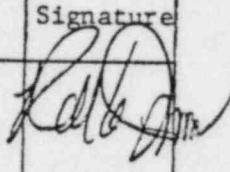

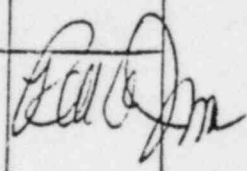


FOR INFORMATION ONLY

DUKE POWER COMPANY
PROCEDURE DISCREPANCIES
PROCESS RECORD

(1) ID No: TP/1A/1350/25A

- (2) STATION: CATA 18A
- (3) PROCEDURE TITLE: D/G 1A BACKUP AND LOAD REGULATION
PROPORTIONAL TEST
- (4) DATE(S) PERFORMED: 3-28-84, 3-30-84, 3-31-84, 4-1-84
- (5) DISCREPANCY PROCESSING:

Item No.	Procedure Section	Description	Corrective Action	Completion Date	Signature
1	12.0	CRDM FAN 1A INDICATING LIGHT SHOWED FAN OFF. CRDM FAN 1A LIGHT CHANGED BETWEEN ON AND OFF	INDICATING LIGHTS ARE CONTROLLED BY PRESSURE SWITCHES. SINCE CRDM 1A IS NOT INSTALLED THESE PRESSURE SWITCHES DO NOT ACCURATELY TELL IF FAN 1A IS ON OR OFF. FANS WERE VERIFIED TO BE ON USING COMPUTER POINTS.	3-28-84	
2	12.1.20	RN PUMP STRUCTURE UNIT FAN 1A DID NOT START. RN PUMP STRUCTURE FAN 2A DID START.	RN PUMP STRUCTURE FAN 2A HAS PRIORITY START. CUM #9 WRITER TO DOWNGRADE BEHAVIOR FEEDING 2A FAN SO 1A FAN WILL RUN. LOAD VERIFIED IN SECTION 12.2.	3-28-84	
3	12.1.20	UCVU-1A AND 1C FANS CONTINUED TO RUN IN MAX SPEED - DID NOT RESET TO NORM SPEED	INVESTIGATION REVEALED THE FANS ARE SIMPLY SPEED MAX AND NORM REFERS TO COOLING WATER FLOW. PROCEDURE CUM #9 PROCESSING TO DETECT SPEED REFERENCE.	3-28-84	

DUKE POWER COMPANY
PROCEDURE DISCREPANCIES
PROCESS RECORD

(1) ID No: JP/1/A/1350/25A

(2) STATION: _____

(3) PROCEDURE TITLE: _____

(4) DATE(S) PERFORMED: _____

(5) DISCREPANCY PROCESSING: _____

Item No.	Procedure Section	Description	Corrective Action	Completion Date	Signature
4	12.1.20	COND PIPE TUNNEL BLOWER FAN 1A WENT OFF ON B/D SIGNAL - DID NOT GO TO LOW SPEED	FAN INDICATING LIGHTS ARE OFF PRESSURE SWITCHES. SWITCHES WILL NOT MAKE UNLESS 1B FAN IS ALSO RUNNING. 1B FAN WAS TURNED ON AND 1A WILL BE VERIFIED IN SECTION 12.2.	3-28-64	<i>Paul D. Smith</i>
5	12.1.20	RN PUMP 2A BROKEN P.D. NOT CLOSED	SLIDING LINES J-70 AND J-71 IN 1DGLSA-1, F-36 IN 1DGLSA-2, AND D-52 IN 1DGLSA-16 WERE OPEN. LINES WERE CLOSED. BROKEN CLOSURE TO BE VERIFIED IN SECTION 12.2.	3-28-64	<i>Paul D. Smith</i>
6	12.1.20	REWORK MANUAL WATER PUMP 1A DID NOT START	INVESTIGATION REVEALED PUMP DOES NOT GET B/D AUTO START SIGNAL - IT MUST BE STARTED MANUALLY. CIR 49 WRITTEN TO START PUMP MANUALLY.	3-28-64	<i>Paul D. Smith</i>

DUKE POWER COMPANY
PROCEDURE DISCREPANCIES
PROCESS RECORD

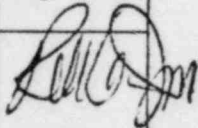


(1) ID No: TP/1/A/1350/25A

(2) STATION: _____

(3) PROCEDURE TITLE: _____

(4) DATE(S) PERFORMED: _____

(5) DISCREPANCY PROCESSING: _____

Item No.	Procedure Section	Description	Corrective Action	Completion Date	Signature
7	12.1.20	VI AIR DRYER C DID NOT START SINCE IT WAS TAKEN OUT FOR MAINTENANCE	DRYER IS TAKEN FOR MAINTENANCE. CHANGE #9 PROCESSED TO DISUSE THIS LOAD FROM LINE. 13.5. THIS DOES NOT AFFECT TEST SINCE DRYER HAS NO AUTO START SIGNAL TO VERIFY AND IS A RELATIVELY SMALL LOAD (4 HP MOTOR)	3-28-84	
8	12.1.20	Aux Bldg Filter Room Exhaust FAN A WOULD NOT START	INTERLOCKS WITH OTHER FANS PREVENTED START. CHANGE #9 PROCESSED TO JUMP OUT THESE OTHER INTERLOCKS. LOAD WILL BE VERIFIED IN SECTION 12.2.	3-28-84	
9	12.1.20	Aux Bldg UNFILTERED EXHAUST FAN 1A WOULD NOT START	SEE #8 ABOVE. SAME CORRECTIVE ACTION.	3-28-84	

DUKE POWER COMPANY
PROCEDURE DISCREPANCIES
PROCESS RECORD

(1) ID No: TP/1/A/1350/25A

(2) STATION: _____

(3) PROCEDURE TITLE: _____

(4) DATE(S) PERFORMED: _____

(5) DISCREPANCY PROCESSING: _____

Item No.	Procedure Section	Description	Corrective Action	Completion Date	Signature
10	12.1.20	AUX BLK SUPPLY UNIT 1A WAS NOT START	SEE #8 ABOVE. SAME CORRECTIVE ACTION.	3-28-84	<i>[Signature]</i>
11	12.1.22.4 12.1.22.5 12.1.22.6	1MXP, 1MXX, 1MXR, 1KPx AND 1CDB HAD NORMAL VOLTAGE PRESENT ON BUS B.	1MXP, 1MXX, 1MXR AND 1KPx HAD VOLTAGE DUE TO B/D MISC'S SWAPPING TO ALTERNATE SOURCE. 1CDB HAD VOLTAGE DUE TO BATTERY ON BUS. PREVIOUS CH #9 INCORPORATED TO RETURN MTR B FROM B/D POWER SYSTEM DURING SECTION 12.2 TO VERIFY ABSENCE OF VOLTAGE ON THAT BUS.	3-28-84	<i>[Signature]</i>
12	12.2	PREPARING TO DO SECTION 12.2 WHEN OPS NOTICED INCOMING BKR ON 1MXW WAS STANDING.	WR 8265 OPS HAD BEEN WRITTEN IN 2/84. ADDITIONAL WR 8747 OPS WAS WRITTEN. WHILE THE MTR BEHINDING ON BKR IN FEB BUS WAS COUNTOED TO PERFORM LINEUP FOR THIS TEST. BREAKER HAD A SHORT IN Y PHASE. BREAKER WAS REMOVED AND REPLACED.	3-29-84	<i>[Signature]</i>

DUKE POWER COMPANY
PROCEDURE MAJOR CHANGE
PROCESS RECORD

(1) ID No: 1000-1000
Change No: 1000
Permanent/Restricted To

(2) STATION: CATAPAC
(3) PROCEDURE TITLE: W. A. BUREAU AND LOSS PROTECTIVE
TEST

(4) SECTION(S) OF PROCEDURE AFFECTED: 15.0

(5) DESCRIPTION OF CHANGE: (Attach additional pages, if necessary.)
Change to 15.0, para 3, add "To BUREAU FIELD ROOM" and
add "To BUREAU LOSS GROUP #13"

(6) REASON FOR CHANGE:
The procedure is being changed to add a test to the
procedure to test the BUREAU LOSS GROUP #13

(7) PREPARED BY: W. A. BUREAU DATE: 4-1-84

(8) SAFETY EVALUATION

This change:

Yes ☐ No ☒ Represents a change to the station or procedures as described
in the FSAR, or a test or experiment not described in the FSAR?
Yes ☐ No ☒ Requires a change to the station Technical Specifications?
Yes ☐ No ☒ Involves an unreviewed safety question?

If the answer to any of the above is "Yes", attach a detailed explanation.
As appropriate attach a completed "Nuclear Safety Evaluation Check List" form.

By: W. A. BUREAU Date: 4-1-84

(9) REVIEWED BY: W. A. BUREAU DATE: 4-1-84

Cross-Disciplinary Review By: W. A. BUREAU N/R: 4-1-84

(10) TEMPORARY APPROVAL (IF NECESSARY):

By: W. A. BUREAU (SRO) Date: 4-1-84

By: W. A. BUREAU Date: 4-1-84

(11) APPROVED BY: W. A. BUREAU DATE: 4-1-84

(12) MISCELLANEOUS:

Reviewed/Approved By: W. A. BUREAU Date: 4-1-84

Reviewed/Approved By: W. A. BUREAU Date: 4-1-84

(13) Page 1 of 1

DUKE POWER COMPANY
PROCEDURE MAJOR CHANGE
PROCESS RECORD

(1) ID No: 7012/25/1251
Change No: 10
Permanent/Restricted To

- (2) STATION: CATON
- (3) PROCEDURE TITLE: D/G 1A BLOWN AND LOO ROTATION
PERMANENT TEST
- (4) SECTION(S) OF PROCEDURE AFFECTED: 12.0
- (5) DESCRIPTION OF CHANGE: (Attach additional pages, if necessary.)
SEE ATTACHED SHEET

(6) REASON FOR CHANGE:

(7) PREPARED BY: [Signature] DATE: 3-27-84

(8) SAFETY EVALUATION

This change:

Yes ☐ No ☒ Represents a change to the station or procedures as described
in the FSAR, or a test or experiment not described in the FSAR?
Yes ☐ No ☐ Requires a change to the station Technical Specifications?
Yes ☐ No ☐ Involves an unreviewed safety question?

If the answer to any of the above is "Yes", attach a detailed explanation.
As appropriate attach a completed "Nuclear Safety Evaluation Check List" form.

By: [Signature] Date: 3-27-84

(9) REVIEWED BY: [Signature] DATE: 3-27-84

Cross-Disciplinary Review By: _____ N/R: AB

(10) TEMPORARY APPROVAL (IF NECESSARY):

By: _____ (SRO) Date: _____
By: _____ Date: _____

(11) APPROVED BY: [Signature] DATE: 3-27-84

(12) MISCELLANEOUS:

Reviewed/Approved By: _____ Date: _____
Reviewed/Approved By: _____ Date: _____

(13) Page 1 of 1

DUKE POWER COMPANY
PROCEDURE MAJOR CHANGE
PROCESS RECORD CONTINUATION FORM

ID No: TPH/1250/25A
Change No: 10
Page 2 of 2

DESCRIPTION OF CHANGE:

- (1) Add step 12.2.6.2 "Revised D/G Auto-Connect Load
and Connect to A0574 on Enclosure 13.10"
- (2) On the bottom of Enclosure 13.10 Add the following:

12.2.6.2 D/G Load (A0574) ——— MW ——— 1 ———
(Auto-Connect)

- (3) Change 12.7.3 to read "... USING THE VALUES RETURNED
FROM STEPS 12.1.10.2 AND 12.2.6.2 ON ENCLOSURE 13.10"

REASON FOR CHANGE:

- (1), (2) & (3) Since some loads would not operate in Section
12.1 the Auto-Connect Load will be required
when performing Section 12.2

DUKE POWER COMPANY
PROCEDURE MAJOR CHANGE
PROCESS RECORD

(1) ID No: 701/1/125/1251
Change No: 1
Permanent/Restricted To

- (2) STATION: CFAVER
- (3) PROCEDURE TITLE: D/G 1A BLACKUM LEAD RETURN
PARA 17.1.1.1 TEST
- (4) SECTION(S) OF PROCEDURE AFFECTED: 12.0 11.5.0
- (5) DESCRIPTION OF CHANGE: (Attach additional pages, if necessary.)
SCRAMMED

(6) REASON FOR CHANGE:
SCRAMMED

(7) PREPARED BY: [Signature] DATE: 3-28-84

(8) SAFETY EVALUATION

This change:

Yes ☐ No ☒ Represents a change to the station or procedures as described
in the FSAR, or a test or experiment not described in the FSAR?
Yes ☐ No ☒ Requires a change to the station Technical Specifications?
Yes ☐ No ☒ Involves an unreviewed safety question?

If the answer to any of the above is "Yes", attach a detailed explanation.
As appropriate attach a completed "Nuclear Safety Evaluation Check List" form.

By: [Signature] Date: 3-28-84

(9) REVIEWED BY: [Signature] DATE: 3-28-84

Cross-Disciplinary Review By: _____ N/R: for

(10) TEMPORARY APPROVAL (IF NECESSARY):

By: [Signature] (SRO) Date: 3-28-84
By: [Signature] Date: 3-28-84

(11) APPROVED BY: [Signature] DATE: 3-28-84

(12) MISCELLANEOUS:

Reviewed/Approved By: _____ Date: _____
Reviewed/Approved By: _____ Date: _____

(13) Page 1 of 5

DUKE POWER COMPANY
PROCEDURE MAJOR CHANGE
PROCESS RECORD CONTINUATION FORM

ID No: 701/1/135.1254
Change No: 9
Page 2 of 5

DESCRIPTION OF CHANGE:

(1) DELETE STEPS 12.1.22.4.7, 12.1.22.4.8, 12.1.22.4.9,
12.1.22.5.4 AND 12.1.22.6.1.

(2) ADD STEP 12.2.6.1 AS FOLLOWS:

1 12.2.6.1 DE-ENERGIZE B/O 5 TRANSFORMERS
1MXP, 1MXX, AND 1MXR BY TRIPPING THEIR
RESPECTIVE AIRCUT BREAKERS. DE-ENERGIZE
ICDB BY TRIPPING BREAKERS ICDB-FC4A
AND ICDB-FC5B.

(3) ADD STEP 12.2.6.1 AS FOLLOWS:

12.2.6.1 VERIFY ABSENCE OF VOLTAGE ON TRANSFORMER
B/O ~~6.1.1~~ ^{REF} BUSSES LISTED BELOW USING
A DIGITAL VOLTMMETER:

1 12.2.6.1.1 1MXP
1 12.2.6.1.2 1MXX
1 12.2.6.1.3 1MXR
1 12.2.6.1.4 1KFX
1 12.2.6.1.5 ICDB

(4) ADD STEPS 12.2.1.2 AND 12.2.1.3 WITH INAPPROPRIATE UNIT OPERATIONS
FOLLOWS:

1 12.2.1.2 OPEN 120KV AIRCUT BREAKERS C-1 TO C-23 ON
THE 120KV LCP-011 TRAILER (EXHAUST EXTRACT
FAN) AND 120KV AIRCUT BREAKERS C-24 TO C-28 ON
THE 120KV LCP-011 TRAILER (EXHAUST EXTRACT FAN)

DUKE POWER COMPANY
PROCEDURE MAJOR CHANGE
PROCESS RECORD CONTINUATION FORM

ID No: 701101175.654
Change No: 9
Page 3 of 5

— 1 — 1 — 12.2.1.3 Place a jumper from LINES H-1 to H-2
IN IEFCP-0112 TO MOUNT FULTON ROOM
JUMPER CAN RUN INDEPENDENT OF
THE JUMPER WITH OTHERS.

CAUTION = SEE NOTE AFTER STEP 1

⑤ ADD STEPS 12.6.6 AND 12.6.7 WITH INDEPENDENT JUMPER
AS FOLLOWS:

— 1 — 1 — 12.6.6 Remove jumper across LINES C-6 AND C-5
IN IEFCP-0111.

— 1 — 1 — 12.6.7 Remove jumper across LINES H-1 AND H-2
IN IEFCP-0112.

⑥ Put Pressure 13.5 under "DEPRESS ON" to "PUSH
IN AUTO" FOR FULTON RATE KAM EXHAUST "PUSH IN
"HUBBARD SUPPLY UNIT 1A" UNDER LOAD GROUP 13.

⑦ ON Pressure 13.5 UNDER LOAD GROUP 13 DELETE
"INSTRUMENT AIR DRYER C-DEPRESS ON"

⑧ IN Pressure 13.5 UNDER LOAD GROUP 5 DELETE "NORM"
FROM DEVID-1A AND DEVID-1C.

⑨ ADD STEP 12.2.5.1 TO READ "VARY LOADS ON Pressure 13.5
UNTIL ALL SENSORS TO BE VERIFIED IN SECTION 12.2
COMPLETE"

⑩ ADD NOTE TO READ "VARY LOADS ON Pressure 13.5 TO
SENSORS LOADS ON Pressure 13.5"

DUKE POWER COMPANY
PROCEDURE MAJOR CHANGE
PROCESS RECORD CONTINUATION FORM

ID No: 701/14/1350/250
Change No: 4
Page 4 of 5

- RN Pump Suction Valve - Fan 1A
- Cnt. Pwr-Tunnel Bypass Fan 1A
- RN Pump 2A
- RN Pump Main Valve Pump 1A
- RN Pump Fan 1A
- RN Pump Fan 2A
- Aux Blower Supply Unit 1A

(1) P. Fan 1A - 13.5 OFFLINE "ON" TO "TURN TO ON"
RN Pump Suction Valve Pump 1A under Load 1A

(2) ON P. Fan 1A - 13.5 ADD "ENSURE 2E1AFC - FORCE FAN TO V2 FAN
2A IS OPEN" TO RN Pump Suction Valve Pump 1A under
Load 1A.

DUKE POWER COMPANY
PROCEDURE MAJOR CHANGE
PROCESS RECORD CONTINUATION FORM

ID No: TP/1P/1350/25
Change No: 9
Page 5 of 5

Reason for Change:

- (1) (2), & (3) ORIGINAL LINE-UP FAILED TO TAKE INTO ACCOUNT B/X AN
B/D MISC'S SWAPPING TO THE APPROPRIATE SOURCE.
Also failed to warn BATTERY BROOKER ON C/D.
THE CIRCUIT WILL ALLOW US TO VERIFY ASSUMPT
OF VOLTAGE DURING 12.2.
- (4) & (5) V/A FAN INTERLOCKS WITH OTHER FANS PREVENTED
LOADING UP 13 FANS FROM STARTING. THE CIRCUIT
WILL VERIFY THE INTERLOCKS.
- (6) 110V FANS ~~WILL~~ DO NOT HAVE PUSH BUTTON
SWITCHES. INSTEAD THE CONTROL SWITCH MUST BE
TURNED TO AUTO.
- (7) L/D DRAIN C IS NEEDED FOR MAINTENANCE.
- (8) THESE FANS DO NOT HAVE TWO SPEEDS - ONLY A
SINGLE SPEED.
- (9) & (10) THESE LOADS WHICH DID NOT PREVIOUSLY ACTIVATE
IN 12.1 WILL BE VERIFIED IN 12.2.
- (11) R/M W PUMP DOES NOT AUTO START ON B/D. IT MUST
BE MANUALLY STARTED.
- (12) UNIT 2 V/F FAN 2A MUST BE DE-ENERGIZED TO ALLOW
FAN 1A TO START.

DUKE POWER COMPANY
PROCEDURE MAJOR CHANGE
PROCESS RECORD

(1) ID No: 204141250/25A
Change No: 6
Permanent/Restricted To _____

(2) STATION: CHAFET

(3) PROCEDURE TITLE: 201A BURNOUT AND LEAD RIGIDITY INVESTIGATION TEST

(4) SECTION(S) OF PROCEDURE AFFECTED: 8.6, 13.0

(5) DESCRIPTION OF CHANGE: (Attach additional pages, if necessary.)

1. The current 13.0 section states that the test shall be performed at a rate of 1000 RPM. This is incorrect. The test shall be performed at a rate of 100 RPM. This change is being made to correct the error.
2. The current 8.6.1 section states that the test shall be performed at a rate of 1000 RPM. This is incorrect. The test shall be performed at a rate of 100 RPM. This change is being made to correct the error.
3. The current 13.0 section states that the test shall be performed at a rate of 1000 RPM. This is incorrect. The test shall be performed at a rate of 100 RPM. This change is being made to correct the error.

(6) REASON FOR CHANGE:

1. The current 13.0 section states that the test shall be performed at a rate of 1000 RPM. This is incorrect. The test shall be performed at a rate of 100 RPM. This change is being made to correct the error.
2. The current 8.6.1 section states that the test shall be performed at a rate of 1000 RPM. This is incorrect. The test shall be performed at a rate of 100 RPM. This change is being made to correct the error.
3. The current 13.0 section states that the test shall be performed at a rate of 1000 RPM. This is incorrect. The test shall be performed at a rate of 100 RPM. This change is being made to correct the error.

(7) PREPARED BY: [Signature] DATE: 3-28-84

(8) SAFETY EVALUATION

This change:

Yes ☐ No ☒ Represents a change to the station or procedures as described in the FSAR, or a test or experiment not described in the FSAR?
Yes ☐ No ☒ Requires a change to the station Technical Specifications?
Yes ☐ No ☒ Involves an unreviewed safety question?

If the answer to any of the above is "Yes", attach a detailed explanation. As appropriate attach a completed "Nuclear Safety Evaluation Check List" form.

By: [Signature] Date: 3-28-84

(9) REVIEWED BY: [Signature] DATE: 3-28-84

Cross-Disciplinary Review By: _____ N/R: ALB

(10) TEMPORARY APPROVAL (IF NECESSARY):

By: [Signature] (SRO) Date: 3-28-84

By: [Signature] Date: 3/28/84

(11) APPROVED BY: [Signature] DATE: 3/28/84

(12) MISCELLANEOUS:

Reviewed/Approved By: _____ Date: _____

Reviewed/Approved By: _____ Date: _____

(13) Page 1 of _____

DUKE POWER COMPANY
PROCEDURE MAJOR CHANGE
PROCESS RECORD

(1) ID No: 701111-50125A
Change No: 7
Permanent/Restricted To _____

(2) STATION: Catawba
(3) PROCEDURE TITLE: Unit 1A Burnout and Load Return Procedure
Test

(4) SECTION(S) OF PROCEDURE AFFECTED: 13.0

(5) DESCRIPTION OF CHANGE: (Attach additional pages, if necessary.)

Change from 13.0.1 to 13.0.2. The old procedure required the unit to be brought back on line after a burnout. The new procedure requires the unit to be brought back on line after a burnout and then the load to be returned.

(6) REASON FOR CHANGE:

The old procedure was not in accordance with the current edition of the FSAR. The new procedure was developed to bring the unit back on line after a burnout and then the load to be returned.

(7) PREPARED BY: [Signature] DATE: 3-28-84

(8) SAFETY EVALUATION

This change:

Yes ☐ No ☐ Represents a change to the station or procedures as described in the FSAR, or a test or experiment not described in the FSAR?
Yes ☐ No ☐ Requires a change to the station Technical Specifications?
Yes ☐ No ☐ Involves an unreviewed safety question?

If the answer to any of the above is "Yes", attach a detailed explanation. As appropriate attach a completed "Nuclear Safety Evaluation Check List" form.

By: [Signature] Date: 3-28-84

(9) REVIEWED BY: [Signature] DATE: 3-28-84

Cross-Disciplinary Review By: _____ N/R: AP

(10) TEMPORARY APPROVAL (IF NECESSARY):

By: _____ (SRO) Date: _____
By: _____ Date: _____

(11) APPROVED BY: [Signature] DATE: 3/28/84

(12) MISCELLANEOUS:

Reviewed/Approved By: _____ Date: _____
Reviewed/Approved By: _____ Date: _____

(13) Page 1 of 1

DUKE POWER COMPANY
PROCEDURE MAJOR CHANGE
PROCESS RECORD

(1) ID No: 7411-1-25-1254
Change No:
Permanent/Restricted To

- (2) STATION: CATAPAC
- (3) PROCEDURE TITLE: PLANT REACTOR-MOLYBDENUM PREPARATION TEST
- (4) SECTION(S) OF PROCEDURE AFFECTED: 4.6, 12.1, 13.0
- (5) DESCRIPTION OF CHANGE: (Attach additional pages, if necessary.)
SUBSTITUTED SMOKE

(6) REASON FOR CHANGE:
SUBSTITUTED SMOKE

(7) PREPARED BY: DATE: 3-28-84

(8) SAFETY EVALUATION

This change:

Yes ☐ No ☒ Represents a change to the station or procedures as described in the FSAR, or a test or experiment not described in the FSAR?
Yes ☐ No ☐ Requires a change to the station Technical Specifications?
Yes ☐ No ☐ Involves an unreviewed safety question?

If the answer to any of the above is "Yes", attach a detailed explanation.
As appropriate attach a completed "Nuclear Safety Evaluation Check List" form.

By: Date: 3-28-84

(9) REVIEWED BY: DATE: 3-28-84

Cross-Disciplinary Review By: N/R:

(10) TEMPORARY APPROVAL (IF NECESSARY):

By: (SRO) Date:
By: Date:

(11) APPROVED BY: DATE: 3/28/84

(12) MISCELLANEOUS:

Reviewed/Approved By: Date:
Reviewed/Approved By: Date:

(13) Page 1 of 2

DUKE POWER COMPANY
PROCEDURE MAJOR CHANGE
LESS RECORD CONTINUATION FORM

ID No: 7411/11350/25A
Change No: 6
Page 2 of 2

INDEPENDENT UNIFICATION AS FOLLOWS:

PLACE A JUMPWIRE BETWEEN BUS HA-20
AND SUBSTATION LINE D-26 IN DCNSL0001
TO DIRECT SUPPLY POWER TO THE
SA UNITS.

2. SEE NOTE FOLLOWING STEP 8.1

INDEPENDENT UNIFICATION AS FOLLOWS:

REMOVE JUMPWIRE BETWEEN BUS HA-20
AND LINE D-26 IN DCNSL0001.

NOTE: CURRENT SCHEMATIC
1. KCDP FROM BUS D-26 TO 1.1
FTE LINEUP FOR FIRE PROTECTION (FP)
NOTE: FIRE PROTECTION Jockey Pump
2. LOAD GROUP 10.

SFS A JUMPWIRE MUST BE PLACED TO
THE UNIFICATION

1. KLSA AS A FUTURE UNIFICATION

JOCKEY PUMPS NO LONGER REQUIRED
2. START SIGNATURE

DUKE POWER COMPANY
PROCEDURE MAJOR CHANGE
PROCESS RECORD

(1) ID No: 7011-1-50125A
Change No: 5
Permanent/Restricted To _____

(2) STATION: CAFAR
(3) PROCEDURE TITLE: DLG 1A BURNOUT AND LOAD RETURN PROCEDURE
Test

(4) SECTION(S) OF PROCEDURE AFFECTED: 1.5.1, 1.5.2

(5) DESCRIPTION OF CHANGE: (Attach additional pages, if necessary.)
Substantive

(6) REASON FOR CHANGE:
Improvement

(7) PREPARED BY: [Signature] DATE: 3-23-84

(8) SAFETY EVALUATION

This change:

Yes ☐ No ☐ Represents a change to the station or procedures as described
in the FSAR, or a test or experiment not described in the FSAR?
Yes ☐ No ☐ Requires a change to the station Technical Specifications?
Yes ☐ No ☒ Involves an unreviewed safety question?

If the answer to any of the above is "Yes", attach a detailed explanation.
As appropriate attach a completed "Nuclear Safety Evaluation Check List" form.

By: [Signature] Date: 3-23-84

(9) REVIEWED BY: [Signature] DATE: 3-29-84

Cross-Disciplinary Review By: _____ N/R: Yes

(10) TEMPORARY APPROVAL (IF NECESSARY):

By: _____ (SRO) Date: _____
By: _____ Date: _____

(11) APPROVED BY: [Signature] DATE: 3-23-84

(12) MISCELLANEOUS:

Reviewed/Approved By: _____ Date: _____
Reviewed/Approved By: _____ Date: _____

(13) Page 1 of 2

DUKE POWER COMPANY
PROCEDURE MAJOR CHANGE
PROCESS RECORD CONTINUATION FORM

ID No: 7-26/11/1350/251
Change No: 5
Page 2 of 2

Description of Case:

1. On Enclosure 13.3 dated "Ophi/Marcel/12, Section 6.4" to
"Ophi/Marcel/12, Enclosure 4.3" under Board Review
System
2. On Enclosure 13.3 dated "Ophi/Marcel/12, Section 6.4" to
"Ophi/Marcel/12, Enclosure 4.3" under Board Review System
3. On Enclosure 13.3, under Auxiliary Building Ventilation System
containing the first sentence to read as follows:
- "The first of the system fans listed above have
not been inspected to confirm a correct start
signal."
- On 8/12/12, add "Trend our APM construction, not insurance!"
to X-11ERS44.

Ribbon Art Center

- (1) DP has been converted. Section 6.4 is now ENVELOPE 4.3
 (2) CIS desires to continue funding of the project and V.
 not to.
 (3) VA can't transfer authority and not at run out a limit of
 system. Purpose of this act is to allow the state to act in
 budget sense. A state system limit is not required.
 (4) That and not applied in budget and is required.

DUKE POWER COMPANY
PROCEDURE MAJOR CHANGE
PROCESS RECORD

(1) ID No: 7-01-1250/251
Change No: 2
Permanent/Restricted To

(2) STATION: CATHER
(3) PROCEDURE TITLE: D/G 1A Breaker And Load Relays Parameter Test

(4) SECTION(S) OF PROCEDURE AFFECTED: 8.0, 12.0

(5) DESCRIPTION OF CHANGE: (Attach additional pages, if necessary.)
See Attached Sheet

(6) REASON FOR CHANGE:

(7) PREPARED BY: [Signature] DATE: 3-23-84

(8) SAFETY EVALUATION

This change:

Yes ☐ No ☐ Represents a change to the station or procedures as described
in the FSAR, or a test or experiment not described in the FSAR?
Yes ☐ No ☐ Requires a change to the station Technical Specifications?
Yes ☐ No ☐ Involves an unreviewed safety question?

If the answer to any of the above is "Yes", attach a detailed explanation.
As appropriate attach a completed "Nuclear Safety Evaluation Check List" form.

By: [Signature] Date: 3-23-84

(9) REVIEWED BY: [Signature] DATE: 3-23-84

Cross-Disciplinary Review By: _____ N/R: AE

(10) TEMPORARY APPROVAL (IF NECESSARY):

By: [Signature] (SRO) Date: 3-23-84
By: _____ Date: _____

(11) APPROVED BY: _____ DATE: _____

(12) MISCELLANEOUS:

Reviewed/Approved By: _____ Date: _____
Reviewed/Approved By: _____ Date: _____

(13) Page 1 of 2

DUKE POWER COMPANY
PROCEDURE MAJOR CHANGE
PROCESS RECORD CONTINUATION FORM

ID No: TP/1A/125/25
Change No: 4
Page 2 of 2

Description of Change:

① Add steps 8.16 and 8.17 with independent verification as follows:

— 1 — 1 — 8.16 For sections 12.1 ~~through~~ 12.2: Place a jumper
across lines F-1 and F-2 in IRTG to bypass
fire protection and radiation monitor interlocks.

— 1 — 1 — 8.17 For sections 12.1 ~~and~~ ^{through} 12.2: Place a jumper
across lines E-54 and G-27 in IRTG to
bypass fire protection and radiation
monitor interlocks.

Also add circuit statement same as statement
following 5.1 in procedure

② Amend 5.18 as follows:

— 1 — 5.18 For sections 12.1 ~~and~~ ^{through} 12.2: Ensure
TRAN A and TRAN B SSPS cabinets are in test.

③ Add steps 12.6.2 and 12.6.3 with independent verification
as follows:

— 1 — 1 — 12.6.2 Remove jumper across sliding lines
F-1 and F-2 in IRTG to.

— 1 — 1 — 12.6.3 Remove jumper across sliding lines
~~G-13~~ ^{R10} and ~~G-14~~ ^{R10} in IRTG.
E-54 G-27

DUKE POWER COMPANY
PROCEDURE MAJOR CHANGE
PROCESS RECORD

(1) ID No: 7-21/11/85/125A
Change No: 3
Permanent/Restricted To _____

(2) STATION: Critch
(3) PROCEDURE TITLE: D/G 1A Burner No Load Retention Procedure
Test

(4) SECTION(S) OF PROCEDURE AFFECTED: 1.1.1

(5) DESCRIPTION OF CHANGE: (Attach additional pages, if necessary.)
See attached sheets

(6) REASON FOR CHANGE:
See attached sheet

(7) PREPARED BY: [Signature] DATE: 3-23-84

(8) SAFETY EVALUATION

This change:

Yes ☐ No ☐ Represents a change to the station or procedures as described
in the FSAR, or a test or experiment not described in the FSAR?
Yes ☐ No ☐ Requires a change to the station Technical Specifications?
Yes ☐ No ☐ Involves an unreviewed safety question?

If the answer to any of the above is "Yes", attach a detailed explanation.
As appropriate attach a completed "Nuclear Safety Evaluation Check List" form.

By: [Signature] Date: 3-23-84

(9) REVIEWED BY: [Signature] DATE: 3/23/84

Cross-Disciplinary Review By: _____ N/R: 1/21

(10) TEMPORARY APPROVAL (IF NECESSARY):

By: _____ (SRO) Date: _____
By: _____ Date: _____

(11) APPROVED BY: [Signature] DATE: 3/23/84

(12) MISCELLANEOUS:

Reviewed/Approved By: _____ Date: _____
Reviewed/Approved By: _____ Date: _____

DUKE POWER COMPANY
PROCEDURE MAJOR CHANGE
PROCESS RECORD CONTINUATION FORM

ID No: TP/H/A/1350/25A
Change No: 3
Page 2 of 5

DESCRIPTION OF CHANGE:

(1) ON ENCLOSURES 13.3 AND 13.5 MAKE CHANGES PER THE ATTACHED
SHEETS.

(2) ON ENCLOSURE 13.5 PRO-1 CHANGE "AIR BLOW FILTRATION
EAST FAN" TO "AIR BLOW FILTRATION EAST FAN 1A"

KNOWN CHANGES:

(1) CHANGES ARE NECESSARY TO VERIFY THAT FANS AUTOMATICALLY
CAPTURE PROPOSED WIND SPEEDS DURING PLANT LOADING.

(2) TYPED

CATAWBA NUCLEAR STATION
D/G 1A B/O AND LOAD REJECTION
PREOPERATIONAL TEST
TF/1/A/1350/25A
ENCLOSURE 13.3

CH#3
Pg. 3 of 5

ALIGNMENT OF AFFECTED SYSTEMS

___ / ___	1CA71	CA Pump 1A Disch To UST Dome Throttle	- Open
___ / ___	1CA72	CA Pump 1A Disch To UST Dome Throttle	- Open
___ / ___	1CA179	CA Pump 1A Disch To UST Dome Throttle - Throttled to 500 ± 50 gpm	
___ / ___	CA Pump 1A	- Running	

Containment Ventilation System (VV)

___ / ___ Align the VV System as follows:

___ / ___ Place the following switches in AUTO on IMC-3 *AND ENSURE FANS ARE OPERATING:*

VV UPR CONT RET FAN 1A
VV UPR CONT RET FAN 1C

___ / ___ Place the following switches on IMC-3 to ~~OFF~~ *MAX* ~~AND ENSURE FANS ARE OPERATING:~~

VV UCVU 1A
VV UCVU 1C

___ / ___ Place the following damper control switches on IMC-3 to AUTO:

Lower Containment Vent Damper 1LCVU-D-1
Lower Containment Vent Damper 1LCVU-D-3

___ / ___ Place the following switches on IMC-3 in the ~~NORM~~ *NORM* position:

VV LCVU 1A MAX
VV LCVU 1C MAX

___ / ___ Place the following switches on IMC-3 in the ~~OFF~~ *HIGH* position *AND ENSURE FANS ARE OPERATING:*

VV LCVU 1A
VV LCVU 1C

___ / ___ Place control switch for Pipe Tunnel Bstr Fan 1A to ~~STOP~~ *HIGH* position on IMC-3 *AND ENSURE FAN IS OPERATING.*

___ / ___ ~~Place the control switch for Incore Inst Bstr Fan 1A to STOP position on IMC-3. IS OPERATING.~~

CATAWBA NUCLEAR STATION
 P-6 1A FCO AND LOAD REJECTION
 INSPECTIONAL TEST
 TR/1A 1350/25A
 ENCLOSURE 13.3

CL#3
 PG 4 of 5

ALIGNMENT OF AFFECTED SYSTEMS

ENSURE THE FOLLOWING FANS ARE OPERATING:

~~Place the following switches on IMC-7 in the OFF position:~~

CED VENT FAN #1A
 CED VENT FAN #1C

Place the control switch for the Incore Inst km
 ARE 1A to the ~~III~~ position on IMC-3 **AND UNSURE FAN**
IS OPERATIVE MAX

Nuclear Service Water System (KN)

____ / ____ Align the KN System per OP/1A/6400/06C, Section 3.0 for the
 startup of Train A with the following conditions:

Place the KC Hx Discharge Valve 1KN291 in "Temp
 Mode".

Place the KC Hx Discharge Valve 1KN351 in
 "Mini-Flow Mode".

1KN37A KC Hx 1A Inlet Isol - Open

1KN37B KC Hx 1B Inlet Isol - Open

KN Pump 1A - Running

Control Room Ventilation System (VC)

____ / ____ Align the VC System per OP/1A/6450/11, Section 3.0 for Train A.

Auxiliary Building Ventilation System (VA)

____ / ____ Align the VA system per OP/0A/6476/05, Section 3.0 with the
 following conditions or exceptions:

Ensure that modification specified in Step 8.1
 has been installed.

All filtered and unfiltered exhaust and supply
 fans are off.

ASP HVAC Unit 1A and 1B are off.

CATAWBA NUCLEAR STATION
 DE-1A B/C AND LOW REJECTION
 PROBABILISTICAL TEST
 TEST 1A 1990/10/1A
 ENCLOSURE 1-1

CH 43
 PG 505

EQUIPMENT OPERATION

Load Group 3

CKRM Vent Fan CKRM-1A - ON
 CKRM-1C - ON

___/___
 ___/___

Lower Containment Vent Unit LCVU-1A - ON - LOW
 LCVU-1C - ON - LOW

___/___
 ___/___

Upper Containment Vent Unit UCVU-1A - ON - NORM
 UCVU-1C - ON - NORM

___/___
 ___/___

Cont Pipe Tunnel Booster Fan 1A - ON - LOW

___/___

Upper Containment Air Return Fan UCAR-1A - ON
 UCAR-1C - ON

___/___
 ___/___

Incore Instrument Tunnel Booster Fan 1A - ON

___/___

Incore Instrument Room Vent Unit 1A - ON - NORM

___/___

E/O MCV INXD TIE PLY INXD-40 - CLOSED

___/___

E/O MCV INXD TIE PLY INXD-50 - CLOSED

___/___

Load Group 4

Component Cooling Pumps 1A1 and 1A2 - ON

___/___

Load Group 7

Nuclear Service Water Pump 1A - ON

___/___

Nuclear Service Water Pump 1A - Breaker 2ETA-14 is Closed in
 Test Position

___/___

Load Group 8

Aux Feedwater Pump Motor 1A - ON

___/___

Load Group 1

Reactor Making Water Pump 1A - ON

___/___

Peric Acid Tank Level Unit Headers - ON

___/___

E/O MCV INXD TIE PLY INXD-40 - CLOSED

___/___

Peric Acid Tank Level Unit Headers - ON

___/___

Fire Protection INXD TIE PLY Motor A - ON

___/___

DUKE POWER COMPANY
PROCEDURE MAJOR CHANGE
PROCESS RECORD

(1) ID No: 701/11/250125A
Change No: 2
Permanent/Restricted To

(2) STATION: CATARAUGUS
(3) PROCEDURE TITLE: DIGIA Backup - And Load Detection Procedure
TEST

(4) SECTION(S) OF PROCEDURE AFFECTED: 12.0 12.1 5.0

(5) DESCRIPTION OF CHANGE: (Attach additional pages, if necessary.)
See Attached Sheet

(6) REASON FOR CHANGE:
See Attached Sheet

(7) PREPARED BY: [Signature] DATE: 3-5-84

(8) SAFETY EVALUATION

This change:

Yes ☐ No ☒ Represents a change to the station or procedures as described
in the FSAR, or a test or experiment not described in the FSAR?
Yes ☐ No ☐ Requires a change to the station Technical Specifications?
Yes ☐ No ☐ Involves an unreviewed safety question?

If the answer to any of the above is "Yes", attach a detailed explanation.
As appropriate attach a completed "Nuclear Safety Evaluation Check List" form.

By: [Signature] Date: 3-15-84

(9) REVIEWED BY: [Signature] DATE: 3/23/84

Cross-Disciplinary Review By: _____ N/R: 1071

(10) TEMPORARY APPROVAL (IF NECESSARY):

By: _____ (SRO) Date: _____

By: _____ Date: _____

(11) APPROVED BY: _____ DATE: 3/23/84

(12) MISCELLANEOUS:

Reviewed/Approved By: _____ Date: _____

Reviewed/Approved By: _____ Date: _____

(13) Page 1 of 2

DUKE POWER COMPANY
PROCEDURE MAJOR CHANGE
PROCESS RECORD CONTINUATION FORM

ID No: 701/14/1350/251
Change No: 2
Page 2 of 2

DESCRIPTION OF CHANGE:

① Add to Enclosure 13.3 under Aux Fuelwater System (CA):

— 1 — VALVES ICA36A, ICA46A, ICA52B AND ICA64B
CLOSED

② Add to Enclosure 13.5 under Load Group 1:

VALVES ICA36A, ICA46A, ICA52B AND ICA64B - OPEN — 1 —

③ Add to App 12.0 7 load test runs:

1.1.1. Steps 12.1 through 12.3 are to be run in the same
order as the original. Steps 12.4 and 12.5 are
independent and may be performed before or after
steps 12.1 through 12.3.

④ Add "For steps 12.1 through 12.3" note to the original 12.2:

6.1, 6.2, 6.3, 6.6, 6.7, 6.10, 6.11, 6.14

⑤ Add 6.14.5 and "Diesel Generator 1A is operating parallel
with off-site power" for steps 12.4 and 12.5:

⑥ Delete step 12.4.7

REASON FOR CHANGE:

① → ② VALVES OPEN ON BLACKOUT. THEY HAD TO BE
UNIFIED TO OPERATE PROPERLY IN THIS TEST.

③ → ⑥ THESE CHANGES ALLOW THE LOAD REGULATION TESTING TO
BE PERFORMED INDEPENDENTLY OF THE LOAD REGULATION
TEST.

DUKE POWER COMPANY
PROCEDURE MAJOR CHANGE
PROCESS RECORD

(1) ID No: TP/HA/1250/251
Change No: 1
Permanent/Restricted To

(2) STATION: CATAWBA

(3) PROCEDURE TITLE: D/G 1A BLACKW AND LEAD REJECTION PREPARATION TEST

(4) SECTION(S) OF PROCEDURE AFFECTED: 1.0, 11.0

(5) DESCRIPTION OF CHANGE: (Attach additional pages, if necessary.)

① UNSD 1.7 CHANGE "825" TO "824"

② UNSD 11.1 CHANGE "12.1 AND 12.1" TO "12.1 AND 12.2"

(6) REASON FOR CHANGE:

① VALUE WAS LARGELY USED UP IN ACCEPTANCE CRITERIA, SECTION 1.7 AND 11.1

② TWO - THIS ACCEPTANCE CRITERIA IS USED IN SECTIONS 12.1 AND 12.2

(7) PREPARED BY: [Signature] DATE: 3-15-84

(8) SAFETY EVALUATION

This change:

Yes ☐ No ☒ Represents a change to the station or procedures as described
in the FSAR, or a test or experiment not described in the FSAR?
Yes ☐ No ☒ Requires a change to the station Technical Specifications?
Yes ☐ No ☒ Involves an unreviewed safety question?

If the answer to any of the above is "Yes", attach a detailed explanation.
As appropriate attach a completed "Nuclear Safety Evaluation Check List" form.

By: [Signature] Date: 3-15-84

(9) REVIEWED BY: [Signature] DATE: 3-15-84

Cross-Disciplinary Review By: _____ N/R: ASR

(10) TEMPORARY APPROVAL (IF NECESSARY):

By: _____ (SRO) Date: _____

By: _____ Date: _____

(11) APPROVED BY: [Signature] DATE: 3/15/84

(12) MISCELLANEOUS:

Reviewed/Approved By: _____ Date: _____

Reviewed/Approved By: _____ Date: _____

(13) Page 1 of 1

DUKE POWER COMPANY
PROCEDURE PREPARATION
PROCESS RECORD

(1) ID No: TP/1/A/1350/25A
Change(s) 0 to
0 Incorporated

(2) STATION: Catawba

(3) PROCEDURE TITLE: D/G 1A Blackout and Load Rejection Preoperational Test

(4) PREPARED BY: Ronell A. Jones / Robert S. Robinson DATE: 3-2-84

(5) REVIEWED BY: Dennis Robinson DATE: 3-6-84

Cross-Disciplinary Review By: CY Hugel ³⁻⁶⁻⁸⁴ N/R: SRC 84/9

(6) TEMPORARY APPROVAL (IF NECESSARY):

By: _____ (SRO) Date: _____

By: _____ Date: _____

(7) APPROVED BY: Jw. luf Date: 3/7/84

(8) MISCELLANEOUS:

Reviewed/Approved By: _____ Date: _____

Reviewed/Approved By: _____ Date: _____

CONTROL COPY

DUKE POWER COMPANY
CATAWBA NUCLEAR STATION
D/G 1A BLACKOUT AND LOAD REJECTION
PREOPERATIONAL TEST

1.0 PURPOSE

- 1.1 Verify proper operation of the degraded bus voltage protection on 1ETA switchgear.
- 1.2 Verify that:
 - 1.2.1 D/G 1A can start automatically and energize the emergency bus with permanently connected loads within acceptable time limits.
 - 1.2.2 The load shed feature operates properly.
 - 1.2.3 D/G 1A can accept the B/O design loads in committed sequence and maintain voltage and frequency within acceptable limits.
 - 1.2.4 D/G 1A Blackout auto-connected loads do not exceed the two hour rating.
 - 1.2.5 D/G 1A operates for greater than or equal to 5 minutes while loaded with blackout loads.
- 1.3 Verify that the D/G can accept the B/O design loads under an accelerated sequence and maintain voltage and frequency within acceptable limits.
- 1.4 Verify that D/G 1A can synchronize with offsite power while connected to emergency loads, transfer these loads to the offsite power source and proceed through a shutdown sequence returning the D/G to standby.
- 1.5 Verify that a hot bus transfer on the B/O switchgear can be performed once synchronized with normal offsite power.
- 1.6 Verify that D/G 1A does not trip due to a complete loss of load.
- 1.7 Verify that DG/1A can reject a load of \geq ~~625~~⁸³⁴ KW without exceeding the acceptable voltage and frequency limits.
- 1.8 Verify that during B/O actuation, the essential and B/O trains are independent and isolated from each other.

NOTE: The sequencer logic and load sequencing time intervals are verified in TP/1/A/1350/09A - D/G 1A Load Sequencer Preoperational Test.

CAP
RAS

2.0 REFERENCES

NOTE: The latest Document Revisions (and change order numbers, if applicable) used to develop this procedure are given on Enclosure 13.1.

2.1 System Descriptions:

2.1.1 CNSD-0114-01, D/G Load Sequencer

2.1.2 CNSD-0120-01, D/G Electrical Controls

2.2 CNS FSAR:

2.2.1 Section 8.3.1.1.3, Standby Power Supplies

2.2.2 Table 8.3.1-1, Maximum loads to be supplied from one of the Redundant Engineered Safety Power Distribution System.

2.3 CNS Tech Specs 4.8.1.1.2, D/G Surveillance Requirement.

2.4 Reg Guides:

2.4.1 1.108, Preoperational Testing of D/G

2.4.2 1.9, Requirements for D/G Testing

2.4.3 1.41, Preoperational Testing of Redundant Onsite Electric Power Systems to verify load group assignments.

2.5 One Line Diagrams:

2.5.1 CN-1702-02.01, 4160V Ess. Swgr. 1ETA

2.5.2 CN-1702-04.01, 4160V B/O SWGR

2.5.3 CN-1703-01.01, 600V Ess. 1ELXA, 1ELXC

2.5.4 CN-1703-04.01, 600V B/O LC 1LXI, 1LXH

2.6 OP/1/A/6350/02, D/G Operation

3.0 TIME REQUIRED

3.1 One (1) Test Coordinator - 16 Hours

3.2 One (1) Control Room Operator - 16 Hours

3.3 One (1) Performance Technician - 16 Hours

3.4 One (1) Nuclear Equipment Operator - 16 Hours

NOTE: The preparation of this test requires lining up of several other systems.

4.0 PREREQUISITE TESTS

None

5.0 TEST EQUIPMENT

5.1 Digital Multimeter (Fluke 8600A or equivalent used only to verify absence of bus voltages)

NOTE: The D/G High Speed Visicorder on the 1DGPA Panel will be used to take data.

6.0 LIMITS AND PRECAUTIONS

6.1 Refer to limits and precautions of operating procedure OP/1/A/6350/02, Diesel Generator Operation.

7.0 REQUIRED STATION STATUS

RAJ 13-28-84 7.1 Ensure that referenced drawings and system descriptions are the latest revision in Master File or have been reviewed on Enclosure 13.1.

8.0 PREREQUISITE SYSTEM CONDITIONS

CH#2 RAS *RAJ 13-28-84* 8.1 *FOR SECTIONS 12.1 THROUGH 12.3:*
ADS 13/28/84 1 Open Link B-17 in 1ELCP0112 to reposition 1ABF-D-11, 13 and 16 (CNEE-0166-01.47)
RAJ 13-28-84 *ADS 13/28/84* 8.1.1 *OPEN LINK E-42 IN UNIT 16 TO REPEAT LOSS OF MAN FWD PUMP CIRCULATION CA PUMPS.*
CH#2 RAS CAUTION: If performance of this procedure is suspended for any reason for a period exceeding 24 hours, this modification must be returned to normal, or the proper station modification procedure must be implemented per Station Directive 4.4.3.

CH#2 RAS 8.2 *FOR SECTIONS 12.1 THROUGH 12.3:*
1 Perform the following to prevent the Blackout Motor Control Centers from transferring to their alternate sources.

RAJ 13-28-84 8.2.1 Ensure selector switch for 1LXN-4C (ALT FDR TO 1MXW) is in the MANUAL position.

RAJ 13-28-84 8.2.2 Ensure selector switch for 1LXN-5D (ALT FDR TO 1MXO) is in the MANUAL position.

RAJ 13-28-84 8.2.3 Ensure selector switch for 1LXB-5D (ALT FDR TO 1MXQ) is in the MANUAL position.

CH#2 RAS *RAJ 13-28-84* 8.3 *FOR SECTIONS 12.1 THROUGH 12.3:*
1 All systems that will be sequenced into operation have been filled, vented and aligned as specified in Enclosure 13.3.

RAJ 13-28-84 8.4 The Unit 1 Operational Aid Computer (OAC) is operational.

RAJ 13-28-84 8.5 The Unit 1 Diesel Generator 1A, along with all support systems, are operable and aligned for B/O actuation. D/G 1A visicorder must also be operable.

CH#2 RAS *RAJ 13-28-84* 8.6 *FOR SECTIONS 12.1 THROUGH 12.3:*
1 The Unit 1 D/G Load Sequencer 1A is operable.

CH#2 RAS *RAJ 13-28-84* 8.6.1 *PLACE A JUMPER BETWEEN FUSE 1A-20 AND SLIDING LINK D-26 IN OCN5LOC1 TO REPEAT SIG IN RECESSES IN THE SA VIEWS -*
1A-20: SIT AND FILLING 8704-1

CIP2
RIS

- For Sections 12.1 through 12.3:
- 8.7 The following pumps are operable with no deficiencies noted. Items to be checked include oil reservoir levels, ventilation path available for motors, no mechanical interference, manual isolation valves open and no red or white tags.

RAS 132884

8.7.1 RN Pump 1A

RAS 132884

8.7.2 NV Pump 1A

RAS 132884

8.7.3 KC Pumps 1A1, 1A2

RAS 132884

8.7.4 CA Pump 1A

RAS 132884

Ensure that the Auxiliary Shutdown Panel Transfer Switch

RAS 132884

remains in the Control Room position throughout this test.

RAS 132884

8.9 Ensure that the SSF transfer switch remains in the Control Room position throughout this test.

CIP2
RIS

RAS 132884

For Sections 12.1 through 12.3:

Ensure electrical alignment on Enclosure 13.4 is complete.

CIP2
RIS

RAS 132884

For Sections 12.1 through 12.3:

Contact I&E and verify that the equipment necessary to take the load profile for the Vital & Diesel batteries has been installed.

RAS 132884

8.12 Ensure the following event recorder and computer points are checked out:

1ER262 1ETA Norm Inc FDR Open

1ER284 1ETA DG Bkr Closed

A0575 4KV 1ETB Bus Voltage

1ER584 SWGR 1ETA Degraded Bus Voltage Trip (TURNED OVER FROM CONSTRUCTION, NOT IN SUE)

A0574 4KV Bus ETA Feed From D/G A MW

CHFS
RIS

RAS 132884

8.13 Record multimeter to be used for Section 12.1 information:

ID # CNIAC18973

Cal. Due Date 29 APR 84

CIP2
RIS

RAS 132884

For Sections 12.1 through 12.3:

Annunciator 1AD11.07.06 "SWGR 1ETA Degraded Bus Voltage" has been turned over from Construction.

RAS 132884

For Sections 12.4 and 12.5: Diesel Generator 1A is operating parallel with off-site power.

RAS 132884

9.0 TEST METHOD

The degraded bus voltage logic is verified by demonstrating the alarms and tripping functions on the normal incoming breaker to the 4160V Essential Switchgear work properly. The degraded bus voltage tripping function then initiates a Blackout Loading Sequence (committed) on the Train A Blackout and Essential Switchgears. Train B Blackout and Essential Switchgears have been de-energized for the test to verify independence and isolation from the Train A Switchgear through the use of bus voltage measurements. Proper operation of the load shed, diesel start and sequencer actuation are verified. The D/G is verified to maintain voltage and frequency within acceptable limits during and after the loading sequence. Total Blackout Auto Connected Load is verified not

CHFA
RIS

RAS 132884

For Sections 12.1 through 12.2: Place annunciator across links E-1 and F-2 in order to bypass

RAS 132884

For Sections 12.1 through 12.2: Place annunciator across links E-54 and F-27 in order to bypass

RAS 132884

CAUTION: Switchgear is energized. Stay clear.

to exceed the two hour D/G rating. The D/G is then verified to be able to be paralleled to offsite power, transfer its loads to the offsite power source and proceed through a shutdown sequence returning it to standby status.

The degraded bus voltage logic is then verified to properly trip the 4160V Essential Switchgear alternate incoming breaker. The degraded bus voltage tripping function then initiates a blackout loading sequence (accelerated) on the Train A Blackout and Essential Switchgears. The D/G is verified to maintain voltage and frequency within acceptable limits during and after the loading sequence.

The hot bus transfer function between the normal and alternate incoming breakers to the B/O Switchgear is verified to operate properly when the D/G is paralleled to the offsite power source.

Finally, two load rejection tests are performed on the D/G. First a load rejection equivalent to the largest single load (> 834 KW) is performed followed by a full load (> 7075 KW) rejection. During both load rejection tests D/G parameters are verified to not exceed acceptable values.

10.0 DATA REQUIRED

10.1 D/G Voltage - Visicorder

10.2 D/G Power - Visicorder

10.3 D/G Frequency - Visicorder

11.0 ACCEPTANCE CRITERIA

11.1 The degraded bus voltage protection circuit operates properly as described in Sections 12.1 and 12.2.

11.2 The D/G can:

11.2.1 Start automatically and energize the emergency bus with permanently connected loads in ≤ 11 seconds.

11.2.2 Properly load shed those loads as described in Section 12.1

11.2.3 Maintain its frequency at not less than 95% of nominal and returning it to within 2% of nominal in less than 60% of each load sequence time interval. (For both committed and accelerated loading sequences).

11.2.4 Maintaining voltage at not less than 75% of nominal and returning it to within 10% of nominal in less than 60% of each load sequence time interval. (For both committed and accelerated loading sequences).

11.2.5 Operate for greater than or equal to 5 minutes while loaded with blackout loads.

11.3 The auto connected total load to the D/G does not exceed 7617 KW.

11.4 The D/G can:

- 11.4.1 Synchronize with the offsite power source while the D/G is loaded with its emergency loads,
 - 11.4.2 Transfer its loads to the offsite power source, and
 - 11.4.3 Be restored to its standby status.
- 11.5 The B/O Switchgear Hot Bus transfer operates properly as described in Section 12.3.
- 11.6 The D/G rejects a load of ≥ 7075 KW without tripping. The D/G speed does not exceed 500 RPM during and following the rejection.
- 11.7 The D/G rejects a load of ≥ 834 KW while maintaining voltage at 4160 ± 420 V and frequency at 60 ± 1.2 Hz.
- 11.8 Train A and B Essential and B/O Power Systems are independent of each other by showing the following:
- 11.8.1 Train B Essential Buses and B/O Buses remain without voltage during Train A operation.

12.0 PROCEDURE

NOTE: SECTIONS 12.1 THROUGH 12.3 ARE SEQUENTIAL AND SHOULD BE PERFORMED IN ORDER. SECTIONS 12.4 AND 12.5 ARE INDEPENDENT AND MAY BE PERFORMED BEFORE OR AFTER SECTIONS 12.1 THROUGH 12.3

12.1 Train A Blackout Loading (Committed Sequence) and Degraded Bus Voltage Verification (Tripping 1ETA3)

RAT / 3-28-84

- 12.1.1 Ensure that Prerequisite Tests, Required Station Status and Prerequisite System Conditions for this section are completed and met as required.

RAT / 3-28-84
ASB / 3-28-84

- 12.1.2 Open Test Switch H on test block PD located on 1EATC16.

CAUTION: If performance of this procedure is suspended for any reason for a period exceeding 24 hours, this modification must be returned to normal, or the proper station modification procedure must be implemented per Station Directive 4.4.3.

RAT / 3-28-84
ASB / 3-28-84

- 12.1.3 Open Test Switch H on test block PE located on 1EATC16.

CAUTION: If performance of this procedure is suspended for any reason for a period exceeding 24 hours, this modification must be returned to normal, or the proper station modification procedure must be implemented per Station Directive 4.4.3.

CAUTION: Do not leave this switch open any longer than necessary to verify annunciator. Actual B/O will occur after 10 minutes.

RAS / 3-28-84

- 12.1.4 Verify that annunciator 1AD11.07.06, "SWGR 1ETA Degraded Bus Voltage", alarms after approximately 40 seconds.

RAS / 3-28-84
AB / 3/28/84

- 12.1.5 Close Test Switch H on test block PE located on 1EATC16.

RAS / 3-28-84

- 12.1.5.1 Verify annunciator 1AD11.07.06 clears.

RAS / 3-28-84
AB / 3/28/84

- 12.1.6 Open Test Switch H on test block PF located on 1EATC16.

CAUTION: If performance of this procedure is suspended for any reason for a period exceeding 24 hours, this modification must be returned to normal, or the proper station modification procedure must be implemented per Station Directive 4.4.3.

CAUTION: Do not leave this switch open any longer than necessary to verify annunciator. Actual B/O will occur after 10 minutes.

RAS / 3-28-84

- 12.1.7 Verify that annunciator 1AD11.07.06, "SWGR 1ETA Degraded Bus Voltage", alarms after approximately 40 seconds.

RAS / 3-28-84
AB / 3/28/84

- 12.1.8 Close Test Switch H on test block PD located on 1EATC16.

RAS / 3-28-84

- 12.1.8.1 Verify that annunciator 1AD11.07.06 clears.

RAS / 3-28-84

- 12.1.9 Open breaker 1EDF-F01F to disable D/G Load Sequencer 1B and verify loss of power by Control Room alarm.

RAS / 3-28-84

- 12.1.10 Open 1ETB3 (Normal Incoming Feeder to Train B Essential Switchgear) and 1GTB1 (Normal Incoming Feeder to Train B B/O Switchgear). (There should not be a breaker in 1ETB4 cubicle.)

RAS / 3-28-84

- 12.1.11 Open breaker 1CDB-F02I to disable 1FTB/1GTB Control Power.

- 12.1.12 Open the following breakers to de-energize Train B 125 VDC Vital and Diesel Power Systems:

RAS / 3-28-84

- 12.1.12.1 1EDB-F02A (Verify loss of voltage by meter on 1EDB)

RAF 13-28-84

12.1.12.2 1EDD-F02A (Verify loss of voltage by meter on 1EDD)

RAF 13-28-84

12.1.12.3 1DGCB Battery Breaker (Verify loss of voltage by meter on 1DGDB).

RAF 13-28-84
ASB 13/28/84

12.1.13 Open Sliding Link G-6 in Panel 1-DGLSA-1 to disable Accelerated Sequence Relays EA (AA1), and EB (AA2). This will allow the Diesel Generator Load Sequencer to load using the Committed Sequence only.

CAUTION: If performance of this procedure is suspended for any reason for a period exceeding 24 hours, this modification must be returned to normal, or the proper station modification procedure must be implemented per Station Directive 4.4.3.

RAF 13-28-84

12.1.14 Verify that D/G 1A is in standby and capable of operation. Have D/G Coordinating Engineer prepare the D/G Visicorder such that D/G voltage, frequency and power can be recorded.

RAF 13-28-84

12.1.15 Have I&E start Multipoint Recorder to obtain load profiles of the Vital & Diesel Batteries.

RAF 13-28-84
ASB 13/28/84

12.1.16 Open Test Switch H on test block PE located on 1EATC16.

CAUTION: If performance of this procedure is suspended for any reason for a period exceeding 24 hours, this modification must be returned to normal, or the proper station modification procedure must be implemented per Station Directive 4.4.3.

RAF 13-28-84

12.1.17 Verify that annunciator 1AD11.07.06, "SWGR 1ETA Degraded Bus Voltage", alarms after approximately 40 seconds.

12.1.18 After approximately 10 minutes:

RAF 13-28-84

12.1.18.1 Verify that 1ETA3 (Normal Incoming Feeder to Train A Essential Switchgear) is tripped and immediately perform Step 12.1.18.2

RAF 13-28-84

12.1.18.2 Trip 1TA4 (XFMR 1ATC Feeder Breaker).

RAF 13-28-84

12.1.18.3 Verify that 1GTA1 (Normal Incoming Feeder to Train A Blackout Switchgear) is tripped.

RAF 13-28-84

12.1.18.4 Verify that D/G Load Sequencer 1A is actuated.

RAF / 3-28-84RAF / 3-28-84
ABB / 3/28/84RAF / 3-28-84
ABB / 3/28/84RAF / 3-28-84

- 12.1.18.5 Verify that D/G 1A starts.
- 12.1.18.6 Close Test Switch H on test block PE loaded on 1EATC16.
- 12.1.18.7 Close Test Switch H on test block PF located on 1EATC16.
- 12.1.18.8 Verify that event Recorder Point ER584, "SWGR 1ETA Degraded Bus Voltage Trip" has occurred.

12.1.19

Verify the following actions occur approximately 8.5 seconds after D/G start (may be verified visually or through the use of Control Room Alarms):

RAF / 3-28-84RAF / 3-28-84RAF / 3-28-84RAF / 3-28-84RAF / 3-28-84RAF / 3-28-84RAF / 3-28-84RAF / 3-28-84RAF / 3-28-84RAF / 3-28-84RAF / 3-28-84RAF / 3-28-84RAF / 3-28-84RAF / 3-28-84RAF / 3-28-84

- 12.1.19.1 1ETA5 (XFMR 1ETXA FDR BKR) remains closed.
- 12.1.19.2 1ETA6 (KC PUMP MTR 1A1) is tripped.
- 12.1.19.3 1ETA7 (KC PUMP MTR 1A2) is tripped.
- 12.1.19.4 1ETA8 (NS PUMP MTR 1A) is tripped.
- 12.1.19.5 1ETA9 (ND PUMP MTR 1A) is tripped.
- 12.1.19.6 1ETA10 (XFMR 1ETXE FDR BKR) remains closed.
- 12.1.19.7 1ETA11 (NI PUMP MTR 1A) is tripped.
- 12.1.19.8 1ETA12 (NV PUMP MTR 1A) is tripped.
- 12.1.19.9 1ETA13 (CA PUMP MTR 1A) is tripped.
- 12.1.19.10 1ETA14 (RN PUMP MTR 1A) is tripped.
- 12.1.19.11 1ETA15 (KF PUMP MTR 1A) is tripped.
- 12.1.19.12 1ETA16 (XFMR 1ETXC FDR BKR) remains closed.
- 12.1.19.13 1ETA17 (A/C COMP FDR) is tripped.
- 12.1.19.14 Valves 1SA2 and 1SA5 open.

NOTE:

Have someone stationed at 1ELXA and 1ELXC to verify the following two breakers.

- 12.1.19.15 1ELXA-4B (NORM INC BKR) is tripped.

RA/ 13-28-84

12.1.19.16 1ELXC-4B (NORM INC BKR) is tripped.

NOTE: Have someone stationed at 1LXI to verify the following breaker.

RA/ 13-28-84

12.1.19.17 1LXI-5D (1CCA FDR BKR) is tripped.

RA/ 13-28-84

12.1.20 Follow the following sequence of events. Verify proper equipment actuation on Enclosure 13.5.

<u>TIME</u>	<u>EVENT</u>
0 Sec	Initiation B/O
8.5 Sec	Load Shed
10.0 Sec	D/G BKR (1ETA18) Closes
11.0 Sec	1ETA2 and 1FTA1 Have Closed
	Load Group 1 energized.
12.0 Sec	Load Group 2 energized.
	NV Pump 1A starts.
15.0 Sec	Load Group 3 energized.
30.0 Sec	Load Group 6 energized.
	KC Pumps 1A1 and 1A2 start.
35.0 Sec	Load Group 7 energized.
	RN Pump 1A starts.
40.0 Sec	Load Group 8 energizes.
	CA Pump 1A starts.
60.0 Sec	Load Group 10 energizes.
10.0 Min	Load Group 11 energizes.
	Control Room and Control Room
	Area ventilation starts.
11.0 Min	Load Group 12 energizes. Control
	Room Chilled Water Compressor
	Motor starts.
12.0 Min	Load Group 13 energizes.

RA/ 13-28-84

12.1.20.1 Allow D/G to operate for ≥ 5 minutes with Blackout loads connected.

RA/ 13-28-84

12.1.20.2 Record D/G Auto-Connected Load per computer point A0574 on Enclosure 13.10.

12.1.21 After start verification of KF Pump 1A is complete, reset the following signal:

RA/ 13-28-84

12.1.21.1 Reset D/G Load Sequencer 1A.

12.1.22 Verify absence of voltage on Train B Essential and Blackout Power Systems as follows:

RA/ 13-28-84

12.1.22.1 1ETB Bus through computer point A0575 "4KV 1ETB Bus Voltage"

RA/ 13-28-84

12.1.22.2 1FTB Bus using local voltmeter on 1FTB Bus.

12.1.22.3 The following Essential and B/O Load Centers through their local voltmeter:

RAS / 3-28-84

12.1.22.3.1 1ELXB

RAS / 3-28-84

12.1.22.3.2 1ELXD

RAS / 3-28-84

12.1.22.3.3 1LXH

~~RAA~~ TYR-RAS

12.1.22.4 The following 600V Essential and B/O Motor Control Centers using a Digital Multimeter:

RAS / 3-28-84

12.1.22.4.1 1EMXB

RAS / 3-28-84

12.1.22.4.2 1EMXD

RAS / 3-28-84

12.1.22.4.3 1EMXF

RAS / 3-28-84

12.1.22.4.4 1EMXJ

RAS / 3-28-84

12.1.22.4.5 1EMXL

RAS / 3-28-84

12.1.22.4.6 1EMXR

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~~12.1.22.4.7 1EMXP~~

CIT 89
RAS

--- / ---

~~12.1.22.4.8 1EMX~~

--- / ---

~~12.1.22.4.9 1EMXR~~

12.1.22.5 The following 120 VAC Essential and B/O Power Panel Boards using a Digital Multimeter:

RAS / 3-28-84

12.1.22.5.1 1EKPJ

RAS / 3-28-84

12.1.22.5.2 1EKPB

RAS / 3-28-84

12.1.22.5.3 1EKPF

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~~12.1.22.5.4 1KPX~~

CIT 89
RAS

12.1.22.6 The following 125VDC distribution centers through their local voltmeter:

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~~12.1.22.6.1 1CDB~~

RAS / 3-28-84

12.1.22.6.2 1EDB

RAS / 3-28-84

12.1.22.6.3 1EDD

RAS / 3-28-84

12.1.22.6.4 1DGDB

RAS 1328-84

- 12.1.23 Transfer breaker from 1ETA3 cubicle to 1ETA4 cubicle.

RAS 1328-84

- 12.1.24 Close breaker 1TA4 (XFMR 1ATC FDR BKR).

RAS 1328-84

- 12.1.25 Have Operations parallel D/G 1A following OP/1/A/6350/02, Section 5.0.

NOTE: Train B Essential and Blackout Power Systems may be re-energized at this time.

RAS 1328-84

- 12.1.26 Attach and label a copy of the Visicorder chart to this procedure as Enclosure 13.6 "D/G Parameters During Committed Sequence Loading". Record actuation times for event recorder points 1ER282 and 1ER284 on Enclosure 13.10.

RAS 1328-84

- 12.1.27 Close Sliding Link G-6 in 1DGLSA-1.

RAS 1328-84

- 12.1.28 Have Operations reduce D/G 1A load and then shutdown D/G 1A per OP/1/A/6350/02, Section 5.0.

12.2 Train A Blackout Loading (Accelerated Sequence) and Degraded Bus Voltage Verification (Tripping 1ETA4).

RAS 3-31-84RAS 1328-84

- 12.2.1 Verify that D/G 1A is in standby and capable of operation. Have D/G Coordinating Engineer prepare the D/G Visicorder such that D/G voltage, frequency and power can be recorded.

RAS 3-31-84RAS 1328-84RAS 1331-84RAS 1331-84

- 12.2.1.1 DE-ENERGIZE BUS B TERMINAL IN CO'S 1A1 & 1A2, AND 1A3 BY TRIPPING THEIR NORMAL AND EMERGENCY FEEDER BREAKERS. DE-ENERGIZE 1CDB BY TRIPPING 1CDB-F09A AND 1CDB-F05B.

CAUTION: If performance of this procedure is suspended for any reason for a period exceeding 24 hours, this modification must be returned to normal, or the proper station modification procedure must be implemented per Station Directive 4.4.3.

RAS 1331-84RAS 1331-84

- 12.2.3 Open Test Switch H on test block PE located on 1EATC16.

CAUTION: If performance of this procedure is suspended for any reason for a period exceeding 24 hours, this modification must be returned to normal, or the proper station modification procedure must be implemented per Station Directive 4.4.3.

- 12.2.3 After approximately 10 minutes:

RAS 1331-84RAS 3-31-84RAS 1331-84RAS 3-31-84RAS 1331-84

- 12.2.4.1 Verify that 1ETA4 (Alternate Incoming Feeder to Train A Essential Switchgear) is tripped.

- 12.2.1.2 Place a jumper from LINES C-6 to C-33 in 1EATC111 to permit UNFILTERED EXHAUST FAN TO START (EXHAUST FANS RUN WITH FILTERED EXHAUST FANS)

- 12.2.1.3 Place a jumper from LINES H-1 to H-2 in 1EATC112 to allow FAN RUN EXHAUST FAN TO RUN INDEPENDENTLY OF THE INVERTERS WITH OTHER FANS - C-6, C-33, C-34, C-35, C-36, C-37, C-38, C-39, C-40, C-41, C-42, C-43, C-44, C-45, C-46, C-47, C-48, C-49, C-50, C-51, C-52, C-53, C-54, C-55, C-56, C-57, C-58, C-59, C-60, C-61, C-62, C-63, C-64, C-65, C-66, C-67, C-68, C-69, C-70, C-71, C-72, C-73, C-74, C-75, C-76, C-77, C-78, C-79, C-80, C-81, C-82, C-83, C-84, C-85, C-86, C-87, C-88, C-89, C-90, C-91, C-92, C-93, C-94, C-95, C-96, C-97, C-98, C-99, C-100, C-101, C-102, C-103, C-104, C-105, C-106, C-107, C-108, C-109, C-110, C-111, C-112, C-113, C-114, C-115, C-116, C-117, C-118, C-119, C-120, C-121, C-122, C-123, C-124, C-125, C-126, C-127, C-128, C-129, C-130, C-131, C-132, C-133, C-134, C-135, C-136, C-137, C-138, C-139, C-140, C-141, C-142, C-143, C-144, C-145, C-146, C-147, C-148, C-149, C-150, C-151, C-152, C-153, C-154, C-155, C-156, C-157, C-158, C-159, C-160, C-161, C-162, C-163, C-164, C-165, C-166, C-167, C-168, C-169, C-170, C-171, C-172, C-173, C-174, C-175, C-176, C-177, C-178, C-179, C-180, C-181, C-182, C-183, C-184, C-185, C-186, C-187, C-188, C-189, C-190, C-191, C-192, C-193, C-194, C-195, C-196, C-197, C-198, C-199, C-200, C-201, C-202, C-203, C-204, C-205, C-206, C-207, C-208, C-209, C-210, C-211, C-212, C-213, C-214, C-215, C-216, C-217, C-218, C-219, C-220, C-221, C-222, C-223, C-224, C-225, C-226, C-227, C-228, C-229, C-230, C-231, C-232, C-233, C-234, C-235, C-236, C-237, C-238, C-239, C-240, C-241, C-242, C-243, C-244, C-245, C-246, C-247, C-248, C-249, C-250, C-251, C-252, C-253, C-254, C-255, C-256, C-257, C-258, C-259, C-260, C-261, C-262, C-263, C-264, C-265, C-266, C-267, C-268, C-269, C-270, C-271, C-272, C-273, C-274, C-275, C-276, C-277, C-278, C-279, C-280, C-281, C-282, C-283, C-284, C-285, C-286, C-287, C-288, C-289, C-290, C-291, C-292, C-293, C-294, C-295, C-296, C-297, C-298, C-299, C-300, C-301, C-302, C-303, C-304, C-305, C-306, 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RPS 13-31-84

12.2.4.2 Verify that D/G Load Sequencer 1A is actuated.

RPS 13-31-84

12.2.4.3 Verify that D/G 1A starts.

RPS 13-31-84

12.2.4.4 Close Test Switch H on test block PD located on 1EATC16.

RPS 13-31-84

12.2.4.5 Close Test Switch H on test block PE located on 1EATC16.

RPS 13-31-84

RPS 13-31-84

RPS 13-31-84

12.2.5 Verify sequencer sheds loads and commences loading sequence.

RPS 13-31-84

RPS 13-31-84

12.2.5.1 Verify that Enclosure 13.5 with the special D/G 1A is verified in Section 12.2.2.2.

RPS 13-31-84

12.2.6 Allow the sequencer to complete its loading sequence.

RPS 13-31-84

12.2.6.1 Verify that the voltage on the B B/C buses is within the limits of the voltage.

RPS 13-31-84

12.2.7 After loading completion, reset D/G Load Sequencer 1A.

RPS 13-31-84

12.2.8 Transfer breaker from 1ETA4 cubicle to 1ETA3 cubicle.

RPS 13-31-84

12.2.9 Have Operations parallel D/G 1A following OP/1/A/6350/02, Section 5.0.

RPS 13-31-84

12.2.10 Attach and label a copy of the Visicorder chart to this procedure as Enclosure 13.7 "D/G Parameters During Accelerated Sequence Loading".

RPS 13-31-84

12.2.10.1 Record the time taken for the completion of the sequence loading.

RPS 13-31-84

12.3 Blackout Switchgear 1GTA Hot Bus Transfer Verification

12.3.1 Ensure Diesel Generator 1A is still operating paralleled with offsite power.

RPS 13-31-84

12.3.2 Depress the close pushbutton for 1GTA1 (Normal Incoming Feeder to 1FTA Blackout Switchgear).

RPS 13-31-84

12.3.3 Verify 1GTA1 closes.

RPS 13-31-84

12.3.4 Verify 1ETA2 and 1FTA1 breakers have tripped.

RPS 13-31-84

12.4 Diesel Generator Load Rejection Verification (Equivalent to Largest Single Load)

12.4.1 Ensure Diesel Generator 1A is still operating paralleled with offsite power.

RPS 13-30-84

12.4.2 Adjust Diesel Generator load to > 834 KW. Record load per computer point A0574 on Enclosure 13.10.

RPS 13-30-84

12.4.3 Start visicorder to monitor D/G voltage, frequency and power.

RPS 13-30-84

12.4.4 Trip 1ETA18 (D/G 1A Breaker).

RPS 13-30-84

12.2.6.1 1MXP
12.2.6.2 1MXP
12.2.6.3 1MXP
12.2.6.4 1KXP
12.2.6.5 1KXP

RPS 13-30-84

RPS 13-30-84

RPS 13-30-84

RAT, 3-30-84

12.4.5 Stop Visicorder.

RAT, 3-30-8412.4.6 Attach and label a copy of the Visicorder chart to this procedure as Enclosure 10.8 "D/G Parameters During \geq 834 KW Load Rejection".C1142
RAT~~12.4.7 Have Operations parallel D/G 1A following
OP/1/A/6350/02, Section 5.0.~~

12.5 Diesel Generator Load Rejection Verification (Full Load)

RAT, 3-30-84

12.5.1 Ensure Diesel Generator 1A is still operating paralleled with offsite power.

RAT, 3-30-8412.5.2 Adjust Diesel Generator Load to \geq 7075 KW. Record load per Computer point A0574 on Enclosure 13.10.RAT, 3-30-84

12.5.3 Start Visicorder to monitor D/G Voltage, Frequency and Power.

RAT, 3-30-84

12.5.3 Trip 1ETA18 (D/G 1A Breaker)

RAT, 3-30-84

12.5.5 Stop Visicorder.

RAT, 3-30-8412.5.6 Attach and label a copy of the Visicorder chart to this procedure as Enclosure 13.9 "D/G Parameters During Full Load (\geq 7075 KW) Rejection".

12.6 Restoration of Modifications

ASB, 12/31/84

12.6.1 Close link B-17 in 1ELCP0112.

RAT, 12/31/84ASB, 12/31/84 RAT, 12/31/84 12.6.2 Remove jumper across shunt links F-1 and F-2 in 1LHCE.

12.7 Acceptance Criteria Verification

RAT, 4-1-84

12.7.1 Verify Acceptance Criteria 11.1 is satisfied as demonstrated in Sections 12.1 and 12.2.

12.7.2 Verify Acceptance Criteria 11.2 as follows:

RAT, 4-1-84

12.7.2.1 Verify 11.2.1 is satisfied demonstrated in Section 12.1 and documented on Enclosure 13.10.

RAT, 4-1-84

12.7.2.2 Verify 11.2.2 and 11.2.5 are satisfied as demonstrated in Section 12.1.

RAT, 4-1-84

12.7.2.3 Verify 11.2.3 and 11.2.4 are satisfied by using the Visicorder Printouts attached as Enclosure 13.6 and 13.7.

C1140
RATRAT, 4-1-84

12.7.3 Verify Acceptance Criteria 11.3 is satisfied using the values recorded on Enclosure 13.10.

FOR 6APS 12.1.2.2 AND 12.7.6.2

C1141
RATRAT, 4-1-84

12.7.4 Verify Acceptance Criteria 11.4 is satisfied as demonstrated in Section 12.1.

ASB, 12/31/84 RAT, 12/31/84 12.6.3 Remove jumper across shunt links E-54 and G-27 in 1LHCE.RAT, 12/31/84 ASB, 12/31/84 12.6.4 Remove jumper across fuse HA-20 in DC/SL COOL.ASB, 12/31/84 RAT, 12/31/84 12.6.5 Close link F-42 in 1LHCE. (See attached sheet for 12.6.6 & 12.6.7)C1145
RAT

21149
2115

ASB 1 3/31/84 RDS 133184 12.6.6 RUMAT JUMPER ACROSS LINKS C-6 AND
C-33 IN 102CP-0111.

ASB 1 3/31/84 RDS 133184 12.6.7 RUMAT JUMPER ACROSS LINKS H-1 AND H-2
IN 102CP-0112.

2-1-84
RMS, 4-5-84 RMS
RMS, 4-5-84 12.7.5

Verify Acceptance Criteria 11.5 is satisfied as demonstrated in Section 12.3.

RMS, 4-1-84
RMS, 4-1-84 12.7.6

Verify Acceptance Criteria 11.6 is satisfied by using the Visicorder Printout attached as Enclosure 13.8 and Enclosure 13.10.

RMS, 4-1-84
RMS, 4-1-84 12.7.7

Verify Acceptance Criteria 11.7 is satisfied by using the Visicorder Printout attached as Enclosure 13.9 and Enclosure 13.10.

RMS, 4-1-84
RMS, 4-1-84 12.7.8

Verify Acceptance Criteria 11.8 is satisfied as demonstrated in Section 12.1.

NOTE: Upon completion of this test, a Work Request should be generated to have I&E place annunciator 1AD11.07.06 in service.

13.0 ENCLOSURES

13.1 Document Revisions

13.2 Reverification Form

13.3 System Lineup

13.4 Electrical Alignment

13.5 Equipment Operation

13.6 D/G Parameters During Committed Sequence Loading

13.7 D/G Parameters During Accelerated Sequence Loading

13.8 D/G Parameters During ≥ 834 KW Load Rejection

13.9 D/G Parameters During Full Load (≥ 7075 KW) Rejection

13.10 Event Recorder Actuation Times and D/G Load Values

Documents listed below are referenced in Section 2.0. Verify the latest indicated revision number agrees with the latest revision in the Master File. If any reference is out of date, a qualified reviewer must review the current revision to ensure that the revision will not affect the performance of this procedure or ensure that adequate procedure changes are made if a revision would affect the procedure.

Document this review on this enclosure by filling in the reviewed revision (and change order number if applicable), reviewer's name and date of review.

[illegible]

Documents listed below are referenced in Section 2.0. Verify the latest indicated revision number agrees with the latest revision in the Master File. If any reference is out of date, a qualified reviewer must review the current revision to ensure that the revision will not affect the performance of this procedure or ensure that adequate procedure changes are made if a revision would affect the procedure.

Document this review on this enclosure by filling in the reviewed revision (and change order number if applicable), reviewer's name and date of review.

[illegible]

Documents listed below are referenced in Section 2.0. Verify the latest indicated revision number agrees with the latest revision in the Master File. If any reference is out of date, a qualified reviewer must review the current revision to ensure that the revision will not affect the performance of this procedure or ensure that adequate procedure changes are made if a revision would affect the procedure.

Document this review on this enclosure by filling in the reviewed revision (and change order number if applicable), reviewer's name and date of review.

[illegible]

12.1.1 RAS 13.31-84

[illegible]

CATAWBA NUCLEAR STATION
D/G 1A B/O AND LOAD REJECTION
PREOPERATIONAL TEST
TP/1/A/1350/25A
ENCLOSURE 13.3

ALIGNMENT OF AFFECTED SYSTEMS

Chemical Volume and Control System (NV)

RAF / 3-28-84 Align the Boric Acid Transfer Pump 1A for Recirculation per OP/1/A/6150/09, Section 9.0.

RAF / 3-28-84 Align the NV System per OP/1/A/6200/01, Enclosure 16.1 with the following exceptions or conditions:

<u>RAF</u> / <u>3-28-84</u>	1NV294	NV Pumps A&B Disch Flow Cntrl - Closed
<u>RAF</u> / <u>3-28-84</u>	1NV293	NV Pumps A&B Disch Cntrl Isol - Closed
<u>RAF</u> / <u>3-28-84</u>	1NV202B	NV Pump A&B Recirc Isol - Oper.
<u>RAF</u> / <u>3-28-84</u>	1NV203A	NV Pump A&B Recirc Isol - Open
<u>RAF</u> / <u>3-28-84</u>	1NV252A	NV Pump Suct From FWST - Closed
<u>RAF</u> / <u>3-28-84</u>	1NV253B	NV Pump Suct From FWST - Closed
<u>RAF</u> / <u>3-28-84</u>	1NI9A	CCP To C-Leg Disch Isol - Closed
<u>RAF</u> / <u>3-28-84</u>	1NI10B	CCP To C-Leg Disch Isol - Closed
<u>RAF</u> / <u>3-28-84</u>	NV Pump 1A	- Running

Component Cooling System (KC)

RAF / 3-28-84 Align the KC System per OP/1/A/6200/05, Section 3.0 for Train A operation with the following conditions or exceptions:

CH 46
RAF

<u>RAF</u> / <u>3-28-84</u>	1KC56A	KC TO ND Hx 1A Sup Isol - closed OPEN
<u>RAF</u> / <u>3-28-84</u>	1KC81B	KC To ND Hx 1B Sup Isol - Closed
<u>RAF</u> / <u>3-28-84</u>	KC Pumps 1A1 and 1A2	- Running

Auxiliary Feedwater System (CA)

RAF / 3-28-84 Align the CA System for standby readiness per OP/1/A/6250/02, Section 3.0 with the following exceptions or conditions:

CH 46
RAF

<u>RAF</u> / <u>3-28-84</u>	CA Pump 1A Auto Start	- Beated RESET
<u>RAF</u> / <u>3-28-84</u>	CA Sys Vlv Cntrl Train A & B	- Reset
<u>RAF</u> / <u>3-28-84</u>	Valves 1SA2 and 1SA5	Closed
<u>RAF</u> / <u>3-28-84</u>	Valves 1CA36A, 1CA48A, 1CA52B and 1CA64B	Closed

CH 42
RAF

CATAWBA NUCLEAR STATION
D/G 1A B/O AND LOAD REJECTION
PREOPERATIONAL TEST
TP/1/A/1350/25A
ENCLOSURE 13.3

ALIGNMENT OF AFFECTED SYSTEMS

RAF 13-28-84 1CA71 CA Pump 1A Disch To UST
Dome Throttle - Open

RAF 13-28-84 1CA72 CA Pump 1A Disch To UST
Dome Throttle - Open

RAF 13-28-84 1CA179 CA Pump 1A Disch To UST Dome Throttle -
Throttled to 500 ± 50 gpm

RAF 13-28-84 CA Pump 1A - Running

Containment Ventilation System (VV)

RAF 13-28-84 Align the VV System as follows:

RAF 13-28-84 Place the following switches in AUTO on 1MC-3 ~~AND ENSURE~~
FANS ARE OPERATING:
VV UPR CONT RET FAN 1A
VV UPR CONT RET FAN 1C

RAF 13-28-84 Place the following switches on 1MC-3 to ~~OFF~~ MAX ~~AND ENSURE~~
FANS ARE OPERATING:
VV UCVU 1A
VV UCVU 1C

RAF 13-28-84 Place the following damper control switches on
1MC-3 to AUTO:

Lower Containment Vent Damper 1LCVU-D-1
Lower Containment Vent Damper 1LCVU-D-3

RAF 13-28-84 Place the following switches on 1MC-3 in the
NORM position:

VV LCVU 1A MAX
VV LCVU 1C MAX

RAF 13-29-84 Place the following switches on 1MC-3 in the ~~OFF~~ HIGH
position ~~AND ENSURE FANS ARE OPERATING:~~

VV LCVU 1A
VV LCVU 1C

RAF 13-28-84 Place control switch for Pipe Tunnel Bstr Fan 1A
to ~~OFF~~ ^{HIGH} position on 1MC-3 ~~AND ENSURE FAN IS OPERATING.~~

RAF 13-28-84 ~~Place the control switch for Incore Inst Bstr~~
~~Fan 1A to STOP position on 1MC-3. IS OPERATING.~~ ^{ENSURE THE}

CH #3
RAF

CATAWBA NUCLEAR STATION
D/G 1A B/O AND LOAD REJECTION
PREOPERATIONAL TEST
TP/1/A/1350/25A
ENCLOSURE 13.3

ALIGNMENT OF AFFECTED SYSTEMS

CAF 3
1015
RAF/13-28-84 ~~ENSURE THE FOLLOWING FANS ARE OPERATING -~~
~~Place the following switches on 1MC-3 in the OFF~~
~~position:~~

CRD VENT FAN #1A
CRD VENT FAN #1C

RAF/13-28-84 Place the control switch for the Incore Inst Rm
AHU 1A to the ~~OFF~~ ^{MAX} position on 1MC-3 ~~AND ENSURE FAN~~
~~IS OPERATING.~~

Nuclear Service Water System (RN)

RAF/13-28-84 Align the RN System per OP/1/A/6400/06C, Section 3.0 for the
startup of Train A with the following conditions:

RAF/13-28-84 Place the KC Hx Discharge Valve 1RN291 in "Temp
Mode".

RAF/13-28-84 Place the KC Hx Discharge Valve 1RN351 in
"Mini-Flow Mode".

RAF/13-28-84 1RN287A KC Hx 1A Inlet Isol - Open

RAF/13-28-84 1RN347B KC Hx 1B Inlet Isol - Open

RAF/13-28-84 RN Pump 1A - Running

Control Room Ventilation System (VC)

RAF/13-28-84 Align the VC System per OP/1/A/6450/11, Section 3.0 for Train A.

Auxiliary Building Ventilation System (VA)

CAF 5
RAF
RAF/13-28-84 ~~ENSURE THE VA SYSTEM FANS LISTED BELOW ARE OPERABLE AND ABILITY TO RECEIVE~~
~~Align the VA System per OP/0/A/6450/03, Section 3.0 with the~~
~~following conditions or exceptions: - A BLACKOUT START SIGNAL~~

RAF/13-28-84 Ensure that modification specified in Step 8.1
has been installed.

RAF/13-28-84 All filtered and unfiltered exhaust and supply
fans are off.

RAF/13-28-84 ASP HVAC Unit 1A and 1B are off.

CATAWBA NUCLEAR STATION
D/G 1A B/O AND LOAD REJECTION
PREOPERATIONAL TEST
TP/1/A/1350/25A
ENCLOSURE 13.3

ALIGNMENT OF AFFECTED SYSTEMS

Boron Recycle System (NB)

CHAS RPS
RA5/3-28-84 Align the Nb System for recirculation of RMWST per
OP/1/A/6200/12, ~~Section 6.4~~ with the following conditions
or exceptions: ENCLOSURE 4.3

RA5/3-28-84 1NB459 RMWST Pmp Disch To Aux
Bldg Flush Hdr - Closed

RA5/3-28-84 1NB274 RMWST Pmp Disch To PRT - Closed

RA5/3-28-84 1NB279 RMWST Pmp Disch To Fuel Pool - Closed

~~_____ 1NB246 RMWST Inlet - Closed~~

RA5/3-28-84 1NB199 RMW Pump Disch To NB Evap - Closed

RA5/3-28-84 1WL915 NB Evap Emer Xover Flush
Supply - Closed

RA5/3-28-84 1WG211 RMWST To WG Decay Tanks
Drain Pump - Closed

RA5/3-28-84 1NV230 RMW Pump Disch To NV Pumps - Closed

CHAS RPS
~~Fire Protection (RF)~~

~~_____ Jockey Pump Motor A in Standby, Jockey Pump Motors B and C Off~~

CATAWBA NUCLEAR STATION
D/G 1A B/O AND LOAD REJECTION
PREOPERATIONAL TEST
TP/1/A/1350/25A
ENCLOSURE 13.4

ELECTRICAL ALIGNMENT

1ETA-4160V Switchgear

<u>Breaker No.</u>	<u>Name</u>	<u>Position</u>	
2	Alt. Feeder B/O 1FTA-1	Oper - Open	<u>RAF/3-28-84</u>
3	Normal Incoming	Oper - Closed	<u>RAF/3-28-84</u>
4	Alternate Incoming	No Bkr in Cubicle	<u>RAF/3-28-84</u>
5	1ETXA Feeder	Oper - Closed	<u>RAF/3-28-84</u>
6	KC Pump 1A1	Oper - Closed	<u>RAF/3-28-84</u>
7	KC Pump 1A2	Oper - Closed	<u>RAF/3-28-84</u>
8	NS Pump 1A	Test - Closed	<u>RAF/3-28-84</u>
9	ND Pump 1A	Test - Closed	<u>RAF/3-28-84</u>
10	1ETXE Feeder	Oper - Closed	<u>RAF/3-28-84</u>
11	NI Pump 1A	Test - Closed	<u>RAF/3-28-84</u>
12	NV Pump 1A	Oper - Closed	<u>RAF/3-28-84</u>
13	CA Pump 1A	Oper - Closed	<u>RAF/3-28-84</u>
14	RN Pump 1A	Oper - Closed	<u>RAF/3-28-84</u>
15	KF Pump 1A	Test - Closed	<u>RAF/3-28-84</u>
16	1ETXC Feeder	Oper - Closed	<u>RAF/3-28-84</u>
17	A/C Compressor A	Oper - Closed	<u>RAF/3-28-84</u>
18	DG1A	Oper - Open	<u>RAF/3-28-84</u>

CATAWBA NUCLEAR STATION
D/G 1A B/O AND LOAD REJECTION
PREOPERATIONAL TEST
TP/1/A/1350/25A
ENCLOSURE 13.4

ELECTRICAL ALIGNMENT

1ELXA - 600V Load Center

<u>Breaker No.</u>	<u>Name</u>	<u>Position</u>	
4B	Normal Incoming	Oper - Closed	<u>RAF 13-28-69</u>
4C	1EMXA Feeder	Oper - Closed	<u>RAF 13-28-69</u>
4D	Not Used		
5A	1EMXC Feeder	Oper - Closed	<u>RAF 13-28-69</u>
5B	1EMXG Feeder	Oper - Closed	<u>RAF 13-28-69</u>
5C	Not Used		
5D	Not Used		
6C	1EMXE Feeder	Oper - Closed	<u>RAF 13-28-69</u>
6D	Not Used		
6B	Alternate Incoming	Oper - Open	<u>RAF 13-28-69</u>

1ELXC - 600V Load Center

<u>Breaker No.</u>	<u>Name</u>	<u>Position</u>	
4B	Normal Incoming	Oper - Closed	<u>RAF 13-28-69</u>
4C	1EMXI Feeder	Oper - Closed	<u>RAF 13-28-69</u>
4D	Not Used		
5C	1EMXK Feeder	Oper - Closed	<u>RAF 13-28-69</u>
5D	Not Used		
5B	Alt. Incoming	Oper - Open	<u>RAF 13-28-69</u>

CATAWBA NUCLEAR STATION
D/G 1A B/O AND LOAD REJECTION
PREOPERATIONAL TEST
TP/1/A/1350/25A
ENCLOSURE 13.4

ELECTRICAL ALIGNMENT

600V - Essential and Blackout Motor Control Centers

NOTE: The maximum number of breakers possible on the following 600V MCC are to be closed. Incoming breaker should be closed and MCC energized.

MCC Number

1EMXA	<u>RAF</u> / <u>3-28-84</u>
1EMXC	<u>RAF</u> / <u>3-28-84</u>
1EMXE	<u>RAF</u> / <u>3-28-84</u>
1EMXG	<u>RAF</u> / <u>3-28-84</u>
1EMXI	<u>RAF</u> / <u>3-28-84</u>
1EMXK	<u>RAF</u> / <u>3-28-84</u>
1EMXO	<u>RAF</u> / <u>3-28-84</u>
1EMXQ	<u>RAF</u> / <u>3-28-84</u>
1EMXS	<u>RAF</u> / <u>3-28-84</u>
1MXO	<u>RAF</u> / <u>3-28-84</u>
1MXQ	<u>RAF</u> / <u>3-28-84</u>
1MXW	<u>RAF</u> / <u>3-28-84</u>

120 VAC/125 VDC Vital Power

NOTE: The maximum number of circuit breakers possible on the following 120 VAC/125 VDC essential, vital and blackout instrument and control power panelboards and distribution centers are to be closed. Panelboards and distribution controls should be energized.

Power Panelboard
No.

1EKPE	<u>RAF</u> / <u>3-28-84</u>
1EKPG	<u>RAF</u> / <u>3-28-84</u>

CATAWBA NUCLEAR STATION
D/G 1A B/O AND LOAD REJECTION
PREOPERATIONAL TEST
TP/1/A/1350/25A
ENCLOSURE 13.4

ELECTRICAL ALIGNMENT

Power Panelboard
No.

1EKPI	<u>RAF 13-28-84</u>
1EKPY	<u>RAF 13-28-84</u>
1EDA	<u>RAF 13-28-84</u>
1EDC	<u>RAF 13-28-84</u>
1DGDA	<u>RAF 13-28-84</u>
1ERPA	<u>RAF 13-28-84</u>
1ERPC	<u>RAF 13-28-84</u>
1CDA	<u>RAF 13-28-84</u>
1KPW	<u>RAF 13-28-84</u>

Unit 2 Breakers

2ETA Breaker No. 14 Test-Open

RAF 13-28-84

1FTA - 4160V Switchgear

Breaker No.

Name

Position

1GTA1	Swgr 1FTA Norm Inc Bkr	Oper - Closed <u>RAF 13-28-84</u>
1FTA1	Swgr 1FTA Alt Inc Bkr	Oper - Open <u>RAF 13-28-84</u>
1FTA2	Spare	
1FTA3	XFMR 1LXI Fdr Bkr	Oper - Closed <u>RAF 13-28-84</u>

CATAWBA NUCLEAR STATION
D/G 1A B/O AND LOAD REJECTION
PREOPERATIONAL TEST
TP/1/A/1350/25A
ENCLOSURE 13.4

ELECTRICAL ALIGNMENT

1LXI - 600V Load Center

<u>Breaker No.</u>	<u>Name</u>	<u>Position</u>	
4B	Inc Bkr	Oper - Closed	<u>RAF / 3-28-84</u>
4C	MCC 1MXO Fdr Bkr	Oper - Closed - Auto	<u>RAF / 3-28-84</u>
5A	VI Comp A	Oper - In Base	<u>RAF / 3-28-84</u>
5B	MCC 1MXQ Fdr Bkr	Oper - Closed - Auto	<u>RAF / 3-28-84</u>
5C	MCC 1MXW Fdr Bkr	Oper - Closed - Auto	<u>RAF / 3-28-84</u>
5D	1CCA Fdr Bkr	Oper - Closed	<u>RAF / 3-28-84</u>
6A	Spare		
6B	Spare		
6C	PZR Htr Pwr Pnl 1A	Open	<u>RAF / 3-28-84</u>
6D	Spare		

CATAWBA NUCLEAR STATION
D/G 1A B/O AND LOAD REJECTION
PREOPERATIONAL TEST
TP/1/A/1350/25A
ENCLOSURE 13.5

EQUIPMENT OPERATION

Load Group 1

1ELXA Compt #4B - Closed

RAS / 3-28-84

1ELXC Compt #4B - Closed

RAS / 3-28-84

Boric Acid Transfer Pump 1A - ON

RAS / 3-28-84

Aux Bldg Pump Room Heater-Demister - ON ✓

ASB / 3/28/84

Aux Bldg Filtered Exhaust Fan ^{1A} - ON

ASB / 3/28/84

Switchgear Room Air Handling Units

1SGR-AHU-1 - ON

ASB / 3/28/84

7:10 PM RAS

2XSGR-AHU-21 - ON

ASB / 3/28/84

1SGR-AHU-3 - ON

ASB / 3/28/84

7:40 PM RAS

2XSGR-AHU-23 - ON

ASB / 3/28/84

VF Filter Train Moisture Eliminator Heater - ON ✓

ASB / 3/28/84

VF Filter Train Exhaust Fan 1A1 and 1A2 - ON

ASB / 3/28/84

Aux Shutdown Panel A/C Unit 1A - ON

RAS / 3-28-84

RN Pump Structure Vent Fan 1A - ON (Verify activation, N12.2)
(ENSURE 2EMXQ-FOUR FAN 2A IS OPEN)

RAS / 3-31-84

D/G 1A Bldg Vent Fan Motors 1A1, 1A2 - ON

RAS / 3/28/84

Control Room Air Handling Unit A - ON

ASB / 3/28/84

Control Room Area Filter Train Pressure Fan A - ON

ASB / 3/28/84

Control Room Area Moisture Separator Heater A - ON ✓

ASB / 3/28/84

Valves ICA3EA, ICA4EA, ICA52B and ICA64B - OPEN

RAS / 3-28-84

Load Group 2

Centrifugal Charging Pump 1A - ON

ASB / 3/28/84

CATAWBA NUCLEAR STATION
D/G 1A B/O AND LOAD REJECTION
PREOPERATIONAL TEST
TP/1/A/1350/25A
ENCLOSURE 13.5

EQUIPMENT OPERATION

Load Group 3

CRDM Vent Fan CRDF-1A - ON
 CRDF-1C - ON

RAF 13-28-84
RAF 13-28-84

Lower Containment Vent Unit LCVU-1A - ON - LOW
 LCVU-1C - ON - LOW

RAF 13-28-84
RAF 13-28-84

Upper Containment Vent Unit UCVU-1A - ON - ~~NORM~~
 UCVU-1C - ON - ~~NORM~~

RAF 13-28-84
RAF 13-28-84

Cont Pipe Tunnel Booster Fan 1A - ON - LOW (UNIFORMIZATION IN 12.2)

RAF 13-31-84

Upper Containment Air Return Fan UCAR-1A - ON
 UCAR-1C - ON

RAF 13-28-84
RAF 13-28-84

Incore Instrument Tunnel Booster Fan 1A - ON

RAF 13-28-84

Incore Instrument Room Vent Unit 1A - ON - NORM

RAF 13-28-84

B/O MCC 1MXO FDR Bkr 1LXI-4C - CLOSED

RAF 13-28-84

B/O MCC 1MXQ FDR Bkr 1LXI-5B - CLOSED

RAF 13-28-84

Load Group 6

Component Cooling Pumps 1A1 and 1A2 - ON

RAF 13-28-84

Load Group 7

Nuclear Service Water Pump 1A - ON

RAF 13-28-84

Nuclear Service Water Pump 2A - Breaker 2ETA-14 is Closed in Test Position (UNIFORMIZATION IN 12.2)

RAF 13-31-84

Load Group 8

Aux Feedwater Pump Motor 1A - ON

RAF 13-28-84

Load Group 10

Reactor Makeup Water Pump 1A - ON (TURN TO UNIFORMIZATION IN 12.2)

RAF 13-28-84

~~Boric Acid Tank Room Unit Heaters - ON~~

~~_____/____~~

B/O MCC 1MXW FDR Bkr 1LXI-5C - CLOSED

RAF 13-28-84

~~Boric Acid Filter Room Unit Headers - ON~~

~~_____/____~~

~~Fire Protection Jockey Pump Motor A - ON~~

~~_____/____~~

CATAWBA NUCLEAR STATION
D/G 1A B/O AND LOAD REJECTION
PREOPERATIONAL TEST
TP/1/A/1350/25A
ENCLOSURE 13.5

EQUIPMENT OPERATION

Load Group 11

Control Room Area Air Handling Unit A - ON
Control Room Chilled Water Pump A - ON
Control Room Chiller Compress Oil Pump A - ON
Battery Room Exhaust Fan - ON

RAS 13-28-84

RAS 13-28-84

RAS 13-28-84

RAS 13-28-84

Load Group 12

Control Room Area Chiller A - ON

RAS 13-28-84

Load Group 13

Instrument Air Compressor A - ON
Instrument Air Dryer A - DEPRESS ON
~~Instrument Air Dryer C - DEPRESS ON~~

RAS 13-28-84

RAS 13-28-84

Battery Charger 1CCA - CLOSE FEEDER 1LXI COMPT 5D

RAS 13-28-84

~~Aux Building Filter Room Exhaust Fan A - DEPRESS ON~~

~~RAS 13-28-84~~

Aux Building Unfiltered Exhaust Fan 1A - DEPRESS ON

RAS 13-31-84

Aux Building Supply Unit 1A - DEPRESS ON

RAS 13-31-84

Fuel Pool Cooling Pump 1A - DEPRESS ON

RAS 13-28-84

CH 11 RAS

CH 10 RAS

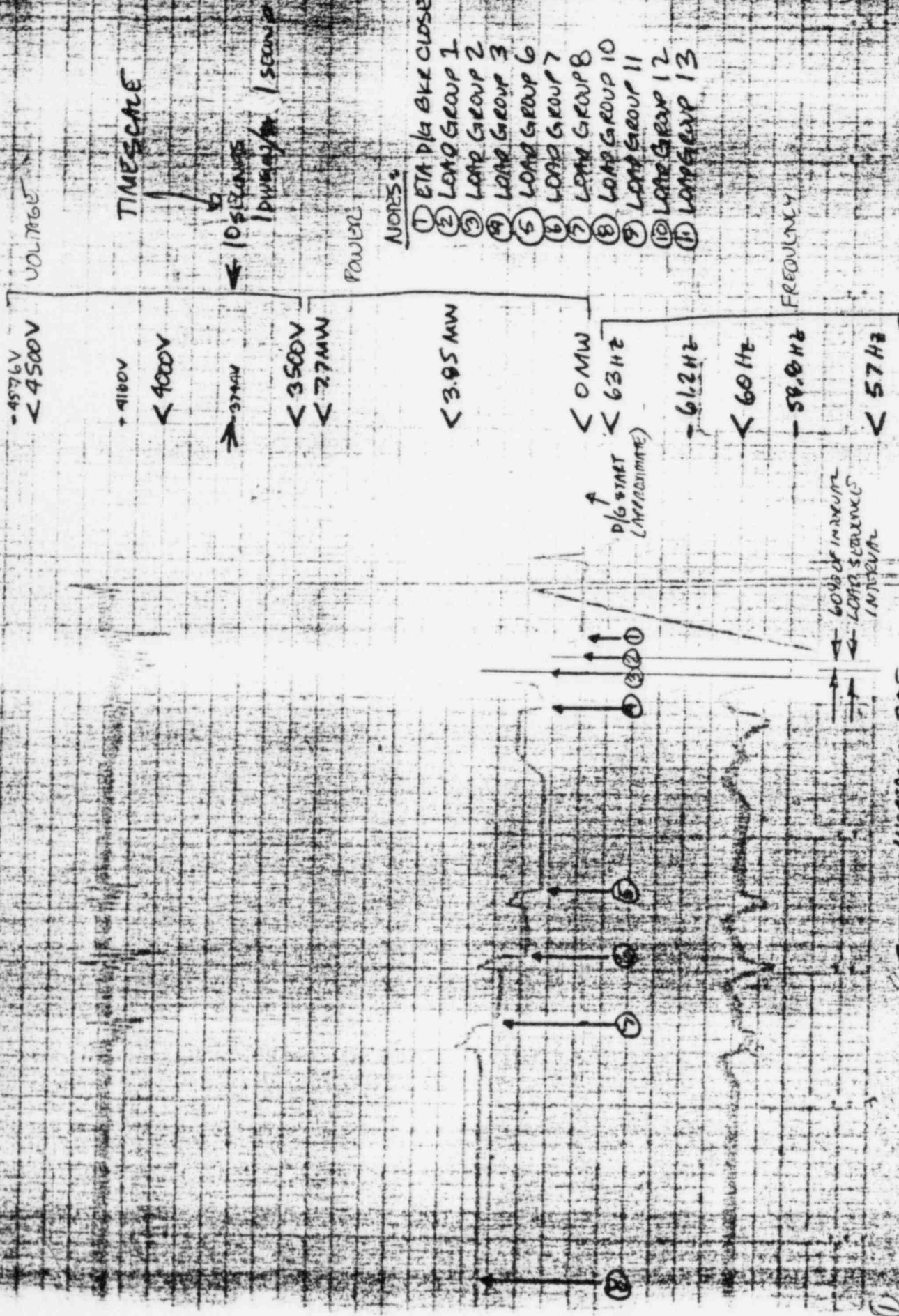
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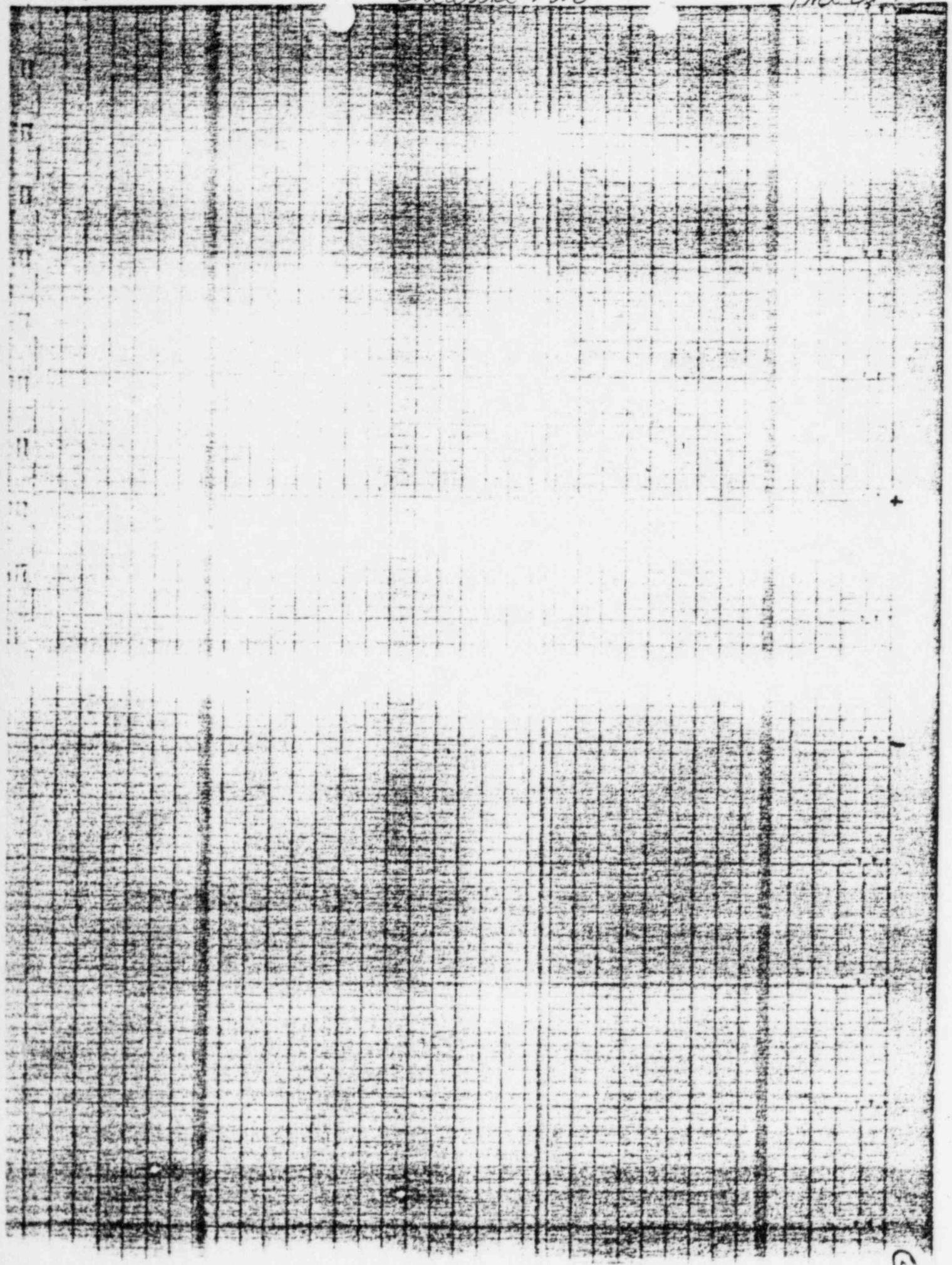
PLACE IN
AUTO AND VERIFY ON

PLACE IN AUTO AND
(VERIFY ACTION IN 12.2) VERIFY ON

ENCLOSURE 13.6

0/5 Puntados Durante ^{Ratio} ~~Committed~~ ~~Long~~ ~~Swimming~~ Local





TP/1/A/1350/25A
Enclave 13-6

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TP/1/A/1350/25A
Envelope 136

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TP/11A/1350/25A
ENCLOSURE 13.6

PROG 5010

TP/14/1350/25A
Elevation 13.6

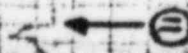
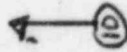
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⑥

⑥

TP/1/A/1350/25A
ENCLOSURE 13.6

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T.P. 10/11/1350/25A
Enclosure 136

Prod 8010

Pradelli

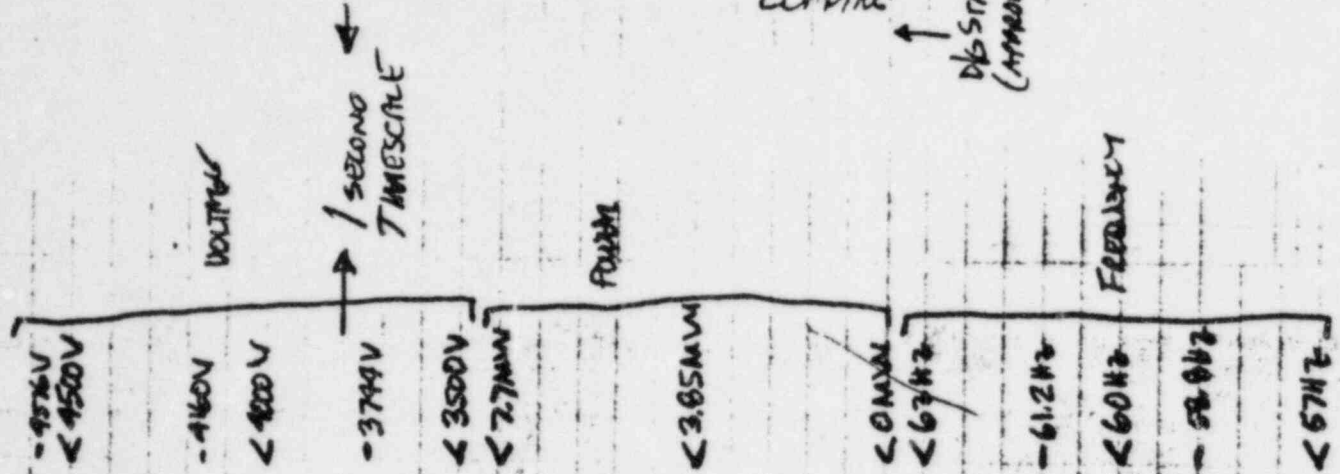
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TP/1/A/H350/25A

ENCLOSURE 13.7

D/G PARAMETERS DURING ACCUMULATED SEQUENCE LOADING

DB START (APPROXIMATE)



Notes:

- ① ETA D/G OFF CLOSED
- ② LOAD GEAR 1
- ③ LOAD GEAR 2
- ④ LOAD GEAR 3
- ⑤ LOAD GEAR 6
- ⑥ LOAD GEAR 7
- ⑦ LOAD GEAR 8
- ⑧ LOAD GEAR 10
- ⑨ LOAD GEAR 11
- ⑩ LOAD GEAR 12
- ⑪ LOAD GEAR 13

INCREASING TIME

-4576V

-4160V

-3744V

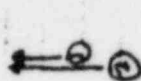
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ENUSUR 13.7

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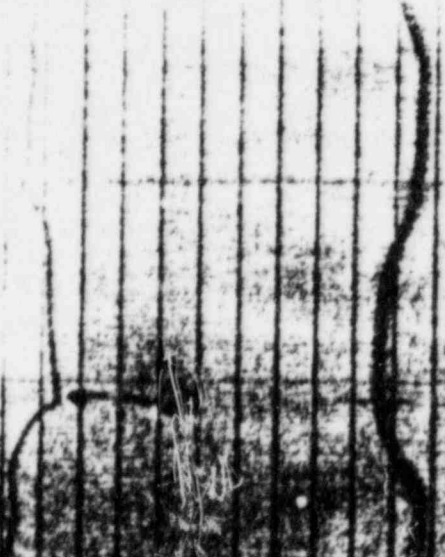
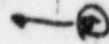
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1/100 24.6



60% OF
INTERVAL

LOAD SER.
INTERVAL



12/14/11 52.5

ENCLOSURE 13.7

1760 2000

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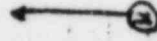
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TP/11/11/350/25A
ENCLOSURE 137

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012 4004410 92741774 219323

→ 522005 / 5

4580V
9500V

4000V

3740V

3500V

7.7MW

1000V

385MW

60MW

63Hz

61.2Hz

601Hz

58.8Hz

571Hz

TP11/M/1350/25A
ENCLOSURE 13.8
D/G PARAMETERS DURING 834KW LOAD REGAIN

Page 1 of 1

FABRUARY

ENCLOSURE 13.8

TR/1/A/1350/25A

ENR 13025 1319

D/G MEASUREMENTS DURING FULL LOAD (2075kW) ROTATION

PAGE 1 OF 2

1005V

1000V

1350V

17.7MW

1601Hz (1000rpm)

10.0MW

163Hz

1601Hz (1000rpm)

1512V

CATAWBA NUCLEAR STATION
D/G 1A B/O AND LOAD REJECTION
PREOPERATIONAL TEST
TP/1/A/1350/25A
ENCLOSURE 13.10

EVENT RECORDER ACTUATION TIMES & D/G LOAD VALUES

Step	Event Recorder Point	Actuation Time
12.1.26	1ER282	152641 387
	1ER284	152651 202

Time Difference Between 1ER282 & 1ER284 9.815 RAJ
10.815 Seconds

Data Recorded By RON JONES
Date 3-28-84
Calculation Performed By RON JONES
Date 3-28-84

Step	Parameter	Value	Initial/Date
12.1.20.2	D/G Load (A0574) (Auto-Connected)	<u>3.13</u> MW	<u>RAJ 13-28-84</u>
12.4.2	D/G Load (A0574) (Partial Load Rejection)	<u>0.87</u> MW	<u>RAJ 13-30-84</u>
12.5.2	D/G Load (A0574) (Full Load Rejection)	<u>7.09</u> MW	<u>RAJ 13-30-84</u>
^{CAT 10} ₀₅ 12.2.4.2	D/G Load (A0574) (Auto-Connected)	<u>3.32</u> MW	<u>RAJ 13-31-84</u>

DUKE POWER COMPANY

P.O. BOX 33189
CHARLOTTE, N.C. 28242

HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

TELEPHONE
(704) 373-4531

June 5, 1984

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Ms. E. G. Adensam, Chief
Licensing Branch No. 4

Re: Catawba Nuclear Station
Docket Nos. 50-413 and 50-414

Dear Mr. Denton:

My letter of April 18, 1984 provided a response to Catawba SER Confirmatory Item 37, Load Sequencer Accelerated Sequence. Attached for use by the Staff is a copy of TP/1/A/1350/25A - D/F 1A Blackout and Load Rejection Test.

Very truly yours,

H. B. Tucker /-180
Hal B. Tucker

ROS/php

Attachment

cc: Mr. James P. O'Reilly, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30303

NRC Resident Inspector
Catawba Nuclear Station

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Boo!
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