTION SOMEWHAT DIFFERENTLY THAN THE INTENDED DESIGN APPEARS TO HAVE RESULTED BECAUSE OF A LACK OF COORDINATION BETWEEN THE MANUFACTURER AND THE DESIGN ENGINEERS.

COMPONENT CODE RELAYX-RELAYS
SYSTEM CODE EE-EMERG GENERATOR SYS & CONTROLS

29/5/0000001-0000038//

17

ACCESSION NO. 0020138354
TITLE 4 KV BUS FEEDER BREAKER CONTROL POWER DESIGN PROBLEM FOUND AT HATCH 1
CORPAUTH GEORGIA POWER CO., SAXLEY, GA
DATE 1978
TYPE Q
MEMO 4 PGS. LTR W/RO 50-321/1978-19 TO NRC OFFICE OF I & E, REGION 11, MAY 8, 1978, DOCKET 50-321, TYPE--BWR, MFG--GE, AE--SSI
AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (08 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ABSTRACT DATE OF EVENT - 033078. POWER LEVEL - ON. CAUSE - DESIGN DEFICIENCY. DURING UNIT 1 REFUELLING OUTAGE, UNIT 2 PREOPERATIONAL TESTING REVEALED A PROBLEM IN THE 4KV BUS OF FEEDER BREAKER CONTROL POWER DESIGN. THREE OF THE 6 PUMPS ARE FED BY DC 2A BATTERY (DIV.1) AND THE OTHER 3 BY DC 2C BATTERY (DIV.11). THIS COULD CAUSE LOSS OF 2 DIESELS IN THE UNLIKELY EVENT THE DIESEL 2A OR 2C BATTERY WAS LOST WHILE TESTING A BUS 2F PUMP THAT RELIEVES CONTROL POWER FROM THE LOST BATTERY FOLLOWED WITH A LOSS OF OFFSITE POWER. THE MOST PROBABLE CAUSE IS THAT WHEN THE SINGLE FAILURE ANALYSIS WAS PERFORMED, IT WAS NOT TAKEN INTO CONSIDERATION THAT THE PUMPS WOULD BE RUNNING THUS NOT TRIPPING (LOSS OF CONTROL POWER) AND CAUSING THE OVERLOAD.

COMPONENT CODE ZZZZZZ-COMPONENT CODE NOT APPLICABLE
SYSTEM CODE EE-EMERG GENERATOR SYS & CONTROLS

29/5/0000001-0000038//

18

ACCESSION NO. 0020133038
TITLE DIESEL GENERATOR FAILS TO START AT HATCH 1
CORPAUTH GEORGIA POWER CO., SAXLEY, GA
DATE 1977
TYPE Q
MEMO 3 PGS. LTR W/RO 50-321/1977-86 TO NRC OFFICE OF I & E, REGION 11, Dec. 19, 1977, DOCKET 50-321, TYPE--BWR, MFG--G.E., AE--SSI
AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET,

WASHINGTON, D. C. 20545 (08 CENTS/PAGE — MINIMUM CHARGE \$2.00)

ABSTRACT

DATE OF EVENT - 112577. POWER LEVEL - 94%. CAUSE - STUCK GOVERNOR BOOSTER SERVO MOTOR. DURING A TEST, DIESEL GENERATOR 1A FAILED TO START IN THE ALLOWED TIME AND RIPPED ON START FAILURE. THE START FAILURE WAS CAUSED BY A STUCK GOVERNOR BOOSTER SERVO MOTOR. THE AIR PISTON WAS CORRODED AND WOULD NOT MOVE, THUS NOT BOOSTING THE FUEL RACK TO THE OPEN POSITION AT THE BEGINNING OF A START. CORROSION RESULTED FROM WATER OR CONDENSATION IN THE AIR SUPPLY SYSTEM. THE SERVO MOTOR WAS REBUILT. ALSO, THE AIR SIDE ORIFICE WAS INCREASED FROM .025 TO .050 INCH TO PROVIDE MORE POSITIVE BOOSTER ACTION.

COMPONENT CODE
SYSTEM CODE

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

29/5/0000001-000003877 19

ACCESSION NO.

0020133036

TITLE

DIESEL GENERATOR VOLTAGE REGULATOR SET TOO HIGH AT HATCH 1

CORPAUTH

GEORGIA POWER CO., BAXLEY, GA

DATE

1977

TYPE

0

MEMO

2 PGS, LTR W/RO 50-321/1977-91 TO NRC OFFICE OF I & E, REGION 11, DEC. 22, 1977, DOCKET 50-321, TYPE--BWR, MFG--G.E., AE--SS1

AVAIL

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (08 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ABSTRACT

DATE OF EVENT - 111977. POWER LEVEL - 96%. CAUSE - UNAUTHORIZED ADJUSTMENT. DURING SURVEILLANCE TESTING, DIESEL GENERATOR VOLTAGE REGULATORY 443-50018 WAS DECLARED INSUPERABLE. THE VOLTAGE WAS FOUND IMPROPERLY ADJUSTED CAUSING THE GENERATOR VOLTAGE TO BE TOO HIGH. THE VOLTAGE WAS READJUSTED. PLANS ARE BEING MADE TO MOVE THE AUTO REGULATOR VOLTAGE CONTROL SWITCH INSIDE THE CABINET WHICH CAN BE LOCKED PREVENTING UNAUTHORIZED ADJUSTMENT OF THE AUTO REGULATOR SET POINT.

COMPONENT CODE
SYSTEM CODE

GENERA-GENERATORS
EE-EMERG GENERATOR SYS & CONTROLS

29/5/0000001-000003877 20

ACCESSION NO.

0020129630

TITLE

DIESEL GENERATOR INBOARD BEARING FAILS AT HATCH 1

CORPAUTH

GEORGIA POWER CO., BAXLEY, GA

DATE

1977

TYPE

0

MEMO

3 PGS, LTR W/RO 50-321/1977-87 TO NRC OFFICE OF I & E, REGION 11, SEPT. 14, 1977, DOCKET 50-321, TYPE--BWR, MFG--G.E., AE--SS1

AVAIL

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (08 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ABSTRACT

DATE OF EVENT - 061077. POWER LEVEL - 55%. CAUSE - OVERHEATING. DURING TESTING OF DIESEL GENERATOR 10, THE GENERATOR INBOARD BEARING FAILED. THE DIESEL WAS SHUT DOWN. THE CAUSE OF BEARING FAILURE WAS OVERHEATING. HOWEVER, THE EXACT CAUSE OF OVERHEATING COULD NOT BE DETERMINED. THIS WAS A SKF 2240 C SPHERICAL DOUBLE ROLLER BEARING. A NEW BEARING WAS INSTALLED. THE SHAFT ALIGNMENT AND END THRUST WERE CHECKED. THIS INCIDENT OCCURRED PREVIOUSLY ON 5/26/75.

COMPONENT CODE
SYSTEM CODE

GENERA-GENERATORS
EE-EMERG GENERATOR SYS & CONTROLS

29/5/0000001-000003877 21

ACCESSION NO.

0020128613

TITLE

DIESEL GENERATOR VOLTAGE NOT ADJUSTABLE WITH MANUAL REGULATOR AT HATCH 1

CORPAUTH

GEORGIA POWER CO., BAXLEY, GA

DATE

1977

TYPE

0

MEMO

3 PGS, LTR W/RO 50-321/1977-59 TO NRC OFFICE OF I & E, REGION 11, AUG. 26, 1977, DOCKET 50-321, TYPE--BWR, MFG--G.E., AE--SS1

AVAIL

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (08 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ABSTRACT

DATE OF EVENT - 061277. POWER LEVEL - 38%. CAUSE - TWO DIODES FAILED. DURING A TEST OF DIESEL GENERATOR 1A, THE OPERATOR WAS

NOT ABLE TO ADJUST THE GENERATOR VOLTAGE USING THE MANUAL REGULATOR CONTROL. THE MANUAL REGULATOR MOTOR OPERATED TRANSFORMER POWER SUPPLY DIODES WERE FOUND FAILED. TWO OF THE 4 DIODES IN THE ASSEMBLY HAD FAILED. ONE HAD OPENED AND THE OTHER HAD SHORTED. BOTH WERE REPLACED. THE DIESEL GENERATOR DOES NOT USE THE MANUAL REGULATOR DURING AUTO INITIATION.

COMPONENT CODE
SYSTEM CODE

EE-EMERG GENERATOR SYS & CONTROLS

29/5/0000001-000003877

22

ACCESSION NO.

0020127069

TITLE DIESEL GENERATOR TRIPS DURING A TEST AT HATCH 1

CORPAUTH GEORGIA POWER CO., SAXLEY, GA

DATE 1977

TYPE 0

MEMO 3 PGS, LTR W/RO 50-321/1977-44 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 11, JULY 12, 1977, DOCKET 50-321, TYPE--BWR, MFG--G.E., AE--SSI

AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ABSTRACT

DATE OF EVENT - 061377. POWER LEVEL - 97%. CAUSE - LOW JACKET COOLANT PRESSURE. DIESEL GENERATOR 1 C TRIPPED DURING A SURVEILLANCE TEST. IT WAS RESTARTED AND RAN SATISFACTORILY. THE CAUSE APPEARS TO BE LOW JACKET COOLANT PRESSURE. THE CALIBRATION OF THE PRESSURE SWITCH WILL BE CHECKED. AN ADDITIONAL PRESSURE GAUGE WILL BE INSTALLED TO MONITOR THE COOLANT PRESSURE AT THE PRESSURE TAP.

COMPONENT CODE
SYSTEM CODE

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

29/5/0000001-000003877

23

ACCESSION NO.

0020127068

TITLE DIESEL GENERATOR TRIPS DURING A TEST AT HATCH 1

CORPAUTH GEORGIA POWER CO., SAXLEY, GA

DATE 1977

TYPE 0

MEMO 2 PGS, LTR W/RO 50-321/1977-46 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 11, JULY 14, 1977, DOCKET 50-321, TYPE--BWR, MFG--G.E., AE--SSI

AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ABSTRACT

DATE OF EVENT - 061377. POWER LEVEL - 97%. CAUSE - LOW JACKET COOLANT PRESSURE. DURING A TEST, DIESEL GENERATOR 1 C TRIPPED ON LOW JACKET COOLANT PRESSURE. A SIMILAR TRIP WAS EXPERIENCED RECENTLY. THE INVESTIGATION IS STILL UNDERWAY CONCERNING THE POSSIBILITY OF INCORRECT PRESSURE SET POINTS. THIS IS A FAIRBANKS MORSE DIESEL GENERATOR.

COMPONENT CODE
SYSTEM CODE

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

29/5/0000001-000003877

24

ACCESSION NO.

0020127067

TITLE DIESEL GENERATOR TRIPS DURING A TEST AT HATCH 1

CORPAUTH GEORGIA POWER CO., SAXLEY, GA

DATE 1977

TYPE 0

MEMO 3 PGS, LTR W/RO 50-321/1977-46 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 11, JULY 25, 1977, DOCKET 50-321, TYPE--BWR, MFG--G.E., AE--SSI

AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (100 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ABSTRACT

DATE OF EVENT - 062577. POWER LEVEL - 96%. CAUSE - UNKNOWN. DURING A TEST, DIESEL GENERATOR 1 C TRIPPED DUE TO LOW JACKET COOLANT PRESSURE. THE CAUSE OF THE RECURRING TRIP OF THE FAIRBANKS MORSE D/G IS STILL UNKNOWN. AFTER INSTALLATION OF AN ADDITIONAL PRESSURE GAGE, THE D/G WAS OPERATED WHILE PERSONNEL MONITORED PRESSURE AND OTHER PARAMETERS THAT COULD HAVE A CONTRIBUTING CAUSE TO THE TRIPS. NOTHING UNUSUAL WAS OBSERVED. THE INDICATED OPERATING PRESSURE WAS WELL ABOVE THE TRIP SET POINT.

COMPONENT CODE

ENGINE-ENGINES,INTERNAL COMBUSTION

SYSTEM CODE EE-EMERG GENERATOR SYS & CONTROLS

29/5/0000001-000003877 25

ACCESSION NO. 0020125351
 TITLE DIESEL GENERATOR FAILS TO REACH RATED VOLTAGE WITHIN REQUIRED TIME AT HATCH 1
 CORPAUTH GEORGIA POWER CO., BAXLEY, GA
 DATE 1977
 TYPE Q
 MEMO 3 PGS, LTR W/RO 50-321/1977-40 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 11, JUNE 9, 1977, DOCKET 50-321, TYPE--BWR, MFG--G.E., AE--SSI
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (06 CENTS/PAGE -- MINIMUM CHARGE \$2.00)
 ABSTRACT DATE OF EVENT - 062677. POWER LEVEL - 65%. CAUSE - UNDETERMINED. DURING TESTING, DIESEL GENERATOR 1A FAILED TO COME TO RATED VOLTAGE WITHIN THE REQUIRED 12 SECONDS. IT REQUIRED 16 SECONDS. WITHIN SEVERAL MINUTES, DURING A RETEST, THE DIESEL REACHED 4100 V IN 9 SECONDS. THE CAUSE OF FAILURE IS UNDETERMINED PRESENTLY.
 COMPONENT CODE ENGINE-ENGINES, INTERNAL COMBUSTION
 SYSTEM CODE EE-EMERG GENERATOR SYS & CONTROLS

29/5/0000001-000003877 26

ACCESSION NO. 0020121537
 TITLE DIESEL GENERATOR TRIPS DURING A TEST AT HATCH 1
 CORPAUTH GEORGIA POWER CO., BAXLEY, GA
 DATE 1977
 TYPE Q
 MEMO 2 PGS, LTR W/RO 50-321/1976-96 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 11, JAN. 7, 1977, DOCKET 50-321, TYPE--BWR, MFG--G.E., AE--SSI
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (06 CENTS/PAGE -- MINIMUM CHARGE \$2.00)
 ABSTRACT DATE OF EVENT - 122576. POWER LEVEL - 63%. CAUSE - UNKNOWN. DURING A TEST, DIESEL GENERATOR 1C TRIPPED AFTER 45 MINUTES OF RUN TIME. THE REASON FOR THE TRIP IS UNKNOWN. AFTER CHECKING THE DG, IT WAS RESTARTED AND ITS OPERABILITY WAS PROVEN.
 COMPONENT CODE ENGINE-ENGINES, INTERNAL COMBUSTION
 SYSTEM CODE EE-EMERG GENERATOR SYS & CONTROLS

29/5/0000001-000003877 27

ACCESSION NO. 0020121536
 TITLE DIESEL GENERATOR FAILS TO START AT HATCH 1
 CORPAUTH GEORGIA POWER CO., BAXLEY, GA
 DATE 1977
 TYPE Q
 MEMO 2 PGS, LTR W/RO 50-321/1976-94 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 11, JAN. 11, 1977, DOCKET 50-321, TYPE--BWR, MFG--G.E., AE--SSI
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (06 CENTS/PAGE -- MINIMUM CHARGE \$2.00)
 ABSTRACT DATE OF EVENT - 123176. POWER LEVEL - 51%. CAUSE - UNKNOWN. DURING A DIESEL GENERATOR MANUAL START SURVEILLANCE, DIESEL GENERATOR 1A FAILED TO START. THE CAUSE IS UNKNOWN. THE DIESEL WAS INSPECTED AND RETESTED. IT PERFORMED SATISFACTORILY.
 COMPONENT CODE ENGINE-ENGINES, INTERNAL COMBUSTION
 SYSTEM CODE EE-EMERG GENERATOR SYS & CONTROLS

29/5/0000001-000003877 28

ACCESSION NO. 0020120290
 TITLE DIESEL GENERATOR MALFUNCTION OCCURS AT HATCH 1
 CORPAUTH GEORGIA POWER CO., BAXLEY, GA
 DATE 1976
 TYPE Q
 MEMO 3 PGS, LTR W/RO 50-321/1976-83 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 11, NOV. 11, 1976, DOCKET 50-321, TYPE--BWR, MFG--G.E., AE--SSI
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (06 CENTS/PAGE -- MINIMUM CHARGE

ABSTRACT \$2.00)
 CAUSE - ERRATIC ACTUATION OF SHUTDOWN RELAY. WHILE TESTING DIESEL GENERATOR 1C WITH THE REACTOR AT 56% POWER, THE OVERSPEED ALARM BEGAN FLASHING ERRATICALLY. THE D/G OUTPUT BREAKER TRIPPED BUT THE DIESEL DID NOT SHUT DOWN. IT WAS MANUALLY SHUT DOWN. THE ERRATIC OVERSPEED ALARM INDICATES THE SHUT-DOWN RELAY WAS MOMENTARILY PICKING UP AND DROPPING OUT. THIS WOULD ACCOUNT FOR THE OUTPUT BREAKER TRIP AND DIESEL FAILURE TO TRIP IF ALL CONTACTS DID NOT MAKE UP DURING THE MOMENTARY ENERGIZATION OF THE SDR RELAY. THE MECHANICAL OVERSPEED TRIP AUXILIARY SWITCH TRIP LINKAGE APPEARED TO BE SLIGHTLY OUT OF ADJUSTMENT. IT WAS ADJUSTED.

29/5/0000001-0000038// 29
 ACCESSION NO. 0020120269
 TITLE DIESEL GENERATOR FAILS TO START AT HATCH 1
 CORPAUTH GEORGIA POWER CO., SAXLEY, GA
 DATE 1976
 TYPE G
 MEMO 2 PGS, LTR W/RO 50-321/1976-61 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION II, NOV. 10, 1976, BUCKET 50-321, TYPE--BVP, MFG--G.E., AE--SSI
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (08 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ABSTRACT CAUSE - UNKNOWN. WHILE TESTING DIESEL GENERATOR 1C WITH THE REACTOR AT 60% POWER, THE DIESEL FAILED TO START. IT DID NOT REACH 250 RPM IN 7 SECONDS AND TRIPPED ON START FAILURE. THE EXACT CAUSE IS NOT KNOWN, HOWEVER IT WAS SUCCESSFULLY STARTED AFTER THE INITIAL FAILURE. A POSSIBLE CAUSE WAS SLOTTISH OPERATION OF THE GOVERNOR AIR BOOSTER.

29/5/0000001-0000038// 30
 ACCESSION NO. 0020120087
 TITLE DIESEL GENERATOR TRIPS DUE TO TRIPPING OF REVERSE POWER RELAY AT HATCH 1
 CORPAUTH GEORGIA POWER CO., SAXLEY, GA
 DATE 1976
 TYPE G
 MEMO 2 PGS, LTR W/RO 50-321/1976-74 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION II, SEPT. 23, 1976, BUCKET 50-321, TYPE--BVP, MFG--G.E., AE--SSI
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (08 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ABSTRACT CAUSE - VOLTAGE REGULATOR IMPROPERLY SET. DURING TESTING WITH THE REACTOR AT 75% POWER, DIESEL GENERATOR 1A TRIPPED DUE TO TRIPPING OF THE REVERSE POWER RELAY. DUE TO PERSONNEL ERROR, THE DG VOLTAGE REGULATOR WAS NOT ADJUSTED PROPERLY FOR THE REDUCTION OF LOAD TAKING PLACE. PERSONNEL HAVE BEEN INSTRUCTED TO PAY CLOSE ATTENTION TO THE REACTIVE POWER DURING LOAD REDUCTIONS. THE DG WAS RESTARTED SUCCESSFULLY.

29/5/0000001-0000038// 31
 ACCESSION NO. 0020118276
 TITLE DIESEL GENERATOR FAILS TO START AT HATCH 1
 CORPAUTH GEORGIA POWER CO., SAXLEY, GA
 DATE 1976
 TYPE G
 MEMO 2 PGS, LTR W/RO 50-321/1976-77 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION II, SEPT. 25, 1976, BUCKET 50-321, TYPE--BVP, MFG--G.E., AE--SSI
 AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (08 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ABSTRACT CAUSE - UNKNOWN. DURING A TEST WHILE OPERATING AT 91% POWER, DIESEL GENERATOR 1A FAILED TO START. NO ABNORMAL CONDITION WAS FOUND OTHER THAN A SLIGHTLY LOW OIL LEVEL IN THE GENERATOR. A SMALL AMOUNT OF OIL WAS ADDED AND THE DIESEL RETESTED SUCCESSFULLY.

29/5/0000001-0000038// 32
 ACCESSION NO. 0020117767
 TITLE DIESEL GENERATOR FAILS TO START AT HATCH 1

CORPAUTH GEORGIA POWER CO., SAXLEY, GA
 DATE 1976
 TYPE Q
 MEMO 3 PGS, LTR W/RO 50-321/1976-70 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 11, AUG. 27, 1976, DOCKET 50-321, TYPE--BWR, MFG--G.E., AE--SSI

AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (08 CENTS/PAGE - MINIMUM CHARGE \$2.00)

ABSTRACT CAUSE - UNKNOWN. DURING TESTING WITH THE REACTOR AT 92% POWER, DIESEL GENERATOR 1C FAILED TO START. IT DID NOT REACH 150 RPM IN 7 SECONDS AND TRIPPED. THE EXACT CAUSE IS NOT KNOWN. IT HAS BEEN NOTICED THAT IF THE OPERATOR QUICKLY OPERATES AND RELEASES THE START SWITCH, OCCASIONALLY THE START CIRCUIT WILL NOT SEAL IN AND THE DIESEL WILL FAIL TO START. PROCEDURE WILL BE MODIFIED TO INSTRUCT THE OPERATOR TO HOLD THE SWITCH FOR 1 SECOND.

29/5/0000001-0000038//

33

ACCESSION NO. 0020117700

TITLE DIESEL GENERATOR TRIPS DUE TO LOSS OF EXCITATION AT HATCH 1

CORPAUTH GEORGIA POWER CO., SAXLEY, GA
 DATE 1976
 TYPE Q
 MEMO 3 PGS, LTR W/RO 50-321/1976-66 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 11, AUG. 18, 1976, DOCKET 50-321, TYPE--BWR, MFG--G.E., AE--SSI

AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (08 CENTS/PAGE - MINIMUM CHARGE \$2.00)

ABSTRACT CAUSE - OUT OF PHASE SYNCHRONIZATION. DURING TESTING WITH THE REACTOR AT 63% POWER, DIESEL GENERATOR 1A TRIPPED DUE TO LOSS OF EXCITATION WHILE BEING SYNCHRONIZED AND TIED TO THE LINE. THE APPARENT CAUSE WAS TRYING THE D/G TO THE 4 KV BUS OUT OF SYNCHRONIZATION. LACK OF VOLTAGE AND POTENTIAL INFORMATION MAKES DETERMINING THE EXACT CAUSE IMPOSSIBLE. NO DAMAGE OCCURRED. IT WAS SUBSEQUENTLY SYNCHRONIZED AND TIED TO THE BUS 3 TIMES.

29/5/0000001-0000038//

34

ACCESSION NO. 0020115913

TITLE DIESEL GENERATORS NOT TESTED WHEN STARTUP TRANSFORMER INOPERABLE AT HATCH 1

CORPAUTH GEORGIA POWER CO., SAXLEY, GA
 DATE 1976
 TYPE Q
 MEMO 2 PGS, LTR W/RO 50-321/1976-51 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 11, JUNE 20, 1976, DOCKET 50-321, TYPE--BWR, MFG--G.E., AE--SSI

AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (08 CENTS/PAGE - MINIMUM CHARGE \$2.00)

ABSTRACT CAUSE - LOGIC DESIGN DEFICIENCY. WITH THE UNIT OPERATING AT 75% POWER, STARTUP TRANSFORMER 1C WAS MADE INOPERABLE FOR USE ON UNIT 2. WHILE TRYING TO MEET TECH SPECS BY TESTING THE 3 UNIT 1 DIESEL GENERATORS, A ONE-HALF LOSS OF OFF-SITE POWER WAS RECEIVED NOT ALLOWING D/G TESTING. EMERGENCY POWER SUPPLY SYSTEM LOGIC DOES NOT ALLOW TESTING OF D/G'S WHILE STARTUP TRANSFORMER 1C OR 1D IS INOPERABLE. THE DESIGN GROUP IS INVESTIGATING THE PROBLEM. TRANSFORMER 1C WAS RETURNED TO SERVICE AND ALL D/G TESTED SATISFACTORILY.

29/5/0000001-0000038//

35

ACCESSION NO. 0020115912

TITLE DIESEL GENERATOR TRIPS AT HATCH 1

CORPAUTH GEORGIA POWER CO., SAXLEY, GA
 DATE 1976
 TYPE Q
 MEMO 3 PGS, LTR W/RO 50-321/1976-53 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 11, JULY 7, 1976, DOCKET 50-321, TYPE--BWR, MFG--G.E., AE--SSI

AVAIL AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (08 CENTS/PAGE - MINIMUM CHARGE \$2.00)

*ABSTRACT

CAUSE - TEMPERATURE SWITCH CALIBRATED IMPROPERLY. DURING A TEST WITH THE REACTOR AT 8% POWER, DIESEL GENERATOR 1C TRIPPED. A WRONG TECHNIQUE WAS USED TO CALIBRATE AN ALLEN BRADLEY TEMPERATURE SWITCH, CAT. NO. M37-V3, USED TO REPLACE A DAMAGED CONSOLIDATED CONTROL CORP., TYPE 22A, TEMPERATURE SWITCH ON THE D/G 1C LUBE OIL SYSTEM. THE SWITCH OPERATED TO TRIP THE DIESEL AT A TEMPERATURE MUCH BELOW THE REQUIRED SET POINT. THE SWITCH WAS RECALIBRATED TO THE CORRECT SET POINT USING THE PROPER TECHNIQUE.

29/5/0000001-0000038// 36

ACCESSION NO.

0020114764

TITLE

DIESEL GENERATOR FAILS TO START AT HATCH 1

CORPAUTH

GEORGIA POWER CO., BAXLEY, GA

DATE

1976

TYPE

Q

MEMO

2 PGS, LTR W/RO 50-321/1976-41 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 11, MAY 26, 1976, DOCKET 50-321, TYPE--BWR, MFG--G.E., AE--SSI

AVAIL

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (06 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ABSTRACT

CAUSE - UNKNOWN. DURING OPERATION AT 7% POWER, THE FAIRBANKS-MORSE DIESEL GENERATOR 1E FAILED TO START ON THE FIRST ATTEMPT. IT STARTED SUCCESSFULLY ON A SECOND ATTEMPT. THE EXACT CAUSE HAS NOT BEEN DETERMINED. THIS IS NOT THE FIRST TIME THIS EVENT HAS OCCURRED.

29/5/0000001-0000038// 37

ACCESSION NO.

0020114160

TITLE

DIESEL GENERATOR TRIPS AT HATCH 1

CORPAUTH

GEORGIA POWER CO., BAXLEY, GA

DATE

1976

TYPE

Q

MEMO

3 PGS, LTR W/RO 50-321/1976-35 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 11, MAY 12, 1976, DOCKET 50-321, TYPE--BWR, MFG--G.E., AE--SSI

AVAIL

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (06 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ABSTRACT

CAUSE - UNKNOWN. DURING A TEST WHILE OPERATING AT LOW POWER, DIESEL GENERATOR 1C TRIPPED AND ONLY THE SHUT-DOWN ALARM WAS RECEIVED. A RETEST WAS SUCCESSFUL. A DETAILED SEARCH FOUND THAT A NUT HAD VIBRATED OFF A TERMINAL BLOCK ALLOWING A WIRE TO DRIP OFF. THE WIRE STUCK THE PANEL BLEWING A FUSE. THE LOOSE WIRE ALSO DE-ENERGIZED THE INVERTER. THERE WAS NO ALARM CAPABILITY EXCEPT THE ONE. THE WIRE WAS REPAIRED ON THE TERMINAL AND THE NUT TIGHTENED SECURELY. THE DIESEL WILL BE TESTED WEEKLY IN AN EFFORT TO LOCATE THE SOURCE OF THE TRIP.

29/5/0000001-0000038// 38

ACCESSION NO.

0020112367

TITLE

DIESEL GENERATOR FAILS TO START AT HATCH 1

CORPAUTH

GEORGIA POWER CO., BAXLEY, GA

DATE

1976

TYPE

Q

MEMO

2 PGS, LTR W/RO 50-321/1976-24 TO NRC DIRECTORATE OF REGULATORY OPERATIONS, REGION 11, MARCH 25, 1976, DOCKET 50-321, TYPE--BWR, MFG--G.E., AE--SSI

AVAIL

AVAILABILITY - NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20545 (06 CENTS/PAGE -- MINIMUM CHARGE \$2.00)

ABSTRACT

CAUSE - SOLENOID AIR VALVE STUCK CLOSED. DURING OPERATION AT 6% POWER AND AFTER MAINTENANCE ON DIESEL GENERATOR 1A, THE DIESEL FAILED TO START. AN ASCO CATALOG NO. HTA210A83M0 SOLENOID OPERATED AIR VALVE STUCK IN THE CLOSED POSITION PREVENTING THE AIR STARTER FROM FUNCTIONING. THE VALVE WAS REBUILT AND THE DIESEL STARTED SUCCESSFULLY. A DIFFERENT TYPE VALVE WILL BE INSTALLED IN THE NEAR FUTURE.

GEORGIA POWER COMPANY

270 PEACHTREE STREET

P O BOX 4545
ATLANTA GA 30302

CHAS F WHITMER
VICE PRESIDENT
ENGINEERING

ATLANTA

January 31, 1978



Director of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

NRC DOCKET 50-321
OPERATING LICENSE DPR-57
EDWIN I. HATCH NUCLEAR PLANT UNIT 1
RESPONSE TO DIESEL GENERATOR QUESTIONNAIRE

Gentlemen:

Please find enclosed a completed copy of the Diesel Generator Questionnaire which was received from Georgia Power Company by your letter of December 15, 1977. The questionnaire was completed by the Plant Hatch Technical Staff under the direction of Mr. T. V. Greene, Superintendent of Plant Technical Services. Any follow-up correspondence should be directed to me. Telephone communications on this subject can be directed to Mr. R. D. Baker at (404) 522-6060 extension 3107.

Yours very truly,

Chas. F. Whitmer

RDB/mb

Enclosure

xc: Mr. I. S. Mitchell, III (letter only)
Mr. R. A. Thomas " "
George F. Trowbridge, Esquire " "

- S. Are any foreign gases such as propane, freon, halon, carbon dioxide, etc. stored in the: Diesel Engine room? Yes No or adjacent buildings? Yes No (Outdoor tank)

If yes, (other than hand portable fire extinguishers), then identify gases and give approximate tank size.

Gases	<u>CO₂</u>	<u>3</u>	<u>5 ton capacity</u>
	<u> </u>	<u> </u>	<u> </u>
	<u> </u>	<u> </u>	<u> </u>
	<u> </u>	<u> </u>	<u> </u>

- T. Does control system automatically bypass, in emergency starting, any engine temporarily out of service for maintenance? Yes No The engine is manually tripped if personnel could be endangered by starting.
If yes, then how many failures to bypass have occurred?

- U. Does the control system automatically override the test mode under emergency conditions? Yes No

- V. Have repetitive mechanical failures occurred in any component part or subsystem of the engine, generator, or switch gear, etc.? Yes No

If yes, then which part or subsystem? Inboard bearing on 1B D/G.

How many failures? 2

Give nature of failure. Bearing destroyed due to lack of lubrication.

- W. Would periodic (yearly or other) evaluation and/or testing by "outside experts" contribute significantly to the diesel-generator reliability? Yes No

Give brief reasons for the answer. No other major failures have occurred other than the bearing.

- X. 1. Give the accumulated time-load operating record for each diesel-generator unit from installation to the present (Running Hours):

Preoperational test Date 6-13-74

D/G #	Engine Serial No.	Surv. Maintenance No Load	Testing & Maintenance Hrs. Loaded	Emergency and Other Service Hrs.	Total Hours
1A	:38D871037TDSM12	0	: 393.0	: 0	: 393.0
1B	:38D871038TDSM12	0	: 329.3	: 0	: 329.3
1C	:38D871040TDSM12	0	: 367.3	: 0	: 367.3
2A	:38D875025TDSM12	0	: 45.4	: 0	: 45.4
2C	:38D875026TDSM12	0	: 47.7	: 0	: 47.7

2. Surveillance test load (percent of continuous rating) > 50%

3. Give the projected or planned time-load operation for each diesel-generator unit during the next 12 months.

Surveillance & Maintenance Hrs.	Emergency and other Service Hrs.	Total Hours
: ≥ 52	: 0	: 52

4. Provide the following summary of the periodic surveillance testing experience:

- a. Starting date of surveillance testing (OL date) 7-12-74
 b. Periodic test interval Weekly
 c. Total number of surveillance tests performed 674 (D/G: 1A, 1B, 1C)
 d. Total number of test failures 21

failure to start 8 failure to accept load 3
 failure to carry load 0 failures due to operator error 0
 failure due to equipment not being operative during emergency conditions 0 (8 failures due to air compressors' failure to start)

- e. Supply a copy of the surveillance test procedures with this completed questionnaire.

Enclosed: HNP-1-3801

HNP-1-3802

HNP-1-3803

HNP-1-3804