

EMERGENCY

DO A 133700
CONFIDENTIAL

POWER II BLACKSTART PROCEDURE - GT-100/200

THE FOLLOWING PROCEDURE IS BASED ON THE LOUISIANA DIVISION HAVING EXPERIENCING A TOTAL BLACKOUT DUE TO A PROBLEM WITH NO EXTERNAL POWER AVAILABLE POWER FROM GULF STATES UTILITIES.

NOTIFY PLANT SUPERINTENDENT, PRODUCTION SUPERVISOR, BOTH SHIFTS SUPERVISORS, MAINTENANCE SUPERVISOR, AND ELECTRICAL ENGINEER AND EXPLAIN WHAT HAS HAPPENED. WE WILL PROBABLY WANT TO CALL OUT AT LEAST TWO EXTRA SDS'S TO ASSIST IN THE START-UP.

ALL UNITS SHOULD BE CHECKED TO VERIFY THAT D.C. SEAL OIL PUMPS HAVE STARTED AND ARE MAINTAINING GENERATOR SEALS, ON GT-100 AND 200 CLOSE THE SUCTION TO THE SEAL OIL PUMPS FROM THE BEARING OIL SUPPLY HEADER OIL SUPPLY HEADER AND CLOSE BLOCK VALVE ON POWER OIL BACK-UP TO SEALS.

ALL UNITS SHOULD BE CHECKED TO VERIFY TURNING GEAR AND D.C. LUBE OIL PUMP OPERATION.

INSURE ALL POWER VENTS AND DRAINS HAVE BEEN OPENED AND ALL HRU'S.

NOTE: DO NOT OPEN VENTS AND DRAINS ON 300/400 HP BOILERS AS POWER I NEEDS THIS STREAM FOR AOIL PUMP OPERATION.

CLOSE THE INSTRUMENT AIR TIE BETWEEN 900 AND 1000 AIR SYSTEMS, BOTH MAIN BLOCK VALVES AND BYPASS. INSURE BOTH 900 AND 1000 SERVICE AIR VALVES HAVE TRIPPED OR BLOCK THEM IN. INSURE PLANT AIR BETWEEN 900 AND 1000 AIR SYSTEM IS CLOSED. ORDER PORTABLE COMPRESSOR AND TIE INTO 900 AND 100 AIR SYSTEMS.

OPEN ALL 15KV LOAD SWITCHES ON ALL BUSES. THE FOLLOWING IS A LIST OF THESE BREAKERS:

BUS 100	BUS 200	BUS 300	BUS 400
37-100	37-200	37-300	37-400
37-101	37-201	37-301	37-401
37-102	37-202	37-302	37-402
37-103	37-203	37-303	37-403
37-104	37-204	37-304	37-404

P2-1 SYN GAS
37-110
37-1012
37-210
37-2021
37-1011

P2-2 SYN BUS
H-2022
H-610
H-2011

ONCE IT HAS BEEN VERIFIED THAT THE GSU TIE WILL NOT BE AVAILABLE FOR START-UP, THE FOLLOWING PROCEDURES SHOULD BE FOLLOWED:

1. THE POWER II ELECTRICAL SYSTEM WILL HAVE TO BE CHECKED WITH PHASE STICKS, ETC., TO INSURE THE ABSENCE OF POWER ON THE SYSTEM.
2. A PORTABLE 2400V GENERATOR WILL BE LOCATED AND BROUGHT TO THE PLANT SITE. THE GENERATOR WILL BE SET UP NEAR THE L-24 AND L-32 POLE SWITCHES FOR START UP OF GT-100 AND 200 STARTING MOTORS.
3. A PORTABLE 480V GENERATOR WILL BE LOCATED AND BROUGHT TO THE PLANT SITE. THE GENERATOR WILL BE SET UP NEAR BLDG. 3704 AND USED TO ENERGIZE THE 480V MCC 1A, B OR MCC 2A, B.
4. IF H-610 (GSU TIE BREAKER) IS NOT OPEN, IT WILL BE NECESSARY TO OPEN IT, RACK OUT, AND RED TAG THIS BREAKER.
5. BEGIN ISOLATING THE MCC 1/2 2400V SYSTEM IN ORDER TO TIE IN THE 2400V GENERATOR.
 - A. HAVE ELECTRICAL DISTRIBUTION OPEN POLE SWITCHES ON L-24 AND L-32, RED TAG OPERATING HANDLES.
 - B. PLACE L-24 AND L-32 AUTO TRANSFER SWITCHES IN CONTROL ROOM IN MANUAL AND RED TAG.
 - C. INSURE ALL S&C SWITCHGEAR BREAKERS ARE OPEN. IF NOT, OPEN. (IT WILL BE NECESSARY TO OPEN THEM MANUALLY).
 - D. INSURE BOTH MUP-8 AND MSM-100 ARE OFF AND AUX. XFMR DISCONNECT FOR AT-2 IS OPEN ON MCC-2 2400V BUS.
6. BEGIN ISOLATING THE MCC 1/2 480V SYSTEM IN ORDER TO TIE IN THE 480V GENERATOR.
 - A. TURN OFF ALL 480V STARTERS OR OPEN BREAKERS ON 480V MCC 1S, 1B, OR 2A, 2B.
7. TIE IN PORTABLE 2400V GENERATOR TO BOTTOM (POWER II SIDE) OF POLE SWITCH ON L-24 OR L-32.
8. RED TAG AUX. TRANSFORMERS. HIGH SIDE BREAKER AT-1 OR AT-2 DEPENDING ON WHICH ONE WILL BE TIED IN TO.
9. TIE IN PORTABLE 480V GENERATOR TO LOW SIDE TERMINALS OF AT-1 OR AT-2 2400V/480V AUXILIARY TRANSFORMERS.
10. VERIFY WITH ELECTRICAL DISTRIBUTION THAT ALL ELECTRICAL SYSTEMS FROM 15KV DOWN HAVE BEEN CHECKED AND FOUND TO BE IN GOOD CONDITION.
11. START THE 2400V PORTABLE GENERATOR AND VERIFY POWER PHASE ROTATION AND VOLTAGE.

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12. CLOSE FEEDER ENERGIZED TO ENERGIZE 2400V MCC 1 OR 2. IF L-24 IS ENERGIZED, THIS WILL BE THE MAIN ON 100 (SWITCH 3) OR THE TIE ON 200 (SWITCH #5). IF L-32 IS USED, THIS WILL BE THE TIE ON 100 (SWITCH #2) OR THE MAIN ON 200 (SWITCH #6). IT WILL BE NECESSARY TO CLOSE THESE SWITCHES MANUALLY.
13. THE ABOVE STEPS WILL RESULT IN EITHER 2400V BUS 1 OR 2 BEING ENERGIZED.
14. START THE PORTABLE 480V GENERATOR AND VERIFY PROPER PHASE ROTATION AND VOLTAGE.
15. CLOSE THE 480V INCOMING FEEDER BREAKERS ON 480V MCC 1A, 1B, OR 2A & 2B.
16. THE ABOVE STEPS WILL RESULT IN 480V BUS 1A, 1B, OR 2A AND 2B.
17. IF ENERGIZING 1A AND 1B:
 - A. ON 480V MCC 1A, TURN ON ONLY THE BREAKERS FOR THE FOLLOWING EQUIPMENT:
 1. INST. AIR TIE BETWEEN 900 AND 1000 SHOULD BE BLOCKED IN AT THIS TIME, IF NOT ALREADY CLOSED. BOTH THE MAIN AND THE BY-PASS MUST BE BLOCKED. ALSO, INSURE THAT THE PLANT AIR TIE BETWEEN 900 AND 1000 IS CLOSED.
 - B. ANY BFP TO BE STARTED.
 - C. G-2 BATTERY CHARGER 3709-2
 - D. G-3 P-1220B COND. PUMP. (IF 1220C IS TO BE USED, LEAVE 1220B IN OFF POSITION).
18. ON 480V MCC 2B, TURN ON ONLY THE BREAKERS FOR THE FOLLOWING EQUIPMENT:
 - A. ANY BFP'S ON UNIT TO BE STARTED
 - B. B-1 BATTERY CHARGER 2 BLDG. 3703.
 - C. ANY OIL PUMPS ON UNIT TO BE STARTED.
 - D. ANY VENT BLOWERS ON UNIT TO BE STARTED.
 - E. C-2 MEV 1C-100 LUBE OIL VAPOR EXTRACTOR.
 - F. D-2 MEV 2A-200 LUBE OIL VAPOR EXTRACTOR.
 - G. D-3 MEV 2B-200 SEAL OIL VAPOR EXTRACTOR.
 - H. G-1 MSDP-2A-200 SEAL OIL PUMP.
21. PREPARE UNIT TO BE STARTED AS PER SAFE WORK PROCEDURE.

22. START COND. PUMP 1220 B OR C. FILL ONLY HRU AND D.A. ON UNOT TO BE STARTED.
23. VERIFY ALL BREAKERS ON GENERATOR BUSES OF UNIT BEING STARTED ARE OPEN.
- (4. CLOSE NEUTRAL ON UNIT BEING STARTED, START GAS TURBINE AND BRING TO SYNCHRONOUS SPEED. CLOSE GENERATOR BREAKER. (GEN. LOAD WILL HAVE TO BE OBSERVED BY WATCHING FREQUENCY METER).
25. INSURE ALL BREAKERS ON P2-1 SYN BUS ARE OPEN. IF NOT, OPEN THEM.
26. ENERGIZE P2-1 SYN BUS BY CLOSING SYN BUS TIE FROM UNIT. (EITHER H-37-110 OR H-37-210).
27. IF SYN BUS P2-2 IS AVAILABLE, INSURE ALL BREAKERS ON SYN BUS P2-2 ARE OPEN.
 - A. CLOSE 37-2021 AND H-2022. THIS WILL ENERGIZE SYN BUS P2-2.
 - B. INSURE ALL BREAKERS ON GENERATOR BUS 300 ARE OPEN. CLOSE H-37-310.
 - C. INSURE ALL 4160V BREAKERS ON 300/400 ARE OPEN, INCLUDING L-300A AND B, AND L-400A AND B.
 - D. CLOSE 37-301-SST. #3 HIGH SIDE BREAKER.
 - E. INSURE ALL 480V BREAKERS IN MCC 300 AND MCC 400 ARE OPEN.
 - F. CLOSE L-300A AND L-400B.
 - G. CLOSE AUX. TRANS. 3 HIGH SIDE BREAKER.
 - H. CLOSE AUX. TRANS. 3 LOW SIDE BREAKER.
 - I. IN 300 ELECTRICAL PACKAGE, CLOSE J-1 BATTERY CHARGER #3.
 - J. CLOSE AUX. TRANS. 4 HIGH SIDE BREAKER.
 - K. CLOSE AUX. TRANS. 4 LOW SIDE BREAKER (A-1 IN 400 ELECT. PACKAGE).
 - L. IN 400 ELECTRICAL PACKAGE, CLOSE J-1 BATTERY CHARGER #4.
 - M. IN 400 ELECTRICAL PACKAGE, CLOSE J-4 BATTERY CHARGER #3A.
 - N. IN 300 ELECTRICAL PACKAGE, CLOSE J-4 BATTERY CHARGER #4A.
 - O. IN 300 ELECTRICAL PACKAGE, CLOSE B-2 MP 318A N. LD PUMP AND START.
 - P. IN 300 ELECTRICAL PACKAGE, CLOSE C-1 MP 318B S. LD PUMP AND PUT ON STANDBY.
 - Q. SHUTDOWN 300 D.C., LUBE AND SEAL OIL PUMPS AND PUT IN AUTO.
 - R. IN 400 ELECTRICAL PACKAGE, CLOSE B-2 418A & START.
 - S. IN 400 ELECTRICAL PACKAGE, CLOSE C-1 MP418B & PUT ON AUTO.
 - T. SHUT DOWN 400 D.C., LUBE OIL AND SEAL OIL PUMPS & PUT IN AUTO.
 - U. START LUBE OIL AND START OIL EVACTORS ON 300/400.
 - V. IN 300 ELECTRICAL PACKAGE, CLOSE G-1 MK-1000 AND START 1000 STANDBY A/C.

REMAINING BREAKERS ON 300/400 MCC CA BE TURNED ON AS NEEDED.

28. AT THIS POINT, ELECTRICAL DISTRIBUTION MUST BE INVOLVED IN DECISIONS AS TO WHICH FEEDERS TO ENERGIZE.

29. AS BOILERS COME ON LINE, DIVISION STEAM HEADERS WILL NEED TO BE WARMED UP. STEAM INJECTION TO UNIT BEING STARTED MUST RECEIVE PARTICULAR ATTENTION IN ORDER TO HEAT IT UP TO REACH TEMPERATURE PERMISSIVE OF 425 DEGF.

WATER TREATING WILL NEED POWER IN ORDER TO SUPPLY OUR CONDENSATE TANK. INTAKE AND RETURN PUMPS MUST BE STARTED WHEN SUBSTATION POWER IS AVAILABLE. WE WILL NEED TO ENERGIZE EITHER L-32 OR L-24 DEPENDING ON WHICH FEEDER IS NOT TIED IN TO THE PORTABLE GENERATOR BY CLOSING THE POLE SWITCH ON THAT FEEDER.

NOTE: AT THIS POINT, THE FOLLOWING STEPS MUST BE TAKEN:

1. SWAP BOTH LOW AND HIGH PRESSURE BOILER FEED PUMPS ON THE UNIT RUNNING TO EITHER MCC 1A AND 1B OR MCC 2A AND 2B, DEPENDING ON WHICH IS BEING FED FROM SUBSTATION POWER.
2. WHEN BOTH LOW PRESSURE BOILER FEED PUMPS ARE BEING FED FROM THE SAME MCC, START D.C. SEAL OIL PUMP ON UNIT FED FRM MCC YOU ARE PREPARING TO SHUT DOWN. OPEN THE BREAKER FEEDING THE OTHER 2400V AND 480V MCC (PORTABLE GEN. POWER) AND CLOSE THE BREAKER FROM SUBSTATION POWER.

(NOTE: IF STEPS ARE NOT FOLLOWED IN THIS ORDER, DAMAGE TO THE PORTABLE GENERATOR MAY OCCUR AS IT IS NOT IN SYNC. WITH THE SYSTEM.

3. RED TAG BREAKER OPEN IN PREVIOUS STEP AND MCC 1A AND 1B MAIN BREAKER OR 2A AND 2B MAIN AFTER 480V GENERATOR IS DISCONNECTED AND 480V TRANS. LOW SIDE WIRING IS RECONNECTED AND CHECKED. PULL TAG ON AUX. TRANS. HIGH SIDE AND CLOSE. PULL TAGS ON MCC BREAKERS AND CLOSE.
4. CHECK VARIOUS EQUIPMENT TO INSURE IT HAS RESTARTED AFTER SWAP, SUCH AS AC SEAL OIL PUMP, VAPOR EXTRACTOR, ETC. SHUTDOWN D.C. SEAL OIL PUMP.
5. SHUT DOWN PORTABLE GENERATOR AND RED TAG.
6. DISCONNECT PORTABLE GENERATOR LEADS AND TIE BACK INTO BOTTOM OF POLE SWITCH. CHECK PHASING BEFORE CLOSING POLE SWITCH.
7. CLOSE POLE SWITCH.
8. WHEN BACKUP SUBSTATION POWER IS AVAILABLE, RED TAGS MAY BE PULLED AND S&C SWITCHGEAR PUT BACK TO NORMAL AND AUTO TRANSFER SWITCHES PUT BACK ON AUTO.
9. START UP REMAINING BBC UNIT AND LOAD WITH DIVISION DEMANDS.

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POWER II BLACKSTART PROCEDURE

START-UP OF UNIT 400 (1220 A CONDENSATE PUMP ON THIS BUS)

THE FOLLOWING PROCEDURE IS BASED ON THE LOUISIANA DIVISION HAVING EXPERIENCED TOTAL BLACKOUT DUE TO A PROBLEM WITH GSU TIE. THE DIVISION WILL HAVE TO BE STARTED BACK UP WITH NO EXTERNAL POWER AVAILABLE FROM GULF STATES UTILITIES.

NOTIFY PLANT SUPERINTENDENT, PRODUCTION SUPERVISOR, BOTH SHIFT SUPERVISORS MAINTENANCE SUPERVISOR, AND ELECTRICAL ENGINEER AND EXPLAIN WHAT HAS HAPPENED. WE WILL PROBABLY WANT TO CALL OUT AT LEAST TWO EXTRA SOS'S TO ASSIST IN THE START-UP.

ALL UNITS SHOULD BE CHECKED TO VERIFY THAT D.C. SEAL OIL PUMPS HAVE STARTED AND ARE MAINTAINING GENERATOR SEALS. ON GT-100 AND 200, CLOSE THE SUCTION TO THE SEAL OIL PUMPS FROM THE BEARING OIL SUPPLY HEADER AND CLOSE BLOCK VALVE ON POWER OIL BACK-UP TO SEALS.

ALL UNITS SHOULD BE CHECKED TO VERIFY TURNING GEAR AND D.C. LUBE OIL PUMP OPERATION.

INSURE ALL POWER VENTS AND DRAINS HAVE BEEN OPENED ON ALL HRU'S.

NOTE: DO NOT OPEN VENTS AND DRAINS ON 300/400 HP BOILERS AS POWER I NEEDS THIS STEAM FOR OIL PUMP OPERATION.

CLOSE THE INSTRUMENT AIR TIE BETWEEN 900 AND 100 AIR SYSTEMS; BOTH MAIN BLOCK VALVES AND BYPASS. INSURE BOTH 900 AND 1000 AIR SERVICE AIR VALVES HAVE TRIPPED OR BLOCK THEM IN. INSURE PLANT AIR BETWEEN 900 AND 1000 AIR SYSTEM IS CLOSED. ORDER PORTABLE COMPRESSOR AND TIE INTO 900 AND 100 AIR SYSTEMS AND START.

OPEN ALL 15KV LOAD SWITCHES ON ALL BUSES. THE FOLLOWING IS A LIST OF THESE BREAKERS:

BUS 100

37-100
37-101
37-102
37-103
37-104

BUS 300

37-300 37-304
37-301 37-305
37-302 37-306
37-303 37-310

BUS 200

37-200
37-201
37-202
37-203
37-204

BUS 400

37-400 37-404
37-401 37-405
37-402 37-406
37-403 37-410
37-404

P2-1 SYN BUS

37-110
37-1012
37-210
37-2021
37-1011

P2-2 SYN BUS

H-2022
H-610
H-2011

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ONCE IT HAS BEEN VERIFIED THAT THE GSU TIE WILL NOT BE AVAILABLE FOR START-UP, THE FOLLOWING PROCEDURES SHOULD BE FOLLOWED:

1. THE POWER II ELECTRICAL SYSTEM WILL HAVE TO BE CHECKED WITH PHASE STICKS, ETC. TO INSURE THE ABSENCE OF POWER ON THE SYSTEM.
2. THREE (3) PORTABLE GENERATORS MUST BE OBTAINED - (1) 4160 VOLT AND (2) 480 VOLT.
3. OPEN AND RED TAG BREAKER FOR AC LUBE OIL PUMP A OR B.
4. DISCONNECT MOTOR LEADS AT BREAKER AND TIE IN 480V GENERATOR TO THIS POINT.
5. INSURE ALL 15KV BREAKERS ON UNIT BUS ARE OPEN.
6. INSURE ALL 480V BRAKERS ON UNIT BUS ARE OPEN.
7. OPEN OR TURN OFF ALL 480V BREAKERS ON UNIT MCC.
8. INSURE H-610 IS OPEN AND RED TAG.
9. RACK OUT AND RED TAG 37-301, L-300A, L-300B, AND AT-4 HIGH SIDE BREAKER AND LOW SIDE BREAKER.
10. TIE IN 4160V GENERATOR TO 4160V BUS OF UNIT 400 AT BOTTOM SST H-301 LEADS TO L-400B.
11. START PORTABLE GENERATOR AND VERIFY PROPER PHASE ROTATION AND VOLTAGE.
12. FROM THIS STEP ON, IT IS ASSUMED THAT ALL ELECTRICAL SYSTEMS FROM 15KV DOWN HAVE BEEN CHECKED AND FOUND TO BE IN GOOD CONDITION.
13. CLOSE PORTABLE GENERATOR TO PP400-10 LEADS.
14. TIE IN 480V PORTABLE GENERATOR TO PP400-10 LEADS.
15. START PORTABLE GENERATOR AND CLOSE J-3. THIS WILL ENERGIZE 400 480V BUS.
16. CLOSE J-1 AND J-4. THIS WILL SUPPLY POWER TO ONE BATTERY CHARGER ON 300 AND 400.
17. CLOSE F-2. THIS WILL SUPPLY AC BACK UP TO INVERTER FOR IPP ON UNIT TO BE STARTED.
18. CLOSE J-5. THIS WILL ENERGIZE PP-3708, PP-3707-2, PP-3708-3, PP-3703-5 AND (PP-3707-4 ?).
19. CLOSE G-3 FOR PP-400-7.
20. CLOSE F-4 FOR PP-400-9.
21. CLOSE C-2 FOR MLOE-400 A - L. O. EVACTOR.
22. CLOSE C-3 FOR MSOE-400 A - S. O. EVACTOR.
23. CLOSE I-2 AND I-5 FOR BFP AUXILIARY L. O. PUMPS.
24. CHECK SYSTEM AIR PRESSURE.
25. PREPARE UNIT TO BE STARTED AS PER SAFE WORK PROCEDURE.

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26. START CONDENSATE PUMP 1220A - FIL ONLY HRU AND D. A. OF UNIT TO BE STARTED, THEN SHUT 1220A BACK DOWN.
27. START GAS TURBINE AND BRING TO SYNC. SPEED. (AS SOON AS STARTING NOTUR SHUTS DOWN, START UP 1220A CONDENSATE PUMP). CLOSE GENERATOR. (GENERATOR LOAD WILL HAVE TO BE OBSERVED BY WATCHING FREQUENCY METER). THIS WILL ENERGIZE 400 15KV BUS.
28. CLOSE H-401.
29. UNTAG AND GET L-400A READY TO CLOSE.
30. OPEN L-400B AND CLOSE L-400A. (YOU WILL LOSE POWER TO YOUR BFP AND P-1220 A CONDENSATE PUMP MOMENTARILY! ! !)
31. HAVE OPERATORS STANDING BY TO CHECK AND RESTART P-1220A CONDENSATE PUMP AND BFP.
32. RED TAG L-400B AND HAVE PORTABLE GENERATOR DISCONNECTED AND TIE LEADS BACK TO SST-301.
33. UNTAG AND CLOSE AT-4 HIGH SIDE.

NOTE: IF THE FOLLOWING STEPS ARE NOT FOLLOWED IN THIS ORDER, DAMAGE TO THE PORTABLE GENERATOR MAY OCCUR, AS THEY ARE NOT IN SYNC WITH THE SYSTEM.

1. UNTAG AT-4 LOW SIDE BREAKER BUT DO NOT CLOSE.
2. OPEN 480V DISCONNECT, J-3, THEN CLOSE AT-4 LOW SIDE BREAKER.

NOTE: YOU WILL EXPERIENCE A MOMENTARY 480 POWER LOSS DURING THIS OPERATION. CHECK TO INSURE EVACTORS, ETC. RESTARTED.

3. RED TAG DISCONNECT J-3, THEN DISCONNECT PORTABLE GENERATOR AND TIE BACK IN TO PP-400-10.
4. CLOSE DISCONNECT AND START L. O. PUMP ON MCC POWER AND SHUT DOWN OIL PUMP ON PORTABLE GENERATOR POWER.
5. RED TAG DISCONNECT TO LUBE OIL PUMP ON PORTABLE GENERATOR POWER. SHUT DOWN PORTABLE GENERATOR AND DISCONNECT LEADS AND TIE BACK INTO BREAKER.
6. PULL RED TAGS AND CLOSE DISCONNECTD ON BACKUP L. O. PUMP AND PUT ON AUTO.
7. CLOSE 480V BREAKERS AS NEEDED.
8. INSURE ALL BREAKERS ON P2-2 BUS ARE OPEN.
9. ENERGIZE P2-2 SYN BUS BY CLOSING BREAKER 37-410.
10. AT THIS POINT, ELECTRICAL DISTRIBUTION MUST BE INVOLVED IN DECISIONS AS TO WHICH FEEDERS TO ENERGIZE.
11. NOTIFY POWER I YOU WILL BE CLOSING H-2011 WHICH WILL ENERGIZE P1 SYN BUS WEST SO POWER I CAN ENERGIZE FEEDERS FOR THE INTAKE, RETURN, AND WATER TREATING.

NOTE: STEAM INJECTION CAN BE SUPPLIED TO 400 WITH BACK-PRESSURE REGULATOR CLOSED AND ALL 235# STEAM GOING TO STEAM INJECTION UNTIL 235# PRESSURE IS HIGH ENOUGH. 1250# STEAM WILL BE VENTED AT POWER I.

BLOCK #3

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LOSS OF 100/200 INSTRUMENT AIR HEADER IN THE
WESTERN NORTH/SOUTH PIPEWAY

(SITUATION: GAS TURBINES 300 AND 400 ARE SHUT DOWN. LHC-III IS IN THE PROCESS OF ATTEMPTING TO TIE INTO OUR 1250# STEAM HEADER. AS THE LAST CUT IS MADE ON OUR 1250# STEAM HEADER, THE LINE WHIPS TO THE SIDE, BREAKING A LINE NEXT TO IT, THE INSTRUMENT AIR HEADER FROM 100 AND 200 SYSTEMS THAT FEEDS ONE SIDE OF THE 900/1000 INSTRUMENT AIR TIE. WHAT NEEDS TO BE DONE PRIOR TO THE CUT BEING MADE?

1. BLOCK IN THE INSTRUMENT AIR FEEDS FROM UNITS 100 AND 200 UP IN THE WESTERN NORTH/SOUTH PIPEWAY.
2. INSURE THAT THE 900/1000 INSTRUMENT AIR TIE REGULATOR BLOCK VALVE (ON THE 300/400 SIDE) IS BLOCKED IN AND THE BYPASS IS OPEN.
3. OPEN THE PLANT AIR TIE BLOCK VALVE LOCATED AT THE 900 AIR SYSTEM (LOCATED EAST OF THE EXCHANGER).
4. HAVE AN OPERATOR STAND BY AT THE 900/1000 INSTRUMENT AIR TIE TO CLOSE THE BYPASS IF THE LINE BREAKS.

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POWER UTILITIES H2 TRAILER EMERGENCY
RESPONSE PROCEDURE

THE PURPOSE OF THIS PROCEDURE IS TO OUTLINE THE MEASURES TO TAKE IN
THE EVENT WE EXPERIENCE ROAD OR ANY OTHER PROBLEMS WITH OUR H2 TRAILER
THAT WE CANNOT SAFELY HANDLE.

IN THE EVENT ONE OF OUR H2 TRAILERS IS INVOLVED IN A ROAD EMERGENCY,
THE FIRST RESPONDER TO BE CONTACTED IS "AIR PRODUCTS". THEY SUPPLY
THE H2 TO THE PLANT AND FILL OUR TRAILERS. ALSO, THEY ARE THE MOST
KNOWLEDGEABLE PARTY TO HANDLE A PROBLEM WITH THE TRAILERS. IF WE
MUST CONTACT AIR PRODUCTS ON A MATTER SUCH AS THIS, THE NUMBER TO
CALL IS 1-800-254-6245. THIS IS THEIR CONTROL ROOM WHICH IS MANNED
TWENTY FOUR HOURS A DAY, SEVEN DAYS A WEEK.

IN THE EVENT WE EXPERIENCE A PROBLEM WITH ONE OF OUR TRAILERS SUCH AS
A LEAK, PUNCTURE, OR ANY PROBLEM WE CANNOT HANDLE, WHETHER IT BE IN OR
OUTSIDE OF THE DIVISION, WE SHOULD UTILIZE THE EXPERTISE OF "AIR
PRODUCTS" TO HANDLE OR ASSIST US. OF COURSE, IF THE PROBLEM OCCURS IN
THE DIVISION, WE STILL MUST CONTACT PLANT SECURITY.

IF ONE OF THE ABOVE SITUATIONS WERE TO OCCUR, THE PLANT SUPERINTENDENT,
PRODUCTION SUPERVISOR, ENVIRONMENTAL CONTACT AND THE SAFETY COORDINATOR
SHOULD BE NOTIFIED.

THE FOLLOWING IS A DESCRIPTION OF EACH TRAILER

DOV 112

EX-1000-10000

D-1

1000-10000

(PRESENTLY AT POWER 1)

D-2

1000-10000

(PRESENTLY AT POWER 1)

EDITION 1
12-10-91
BLOCK #12

UPDATED BY
10/11/91

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POWER/UTILITIES - CONFINED SPACE ENTRY - RESCUE PROCEDURE

ALL CONFINED SPACE ENTRIES REQUIRE A RESCUE PLAN TO INSURE EACH AND ALL AREAS ARE COVERED FOR A SAFE AND TIMELY RESCUE. SOME ITEMS ARE LISTED BUT THE REMAINDER OF THIS PROCEDURE REQUIRES FURTHER EVALUATION OF THE ENTRY AND WHAT MUST BE DONE IN ORDER TO FULFILL A PROPER RESCUE PLAN. LISTED BELOW ARE AREAS THAT ARE ADDRESSED PRIOR TO AND DURING EACH CONFINED SPACE ENTRY.

1. SAFE WORK PERMIT IS FILLED OUT IN ITS ENTIRETY.
2. CONFINED SPACE ENTRY CHECKLIST IS COMPLETED.
3. A SAFETY ATTENDANT (CERRIFIED) IS ASSIGNED TO THE CONFINED SPACE ENTRY. THE ATTENDANT IS REQUIRED TO UTILIZE THE CONFINED SPACE CARD TO IDENTIFY WHO IS IN/OUT OF THE ENTRY.
4. PLANT SECURITY IS NOTIFIED OF THE CONFINED SPACE ENTRY, WITH INFORMATION INCLUDING LOCATION, LENGTH OF ENTRY, BEST ROUTE TO USE TO REACH THE ENTRY, AND NUMBER OF PERSONNEL INCLUDED IN THE ENTRY.
5. COMMUNICATIONS ARE SET UP WITH THE SAFETY ATTENDANT, CONTROL ROOM, AND PLANT SECURITY.
6. A VESSEL ENTRY BAG IS ON THE PLANT SITE. THE CONTENTS ARE CHECKED ON A REGULAR SCHEDULE (C-9 ITEM).

CONTENTS:	TWO (2) PARACHUTE HARNESSSES	ANCHORING CABLE
	200 FT. CLIMBERS ROPE	"Y" LANYARD
	PULLEY	FOUR (4) "D" RINGS
	CERVICAL COLLAR	NYLON STRAP
	SNAP HOOK	

7. EITHER FULL BREATHING AIR OR ESCAPE PACKS ON ENTRY SITE AVAILABLE.
8. THE ACTUAL ENTRY RESCUE WILL BE CONDUCTED BY PLANT SECURITY AND BLOCK PERSONNEL.

EDITED: JML
11/29/93
BLOCK #81

TESTING EMERGENCY SPILL ALARM

THIS ALARM MUST BE TESTED DURING A 5-MINUTE PERIOD EVERY MONDAY BEGINNING AT 11:25 A.M.

1. ANNOUNCE TESTING OF SPILL ALARM BEFORE TESTING.
2. SWITCH P.A. 'S AND RADIOS TO EMERGENCY POWER.
3. PRESS SPILL ALARM START BUTTON IN CONTROL ROOM.
4. HAVE SOMEONE CHECK ALL FLASHING RED LIGHTS TO ENSURE THEY ARE WORKING CORRECTLY - (5 FLASHING RED LIGHTS; ONE AT EACH CORNER OF BLOCK AND MAIN ENTRANCE BY COOLING TOWER).
5. MAKE A VOICE TEST ON P.A. TO CHECK VOICE OVERRIDE CAPABILITIES.
6. HOLD RESET BUTTON IN FOR A MINIMUM OF 5 TO 10 SECONDS FOR AN ALL CLEAR.
7. MAKE ANNOUNCEMENT THAT TESTING OF POWER II'S SPILL ALARM IS NOW COMPLETE.
7. SWITCH P.A. 'S AND RADIOS BACK TO NORMAL POWER.
8. WRITE MMR'S ON ANY PROBLEMS ENCOUNTERED.

REVISED: JML
01/18/93
BLOCK #406

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TEXT BLOCK # 499

CHLORINE CYLINDER RELEASE EMERGENCY RESPONSE PROCEDURE

THERE IS ONE CHLORINE CYLINDER IN THE BLOCK. IT IS CONNECTED TO A CHLORINATOR SUPPLYING CHLORINE TO THE COOLING TOWER, WHICH HELPS KEEP ALGAE AT A MINIMUM. IF A RELEASE WAS TO OCCUR, IT WOULD BE IN THE SUPPLY LINE, THE VALVE, THE FUSIBLE PLUG, OR THE CYLINDER ITSELF. IF THIS IS THE CASE, PROCEED AS FOLLOWS:

1. IMMEDIATELY UPON FINDING CHLORINE COMING OUT OF THE CYLINDER, NOTIFY THE CONTROL ROOM. THE CONTROL ROOM SHOULD NOTIFY PLANT SECURITY AND GET EVERYONE AWAY FROM THE SPILL.
2. IF LEAK CANNOT BE SECURED BY POWER II PERSONNEL, CONTACT CHLORINE PLANT SHIFT SUPERVISOR AND NOTIFY HIM OF THE CHLORINE LEAK. REQUEST ASSISTANCE FROM THEIR EMERGENCY RESPONSE TEAM (THEY KEEP SOME EQUIPMENT TO ISOLATE CHLORINE LEAKS).
3. THE SHIFT OPERATORS ALONG WITH PLANT SECURITY WILL THEN MONITOR THE SITUATION UNTIL THE CYLINDER STOPS DISCHARGING CHLORINE OR THE LEAK HAS BEEN SECURED. IF NO CHLORINE IS BEING RELEASED FROM THE CYLINDER, A CLOSER INVESTIGATION OF THE CYLINDER WILL TAKE PLACE WITH THE USE OF BREATHING AIR. IF NO MORE CHLORINE IS BEING RELEASED, AN ALL CLEAR WILL BE GIVEN AT THIS TIME.

REVISED: NLC
9/13/90
BLOCK #499

DO A 133714
CONFIDENTIAL

TEXT BLOCK # 521

HOW TO REPORT A FIRE IN THE BLOCK

IN THE EVENT OF A FIRE IN THE BLOCK:

1. NOTIFY THE CONTROL ROOM BOARD OPERATOR OF THE EXACT LOCATION AND SEVERITY OF THE FIRE.
2. IF POSSIBLE, WITHOUT ENDANGERING YOURSELF OR OTHERS, ATTEMPT TO CONTAIN THE FIRE TO ITS PRESENT LOCATION.
3. THE BOARD OPERATOR WILL DO THE FOLLOWING THINGS:
 - A. NOTIFY THE SUPERVISOR AND OTHER OPERATOR OF THE SITUATION.
 - B. DIAL 333 AND GIVE EXACT INFORMATION CONCERNING THE FIRE, LOCATION, SEVERITY, AND ACCESS TO THE FIRE.
 - C. CALL THE OUTSIDE OPERATOR AND HAVE HIM WAIT AT THE NEAREST ENTRANCE TO THE FIRE TO DIRECT THE FIRE TRUCK.
 - D. MONITOR ANY CONTROLS IN THE CONTROL ROOM DIRECTLY AFFECTED BY THE FIRE.

REVISID: NLC
9/13/90
BLOCK #521

DO A 133715
CONFIDENTIAL

TEXT BLOCK # 707

EMERGENCY PROCEDURE

SUBJECT: COOLING TOWER SUPPLY HEADER RUPTURE

CONDITION: PERFORMING HOT TAP ON COOLING TOWER PUMP DISCHARGE LINE.
IN THE EVENT THE HEADER SHOULD RUPTURE OR A MAJOR LEAK
OCCURS, THE FOLLOWING ACTIONS SHOULD BE TAKEN.

1. OPEN THE 3" FLUSH ON PROCESS WATER HEADER UNTIL CLEAR.
2. OPEN PROCESS WATER BACKUP VALVE TO COOLING TOWER SUPPLY
HEADER, AND CLOSE COOLING TOWER DUMP VALVE.

NOTE: IN THE EVENT THE COOLING TOWER SUPPLY HEADER PRESSURE
CANNOT BE MAINTAINED, CONTINUE AS STATED BELOW:

3. START DOWN WITH GT-300 AND GT-400 (ORDERLY SHUTDOWN). MAKE
SURE LUBE OIL IS COOL PRIOR TO GOING TO THE NEXT STEP.
4. CLOSE COOLING TOWER SUPPLY ISOLATION VALVE TO UNITS 300 AND
400 (LOCATED BY OLD 900 CT TEE).
5. IF COOLING TOWER HEADER PRESSURE CONTINUES TO DROP, CLOSE
RETURN HEADER ISOLATION BLOCK VALVE FOR 300 AND 400 UNITS.

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BLOCK #707

DO A 133716
CONFIDENTIAL

TEXT BLOCK # 708

EMERGENCY PROCEDURE

FIRE IN NEW WAREHOUSE

1. OUTSIDE OPERATOR NOTIFY BOARD OPERATOR AND THE OTHER OUTSIDE OPERATOR.
2. BOARD OPERATOR CALL PLANT SECURITY WITH ALL NECESSARY INFORMATION (FOLLOW PROCEDURE FOR DIALING 333).
3. BOARD OPERATOR CALL POWER I SHIFT SUPERVISOR IF FIRE OCCURS ON NIGHT SHIFT OR WHEN POWER II SHIFT SUPERVISOR IS ABSENT.
4. BOARD OPERATOR ANNOUNCE FIRE IN THE BLOCK AND HAVE EMPLOYEES MOVE VEHICLES FROM PARKING AREA NEAR WAREHOUSE.
5. ONE OUTSIDE OPERATOR TURN OFF WAREHOUSE BREAKER IN GT-300 ELECTRICAL PACKAGE WHILE THE OTHER OPERATOR TURNS THE DELUGE GUN ON THE GAS CYLINDERS STORED SOUTH OF THE WAREHOUSE.
6. ONCE BREAKER IS OFF, OPERATOR MEET PLANT SECURITY AT BLOCK LIMIT TO ESCORT THEM TO WAREHOUSE.
7. AS SOON AS POSSIBLE, TURN OFF PLANT AIR AND WATER BLOCK VALVES TO THE WAREHOUSE.
8. IF GT-300 INLET TEMPERATURE EXCEEDS 100 DEGREES F, SHUT DOWN GT-300.

REVISED: NLC
9/14/90
BLOCK #708

DO A 133717
CONFIDENTIAL

EMERGENCY PROCEDURE

HOW TO REPORT AN OIL SPILL

1. IF 2 GALLONS OR MORE OF OIL IS SPILLED ON THE GROUND INSIDE THE POWER II BLOCK, THIS IS CONSIDERED AN INTERNAL ENVIRONMENTAL EVENT. WRITE IN DESCRIPTIVE DETAIL THE CHAIN OF EVENTS WHICH LEAD UP TO THE SPILL. THERE IS NO NEED TO CALL PLANT SECURITY IN THIS SITUATION UNLESS YOU FEEL THE CONDITION MAY WORSEN. IF IN DOUBT, CALL MARTY MORRISON OR JIM LANDRY.
2. IF THE OIL ESCAPES THE POWER II BLOCK LIMITS, A SHEEN IN THE DIVISION CANAL IS A DIVISION ENVIRONMENTAL EVENT.
 - A. WHEN A SPILL OCCURS, QUICK ACTION SHOULD BE TAKEN TO STOP SPILL.
 - B. OIL PADS AND BOOM SHOULD BE DEPLOYED IMMEDIATELY TO STOP THE SHEEN.
 - C. CALL PLANT SECURITY AS SOON AS POSSIBLE TO NOTIFY THEM OF THE EVENT.
3. AFTER SPILL HAS BEEN SPOTTED, PROPER PERSONNEL SHOULD BE NOTIFIED. THIS IS ONLY IF THE OIL ESCAPES THE POWER II BLOCK LIMITS.
 1. GATE 1 - EXPLAIN WHO YOU ARE AND WHAT BLOCK YOU ARE CALLING FROM. INFORM THEM OF THE SPILL AND IF THE SPILL HAS BEEN CONTAINED WITHIN BLOCK LIMITS THE PHONE NUMBER AT GATE 1 IS 8898.
 2. NOTIFY MARTY MORRISON, THE ENVIRONMENTAL CONTACT FOR POWER AND UTILITIES. HIS HOME PHONE NUMBER IS 766-5742.
 3. NOTIFY JIM LANDRY, PRODUCTION SUPERVISOR AT POWER II. JIM'S NUMBER AT HOME IS 273-2800.
4. PROPER DISPOSAL OF OIL ALSO NEEDS TO BE TAKEN. WHEN SOAKED OIL PADS OR OIL DRY IS USED, THEY SHOULD BE PICKED UP AND PUT IN A FIBER PACK AND LABELED CORRECTLY AND STORED IN DESIGNATED AREA FOR PICK UP. (PROPER ID WASTE TYPE #1082).

REVISED: JML
02/04/91
BLOCK #709

DO A 133718
CONFIDENTIAL

TEXT BLOCK # 709

EMERGENCY PROCEDURE

HOW TO REPORT AN OIL SPILL

1. IF 2 GALLONS OR MORE OF OIL IS SPILLED ON THE GROUND INSIDE THE POWER II BLOCK, THIS IS CONSIDERED AN INTERNAL ENVIRONMENTAL EVENT. WRITE IN DESCRIPTIVE DETAIL THE CHAIN OF EVENTS WHICH LEAD UP TO THE SPILL. THERE IS NO NEED TO CALL PLANT SECURITY IN THIS SITUATION UNLESS YOU FEEL THE CONDITION MAY WORSEN. IF IN DOUBT, CALL MARTY MORRISON OR TOM NORMAND.
2. IF THE OIL ESPAPES THE POWER II BLOCK LIMITS, A SHEEN IN THE DIVISION CANAL IS A DIVISION ENVIRONMENTAL EVENT.
 - A. WHEN A SPILL OCCURS, QUICK ACTION SHOULD BE TAKEN TO STOP SPILL.
 - B. OIL PADS AND BOOM SHOULD BE DEPLOYED IMMEDIATELY TO STOP THE SHEEN.
 - C. CALL PLANT SECURITY AS SOON AS POSSIBLE TO NOTIFY THEM OF THE EVENT.
3. AFTER SPILL HAS BEEN SPOTTED, PROPER PERSONNEL SHOULD BE NOTIFIED. THIS IS ONLY IF THE OIL ESCAPES THE POWER II BLOCK LIMITS.
 1. GATE 1 - EXPLAIN WHO YOU ARE AND WHAT BLOCK YOU ARE CALLING FROM. INFORM THEM OF THE SPILL AND IF THE SPILL HAS BEEN CONTAINED WITHIN BLOCK LIMITS. THE PHONE NUMBER AT GATE 1 IS 8888.
 2. NOTIFY MARTY MORRISON, THE ENVIRONMENTAL CONTACT FOR POWER AND UTILITIES. HIS HOME PHONE NUMBER IS 766-5742.
 3. NOTIFY TOM NORMAND, PRODUCTION SUPERVISOR AT POWER II. TOM'S NUMBER AT HOME IS 928-2916.
4. PROPER DISPOSAL OF OIL ALSO NEEDS TO BE TAKEN. WHEN SOAKED OIL PADS OR OIL DRY IS USED, THEY SHOULD BE PICKED UP AND PUT IN A FIBER PACK AND LABELED CORRECTLY AND STORED IN DESIGNATED AREA FOR PICK UP. (PROPER ID WASTE TYPE #1082).

REVISED: NLC
9/14/90
BLOCK #709

DO A 133719
CONFIDENTIAL

TEXT BLOCK # 765

POWER & UTILITIES

(POWER & UTILITIES - #4 CLARIFIER SAFETY SHOWER ALARM

A PROBLEM EXIST IN COVERING THE SAFETY SHOWER AT #4 CLARIFIER IN CASE OF AN EMERGENCY BECAUSE OF ITS REMOTE LOCATION. THIS IS A CONCERN OF BOTH THE DAY AND NIGHT OPERATOR BECAUSE ONLY ONE OPERATOR MAKES ROUNDS AT THE CLARIFIER. A SAFETY SHOWER ALARM HAS BEEN INSTALLED AT POWER ONE AND POWER TWO THAT EXPLICITLY IDENTIFIES #4 CLARIFIER AS THE TROUBLE AREA. THIS ALARMS SOUNDS AT WATER TREATING AS WELL AS THE OTHER TWO PLANTS.

PLEASE NOTE THE FOLLOWING:

- 1). POWER TWO SHALL TAKE THE RESPONSIBILITY OF BEING FIRST IN LINE TO RESPOND TO A SAFETY SHOWER ALARM (BECAUSE OF THE CLOSE PROXIMITY TO CLARIFIER #4).
- 2). IF POWER TWO IS UNDERSTAFFED, IT IS THEIR RESPONSIBILITY TO NOTIFY POWER ONE PRIOR TO SENDING THEIR NIGHT OPERATOR TO CHECK CLARIFIER #4. IT IS THEN THE RESPONSIBILITY OF THE POWER ONE SUPERVISOR TO DESIGNATE A PERSON TO RESPOND TO THE ALARM.
- 3). IF PROPERLY STAFFED, THE POWER TWO CONTROL ROOM SHALL COMMUNICATE TO POWER ONE AND WATER TREATING THAT THERE IS SOMEONE FROM POWER TWO RESPONDING TO THE EMERGENCY.
- 4). THE RESPONDING OPERATOR SHALL TAKE A HAND HELD RADIO TO KEEP POWER ONE AND POWER TWO INFORMED OF THE SITUATION AND WHETHER ADDITIONAL HELP IS NEEDED.

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08/23/90
BLOCK 765

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CONFIDENTIAL