

I-MOSBA-43

059

DIESEL TESTING

DOCKETED
USNRC

* NORMAL 36 MONTH OVERHAUL AND INSPECTION

'95 JUL 27 A9:50

* SPECIAL TESTING

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

1A

1B

3/20 EVENT

IN OVERHAUL

5 STARTS, TROUBLESHOOTING

SENSOR CALIBRATION

LOGIC TESTING

E-RUN BUBBLE TESTING

MULTIPLE STARTS (14)

UV RUN TEST

6 MONTH RUN SURVEILLANCE

DIESEL OPERABLE

UV RUN TEST

SENSOR CALIBRATION

LOGIC TESTING

E-RUN BUBBLE TESTING

MULTIPLE STARTS (5)

UV RUN TEST

6 MONTH SURVEILLANCE

DIESEL OPERABLE

H1 JACKET WATER RUNS (3)

DCP UV RUN TEST

LUBE OIL DCP RUN

DCP UV RUN FUNCTIONAL

18 SUCCESSFUL STARTS

19 SUCCESSFUL STARTS

Ex 43
1

NUCLEAR REGULATORY COMMISSION

Docket No. 50-424/425-OLA-3 EXHIBIT NO. Int 43

In the matter of Georgia Power Co. et al., Vogtle Units 1 & 2

☐ Staff ☐ Applicant ☒ Intervenor ☐ Other

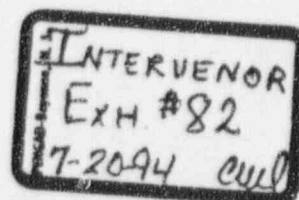
☒ Identified ☐ Received ☐ Rejected Reporter CR

Date 05-17-95 Witness Stipulated

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PDR ADOCK 05000424

Q PDR



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UNIT 2

o UNIT 2 TRIP

- Unit 2 RAT B Trip/Primary Differential Trip
- Turbine Trip/Reactor Trip
- Safety System Response Proper

o CAUSE

- Differential Relay CT Set 3000/5 vice 2000/5

o CORRECTIVE ACTIONS

- Test the Remaining Relays on Unit 2
- Update Switchyard Drawings based on audit
- Clarify existing policies for Switchyard

DATE: April 6, 1990

RE: Accountability During Emergencies
Log: NOV-00426

FROM: G. Bockhold, Jr.

TO: All Emergency Directors
and Site Personnel

In the event of site emergency conditions, we will implement the following revised procedures. These changes will enhance personnel accountability and safety and ensure better information flow for employees. They will also provide flexibility to the plant when responding to emergency situations.

When the Emergency Director (ED) makes an emergency classification, he will make the appropriate tone and page announcement on the plant PA system. He will direct site personnel to the appropriate locations. If you can not hear the page, report to your supervisor. He or she will direct you appropriately. Normally non-essential personnel will report to the Admin. Building auditorium or parking lot. David Phillips, the Financial Services Supervisor, has authority to coordinate with the ED and control the disposition of non-essential personnel. In his absence, the senior person present will contact the Security Captain for additional assistance.

Emergency Response Organization (ERO) personnel should report immediately to the appropriate facility. Other shift personnel, supervisors, and managers on-site should report initially to the OSC. Overflow personnel will assemble in the maintenance machine shop area.

When directed by the ED, the security department will initiate accountability. The security department cannot account for personnel who fail to log into the appropriate ERF (e.g., control room, TSC, or OSC) so it is essential we comply with the ED's instructions as soon as possible.

Your assistance implementing these instructions will ensure we manage emergencies better and provide plant personnel with sufficient information to keep them informed of abnormal plant activities. Thank you for your assistance.

CB/erd

xc: Department Heads
NORMS

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QUARANTINE COMPONENTS

TEMPERATURE SWITCHES

- o 1A PROBABLE TRIP CAUSE
 - JACKET WATER TEMPERATURE (2/3 LOGIC)
 - 1 INTERMITTENT
 - 1 POST CALIBRATION LOW (186°F & VENTING)
- o 1A OTHER TEMPERATURE COMPONENTS
 - 1 LUBE OIL TEMPERATURE (SLUGGISH)

- o 1B TEMPERATURE COMPONENTS
 - 4 JACKET WATER TEMP (VENTING)
 - 2 LUBE OIL TEMP (VENTING & CALIB.)

PRESSURE SWITCHES

- o 1A
 - 1 LUBE OIL PRESSURE (TRIPPED)
 - 2 LUBE OIL PRESSURE (CONSERVATIVELY REPLACED)

- o 1B
 - 2 LOGIC (WOULD NOT TRIP ENGINE)

EMERGENCY PLAN IMPLEMENTATION

DURING THE EMERGENCY, OFF-SITE NOTIFICATIONS WERE LATE AND/OR DELAYED BEYOND THE 15 MINUTE TIME LIMIT.

o DIRECT CAUSES

- POWER TO THE PRIMARY ENN (1E EMERGENCY POWER) WAS LOST.
- ALL EMERGENCY AGENCIES WERE NOT INCLUDED ON THE BACKUP ENN. (BURKE COUNTY AND GEMA ADDED 4/6/90)

o CONTRIBUTING CAUSES

- CONTROL ROOM COMMUNICATORS AND SUPERVISORS WERE NOT FULLY KNOWLEDGEABLE OF THE COMMUNICATIONS SYSTEM CAPABILITIES. (PRIMARY ENN IN TSC HAD POWER FROM THE SECURITY SYSTEM DIESEL.)
- THE SERIES METHOD OF NOTIFICATION CONTAINED UNSATISFACTORY DELAYS.
- EMERGENCY DIRECTOR DID NOT ENSURE PROMPT NOTIFICATION OF OFF-SITE AGENCIES.
- AMPLIFYING INFORMATION WAS NOT PROVIDED TO LOCAL GOVERNMENT OFFICIALS.

INITIATING EVENT

FUELING TRUCK STRUCK INSULATOR SUPPORT INSIDE THE LOW VOLTAGE SWITCHYARD CAUSING A FAULT TO THE 1A RESERVE AUXILIARY TRANSFORMER.

o DIRECT CAUSE

- TRUCK DRIVER AND ESCORT WERE INATTENTIVE TO SAFE OPERATION OF THE TRUCK.

o CONTRIBUTING CAUSES

- CONTROL OF VEHICLES NEAR VULNERABLE AND SENSITIVE AREAS NOT ESTABLISHED,
- MAINTENANCE EQUIPMENT STAGED INAPPROPRIATELY,
- THE USE OF GROUND-GUIDES INSIDE THE PROTECTED AREA WAS NOT CLEAR.

EMERGENCY PLAN IMPLEMENTATION

COMMUNICATION BETWEEN CORPORATE AND TSC NEEDS
TO BE IMPROVED.

o DIRECT CAUSES

- THE STATUS LOOP TELEPHONE BRIDGE WAS NOT
OPERABLE AT THE BEGINNING OF THE EMERGENCY
BECAUSE OF THE LOSS OF POWER.

EMERGENCY PLAN IMPLEMENTATION

DURING THE EMERGENCY, SITE PERSONNEL ACCOUNTABILITY
NEEDED IMPROVEMENT.

o DIRECT CAUSE

- ACCOUNTABILITY PROCEDURES DID NOT PROVIDE
FOR THE SITUATION OF NOT EVACUATING THE
SITE. (GENERAL MANAGER'S MEMO OF 4/6/90)

o CONTRIBUTING CAUSES

- THE INITIAL PAGE ANNOUNCEMENT WAS DELAYED
APPROXIMATELY 20 MINUTES.
- PERSONNEL WERE ALLOWED TO RE-ENTER THE
PROTECTED AREA.
- PAGE ANNOUNCEMENTS ARE DIFFICULT TO HEAR
IN SOME PLANT AREAS.
- THE COMPUTER GENERATED PRINTOUT DID NOT
ALLOW QUICK IDENTIFICATION OF PERSONNEL.
- THE EMERGENCY DIRECTOR FAILED TO PROVIDE
GUIDANCE AFTER DECIDING NOT TO EVACUATE
PERSONNEL.

DIESEL GENERATOR AVAILABILITY

THE 1A DIESEL GENERATOR FAILED TO PROVIDE EMERGENCY POWER TO 1E LOADS UNDER LOSP CONDITIONS.

o DIRECT CAUSE

- DIESEL TRIP SIGNALS WERE PRESENT DURING UNDER VOLTAGE INITIATED START CONDITIONS.

o CONTRIBUTING CAUSES

- POST MAINTENANCE FUNCTIONAL TESTING FOR AIR LEAKAGE IN THE CONTROL SYSTEM WAS INADEQUATE.
- PROCEDURES FOR TIGHTENING FITTINGS IN THE AIR LOGIC SYSTEM NEED IMPROVEMENT.
- CALIBRATION PROCEDURES OF TEMPERATURE SWITCHES DID NOT GUARANTEE CONSISTENT SETTINGS.
- DIESEL GENERATOR TRIPS DURING LOSP WERE NOT CONSISTENT WITH TRIPS DURING A SAFETY INJECTION SITUATION.
- DIESEL GENERATOR START LOGIC DID NOT ALLOW MULTIPLE STARTS ON AN UNDERVOLTAGE CONDITION WITH THE DIESEL RUNNING.
- OPERATORS DID NOT FULLY UNDERSTAND THE DIESEL START LOGIC AND SEQUENCER INTERFACE ON AN LOSP.

MID-LOOP OPERATIONS

ACTIONS TO RESPOND TO LOSS OF CORE COOLING AT
MID-LOOP SHOULD BE IMPROVED.

o DIRECT CAUSE

- THE "LOSS OF RESIDUAL HEAT REMOVAL" PROCEDURE
SHOULD PROVIDE IMPROVED GUIDANCE FOR A
LOSP CONDITION.

o CONTRIBUTING CAUSES

- THE "LOSS OF RHR" PROCEDURES ARE TOO NARROWLY
FOCUSED FOR MODE 5 & 6 CONDITIONS.
- DIRECTIONS FROM THE EMERGENCY DIRECTOR
WERE NOT ALWAYS EXPLICIT.

PRESENTATION TO REGION II
NUCLEAR REGULATORY COMMISSION
ON
VOGTLE SITE AREA EMERGENCY
MARCH 20, 1990

AGENDA

- o OPENING REMARKS C. K. McCoy
- o EVENT REVIEW TEAM CRITIQUE G. BOCKHOLD
 - o TRUCK/SWITCHYARD
 - o OFF-SITE NOTIFICATIONS
 - o PERSONNEL ACCOUNTABILITY
 - o COMMUNICATIONS CORPORATE/SITE
 - o MID-LOOP OPERATIONS
- o DIESEL TESTING/OPERABILITY G. BOCKHOLD
- o QUARANTINE COMPONENTS G. BOCKHOLD
- o UNIT 2 G. BOCKHOLD

UNIT 1
DIESEL GENERATOR 1B

<u>DATE</u>	<u>TIME</u>	<u>COMMENTS</u>
02/24/90	1425	Started for 24 Hour Run
02/25/90	2206	Secured from 24 Hour Run
	2336	Started for ESFAS Testing
	2348	Secured for ESFAS
02/27/90	0312	Started for ESFAS
	0424	Secured for ESFAS
	0605	Started for ESFAS
	0642	Secured for ESFAS
03/13/90	1518	Start for Maint. Test
03/14/90	0146	Stopped
03/21/90	2149	Failed to start due to insufficient fuel in fuel lines after maintenance.
	2156	Failed to Start Again
	2202	Started and Governor Vented
	2217	Stopped
	2259	Started for Overspeed Trip Test
	2301	Stopped Manually due to Low Lube Oil Pressure and High Oil Filter DP
	2314	Started
	2318	Stopped
03/22/90	0017	Started
	0023	Stopped for Maintenance
	0428	Started for Testing
	0429	Stopped
	0714	Locally Started for Maintenance and Engineering Testing
03/22/90	1030	Locally Shutdown
03/22/90	1106	Started from CR
	1243	Tripped on D/G High Lube Oil Temp.
03/23/90	0509	Started for Maintenance Run
	1202	Stopped

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UNIT 1
DIESEL GENERATOR 1B (CONT'D)

<u>DATE</u>	<u>TIME</u>	<u>COMMENTS</u>	
03/23/90	1730	Started for 4 Hour Run	
	1731	Tripped on Low Jacket Water Pressure/Turbo Lube Oil Pressure Low	
	1744	Started for 4 Hour Run	
	2222	Stopped	
03/24/90	0048	Started for Maintenance	
	0049	"Hi Jacket Water Temp" Alarm In, Temp Verified to be Normal.	
	0121	Normal Stop	
03/27/90	1649	Emergency Start Test	
	1822	Normal Shutdown	
	1909	Normal Start	
	1948	Stopped. Simulated Hi Temp Lube Oil Trip	
	1951	Started. Simulated LOSP at Engine Panel	
	1954	Stopped. Simulated Hi Vibration Trip	
	1957	Normal Start	
	1959	Stopped. Simulated Hi Crankcase Pressure Trip	
	2004	Started. Simulated SI at Engine Panel	
	2010	Stopped. Simulated Lo Lube Oil Pressure Trip	
	2220	Started. Simulated Bus UV Signal	
	2317	Normal Shutdown	
	03/28/90	0403	Started. Surveillance 14980-1
		0537	Normal Shutdown
1350		Start to Perform Functional Test for MWO 1-89-03281 (Lo Lube Oil Pressure Trip Flow Orifices)	
1355		Normal Shutdown	
1356		Started. Simulated UV for Functional on MWO 1-89-03281	
1400		Normal Shutdown	
04/01/90	1623	Normal Start	
	1744	Normal Shutdown	
04/04/90	1632	Started for Maintenance	
	1744	Stopped	

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UNIT 1
DIESEL GENERATOR 1B (CONT'D)

<u>DATE</u>	<u>TIME</u>	<u>COMMENTS</u>
04/05/90	0030	Started. T-ENG-90-17
	0035	Stopped
	0307	Started. 14980
	0509	Stopped

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UNIT 1
DIESEL GENERATOR 1A

<u>DATE</u>	<u>TIME</u>	<u>COMMENTS</u>
02/26/90	1509	Started. 24 Hour Run for ESFAS
02/28/90	0226	Secured from 24 Hour Run
02/28/90	0945	Started for ESFAS Testing 1210 Secured for ESFAS Testing
02/28/90	1700	Started 3 Times in Series During ESFAS Testing
02/29/90	0218	Secured for ESFAS Testing
03/01/90	0128	Started for ESFAS
03/02/90	0215	Secured for ESFAS
	0912	Started for Maintenance
	1944	Secured for Maintenance
03/12/90	1306	Started
	2137	Stopped
03/13/90	0009	Started
	0506	Stopped
03/20/90	0820	LOSP Occurred - Lost "A" RAT - DG1A Tied and Tripped (Several Alarms came in - not noted in the log.)
	0841	Auto Started after Sequencer Reset and Tripped on Low Jacket Water Pressure
	0856	Emergency Break Glass Start Locally to Recover from Station Blackout.
	1029	RAT "B" Energized
	1040	1BA03 Energized from "B" RAT
	1326	Shutdown
	2119	Started for Troubleshooting
	2206	Shutdown
	2223	Started for Troubleshooting
	2228	Secured
	2233	Started for Troubleshooting
	2254	Secured
03/23/90	0254	Started for Maintenance Troubleshooting
	0450	Secured

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UNIT 1
DIESEL GENERATOR 1A

<u>DATE</u>	<u>TIME</u>	<u>COMMENTS</u>
03/23/90	1724	Started and Manually Stopped from CR
03/29/90	1109 1158	Started. UV Test, Tied to 1AA02 Normal Shutdown
03/30/90	1920 2115	Emergency Start Stopped
	2235 2241	Local Start Trip Hi Temp Lube Oil
	2254 2300	Local Trip High Vibration
	2313 2316	Normal Start Stopped. Hi Crank Case Pressure
	2328 2334	SI Low Lube Oil Pressure
	2343 2347	Normal Start Normal Stop
	2348 2358	Normal Start Stop
03/31/90	0012 0014	Normal Start Normal Stop
	0016 0019	SI CR
	1827 1837	Start Local Local Stop
	1846 1847	Local Start Stop
	1856 1857	Local Start Local Stop
	1904 1906	Local Start Local Stop
	1921 1922	Local Start Local Stop

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UNIT 1
DIESEL GENERATOR 1A

<u>DATE</u>	<u>TIME</u>	<u>COMMENTS</u>
03/31/90	1955	Local Start
	2012	Local Stop
	2254	Started. UV Test, Tied to 1AA02
	2320	Normal Shutdown
04/01/90	0423	Started. Surveillance 14980-1
	0556	Normal Shutdown
04/06/90	1345	Start. T-ENG-90-16
	1346	Stop
	1404	Start. T-ENG-90-16
	1405	Stop
	1419	Start. T-ENG-90-16
	1430	Stop
	2347	Start. T-ENG-90-11
04/07/90	0213	Stop

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