05-17-90

12

12:40 p.m. 3/28/90

I ordered Jimmy Cash to quarantine the following:
Trip disk pack for Unit 1 ERF that was collected during, immediately prior to, and immediately following the event.

Jimmy will check if any proteus data exist. His understanding is that the data have been overwritten. If these data exist, they are also quarantined.

Warren Lyon

1:32 PM Jimmy called
to inform me that
there are no proteus data

9301220377

A11

~12:40 PM 3/28/90 I ordered Jenny Cisk to ~~protect~~ guarantee the following:

Trip disk packs for Unit 1 ERT that was collected during, immediately prior to, and immediately following the event.

~~Protect~~

Jenny will check if any protect data exist. His understanding is that the data have been overwritten. If there data exist, they are also guaranteed.

Harold Gow

MWO COVER SHEET

MWO# 19001576 DATE: 03/28/90 SYSTEM: 2403 FOREMAN: MWO

OUTAGE REQUIRED: _____ CLEARANCE: _____

YES _____ NO X PARTS REQUIRED: NO

05-31-90

STATUS: 6D C RCN: ICOP

PRIORITY CODE:	1 PRIORITY	4 MODE RESTR	PLANT	STATUS	RESTRAINT
CONTROL FIELD:	* CATE-GORY	* COMMIT	OUTAGE	SPEC REQ	SPEC REQ	PROB TYPE

STATUS COMMENTS

A/2

** COPY ** COPY ** COPY ** COPY ** COPY ** COPY **COPY ** COPY ** COPY ** COPY **

NUCLEAR PLANT MAINTENANCE WORK ORDER (1 OF 3)

1.CONTROL NO. 19001576 00 2.DATE 03/28/90 3.UNIT 1 4.SYSTEM LIST

5.MPL/TAG NO. LIST 5A.REPAIR TAG

MPL/TAG(S) ASSOCIATED WITH SPECIAL INDICATORS

6.PROB/ WORK REQ. DIESEL GENERATOR 1A TRIPPED TWICE FOLLOWING TWO ACTUAL LOSS OF OFFSIT START CONDITIONS. THE TRIPS ACCURRED AFTER APPROXIMATELY 80 SECONDS AND 70 SECONDS OF OPERATION.

NPRD

CONT. N

7.INITIATOR KEN STOKES 8.SUPRV JP REDDING LOC LIST

9.MWO CLASS S EQP CLASS LIST 10.UNIT STAT 11.FIRE PROTECT N

12.DCR N 13.NCR/DR N 14.TYPE MAINT P 15.DURATION

16.CRAFT	MECH(EST/ACT)	ELEC(EST/ACT)	I&C(EST/ACT)	CONT(EST/ACT)	HP/OT(EST/ACT)
CREW	0	0	0	0	0
HRS.					
EXP.	0	0	0	0	
SCHED BEG	/ /	/ /	/ /	/ /	
SCHED END	/ /	/ /	/ /	/ /	
RESP FOREMAN					

17.CLR Y 18.WELD PERM N RWP PERM N

19.QC HOLD PTS 20.PROC

QC REVIEWED BY / / 21.PRI 14 22.LCO

23.WORK INST. *

SEE CONTINUATION SHEET

COOPER ENERGY TO PERFORM WORK UNDER P.O #6002124.

CONT. Y

24.INITIATE REVIEW

OPS DATE / / MNT DATE / / 25.SPEC REV REQ N

HP DATE / / ENG DATE / / 26.MWO RELEASE FOR WORK

SIG. DATE / /

27.ACT WORK PERFRMED

CONT. N

HIST SUM

28.MTRL REQD

29.PERSON PERFORMING WORK(NAME) DATE / / 30.MAINTENANCE FOREMAN DATE

31.INSPECTION PERFORMED BY DATE / /

32.METHOD OF F.T. DATE / /

33.PROCEDURE # 34.PERFORMED BY 35.DATE / /

36.PROVES OPERABILITY 37.METHOD USED TO PROVE OPERABILITY

38.SATISFY./UNSATISFY 39.IF UNSAT .CORR. ACTION

40.UNIT STATUS AT TIME OF FAILURE 41.TYPE FAIL 42.MODE OF FAIL

43.CAUSE OF FAILURE 44.DETECT BY 45.EFFECT ON SYS

46.EFF ON PLANT 47.MWO STAT 6D 48.CAUSE 49.CORR ACT.

50.NEW MWO 51.OPER. ACCEPT BY DATE / /

52.OSOS APPROVAL DATE / /

53.SPEC REV COMP DATE / / 54.NEET.# DATE / /

55.CLOSE OUT APPROVAL BY QC DATE / /

NUCLEAR PLANT MAINTENANCE WORK ORDER (CONTINUED) (2 OF 3)

CONTROL NO. 19001576 00

MPL/TAG NO.	SYSTEM	EQP CLS	DESCRIPTION	LOCATION
12403G4001	2403	015	DIESEL GENERATOR	1DGGB1-
12403P5DG2	2403	11J	DG 1A ENGINE CNTRL PNL	1DGGB1

NUCLEAR PLANT MAINTENANCE WORK ORDER (CONTINUED) (3 OF 3)

CONTROL NO. 19001576 00

WORK INSTRUCTIONS: PERFORM ENGINE LOGIC TESTING PER PROCEDURE 27563-C, REV 2. COOPER ENERGY SERVICES PERSONNEL WILL BE PERFORMING APPLICABLE PROTIONS OF THE PROCEDURE WITH ASSISTANCE FROM GPC PERSONNEL, AS REQUIRED. THE ELECTRICAL PORTIONS OF THE PROCEDURE NEED NOT BE RETESTED. ADDITIONAL INSTRUMENTATION MAY BE CONNECTED BY TEST PERSONNEL TO AID IN TROUBLESHOOTING ANY INSTRUMENTATION CONNECTED OR ADJUSTMENTS MADE SHALL BE DOCUMENTED COMPLETELY ON THIS MWO. DOCUMENT ANY PROBLEMS ENCOUNTERED WHILE PERFORMING THIS TEST.

STEP 1: FOLLOWING THE LOGIC TEST THE ENGINE WILL BE STARTED IN THE EMERGENCY MODE AND A LEAK TEST PERFORMED ON THESE LINES:

E-10A - TRIP LOW PRESSURE LUBE OIL
B - " " " " "
C - " " " " "
E-16A - TRIP HIGH TEMPERATURE JACKET WATER
B - " " " " "
C - " " " " "
E-68 - TRIP HIGH PRESSURE CRANKCASE
E-92 - TRIP LOW PRESSURE TURBO OIL
E-14 - TRIP LOW PRESSURE JACKET WATER
E-20H - TRIP HIGH VIBRATION
E-19 - TRIP HIGH TEMPERATURE ENGINE BEARINGS
E-18 - TRIP HIGH TEMPERATURE LUBE OIL.

TEST FOR LEAKAGE BY DISCONNECTING TUBING AT CONTROL PANEL BULKHEAD AND CONNECTING PNEUMATIC BUBBLE TESTER. OBSERVE TESTER FOR AIR FLOW WHEN LINE IS PRESSURIZED. RESTORE TUBING CONNECTION AT BULKHEAD AND CONTINUE WITH NEXT INSTRUMENT LINE.

STEP #2 NORMAL START
-TRIP BY HI-TEMP LUBE OIL

STEP #3 LOSP START (JUMPER IN GEN CONTROL PANEL 211 TO 213)
-TRIP BY HIGH VIBRATION

STEP #4 NORMAL START
-TRIP BY HIGH PRESS CRANKCASE

STEP #5 SI START (JUMPER IN GEN. CONTROL PANEL 204 TO 209)
-TRIP BY 2 OF 3 L.O. PRESSURE

NOTE

THE AREA OF TESTING SHALL BE ROPED AND ENTRANCE LIMITED TO ESSENTIAL PERSONNEL AS DETERMINED BY COOPER REPRESENTATIVES AND GPC ENGINEERING.

GPC ENGINEERING SHALL BE PRESENT FOR ALL TESTING AND QC REPRESENTATIVE PRESENT AS REQUIRED.

7/28/88

QUARANTINED EQUIPMENT LIST

REV. 2

NZB 3-29-90

ATTENTION

At all times, the licensee is responsible for quarantined equipment and can take action involving this equipment it deems necessary to:

- Achieve or maintain safe plant conditions,
- Prevent further equipment degradation, or
- Test or inspect, as required by the plant's Technical Specifications.

To the maximum degree possible, these actions should be coordinated with the Team Leader in advance, or notification made as soon as possible.

Effective Time: 241000MAR90

The Licensee is maintaining the following Items Quarantined:

1. POL Truck (Allowable to use for normal deliveries)
2. 230 KV Insulator to Reserve Auxiliary Transformer 1A (Broken on 20 MAR 90)
3. All replaced CALCON Switches for 1A & 1B Diesel Generators
4. ERF recorded Trip Package - Unit 1 (NOTE: Database memory tape maintained by J. P. Cash.)

The following restrictions concerning Diesel generator troubleshooting, repair, and testing are agree to: (This applies to DG A & DG B except as noted)

1. Any component replacements will be concurred with by the Team Leader prior to performing the work. All replaced components will be retained until released by the Team Leader.
2. The following test procedures will be reviewed by the team prior to performance:
   a. 1B UV Test
   b. 1A UV Test (#1)
   c. 1A UV Test (#2)
3. The following tests will be announced to the team leader, or a designated representative, 4 hours prior to initiation. It will not be performed until approved by the Team Leader.
   a. 1B Sequencer Test
   b. 1B UV Test
   c. 1A UV Test (#1)
   d. 1A UV Test (#2)

A13

QUARANTINED EQUIPMENT LIST

The following personnel will not take vacation until approved by the Team Leader (normal off days are not restricted):

a. All Operations Department Management

b. All operators (licensed and non-licensed) in the Operations Department who were on duty during the 20 Mar 90 event

c. All Event Critique Team members

SUBMITTED BY: Herbert L Beacher
HERBERT BEACHER

DATE: March 29, 1990

EXTENSION: 3769 BEEPER: 138

QUARANTINED EQUIPMENT LIST

Revision 4, Dated April 2, 1990

ATTENTION

At all times, the licensee is responsible for quarantined equipment and can take action involving this equipment it deems necessary to:

- Achieve or maintain safe plant conditions,
- Prevent further equipment degradation, or
- Test or inspect, as required by the plant's Technical Specifications.

To the maximum degree possible, these actions should be coordinated with the Team Leader in advance, or notification made as soon as possible.

Except for the above, no licensee action is authorized on quarantined equipment without IIT team approval. The IIT team will concur in the licensee's action plan for each trouble shooting quarantine item.

Upon approval the licensee will implement this plant and ensure the IIT team leader or designee is informed as agreed to in each action plan.

The licensee is maintaining the following items Quarantined:

1. All suspect components identified after initiation of the event associated with the starting or tripping of the 1A and 1B D/G.

IIT TEAM LEADER Al Chaffee 4-2-90
Al Chaffee Date

SUBMITTED BY Robert L. Beacher
H. L. Beacher Date

EXTENSION 3769 BEEPER 138

A/4

1TSH19153
LUBE OIL HIGH TEMPERATURE SWITCH
DG1B

Prior calibration was performed on 3/14/90. At that time the switch was found out of tolerance with an as found of 300 'F to trip and 199 'F to reset. It was calibrated and returned to service with a trip of 199 'F and a reset of 191 'F. It was removed from service on 3/23/90 as the suspected cause of DG1B trip. The switch calibration was checked and would not calibrate within tolerance. It was placed in storage on 3/23/90.

SWITCH TWO

This switch was placed in service on 3/23/90 with a trip of 203.4 'F and a reset of 198.0 'F. On 3/27/90 it was removed from service and its calibration checked. As found was 203.5 'F to trip and 199.5 degrees to reset. However, it was found to be venting continuously and subsequently replaced. The old switch was placed in storage on 3/27/90.

1THS19146
LUBE OIL HIGH TEMPERATURE SWITCH
DG1A

Prior calibration was performed on 3/3/90. At that time it was found out of tolerance with a trip point of 211.0 'F and a reset of 203.1 'F. The switch was calibrated and returned to service with a trip point of 200.2 'F and a reset of 193 degrees

On 3/30/90 the switch was removed for calibration and found out of tolerance with a trip point of 190.4 'F and a reset of 188.0 'F. The switch also operated sluggishly. It was replaced with a new switch calibrated to trip point of 201.27 'F and a reset of 196.20 'F. The new switch was returned to service. The original switch is in storage.

1TSH19117
JACKET WATER HEATER OUT HIGH TEMPERATURE SWITCH
DG1B

Prior calibration on 3/14/90 was within tolerance with a trip point of 201 'F and a reset of 193 'F.

On 3/26/90 switch was found out of tolerance with a trip point of 190.6 and a reset of 182.4. Further investigation determined a small leak. A new switch also failed leak test. A third switch calibrated correctly with a trip point of 200.67 degrees and a reset of 198.93 'F and was returned to service. The old switches are in storage.

1TSH19119
JACKET HEATER OUT HIGH TEMPERATURE SWITCH
DG1B

Prior calibration on 3/14/90 was within tolerance with a trip point of 200 'F and a reset of 194 'F.

On 3/26/90 the switch was found out of tolerance with a trip point of 189.2 'F and a reset of 180.6 'F. Further investigation determined a small leak. A new switch was inoperable due to a missing gasket. A third switch was calibrated with a trip point of 198.57 and a reset 191.90 and returned to service. Old switches are in storage.

A15

1TSH19153
LUBE OIL HIGH TEMPERATURE SWITCH
DG1B

Prior calibration was performed on 3/14/90. At that time the switch was found out of tolerance with an as found of 300 'F to trip and 199 'F to reset. It was calibrated and returned to service with a trip of 199 'F and a reset of 191 'F. It was removed from service on 3/23/90 as the suspected cause of DG1B trip. The switch calibration was checked and would not calibrate within tolerance. It was placed in storage on 3/23/90.

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LUBE OIL HIGH TEMPERATURE SWITCH
DG1A

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JACKET WATER HEATER OUT HIGH TEMPERATURE SWITCH
DG1B

Prior calibration on 3/14/90 was within tolerance with a trip point pf 201 'F and a reset of 193 'F.

On 3/26/90 switch was found out of tolerance with a trip point of 190.6 and a reset of 182.4. Further investigation determined a small leak. A new switch also failed leak test. A third switch calibrated correctly with a trip point of 200.67 degrees and a reset of 196.93 'F and was returned to service. The old switches are in storage.

1TSH19119
JACKET HEATER OUT HIGH TEMPERATURE SWITCH
DG1B

Prior calibration on 3/14/90 was within tolerance with a trip point of 200 'F and a reset of 194 'F.

On 3/26/90 the switch was found out of tolerance with a trip point of 189.2 'F and a reset of 180.6 'F. Further investigation determined a small leak. A new switch was inoperable due to a missing gasket. A third switch was calibrated with a trip point of 198.57 and a reset 191.90 and returned to service. Old switches are in storage.

05-180-90

04-06-90 14:06 T-00C BLDG 626-0787 #191 P02

DG1A

DATE	TIME	STARTED
3-12-90	1300	STARTED
	1317	TIED TO GRID
	1345	LOADED TO 7600 KW
	1355	UNLOADED TO 6800 KW
	1425	REMOVED FROM PARALLEL TO GRID NOW SUPPLYING BUS LOADS
	.4-9	PARALLEL TO GRID
	2135	OUTPUT BREAKER OPENED AT FULL POWER PER T-ENG-90-09
	2137	STOPPED
3-13-90	0009	STARTED
	0017	OUTPUT BREAKER CLOSED
	0028	F. O. PLACED ON RECIRC. FOR CHEMISTRY
	0257	CAME OUTOF DROOP MODE. OPERATOR IN CONTROL ROOM PLACED BACK IN PARALLEL MODE, AND BEGAN INCREASING LOAD TO 7000 KW
	0301	LOAD > 6800 KW
	0310	IT WAS DETERMINED THAT DG1A SWITCHED TO UNIT MODE AS A RESULT OF SPECIAL SEQUENCER TEST PROCEDURE BY ENGINEERING.
	0502	OUTPUT BREAKER OPEN
	0506	STOPPED
	0509	PLACED IN MAINTENANCE MODE
	1320	~~FOR~~ TAKEN OFF RECIRC. • RESULT SAT.

NOTE: All starts unless otherwise noted are from the Control Room

F. O

1

A16

D01A

DATE	TIME	STARTED
3-20-90	0820	LOSP OCCURRED - LOST "A" RAT - D01A TIED AND TRIPPED (SEVERAL ALARM CAME - NOT NOTED IN THE LOG)
	0841	AUTO STARTED AFTER SEQUENCER RESET AND TRIPPED ON LOW JACKET WATER PRESSURE
	0850	EMERGENCY BREAK GLASS START LOCALLY TO RECOVER POWER FROM STATION BLOCK OUT. D/G IS SUPPLYING THE 4160 KV TRAIN "A" LOAD
	1029	(RAT "B" ENERGIZED)
	1040	(1BA03 ENERGIZED FROM "B" RAT)
	1105	D/G 1A PLACED BACK IN REMOTE
	1157	(1AA02 ALTERNATE INCOMING BREAKER CLOSED IN PARALLELING IN D01A)
	1211	LOADED TO 6800 KW TO BE RUN FOR 45 MINUTES DUE TO LOW LOAD OPERATION
	1324	TIE BREAKER OPEN
	1326	SHUTDOWN
	1405	PLACED IN STANDBY READINESS
	1720	D/G DECLARED INOPERABLE
	1741	(RAT "A" ENERGIZED)
	2031	D/G IN MAINTENANCE MODE FOR MOISTURE CHECK BEFORE RUN

DG1A

DATE	TIME	STARTED
3-20-90	2119	STARTED
	2132	OUTPUT BREAKER SHUT AND SYNC. TO GRID
	2205	OUTPUT BREAKER OPEN
	2206	SHUTDOWN
	2223	STARTED
	2228	SECURED
	2233	STARTED
	2254	SECURED
3-22-90	2210	JACKET WATER AND LUBE OIL KEEP WARM SYSTEMS SHUTDOWN TO SUPPORT MAINTENANCE
3-23-90	0227	IN MAINTENANCE MODE FOR MOISTURE CHECK
	0251	MOISTURE CHECK COMPLETE AND PLACED BACK INTO STANDBY
	0254	STARTED FOR MAINTENANCE TROUBLE-SHOOTING
	0259	OUTPUT BREAKER SHUT D/G TIED TO GRID
	0450	PLACED BACK ON STANDBY MODE
	1724	STARTED AND MANUALLY STOPPED FROM C.R.

DG1B

DATE	TIME	STARTED
3-13-90	1440	TAKEN TO LOCAL FOR MOISTURE CHECK
	1512	IN AUTO STANDBY MOISTURE CHECK COMPLETE
	1518	START FOR MAINT. TEST
	1634	TIED TO GRID - NORM INCOMING BREAKER REMOVED TO 1B403
	1717	LOAD 6800 KW
	1838	RUNNING
3-14-90	0120	BEGAN UNLOADING D/G 1B
	0142	DISCONNECTED FROM THE GRID
	0146	STOPPED
	0149	TOOK TO LOCAL AND PLACED IN MAINT. WILL BE TAGGED OUT
	0401	OPERABILITY TEST COMPLETE AND SAT FOR D/G 1B
3-21-90	2149	FAILED TO START DUE TO INSUFFICIENT FUEL IN FUEL LINES AFTER MAINTENANCE.
	2156	FAILED TO START AGAIN
	2202	STARTED AND GOVERNO VENTED
	2217	STOPPED

NOTE: All starts unless otherwise noted are from the Control Room

DG1B

DATE	TIME	STARTED
03-21-90	2259	STARTED D/G 1B FOR OVERSPEED TRIP TEST
	2301	STOPPED MANUALLY DUE TO LOW LUBE OIL PRESSURE AND HIGH OIL FILTER AP
	2314	STARTED
	2318	STOPPED
3-22-90	0017	STARTED
	0023	STOPPED FOR MAINTENANCE
	0350	IN MAINTENANCE MODE FOR MOISTURE CHECK
	0428	OUT OF MAINTENANCE LOCKOUT. MOISTURE CHECK COMPLETED
	0428	STARTED FOR TESTING
	0429	STOPPED
	0714	LOCALLY STARTED FOR MAINTENANCE AND ENGINEERING TESTING
	1030	LOCALLY SHUTDOWN
	1106	STARTED FROM C.R.
	1112	TIE BREAKER CLOSED
	1135	LOAD > 6800 KW
	1243	TRIPPED ON D/G HIGH LUBE OIL TEMP

DG1B

DATE	TIME	STARTED
3-26-90	0445	MOISTURE CHECK STARTED
	0500	MOISTURE CHECK COMPLETED
	0509	STARTED FOR MAINTENANCE RUN AND SYSTEM OPERATOR NOTIFIED
	0514	TIED TO GRID, OUTPUT BREAKER SHUT
	0539	FULLY LOADED (7000 KW)
	1145	LOAD INCREASE TO 7500 KW
	1150	LOAD REDUCED TO 6800 KW
	1153	TIE BREAKER FOR LOOT LOAD REJECTION TEST 1B RUNNING
	1202	STOPPED
	1730	STARTED FOR 4 HR. RUN
	1731	TRIPPED ON LOW JACKET WATER PRESSURE/TURBO LUBE OIL PRESSURE LOW
	1744	STARTED FOR 4 HR RUN
	1755	TIED TO GRID
	1819	LOADED TO 6800 KW
	1842	RUNNING FOR MAINTENANCE RUN
	2222	AFTER LOADING IT WAS DISCONNECTED FROM THE GRID AND DIESEL 1B STOPPED
	2224	PLACED IN LOCAL MAINTENANCE MODE FOR MAINTENANCE
	2357	MOISTURE CHECK STARTED

05-210-90

FAILURES OF CALCON TEMPERATURE AND PRESSURE SENSORS AT POGTLE UNITS 1 & 2

SENSOR	TYPE AND SETPOINT	B/S	FAILURE DISCOVERY DATE	DESCRIPTION OF FAILURE MODE	HOW FAILURE WAS DISCOVERED	ROOT CAUSE OF FAILURE	DATE SENSOR WAS INSTALLED	CAL. HISTORY (INCL. DATE OF LAST SUCCESSFUL CAL)	TESTS SENSOR WAS FAILED SINCE LAST SUCCESSFUL CAL.	CORRECTIVE ACTION	COMMENTS
TSW19111 2B80-MS	TEMP JACKET WATER SP = 200°F ± 4°F	1A	3/30/90	DURING DIESEL TEST IDENTIFIED SWITCH TRIPPED	ON 3/30/90 A TEST ON 1A DIESEL WAS IN PROGRESS WHEN NOTIFIED THAT 2 JACKET WATER TEMP SWITCHES WERE VENTING (ITSW19111 AND ITSW19112)	SWITCH IS PRESENTLY ON HOLD PENDING INVESTIGATION	ORIGINAL EQUIP	LAST CAL PERFORMED ON 3/30/90 BY MWO #19001629 AF = 198.56°F AL = 198.56°F PREVIOUS CAL ON 3/2/90 AF = 206.2°F AL = 199.1°F		NEW SWITCH OBTAINED FROM WHSE, CALIBRATED AND INSTALLED AS LEFT: 201.63°F *OLD SWITCH ON HOLD IN I&C "U" STORAGE	MWO #19001683 *2 SWITCHES HAD TO BE REQUISITIONED (ONE OF THE NEW SWITCHES OPERATED SLUGGISHLY)
TSW19112 2B80-MS	TEMP JACKET WATER SP = 200°F ± 4°F	1A	3/30/90	DURING DIESEL TEST IDENTIFIED SWITCH VENTING AIR	SEE ABOVE	SWITCH IS PRESENTLY ON HOLD PENDING INVESTIGATION	INSTALLED BY MWO #18805581 10/18/88	LAST CAL PERFORMED ON 3/30/90 BY MWO #19001629 AF = 186.2°F AL = 199.9°F PREVIOUS CAL ON 3/1/90 AF = 210.6°F AL = 203.1°F		NEW SWITCH OBTAINED FROM WHSE, CALIBRATED AND INSTALLED AS LEFT: 200.1°F *OLD SWITCH ON HOLD IN I&C "B" STORAGE	MWO #19001683
TSW19146 1B80-MS ELCBB	TEMP ENGINE LUBE OIL SP = 180°F ± 4°F	1A	3/30/90	SWITCH FOUND OUT OF TOLERANCE AND SLUGGISH	DURING PERFORMANCE OF CALIBRATION BY MWO #19001629	SWITCH IS PRESENTLY ON HOLD PENDING INVESTIGATION	ORIGINAL EQUIP	LAST CAL CHECK 3/30/90 AF = 190.4°F AND SLUGGISH PREVIOUS CAL 3/3/90 AF = 211.0°F AL = 200.2°F		NEW SWITCH OBTAINED FROM WHSE, CALIBRATED AND INSTALLED AS LEFT: 201.27°F *OLD SWITCH ON HOLD IN I&C "B" STORAGE	MWO #19001629
TSW19153 1B83-MS	HI TEMP LUBE OIL SP = 200°F ± 4°F	1B	3/23/90	DG 1B TRIPPED ON HI TEMP LUBE OIL- SWITCH WOULD NOT CAL IN TOLERANCE	DG TRIPPED - THIS SWITCH WAS SUSPECTED CAUSE	SWITCH IS PRESENTLY ON HOLD PENDING INVESTIGATION	ORIGINAL EQUIP	LAST CAL 3/14/90 BY MWO #19000440 AF 300°F AL 199°F		SENSOR WAS REPLACED WITH NEW SENSOR ON 3/23/90 VIA MWO #19001482/WE290-5465	DG1B WAS RUN WITH NO PROBLEMS FROM THIS LOOP ON 3/23/90
TSW19159 1B88-MS	HI TEMP LUBE OIL SP = 200°F ± 4°F	1B	3/27/90	READS CONTINUOUSLY	DURING 1B DIESEL TRIP INVESTIGATION	SWITCH IS PRESENTLY ON HOLD PENDING INVESTIGATION	3/23/90 VIA MWO #19001482	LAST CAL CHECK 3/27/90 AF = 203.5°F PREVIOUS CAL 3/23/90 VIA MWO #19001482 AF 203.4°F AL 203.6°F		NEW SWITCH FOR ITSW-19119 THAT HAD GASKET MISSING WAS REWORKED WITH GASKET FROM NEW SWITCH FOR ITSW19117 THAT WAS FOUND LEAKING. THIS REWORKED SWITCH WAS CAL'D AND INSTALLED AS ITSW19153 UNDER MWO #19001511 3/27/90 AL 202.6°F	NER 90-5565 NDC 90-062 NER 90-5780

#17

#	TYPE AND SETPOINT	S/S	FAILURE DISCOVERY DATE	DESCRIPTION OF FAILURE MODE	HOW FAILURE WAS DISCOVERED	ROOT CAUSE OF FAILURE	DATE SENSOR WAS INSTALLED	CAL. HISTORY (INCL. DATE OF LAST SUCCESSFUL CAL)	TESTS SENSOR WAS FAILED SINCE LAST SUCCESSFUL CAL.	CORRECTIVE ACTION	COMMENTS
[illegible]	[illegible]	1B	3/26/90	WENTS CONTINUOUSLY	DURING 1B DIESEL TRIP INVESTIGATION	SWITCH IS PRESENTLY ON HOLD PENDING INVESTIGATION	10/31/88 VIA MWO #18807793 MER 016094	LAST CAL 3/26/90 AF = 190.6°F PREVIOUS CAL 3/14/90 VIA MWO #19000440 AF 201°F AL 201°F		CAL'D NEW SWITCH WHICH HAD A LEAK. OBTAINED SECOND NEW SWITCH AND CAL'D. AL 200.67°F REPLACED VIA MWO #1909.511 3/27/90	MER 90-5564 MDC 90-062 MER 90-5780 BOTH THE OLD SWITCH AND THE NEW SWITCH THAT HAD A LEAK ARE IN STORAGE.
[illegible]	[illegible]	1B	3/26/90	WENTS CONTINUOUSLY	DURING 1B DIESEL TRIP INVESTIGATION	SWITCH IS PRESENTLY ON HOLD PENDING INVESTIGATION	10/27/88 VIA MWO #18807637 MER 015785	LAST CAL 3/26/90 AF = 188.2°F PREVIOUS CAL 3/14/90 VIA MWO #19000440 AF 200°F AL 200°F		NEW SWITCH OBTAINED BUT FOUND GASKET MISSING MDC 90-062 WAS INITIATED. 2nd NEW SWITCH OBTAINED AND CAL'D VIA MWO #19001511 3/27/90 AL = 198.57°F	MER 90-5564 MDC 90-062 MER 90-5780 BOTH THE OLD SWITCH AND THE NEW SWITCH THAT WAS MISSING A GASKET ARE IN STORAGE.
[illegible]	LOW L.O. PRESS SP = 30PSIG	1A	3/28/90	WOULD NOT RESET	DURING 1A DIESEL TRIP INVESTIGATION	SWITCH IS PRESENTLY ON HOLD PENDING INVESTIGATION	ORIGINAL EQUIP	LAST CAL - SWITCH WOULD NOT RESET PREVIOUS CAL 3/2/90 VIA MWO #19000132 AF = 29.5PSIG AL = 29.5PSIG		SENSOR REPLACED WITH NEW SENSOR 3/23/90 VIA MWO #19001433 AL 30.2 PSIG	PLACED IN STORAGE
[illegible]	LOW L.O. PRESS SP = 30PSIG	1A	3/28/90	NONE	N/A	SWITCH IS PRESENTLY ON HOLD PENDING INVESTIGATION	ORIGINAL EQUIP	LAST CAL 3/23/90 VIA MWO #19001433 AF = 30.1PSIG AL = 30.1 PSIG PREVIOUS CAL 3/2/90 VIA MWO #19000132 AF = 30.3PSIG AL = 30.3PSIG		SENSOR REPLACED WITH NEW SENSOR 3/23/90 VIA MWO #19001433 AL 30.2 PSIG	THIS INSTRUMENT HAD NO MALFUNCTION. PULLED 3 FROM WHSE TO HAVE READY TO REPLACE 3 IN FIELD. THIS SWITCH WAS FOUND IN TOLERANCE. PLACED IN STORAGE

SENSOR	TYPE AND SETPOINT	B/S	FAILURE DISCOVERY DATE	DESCRIPTION OF FAILURE MODE	HOW FAILURE WAS DISCOVERED	ROOT CAUSE OF FAILURE	DATE SENSOR WAS INSTALLED	CAL. HISTORY (INCL. DATE OF LAST SUCCESSFUL CAL)	TESTS SENSOR WAS FAILED SINCE LAST SUCCESSFUL CAL.	CORRECTIVE ACTION	COMMENTS
1PS47-99C A36886-A59	LOW L.O. PRESS SP = 38PSIG	1A	3/26/90	NONE	N/A	SWITCH IS PRESENTLY ON HOLD PENDING INVESTIGATION	ORIGINAL EQUIP	LAST CAL 3/23/90 VIA MWO #19001433 AF = 30.2PSIG AL = 30.2PSIG PREVIOUS CAL 3/2/90 VIA MWO #19000154 AF = 30.3PSIG AL = 30.3PSIG		SENSOR REPLACED WITH NEW SENSOR 3/23/90 VIA MWO #19001433 AL = 30.2PSIG	THIS INSTRUMENT HAD NO MALFUNCTION. PULLED 3 FROM WAGE TO HAVE READY TO REPLACE 3 IN FIELD. THIS SWITCH WAS FOUND IN TOLERANCE. PLACED IN STORAGE
0PSL49103 ALC203 H48808	PRESS NORMAL DROP SWITCH (P-3) SP = 40PSIG ± 2	NB	3/25/90	SWITCH WOULD NOT VENT ENOUGH AIR TO CAUSE AN ENG. TRIP.	WHILE PERFORMING PROC 2754.3-C IN CONJUNCTION WITH IB DIESEL TRIP INVESTIGATION	SWITCH IS PRESENTLY ON HOLD PENDING INVESTIGATION	BY MWO#1887665 10/25/88	LAST CAL PERFORMED BY MWO #19001511 3/24/90 AS FOUND = 44.2PSIG AS LEFT = 44.2PSIG PREVIOUS CAL 1/1/90 VIA MWO #19000016 AF = 44PSIG AL = 44PSIG		OBTAINED NEW PRESS SENSOR P3, CAL'D AND INSTALLED UNDER MWO #19001542. NEW SWITCH AS LEFT WAS 44.2PSIG.	MWO#19001542 OLD SWITCH PLACED IN STORAGE.

.05-336-90

DRAFT

ATTACHMENT

VOGTLE ELECTRIC GENERATING PLANT
CORRECTIVE ACTIONS FOR SITE AREA EMERGENCY

On March 20, 1990, a Site Area Emergency was declared due to a loss of offsite power concurrent with a loss of onsite Emergency Diesel Generator capability. In accordance with VEGP Procedures, an Event Review Team has investigated the events leading up to and following the Site Area Emergency. This review team identified four main problem areas associated with the event. These problems involved low voltage switchyard access controls, Diesel Generator failures, Emergency Plan implementation, and procedures for shutdown plant conditions. A summary of the findings and completed or planned corrective actions follows.

The low voltage switchyard access control problems were the result of inadequate procedures. This was compounded by a lack of attention on the part of the driver of the truck. These were the direct cause of the event. Furthermore, while site procedures required a security officer to accompany the vehicle in the protected area, due to visibility restrictions he was unable to assist the driver.

To prevent this type of initiating event from recurring, the following corrective actions have been or are being implemented.

- The truck driver was disciplined for lack of attention and alertness in backing the truck when visibility was impaired.

- A management directive on control and operation of vehicles was issued to all site employees. Administrative procedures have been revised to incorporate this management directive.

- Security officer training will be revised to emphasize that officers have authority and responsibility to assist vehicle operators to assure safe vehicle operation. Specifically, security escorts will ensure that ground guides (flagmen) are used when large vehicles are maneuvered inside the protected area. These changes will be implemented by 8-1-90.

- Outage Area Coordinators have been instructed to stage welding machines and other materials on the east and west ends of the Turbine Building, whenever possible, to avoid unnecessary equipment and vehicle traffic in the low voltage switchyard.

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ATTACHMENT (CONTINUED)

VOGTLE ELECTRIC GENERATING PLANT
CORRECTIVE ACTIONS FOR SITE AREA EMERGENCY

- Maintenance procedures will be revised to restrict staging of equipment in the low voltage switchyard. The procedures will be revised by 6-15-90.

- Barriers were installed with signs which require authorization from the Unit Shift Supervisor for vehicle access to the low voltage switchyard.

- Plant procedures have been revised to control hazardous materials and transient combustibles in the low voltage switchyard and other sensitive plant areas.

The most significant problem area identified by the review team involved the failure of Diesel Generator 1A to remain running to provide emergency power. The event team utilizing utility and vendor technical experts, reviewed the two sequential failures of the diesel engine. The cause of the first trip can only be postulated, but most likely is the same as the second trip. The ongoing investigation indicates the most likely cause of the second trip was intermittent actuation of the jacket water temperature switches. A problem with restarting the diesel occurred because the Engineered Safety Features Actuation System (ESFAS) sequencer logic and diesel generator start logic (as designed) resulted in the diesel engine being locked out following the initial trip until the sequencer logic was reset.

As a result of the event investigation, the following actions have been or are being implemented to ensure a high state of diesel generator reliability.

- The suspected switches were replaced and extensive diesel generator testing was performed to ensure operability prior to return to service.

- Investigation of the suspect-temperature switches has been performed by an independent testing laboratory and a report is expected by 5-18-90. The investigation revealed that the temperature switches are sensitive to calibration techniques and foreign material within the switches.

- Maintenance procedures for temperature switches have been revised to include lessons learned from laboratory testing. All jacket water high temperature switches will be cleaned and calibrated using the revised procedure by 5-31-90. Other non-essential trip temperature switches will cleaned and calibrated at their normal calibration cycle.

- Vendor failure analysis of a low lube oil pressure switch will be conducted and results of this analysis will be used to determine if procedure changes, cleaning or re-calibration is necessary for various pressure trip switches on the DG.

- The Corporate Maintenance Support Department will perform a design review of the diesel instrumentation. Corrective actions or improvements will be made if appropriate. The review will be completed by 9-1-90.

ATTACHMENT (CONTINUED)

VOGTLE ELECTRIC GENERATING PLANT
CORRECTIVE ACTIONS FOR SITE AREA EMERGENCY

- The Under Voltage (UV) diesel start was changed in both Units 1 and 2 to be similar to a Safety Injection emergency start. This provides a higher degree of reliability for UV bus conditions and eliminates the need for resetting the sequencer.

- Operators have been instructed on the emergency start modes of the Diesel Generator. Operating procedures have been revised to address Diesel Generator restart following trips. Training will be provided on the revised procedures by 9-15-90.

- A policy detailing guidelines for logging pertinent alarms and indications to assist in evaluation of equipment or system malfunctions has been developed and applicable procedures have been revised.

- After engine overhauls, functional diesel testing will be enhanced to include bubble testing to ensure the air logic system has acceptable leakage.

- Trend program data is being reviewed to ensure DG component failures are adequately included. The data review will be completed by 6-5-90.

Notification of state and local government agencies was not timely due to a loss of power to the primary Emergency Notification Network (ENN). Communication errors, a lack of understanding of ENN power supplies, and inadequate supervision of the notification process were also identified as Emergency Plan implementation problems. Information flow to the General Office resulted in inaccurate information being provided to the media. There was confusion among plant personnel concerning assembly and accountability procedures.

The following actions have been implemented.

- The State of Georgia ENN circuit and Burke County have been added to the Backup ENN.

- The General Manager has issued memos to the plant staff to ensure proper functioning of:

  1. Assembly and Accountability procedures.

  2. ENN Communications procedures.

The following corrective actions will be implemented by the dates indicated.

- Battery backup power will be provided to the primary ENN in the control room by 9-1-90.

- An evaluation will be performed to review and recommend further improvements in notification systems. This evaluation will be completed by 6-1-90.

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ATTACHMENT (CONTINUED)

VOGTLE ELECTRIC GENERATING PLANT
CORRECTIVE ACTIONS FOR SITE AREA EMERGENCY

- The Manager Operations and the Manager Training and Emergency Preparedness will conduct training for all Emergency Directors (ED's) to review the role and responsibilities of the ED including lessons learned from this event by 8-1-90.

- Control room communicators and Emergency Directors will receive training in the operation of and power supplies for emergency communication equipment. This will be accomplished by 8-1-90.

- The Emergency Preparedness group will establish a monthly test program to validate Emergency Response Facility (ERF) computer data by 6-15-90.

- The Corporate Emergency Response Organization (ERO) will be included on the ENN by 7-15-90 to provide another means of ensuring the transmittal of accurate information to the Corporate Office during emergencies.

- The Corporate ERO will be trained in the use of available communication systems to talk with the site by 6-15-90.

- A full-scale assembly and accountability drill was performed by 6-15-90.

- A full-scale assembly and accountability drill will be included as a regular emergency plan objective. Procedure 91602-C "Emergency Drills and Exercises", will be changed by 8-1-90 to reflect this commitment.

- Changes to Emergency Action Levels (EALs) in the Emergency Plan will be requested from the NRC based on NUMARC's EAL Report presently under review by the NRC. Appropriate changes to the EALs will be completed 6 months after NRC approval of the NUMARC report.

Plant procedures did not sufficiently address or control plant shutdown conditions encountered during the emergency.

- The procedures covering loss of Residual Heat Removal (RHR) will be revised to include the various Reactor Coolant System (RCS) and containment conditions present during an outage or a Loss of Offsite Power (LOSP) event. The Abnormal Operating Procedure (AOP) and Unit Operating Procedure (UOP) will include the following:

  For UOP at reduced inventory (less than or equal to 3 feet below the vessel flange)

  1) One diesel and two offsite power supplies or two diesels and one offsite power source must be available to feed vital 4160 volt buses, or the equipment hatch must be in place, with 4 bolts installed.

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ATTACHMENT (CONTINUED)

VOGTLE ELECTRIC GENERATING PLANT
CORRECTIVE ACTIONS FOR SITE AREA EMERGENCY

ii) RCS must be cooled to ≤100 degrees F for reduced inventory operation with the equipment hatch open.

For AOP (Loss of RHR)

i) A loss of power condition will be specifically addressed in the procedure.

ii) The time-to-boil curves will be adjusted to address a ≤100 degree F starting point for accidents.

These procedures will be revised by 7-1-90.

- A procedure will be written to address backfeed from the Unit Auxiliary Transformer (UAT) to the ESF busses. This procedure will be completed by 9-1-90.

- The capability to close the equipment hatch without electrical power will be evaluated by the next refueling outage.

- Training will be provided for licensed operators on the procedure revisions resulting from this event. In addition, Senior Reactor Operators (SROs) will receive training on the mid-loop boiling and cooling mechanism. Initial training will be completed by 9-15-90.

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UNIT 1 STATUS FROM 3-18 TO 4-1-90

DATE	UNIT STATUS	ACTIVE LCO	D/G RUN
3-18-90	UNIT IN MODE 6, UPPER INTERNALS SET AND RCCA's LATCHED, ECCS CHECK VALVES FLOW TEST COMPLETE, CAVITY DRAIN DOWN IN PROGRESS. UNIT AT MIDLOOP AT 0800.	1-90-254 1FT-18, AFT-10848 1-90-331 1B CREFS 1-90-333 FHB RAD MONITORS 1-90-324 AXR-19910 SEISMIC INSTRUMENT	NONE
3-19-90	UNIT IN MODE 6, CAVITY DRAINED AND VESSEL HEAD SET, DECONNING OF VESSEL CLOSURE STUD HOLES IN PROGRESS.	1-90-254 1FT-18, AFT-10843 1-90-331 1B CREFS 1-90-332 1B ESF CHILLER	NONE
3-20-90	UNIT IN MODE 6, HEAD SET AND STUD TENSIONING IN PROGRESS, FILL AND VENT OF LETDOWN IN PROGRESS.	1-90-331 1B CREFS 1-90-332 1B ESF CHILLER 1-90-349 FHB PAVS A TRAIN	DG1B: OUT-OF-SERVICE (OOS) FOR OVERHAUL SINCE 2300 OF 3/13/90 DG1A: 0820 BLACKOUT START AND TRIPPED AFTER 80 SEC. 0841 BLACKOUT STARTED AGAIN AND TRIPPED AFTER 70 SEC. 0856 LOCAL MANUAL EMERGENCY BREAKGLASS START AND MANUAL STOP AT 1326. 2119 START AND STOPPED AT 2206 SWAPPING FROM "RAT B" TO "RAT A" 2223 START AND STOPPED AT 2228 OBSERVATION/TROUBLESHOOTING 2233 START AND STOPPED AT 2254 OBSERVATION/TROUBLESHOOTING
3-21-90	UNIT IN MODE 6, HEAD SET, INVESTIGATING DG1A PROBLEM, RESTORING DG1B, CHARGING AND LETDOWN FILLED VENTED AND IN SERVICE	1-90-331 1BCREFS 1-90-332 1B ESF CHILLER 1-90-349 FHB PAVS A TRAIN 1-90-353 DG1A	DG1B: START STOP 2149 FAILED TO START 2156 FAILED TO START 2202 2217 STOPPED MANUALLY 2259 2301 STOPPED MANUALLY DUE TO LO PRESS. AND HI FO ΔP 2314 2318 STOPPED MANUALLY DUE TO HI FO ΔP

ATE	UNIT STATUS	ACTIVE LCO	D/G RUN			
-22-90	UNIT IN MODE 5, HEAD IS FULLY TENSIONED, SET UP OF DG1B IS IN PROGRESS	1-90-331 1B CREFS 1-90-332 1B ESF CHILLER 1-90-353 DG 1A	DG1B:	START	STOP	
				0017	0023	TROUBLESHOOTING MANUAL STOP
				0428	0429	TROUBLESHOOTING MANUAL STOP
				0714	0730	TROUBLESHOOTING MANUAL STOP
				0854	0857	TROUBLESHOOTING MANUAL STOP
				0921	0926	TROUBLESHOOTING MANUAL STOP
				0950	0955	TROUBLESHOOTING MANUAL STOP
				1002	1011	TROUBLESHOOTING MANUAL STOP
				1101	1244	TRIPPED ON HI LO TEMP.
-23-90	UNIT IN MODE 5, LOOPS NOT FILLED, PREPARATIONS FOR RCS FILL AND VENT ARE IN PROGRESS.	1-90-331 1B CREFS 1-90-332 1B ESF CHILLER 1-90-362 RCS INTEGRITY (RTD BYPASS VALVE REMOVAL)	DG1A:	0254	0405	TROUBLESHOOTING MANUAL STOP
				1724	1724	INADVERTANT START CONTROL ROOM
		1-90-353 DG1A	DG1B:	0509	1202	RECEIVED B PHASE ISO UV RELAY ON START
				1730	1733	TRIPPED ON LO JACKET WATER PRESS/TURBO LO PRESS
				1744	2221	TROUBLESHOOTING MANUAL STOP
-24-90	UNIT IN MODE 5, LOOPS NOT FILLED CHARGING, LETDOWN AND SEAL INJECTION ARE IN SERVICE. REPAIR TO THE RTD BYPASS MANIFOLD IS COMPLETE. COMMENCING FILL AND VENT OF THE RCS.	1-90-331 1B CREFS 1-90-332 1B ESF CHILLER 1-90-362 RCS INTEGRITY 1-90-353 DG1A	DG1B:	0048	0121	RECEIVED TRIP ON HI JACKET WATER HI TEMP ALARM, DG1B SHOULD HAVE TRIPPED BUT DID NOT
-25-90	UNIT IN MODE 5 LOOPS NOT FILLED. MID-LOOP OPERATIONS TERMINATED AT 1900. RCS FILL AND VENT COMPLETE. PREPARING FOR ILRT.	1-90-331 1B CREFS 1-90-332 1B ESF CHILLER 1-90-362 RCS INTEGRITY 1-90-349 FHB HVAC TRAIN B 1-90-353 DG1A/DG1B				

DATE	UNIT STATUS	ACTIVE LCO	D/G RUN			
3-26-90	UNIT IN MODE 5. PREPARING FOR ILRT	1-90-331 1B CREFS 1-90-332 1B ESF CHILLER 1-90-353 DG1A/DG1B				
3-27-90	UNIT IN MODE 5. PREPARING FOR ILRT. INVESTIGATING RX VESSEL HEAD FOR UPPER CANOPY SEAL LEAK	1-90-331 1B CREFS 1-90-332 1B ESF CHILLER 1-90-353 DG1A/DG1B	DG1B:	START	STOP	
				1649	1822	AIR LEAKAGE TESTING
				1909	2009	CONTROL LOGIC TESTING
				1951	1954	CONTROL LOGIC TESTING
				1957	1959	CONTROL LOGIC TESTING
				2004	2010	LAST CONTROL LOGIC TEST
				2220	2317	UNDERVOLTAGE TEST
3-28-90	UNIT IN MODE 5. PREPARING FOR ILRT. TESTING ON DG1B COMPLETE AND DG1B DECLARED OPERABLE AT 1527.	1-90-331 1B CREFS 1-90-332 1B ESF CHILLER 1-90-353 DG1A	DG1B:	0403	0537	SURV. TESTING
				1350	1355	FUNCT. TESTING
				1356	1400	EMERGENCY START MANUAL STOP
3-29-90	UNIT IN MODE 5. ILRT IN PROGRESS. PREPARING TO RUN UV TEST ON DG1A	1-90-331 1B CREFS 1-90-332 1B ESF CHILLER 1-90-353 DG1A	DG1A	1109	1158	T-ENG-90-11 UV TEST
3-30-90	UNIT IN MODE 5. ILRT COMPLETE. DG1A RUN FOR BUBBLE TEST	1-90-353 DG1A 1-90-373 A&B FHB HVAC	DG1A:	1920	2115	EMERGENCY START TO PERFORM BUBBLE TEST.
				2235	2241	ENGINE RUN FOR LOGIC TEST NORMAL START AND TRIP FROM HIGH TEMP. LUBE OIL SIMULATION.
				2313	2316	ENGINE FRUN FOR LOGIC TEST NORMAL START AND TRIP FROM HIGH VIBRATION SIMULATION

DATE	UNIT STATUS	ACTIVE LCO	D/G RUNS		
3-30-90 (CONTINUED)			DG1A: START	STOP	
			2328	2334	ENGINE RUN FOR LOGIC TEST NORMAL START AND TRIP FROM LOW LUBE OIL PRESS. SIMULATION
			2343	2347	FUNCTIONAL TEST FOR MOD 89-V1M057 NORMAL START AND STOP.
			2348	2358	FUNCTIONAL TEST FOR MOD 89-V1M057 (L.O. TRIP CIRCUIT) LOCAL EMERGENCY BREAKGLASS START.
3-31-90	UNIT IN MODE 5. INITIAL BUBBLE TEST ON DG1A IS COMPLETE. STRUT INSTALLATION ON 'B' RHR PUMP IS IN PROGRESS.	1-90-373 A&B FHB HVAC 1-90-353 DG1A	0012	0014	FUNCT. TEST FOR MOD 89-V1M057
			0016	0019	F.T. FOR MOD 89-V1M057 LOCAL EMERG. BREAKGLASS START
			1827	1837	ENGINE RUN FOR LOGIC TEST NORMAL START AND STOP
			1846	1847	ENGINE RUN LOGIC TEST STARTED WITH 2 HIGH TEMP. J.W. SENSORS VENTING.
			1856	1857	STARTED W 2 H.T.J.W. SENSORS VENTING.
			1904	1906	STARTED W 2 J.T.J.W. SENSORS VENTING.

UNIT 1 STATUS FROM 3-18 TO 4-1-90

TE	UNIT STATUS	ACTIVE LCO	D/G RUN			
31-90 ONTINUED)			DG1A:	START	STOP	
				1921	1922	STARTED W LOW PRESS. J. W. SENSOR VENTING.
				1955	2012	ENGINE RUN FOR LOGIC TEST NORMAL START AND SIMULATED TRIP.
				2253	2320	UNDERVOLTAGE TEST
01-90	UNIT IN MODE 5. UV TEST ON DG1A IS COMPLETE. PREPARING FOR 1BA03 SWITCHGEAR OUTAGE DG1A OPERABILITY TEST IS COMPLETED AND DECLARED DG1A OPERABLE AT 1154.	1-90-373 A&B FHB HVAC		0423	0556	SURVEILLANCE TEST PROCEDURE 14980-1