

March 13, 1983

Items 2 through 8, above, are provided in response to item VII.D.1 of the NRC-prepared agenda.

9. Station Procedure S023-MPES008, Rev. 0, "Under-Voltage Tripping Device of GE AK-2-25 Circuit Breakers in the Reactor Trip Switchgear," which represents issuance, as a Station document, of Startup procedure MPES008, Rev. 1. Reference to "Tripping Device" in the title is reference to the Reactor Trip Circuit Breakers.
10. Maintenance Procedure S023-I-4.36, Rev. 0, "Inspection and Adjustment of Under-Voltage Tripping Device (GE Circuit Breaker AK-15 and 25)," including TCN 1. This procedure represents the development of a Station procedure which would replace item 9, above, but has not been used in any maintenance of the Reactor Trip Circuit Breakers (item 9, above, has been used). Reference to "Tripping Device" in the title is reference to the Reactor Trip Circuit Breakers. Action has been initiated to cancel this procedure and its TCN. It will be reissued when what represented TCN 1 to the procedure can be incorporated into a revision rather than a TCN.

Items 9 and 10, above, are provided in response to item VII.E.1 of the NRC-prepared agenda.

11. A "Document History Summary" which identifies the chronological history of all revisions and TCNs for each of the procedures identified above.

WCM
W. C. MOODY

1620v/jms

cc: H. B. Ray
J. M. Price
CDM

March 13, 1983

MR. A. E. CHAFFEE

SUBJECT: NRC Requested Documents

Enclosed are copies of the following documents requested by the NRC:

1. Operating Instruction S023-3-5.1, Rev. 7, "Emergency Plant Shutdown," which identifies operator actions following reactor trip or initiating reactor trip. It is provided in response to what was identified as item "I.d. Reactor Trip Followup (including ATWS)," on the "Paper" attachment to the NRC-prepared agenda.
2. Operating Instruction S023-3-2.19.1, Rev. 5, "CEDM MG Set Operation," which specifies operator actions in performing testing of the Reactor Trip Circuit Breakers pursuant to Technical Specification 4.3.1.1, Table 4.3-1, item 1.
3. Instrument and Test Procedure S023-II-1.1, Rev. 8, "Surveillance Requirement, Reactor Plant Protection System, Channel Functional Test (31 Day Interval)," including TCNs 42, 43 and 44. This procedure, in combination with item 4, below, specifies I&C testing of, among other things, the Reactor Trip Circuit Breakers pursuant to Technical Specification 4.3.1.1, Table 4.3-1, item 13.
4. Instrument and Test Procedure S023-II-11.161, Rev. 2, "Surveillance Requirement, Reactor Breakers Undervoltage and Shunt Trip Device Circuit Test."
5. Instrument and Test Procedure S023-II-3.1, Rev. 1, "Plant Protection System, Response Time Test for Channel A (Eighteen Month Interval)," including TCNs 7, 8, 9, 10 and 11. This procedure, in combination with items 6, 7 and 8 below, specifies I&C testing of, among other things, the Reactor Trip Circuit Breakers pursuant to Technical Specification 4.3.1.3.
6. Instrument and Test Procedure S023-II-3.2, Rev. 1, "Plant Protection System, Response Time Test for Channel B (Eighteen Month Interval)," including TCNs 7, 8, 9 and 10.
7. Instrument and Test Procedure S023-II-3.3, Rev. 1, "Plant Protection System, Response Time Test for Channel C (Eighteen Month Interval)," including TCNs 7, 8 and 9.
8. Instrument and Test Procedure S023-II-3.4, Rev. 1, "Plant Protection System, Response Time Test for Channel D (Eighteen Month Interval)," including TCNs 6, 7 and 8.

TEMPORARY CHANGE NOTICE

NOTE: Technical Specification Violation if not processed within the stated time limits.

Procedure No. SO23-I-4.36 Revision No. 0 TCN No. 1 ~~SO23-1-4.36~~ ^{1 OF 104}
Procedure Title INSPECTION AND ADJUSTMENT OF UNDER VOLTAGE TRIPPING DEVICE
Procedure Author _____ PAX _____ (If known, Writer) _____ PAX _____

1. The following change shall be in effect. Attach a copy of the effected page(s), if applicable

SEE ATTACHED

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2. Reason:

TO MEET REQUIREMENTS OF IE 79-09

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3. Date originated _____ 4. Issuance Date _____ (For CDM Use Only)
5. Does this change affect FSAR or Tech. Spec. commitments? Yes _____ No X
6. Does this change affect the nonradiological environment of any offsite area previously undisturbed during site preparation and plant construction? Yes _____ No X
7. Is the intent of the original document altered? Yes _____ No X
8. Is the document to be changed an Emergency and Abnormal Operating Instruction? Yes _____ No X
(If the answer to 5, 6, 7 or 8 is YES, a TCN is NOT Authorized.)
9. Does this change affect licensing commitment requirements as stated in the Reference Section? Yes _____ No XXX
10. Originator Dale R. Porch 03 08 83 0730
DATE / TIME
11. Is the TCN to be incorporated into next permanent revision within 60 days of issuance date? Yes X No _____
- * One time change only against Procedure/Station Order No. _____ Rev. No. _____

12. Copy sent to the Nuclear Safety Group _____

13. Signatures Required: Approved by: (at least one (1) SRO)

a) John C. Grimes / Dale R. Porch 3-8-83 AS PER TELECON

b) [Signature]

Final approval by: [Signature]

c) _____
COORDINATE FUNCTIONAL STATION MANAGER

8303210749 830317
PDR ADDCK 05000361
P PDR

WITHIN 60 DAYS

Approval must be by two members of the plant management staff at least one of whom holds an SRO license on the unit affected.
(For TCN approval, members of the plant management staff are defined as any Station Supervisor, including the level of foreman, exercising responsibility in the specific area and unit addressed by the change.)

EFFECTIVE DATE

JUN 10 1982

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S023-I-4.36

INSPECTION AND ADJUSTMENT OF UNDER-VOLTAGE TRIPPING DEVICE
(GE Circuit Breaker AK-15 and 25)

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8.5 TCB ORIENTATION
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List Of Effective Pages

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Attachment 8.1 1-2	0
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INSPECTION AND ADJUSTMENT OF UNDER-VOLTAGE TRIPPING DEVICE
(GE Circuit Breaker AK-15 and 25)

S023-I-4.36

1.0 OBJECTIVE

- 1.1 This procedure applies to and provides the necessary information for accomplishing the inspection and adjustment of the Under-Voltage Tripping Device in the G.E. AK-2-15 and 2/3-25 Circuit Breakers.

2.0 REFERENCES

- 2.1 S023-0-23.0, "Equipment Status Control"
- 2.2 Reactor Trip Circuit Breaker Switchgear, S023-944-351 which includes the following:
- 2.2.1 GEI-50299B - Power Circuit Breakers Types AK-2-15 & AK-2/3-25
- 2.2.2 GEK-7302B Installation and Operation of Type AK Low Voltage Power Circuit Breakers
- 2.2.3 GEF-4149F-Power Circuit Breakers Renewal Parts
- 2.3 Wiring Diagrams - Reactor Trip Circuit, Bechtel Spec. No. S023-944-33 through S023-944-41-3.

3.0 PREREQUISITES

- 3.1 Operations has been notified concerning the activity that will be performed and the subject equipment has been released for the performance of this procedure in accordance with Reference 2.1.
- 3.2 All measuring devices used in the performance of this procedure have a valid calibration which exceeds the expected duration of this procedure.
- 3.3 Materials listed on Attachment 8.3 are available.
- 3.4 Circuit Breaker No. has been entered on the MDRF, Attachment 8.4.
- 3.5 Sign the Maintenance Data Record Form (MDRF), Attachment 8.4, documenting that all prerequisites have been met.

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 When using volatile solvents, ensure adequate ventilation is provided and that smoking and/or open flames are prohibited.
- 4.2 Ensure electrical power to the breaker is de-energized by electrical measurement.

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II. SECTION AND ADJUSTMENT OF UNDER-VOLTAGE TRIPPING DEVICE
(GE Circuit Breaker AK-15 and 25)

4.0 PRECAUTIONS AND LIMITATIONS (Cont'd)

- 4.3 Extreme care must be exercised to minimize exposure (ALARA) of all personnel. Radiological hazards and requirements as identified on the Radiation Exposure Permit shall be observed.

5.0 CHECK-OFF LISTS

- 5.1 The Maintenance Data Record Form (MDRF), Attachment 8.4, shall be used to record the following:

- 5.1.1 Data taken during this maintenance action.
- 5.1.2 Completion of Section 6.0 of this procedure.
- 5.1.3 Discrepancies discovered during the performance of this procedure.

6.0 PROCEDURE

NOTE: Discrepancies discovered shall be reported to the Immediate Supervisor. This Supervisor shall ensure that discrepancies are properly documented in accordance with S0123-I-1.3.

- 6.1 Withdraw the Breaker from the cubicle, in accordance with Instructions Attachment 8.1, and move to work area.

NOTE: Refer to Attachment 8.2.

6.2 Check Under-Voltage Tripping Device Armature Clearance

- 6.2.1 Loosen screws (Item 11).
- 6.2.2 Move magnet (Item 10) up or down to obtain armature (Item 3) freedom with respect to its pivot on the magnet and guide provided by rivet (Item 13). Record results on MDRF, Attachment 8.4.
- 6.2.3 Retighten screws.

NOTE: Refer to Attachment 8.2 and Reference 2.2.1, page 32.

6.3 Check Under-Voltage Tripping Device Pick-Up Voltage Setting

NOTE: Ensure breaker is tripped (open)

- 6.3.1 Connect variable DC power supply (100 to 130VDC) to circuit breaker terminals C2 (-) and C3 (+). Record completion on MDRF, Attachment 8.4.

INSPECTION AND ADJUSTMENT OF UNDER-VOLTAGE TRIPPING DEVICE
(GE Circuit Breaker AK-15 and 25)

6.0 PROCEDURE (Cont'd)

6.3.2 Remove locking wire (Item 15).

NOTE: Under-voltage device is set to pickup at approximately 80% of bus voltage (125VDC) and drop out between 30% and 60%.

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6.3.3 Set power supply to 100VDC ($\pm 0.5V$) measured across circuit breaker terminals C2(-) and C3(+). Record test voltage setting on MDRF, Attachment 8.4.

6.3.4 If required, turning the under-voltage device adjusting screw (Item 14) CW/CCW to raise/lower pick-up voltage to 100VDC ($\pm 0.5V$). Record adjusted voltage setting on MDRF, Attachment 8.4.

6.3.5 Reinstall the locking wire (Item 15).

6.3.6 Disconnect the variable power supply from circuit breaker terminals C2 and C3.

6.3.7 Record satisfactory completion of Section 6.3.

NOTE: Refer to Attachment 8.2.

6.4 Positive Trip Check And Adjustment

6.4.1 While holding the under-voltage tripping device armature, Item 3 of Attachment 8.2, in the energized position, close the circuit breaker manually in accordance with Attachment 8.1.

6.4.2 Place feeler guage between under-voltage device armature arm and trip paddle and if necessary, use adjusting screw (Item 20) to attain gap clearance $\geq .03125$ " but $\leq .032$ ".

6.4.3 Slowly, release under-voltage device armature arm until trip occurs. Movement of the armature arm should continue $1/32$ " to $1/16$ " beyond the point when tripping occurs to ensure "positive tripping" action. Record satisfactory over-travel movement on the MDRF, Attachment 8.4.

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6.5 TRIP TORQUE VERIFICATION AND CLEANING

S023-1-4.36 Rev. 1

6.5.1 Trip Torque Measurement

6.5.1.1 Trip breaker using manual Trip Button on breaker. Record on MDRF, EXHIBIT F. ATTACHMENT 8.4

6.5.1.2 Place breaker in "TEST" position (refer to EXHIBIT A). Record on MDRF, EXHIBIT F. ATTACHMENT 8.4

6.5.1.3 Open appropriate 125V DC Control Power Switch (refer to EXHIBIT E) and verify Green Off/Red Off. Record on MDRF, EXHIBIT F. ATTACHMENT 8.4

6.5.1.4 Attach a 5/16" open-end wrench (Item 3, EXHIBIT B), vertically positioned to the trip shaft; a spring scale (Item 4, EXHIBIT B), shall be attached to the wrench. ATTACHMENT 8.4

6.5.1.5 Close breaker manually (refer to EXHIBIT A). Record on MDRF, EXHIBIT F. ATTACHMENT 8.4

6.5.1.6 Trip breaker by rotating trip shaft with the wrench. Verify the spring scale torque reading and record on the MDRF, EXHIBIT F. Should results indicate that torque required to trip the breaker is unacceptable, i.e., exceeds 1.5 in-lb, proceed to Step 6.5.2. ATTACHMENT 8.4

6.5.1.7 Repeat Section 6.5.1 for TCB's 2 through 9.

6.5.2 Cleaning Trip-Latch Surfaces

6.5.2.1 Place breaker in "SAFETY-STOP" Position (refer to EXHIBIT A). Record on MDRF, EXHIBIT F. ATTACHMENT 8.4

NOTE

Where the torque required to trip the breaker exceeds 1.5 in-lb, hardened grease in the trip shaft bearings and/or latch bearing may be suspected or dirt may have accumulated on the trip latch surface.

6.5.2.2 Remove old, hardened, and excess grease and dirt using solvent (Item 9, EXHIBIT B). Replace grease on sliding surfaces with light film of the grease listed in Item 6, EXHIBIT B. Latch surfaces should be left clean and dry (not lubricated). Sliding electrical contacts should have a light film of the lubricant grease listed in Item 7, EXHIBIT B.
ATTACHMENT 8.3

Rev. 1

6.5.2.3 Check Trip-Shaft bearings and/or latch bearing and replace on any indication of loss of freedom or binding. Record on MDRF, EXHIBIT F.
ATTACHMENT 8.4

6.5.2.4 Repeat steps 6.5.1.4 through 6.5.1.7. Should trip torque exceed 1.5 in-lb, replace entire Trip-Shaft assembly.

6.5.2.5 Repeat Section 6.5.2 for TCB's 2 through 9.

6.6 CHECK TRIP LATCH ENGAGEMENT AND ADJUST

Rev. 1

NOTE

Check all TCB Breakers in the "OPERATE" Position, open and DC Control Power on.

6.6.1 Trip Latch Check - TCB-1 (EXHIBIT D).

Rev. 1

ATTACHMENT 8.5

6.6.1.1 Preparation

6.6.1.1.1 Verify ZB1509 and ZB1606 "OPEN" (EXHIBIT E). Record on MDRF, EXHIBIT F.
ATTACHMENT 8.4

6.6.1.1.2 Verify TCB 1 is in "OPERATE" Position and in "TRIPPED" mode. Green On/Red Off. Record on MDRF, EXHIBIT F.

ATTACHMENT 8.4

6.6.1.1.3 Open ZD1P103. Verify Green Off/Red Off. Record on MDRF, EXHIBIT F.
ATTACHMENT 8.4

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6.6.1.1.4 Install test jumper between OTB1-9 and OTB1-10. Record on MDRF, EXHIBIT F.

ATTACHMENT 8.4

6.6.1.1.5 Remove green wire from OTB1-4. Record on MDRF, EXHIBIT F.

ATTACHMENT 8.4

- 6.6.1.1.6 Install "TEMPORARY" test switch (N.O. Momentary Contact Pushbutton) between OTB1-1 and OTB1-2. Record on MDRF, EXHIBIT F. ATTACHMENT 8.4
- 6.6.1.1.7 Close 2D1P103, and verify. Green On/Red Off. Record on MDRF, EXHIBIT F. ATTACHMENT 8.4
- 6.6.1.1.8 Close breaker by depressing "TEMPORARY" test switch, and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.1.1.9 Verify breaker is closed. Record on MDRF, EXHIBIT F. *
- 6.6.1.1.10 Verify Auxiliary Switch contacts 3-3c "CLOSED" - (OTB4-2 and OTB4-3). Record on MDRF, EXHIBIT F. *
- 6.6.1.1.11 Verify Auxiliary Switch contacts 10-10c "OPEN" - (OTB5-1 and OTB5-2). Record on MDRF, EXHIBIT F. *
- 6.6.1.1.12 Verify Auxiliary Switch contacts 6-6c "OPEN" - (OTB5-7 and OTB5-8). Record on MDRF, EXHIBIT F. *
- 6.6.1.1.13 Verify Auxiliary Switch contacts 7-7c "CLOSED" - (OTB5-9 and OTB5-10). Record on MDRF, EXHIBIT F. *
- 6.6.1.1.14 Verify Auxiliary Switch contacts 8-8c "OPEN" - (OTB5-11 and OTB5-12). Record on MDRF, EXHIBIT F. *
- 6.6.1.1.15 Verify Auxiliary Switch contacts 5-5c "CLOSED" - (OTB4-7 and OTB4-8). Record on MDRF, EXHIBIT F. *
- 6.6.1.1.16 Verify Auxiliary Switch contacts 4-4c "OPEN" - (OTB4-1 and OTB4-3). Record on MDRF, EXHIBIT F. *
- 6.6.1.1.17 Verify Auxiliary Switch contacts 9-9c "CLOSED" - (OTB5-1 and OTB5-2). Record on MDRF, EXHIBIT F. *

Rev. 1

CAUTION

DO NOT TEST AUX SWITCH CONTACTS 1-1c OR 2-2c (ENERGIZED).

- 6.6.1.2 Trip test number (1) - Manual Trip Button on breaker.
- 6.6.1.2.1 Depress trip button on breaker front and verify. Green On/Red Off. Record on MDRF, EXHIBIT F. *

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ATTACHMENT 8.4

- 6.6.1.2.2 Verify Auxiliary Switch contacts 3-3c "OPEN" - (OTB4-2 and OTB4-3). Record on MDRF, EXHIBIT F.*
- 6.6.1.2.3 Verify Auxiliary Switch contacts 10-10c "CLOSED" - (OTB5-1 and OTB5-2). Record on MDRF, EXHIBIT F.*
- 6.6.1.2.4 Verify Auxiliary Switch contacts 6-6c "CLOSED" - (OTB5-7 and OTB5-8). Record on MDRF, EXHIBIT F.*
- 6.6.1.2.5 Verify Auxiliary Switch contacts 7-7c "OPEN" - (OTB5-9 and OTB5-10). Record on MDRF, EXHIBIT F.*
- 6.6.1.2.6 Verify Auxiliary Switch contacts 8-8c "CLOSED" - (OTB5-11 and OTB5-12). Record on MDRF, EXHIBIT F.*
- 6.6.1.2.7 Verify Auxiliary Switch contacts 5-5c "OPEN" - (OTB4-7 and OTB4-8). Record on MDRF, EXHIBIT F.*
- 6.6.1.2.8 Verify Auxiliary Switch contacts 4-4c "CLOSED" - (OTB4-1 and OTB4-3). Record on MDRF, EXHIBIT F.*
- 6.6.1.2.9 Verify Auxiliary Switch contacts 9-9c "OPEN" - (OTB5-1 and OTB5-2). Record on MDRF, EXHIBIT F.*

Rev. 1

CAUTION

DO NOT TEST AUX SWITCH CONTACTS 1-1c OR 2-2c (ENERGIZED).

- 6.6.1.2.10 Close breaker using the maintenance operating device and verify. Green Off/Red On. Record on MDRF, EXHIBIT F.*
- 6.6.1.2.11 Verify that breaker cannot be racked out. Record on MDRF, EXHIBIT F.*
- 6.6.1.3 Trip Test Number (2) - R Relay Remove Simulate
- 6.6.1.3.1 Remove jumper between OTB1-9 and OTB1-10 (refer to step 6.6.1.1.4). Record on MDRF, EXHIBIT F.*
- 6.6.1.3.2 Verify breaker "OPENS". Green On/Red Off. Record on MDRF, EXHIBIT F.*
- 6.6.1.3.3 Reinstall jumper between OTB1-9 and OTB1-10. Record on MDRF, EXHIBIT F.*
- 6.6.1.3.4 Close breaker by depressing "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F.*

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ATTACHMENT D-7

- 6.6.1.4 Trip Test Number (3) - Remote MT Pushbutton Simulate
- 6.6.1.4.1 Momentarily jumper OTB2-3 and OTB2-4. Record on MDRF, EXHIBIT F.*
- 6.6.1.4.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F.*
- 6.6.1.4.3 Remove jumper completely from OTB2-3 and OTB2-4. Record on MDRF, EXHIBIT F.*
- 6.6.1.4.4 Close breaker by depressing "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F.*
- 6.6.1.5 Trip Test Number (4) - Remote K Relay Contact Simulate
- 6.6.1.5.1 Momentarily jumper OTB1-3 and OTB1-4. Record on MDRF, EXHIBIT F.*
- 6.6.1.5.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F.*
- 6.6.1.5.3 Remove jumper completely from OTB1-3 and OTB1-4. Record on MDRF, EXHIBIT F.*
- 6.6.1.5.4 Close breaker by depressing "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F.*
- 6.6.1.6 Trip Test Number (5) - Emergency Trip Pushbutton
- 6.6.1.6.1 Operate the "EMERGENCY TRIP" Pushbutton.
- 6.6.1.6.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F.*
- 6.6.1.7 Trip Test Number (6) - Local Test Trip and Close Pushbutton
- 6.6.1.7.1 Place breaker in "TEST" Position (EXHIBIT A). Record on MDRF, EXHIBIT F.*

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ATTACHMENT 8.1

* ATTACHMENT 8.1

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- 6.6.1.7.2 Close breaker using the maintenance operating device and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.1.7.3 Operate Test Trip Switch, and verify "OPEN." Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.1.7.4 Operate Close Test Switch, and verify "CLOSED." Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.1.7.5 Verify that breaker cannot be racked in. Record on MDRF, EXHIBIT F. *
- 6.6.1.7.6 Operate Test Trip Switch.
- 6.6.1.7.7 Verify breaker is "OPEN." Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.1.7.8 Open 2D1P103 (also de-energizes TOB-5 Control Voltage). Verify Green Off. Record on MDRF, EXHIBIT F. *
- 6.6.1.7.9 Remove test jumper between OTB1-9 and OTB1-10. Record on MDRF, EXHIBIT F. *
- 6.6.1.7.10 Reinstall green wire, removed in Step 6.6.1.1.5, to OTB1-4. Record on MDRF, EXHIBIT F. *
- 6.6.1.7.11 Remove "TEMPORARY" test switch between OTB1-1 and OTB1-2. Record on MDRF, EXHIBIT F. *
- 6.6.1.7.12 Should a Trip Test fail to operate the breaker, proceed to Step 6.6.10.
- 6.6.1.7.13 Reinsert breaker into "OPERATE" Position (EXHIBIT A). Record on MDRF, EXHIBIT F. *
- 6.6.2 Trip Latch Check - TOB-2 (EXHIBIT D). ATTACHMENT 8.5
- 6.6.2.1 Preparation
- 6.6.2.1.1 Verify 2B1509 and 2B1606 "OPEN" (EXHIBIT E). Record on MDRF, EXHIBIT F. *

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ATTACHMENT 8.1

ATTACHMENT 8.6

- 6.6.2.1.2 Verify TOB 2 is in "OPERATE" Position and in "TRIPPED" mode. Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.2.1.3 Open 2D2P103. Verify Green Off/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.2.1.4 Install test jumper between OTB10-9 and OTB10-10. Record on MDRF, EXHIBIT F. *
- 6.6.2.1.5 Remove green wire from OTB10-4. Record on MDRF, EXHIBIT F. *
- 6.6.2.1.6 Install "TEMPORARY" test switch (N.O. Momentary Contact Pushbutton) between OTB10-1 and OTB10-2. Record on MDRF, EXHIBIT F. *
- 6.6.2.1.7 Close 2D2P103, and verify. Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.2.1.8 Close breaker by depressing "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.2.1.9 Verify breaker is closed. Record on MDRF, EXHIBIT F. *
- 6.6.2.1.10 Verify Auxiliary Switch contacts 3-3c "CLOSED" - (OTB13-2 and OTB13-3). Record on MDRF, EXHIBIT F. *
- 6.6.2.1.11 Verify Auxiliary Switch contacts 10-10c "OPEN" - (OTB14-1 and OTB14-2). Record on MDRF, EXHIBIT F. *
- 6.6.2.1.12 Verify Auxiliary Switch contacts 6-6c "OPEN" - (OTB14-7 and OTB14-8). Record on MDRF, EXHIBIT F. *
- 6.6.2.1.13 Verify Auxiliary Switch contacts 7-7c "CLOSED" - (OTB14-9 and OTB14-10). Record on MDRF, EXHIBIT F. *
- 6.6.2.1.14 Verify Auxiliary Switch contacts 8-8c "OPEN" - (OTB14-11 and OTB14-12). Record on MDRF, EXHIBIT F. *
- 6.6.2.1.15 Verify Auxiliary Switch contacts 5-5c "CLOSED" - (OTB13-7 and OTB13-8). Record on MDRF, EXHIBIT F. *
- 6.6.2.1.16 Verify Auxiliary Switch contacts 4-4c "OPEN" - (OTB13-1 and OTB13-3). Record on MDRF, EXHIBIT F. *
- 6.6.2.1.17 Verify Auxiliary Switch contacts 9-9c "CLOSED" - (OTB14-3 and OTB14-4). Record on MDRF, EXHIBIT F. *

* ATTACH

CAUTION

DO NOT TEST AUX SWITCH CONTACTS 1-1c OR 2-2c (ENERGIZED).

- 6.6.2.2 Trip test number (1) - Manual Trip Button on breaker.
- 6.6.2.2.1 Depress trip button on breaker front and verify. Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.2.2.2 Verify Auxiliary Switch contacts 3-3c "OPEN" - (OTB13-2 and OTB13-3). Record on MDRF, EXHIBIT F. *
- 6.6.2.2.3 Verify Auxiliary Switch contacts 10-10c "CLOSED" - (OTB14-1 and OTB14-2). Record on MDRF, EXHIBIT F. *
- 6.6.2.2.4 Verify Auxiliary Switch contacts 6-6c "CLOSED" - (OTB14-7 and OTB14-8). Record on MDRF, EXHIBIT F. *
- 6.6.2.2.5 Verify Auxiliary Switch contacts 7-7c "OPEN" - (OTB14-9 and OTB14-10). Record on MDRF, EXHIBIT F. *
- 6.6.2.2.6 Verify Auxiliary Switch contacts 8-8c "CLOSED" - (OTB14-11 and OTB14-12). Record on MDRF, EXHIBIT F. *
- 6.6.2.2.7 Verify Auxiliary Switch contacts 5-5c "OPEN" - (OTB13-7 and OTB13-8). Record on MDRF, EXHIBIT F. *
- 6.6.2.2.8 Verify Auxiliary Switch contacts 4-4c "CLOSED" - (OTB13-1 and OTB13-3). Record on MDRF, EXHIBIT F. *
- 6.6.2.2.9 Verify Auxiliary Switch contacts 9-9c "OPEN" - (OTB14-3 and OTB14-4). Record on MDRF, EXHIBIT F. *

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CAUTION

DO NOT TEST AUX SWITCH CONTACTS 1-1c OR 2-2c (ENERGIZED).

- 6.6.2.2.10 Close breaker using the maintenance operating device and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.2.2.11 Verify that breaker cannot be racked out. Record on MDRF, EXHIBIT F. *

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* ATTACHMENT 4

- 6.6.2.3 Trip Test Number (2) - K Relay Simulate
 - 6.6.2.3.1 Remove jumper between OTB10-9 and OTB10-10 (refer to step 6.6.2.1.4). Record on MDRF, EXHIBIT F.*
 - 6.6.2.3.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F.*
 - 6.6.2.3.3 Reinstall jumper between OTB10-9 and OTB10-10. Record on MDRF, EXHIBIT F.*
 - 6.6.2.3.4 Close breaker by depressing "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F.*
- 6.6.2.4 Trip Test Number (3) - Remote MT Pushbutton Simulate
 - 6.6.2.4.1 Momentarily jumper OTB11-3 and OTB11-4. Record on MDRF, EXHIBIT F.*
 - 6.6.2.4.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F.*
 - 6.6.2.4.3 Remove jumper completely from OTB11-3 and OTB11-4. Record on MDRF, EXHIBIT F.*
 - 6.6.2.4.4 Close breaker by depressing "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F.*
- 6.6.2.5 Trip Test Number (4) - Remote K Relay Contact Simulate
 - 6.6.2.5.1 Momentarily jumper OTB10-3 and OTB10-4. Record on MDRF, EXHIBIT F.*
 - 6.6.2.5.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F.*
 - 6.6.2.5.3 Remove jumper completely from OTB10-3 and OTB10-4. Record on MDRF, EXHIBIT F.*
 - 6.6.2.5.4 Close breaker by operating "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F.*

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- 6.6.2.6 Trip Test Number (5) - Emergency Trip Pushbutton
 - 6.6.2.6.1 Operate the "EMERGENCY TRIP" Pushbutton.
 - 6.6.2.6.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.2.7 Trip Test Number (6) - Local Test Trip and Close Pushbutton
 - 6.6.2.7.1 Place breaker in "TEST" Position (EXHIBIT A). Record on MDRF, EXHIBIT F. * *ATTACHMENT 8.1*
 - 6.6.2.7.2 Close breaker using the maintenance operating device and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
 - 6.6.2.7.3 Operate Test Trip Switch, and verify "OPEN." Green On/Red Off. Record on MDRF, EXHIBIT F. *
 - 6.6.2.7.4 Operate Close Test Switch, and verify "CLOSED." Green Off/Red On. Record on MDRF, EXHIBIT F. *
 - 6.6.2.7.5 Verify that breaker cannot be racked in. Record on MDRF, EXHIBIT F. *
 - 6.6.2.7.6 Operate Test Trip Switch.
 - 6.6.2.7.7 Verify breaker is "OPEN." Green On/Red Off. Record on MDRF, EXHIBIT F. *
 - 6.6.2.7.8 Open 2D2P103 (also de-energizes TOB-6 and TOB-9 Control Voltage). Verify Green Off. Record on MDRF, EXHIBIT F. *
 - 6.6.2.7.9 Remove test jumper between OIB10-9 and OIB10-10. Record on MDRF, EXHIBIT F. *
 - 6.6.2.7.10 Reinstall green wire, removed in Step 6.6.2.1.5, to OIB10-4. Record on MDRF, EXHIBIT F. *
 - 6.6.2.7.11 Remove "TEMPORARY" test switch between OIB10-1 and OIB10-2. Record on MDRF, EXHIBIT F. *
 - 6.6.2.7.12 Should a Trip Test fail to operate the breaker, proceed to Step 6.6.10.
 - 6.6.2.7.13 Reinsert breaker into "OPERATE" Position (EXHIBIT A). Record on MDRF, EXHIBIT F. * *ATTACHMENT 8.1*

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ATTACHMENT 8.4

ATTACHMENT 8.5

6.6.3 Trip Latch Check - TCB-3 (EXHIBIT D).

6.6.3.1 Preparation

- 6.6.3.1.1 Verify 2B1509 and 2B1606 "OPEN" (EXHIBIT E). Record on MDRF, EXHIBIT F. * *ATTACHMENT 8.6*
- 6.6.3.1.2 Verify TCB-3 is in "OPERATE" Position and in "TRIPPED" mode. Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.3.1.3 Open 2D3P103. Verify Green Off/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.3.1.4 Install test jumper between OTB22-9 and OTB22-10. Record on MDRF, EXHIBIT F. *
- 6.6.3.1.5 Remove green wire from OTB22-4. Record on MDRF, EXHIBIT F. *
- 6.6.3.1.6 Install "TEMPORARY" test switch (N.O. Momentary Contact Pushbutton) between OTB22-1 and OTB22-2. Record on MDRF, EXHIBIT F. *
- 6.6.3.1.7 Close 2D3P103, and verify. Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.3.1.8 Close breaker by depressing "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.3.1.9 Verify breaker is closed. Record on MDRF, EXHIBIT F. *
- 6.6.3.1.10 Verify Auxiliary Switch contacts 3-3c "CLOSED" - (OTB25-2 and OTB25-3). Record on MDRF, EXHIBIT F. *
- 6.6.3.1.11 Verify Auxiliary Switch contacts 10-10c "OPEN" - (OTB26-1 and OTB26-2). Record on MDRF, EXHIBIT F. *
- 6.6.3.1.12 Verify Auxiliary Switch contacts 6-6c "OPEN" - (OTB26-7 and OTB26-8). Record on MDRF, EXHIBIT F. *
- 6.6.3.1.13 Verify Auxiliary Switch contacts 7-7c "CLOSED" - (OTB26-9 and OTB26-10). Record on MDRF, EXHIBIT F. *

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- 6.6.3.1.14 Verify Auxiliary Switch contacts 8-8c "OPEN" - (OTB26-11 and OTB26-12). Record on MDRF, EXHIBIT F. *
- 6.6.3.1.15 Verify Auxiliary Switch contacts 5-5c "CLOSED" - (OTB25-7 and OTB25-8). Record on MDRF, EXHIBIT F. *
- 6.6.3.1.16 Verify Auxiliary Switch contacts 4-4c "OPEN" - (OTB25-1 and OTB25-3). Record on MDRF, EXHIBIT F. *
- 6.6.3.1.17 Verify Auxiliary Switch contacts 9-9c "CLOSED" - (OTB26-3 and OTB26-4). Record on MDRF, EXHIBIT F. *

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CAUTION

DO NOT TEST AUX SWITCH CONTACTS 1-1c OR 2-2c (ENERGIZED).

- 6.6.3.2 Trip test number (1) - Manual Trip Button on breaker.
 - 6.6.3.2.1 Depress trip button on breaker front and verify. Green On/Red Off. Record on MDRF, EXHIBIT F. *
 - 6.6.3.2.2 Verify Auxiliary Switch contacts 3-3c "OPEN" - (OTB25-2 and OTB25-3). Record on MDRF, EXHIBIT F. *
 - 6.6.3.2.3 Verify Auxiliary Switch contacts 10-10c "CLOSED" - (OTB26-1 and OTB26-2). Record on MDRF, EXHIBIT F. *
 - 6.6.3.2.4 Verify Auxiliary Switch contacts 6-6c "CLOSED" - (OTB26-7 and OTB26-8). Record on MDRF, EXHIBIT F. *
 - 6.6.3.2.5 Verify Auxiliary Switch contacts 7-7c "OPEN" - (OTB26-9 and OTB26-10). Record on MDRF, EXHIBIT F. *
 - 6.6.3.2.6 Verify Auxiliary Switch contacts 8-8c "CLOSED" - (OTB26-11 and OTB26-12). Record on MDRF, EXHIBIT F. *
 - 6.6.3.2.7 Verify Auxiliary Switch contacts 5-5c "OPEN" - (OTB25-7 and OTB25-8). Record on MDRF, EXHIBIT F. *
 - 6.6.3.2.8 Verify Auxiliary Switch contacts 4-4c "CLOSED" - (OTB25-1 and OTB25-3). Record on MDRF, EXHIBIT F. *
 - 6.6.3.2.9 Verify Auxiliary Switch contacts 9-9c "OPEN" - (OTB26-3 and OTB26-4). Record on MDRF, EXHIBIT F. *

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CAUTION

DO NOT TEST AUX SWITCH CONTACTS 1-1c OR 2-2c (ENERGIZED).

- 6.6.3.2.10 Close breaker using the maintenance operating device and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.3.2.11 Verify that breaker cannot be racked out. Record on MDRF, EXHIBIT F. *
- 6.6.3.3 Trip Test Number (2) - K Relay Remote Simulate
 - 6.6.3.3.1 Remove jumper between OTB22-9 and OTB22-10 (refer to step 6.6.3.1.4). Record on MDRF, EXHIBIT F. *
 - 6.6.3.3.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F. *
 - 6.6.3.3.3 Reinstall jumper between OTB22-9 and OTB22-10. Record on MDRF, EXHIBIT F. *
 - 6.6.3.3.4 Close breaker by depressing "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.3.4 Trip Test Number (3) - Remote MT Pushbutton Simulate
 - 6.6.3.4.1 Momentarily jumper OTB23-3 and OTB23-4. Record on MDRF, EXHIBIT F. *
 - 6.6.3.4.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F. *
 - 6.6.3.4.3 Remove jumper completely from OTB23-3 and OTB23-4. Record on MDRF, EXHIBIT F. *
 - 6.6.3.4.4 Close breaker by depressing "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *

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6.6.3.5 Trip Test Number (4) - Remote X Relay Contact Simulate

- 6.6.3.5.1 Momentarily jumper OTB22-3 and OTB22-4. Record on MDRF, EXHIBIT F. *
- 6.6.3.5.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.3.5.3 Remove jumper completely from OTB22-3 and OTB22-4. Record on MDRF, EXHIBIT F. *
- 6.6.3.5.4 Close breaker by operating "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *

6.6.3.6 Trip Test Number (5) - Emergency Trip Pushbutton

- 6.6.3.6.1 Operate the "EMERGENCY TRIP" Pushbutton.
- 6.6.3.6.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F. *

6.6.3.7 Trip Test Number (6) - Local Test Trip and Close Pushbutton

- 6.6.3.7.1 Place breaker in "TEST" Position (EXHIBIT A). Record on MDRF, EXHIBIT F. *
- 6.6.3.7.2 Close breaker using the maintenance operating device and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.3.7.3 Operate Test Trip Switch, and verify "OPEN." Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.3.7.4 Operate Close Test Switch, and verify "CLOSED." Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.3.7.5 Verify that breaker cannot be racked in. Record on MDRF, EXHIBIT F. *
- 6.6.3.7.6 Operate Test Trip Switch.
- 6.6.3.7.7 Verify breaker is "OPEN". Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.3.7.8 Open 2D3P101 (also de-energizes TCB-7 Control Voltage). Verify Green Off. Record on MDRF, EXHIBIT F. *

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- 6.6.3.7.9 Remove test jumper between OTB22-9 and OTB22-10. Record on MDRF, EXHIBIT F. *
- 6.6.3.7.10 Reinstall green wire, removed in Step 6.6.3.1.5, to OTB22-4. Record on MDRF, EXHIBIT F. *
- 6.6.3.7.11 Remove "TEMPORARY" test switch between OTB22-1 and OTB22-2. Record on MDRF, EXHIBIT F. *
- 6.6.3.7.12 Should a Trip Test fail to operate the breaker, proceed to Step 6.6.10.
- 6.6.3.7.13 Reinsert breaker into "OPERATE" position (EXHIBIT A). Record on MDRF, EXHIBIT F. *
- 6.6.4 Trip Latch Check - TCB-4
 - 6.6.4.1 Preparation
 - 6.6.4.1.1 Verify ZB1509 and ZB1606 "OPEN" (EXHIBIT E). Record on MDRF, EXHIBIT F. *
 - 6.6.4.1.2 Verify TCB-4 is in "OPERATE" Position and in "TRIPPED" mode. Green On/Red Off. Record on MDRF, EXHIBIT F. *
 - 6.6.4.1.3 Open 2D4P101. Verify Green Off/Red Off. Record on MDRF, EXHIBIT F. *
 - 6.6.4.1.4 Install test jumper between OTB31-9 and OTB31-10. Record on MDRF, EXHIBIT F. *
 - 6.6.4.1.5 Remove green wire from OTB31-4. Record on MDRF, EXHIBIT F. *
 - 6.6.4.1.6 Install "TEMPORARY" test switch (N.O. Momentary Contact Pushbutton) between OTB31-1 and OTB31-2. Record on MDRF, EXHIBIT F. *
 - 6.6.4.1.7 Close 2D4P101, and verify. Green On/Red Off. Record on MDRF, EXHIBIT F. *
 - 6.6.4.1.8 Close breaker by depressing "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *

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- 6.6.4.1.9 Verify breaker is closed. Record on MDRF, EXHIBIT F. *
- 6.6.4.1.10 Verify Auxiliary Switch contacts 3-3c "CLOSED" - (OTB34-2 and OTB34-3). Record on MDRF, EXHIBIT F. *
- 6.6.4.1.11 Verify Auxiliary Switch contacts 10-10c "OPEN" - (OTB35-1 and OTB35-2). Record on MDRF, EXHIBIT F. *
- 6.6.4.1.12 Verify Auxiliary Switch contacts 6-6c "OPEN" - (OTB35-7 and OTB35-8). Record on MDRF, EXHIBIT F. *
- 6.6.4.1.13 Verify Auxiliary Switch contacts 7-7c "CLOSED" - (OTB35-9 and OTB35-10). Record on MDRF, EXHIBIT F. *
- 6.6.4.1.14 Verify Auxiliary Switch contacts 8-8c "OPEN" - (OTB35-11 and OTB35-12). Record on MDRF, EXHIBIT F. *
- 6.6.4.1.15 Verify Auxiliary Switch contacts 5-5c "CLOSED" - (OTB34-7 and OTB34-8). Record on MDRF, EXHIBIT F. *
- 6.6.4.1.16 Verify Auxiliary Switch contacts 4-4c "OPEN" - (OTB34-1 and OTB34-3). Record on MDRF, EXHIBIT F. *
- 6.6.4.1.17 Verify Auxiliary Switch contacts 9-9c "CLOSED" - (OTB35-3 and OTB35-4). Record on MDRF, EXHIBIT F. *

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CAUTION

DO NOT TEST AUX SWITCH CONTACTS 1-1c OR 2-2c (ENERGIZED).

- 6.6.4.2 Trip test number (1) - Manual Trip Button on breaker.
- 6.6.4.2.1 Depress trip button on breaker front and verify. Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.4.2.2 Verify Auxiliary Switch contacts 3-3c "OPEN" - (OTB34-2 and OTB34-3). Record on MDRF, EXHIBIT F. *
- 6.6.4.2.3 Verify Auxiliary Switch contacts 10-10c "CLOSED" - (OTB35-1 and OTB35-2). Record on MDRF, EXHIBIT F. *
- 6.6.4.2.4 Verify Auxiliary Switch contacts 6-6c "CLOSED" - (OTB35-7 and OTB35-8). Record on MDRF, EXHIBIT F. *

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- 6.6.4.2.5 Verify Auxiliary Switch contacts 7-7c "OPEN" - (OTB35-9 and OTB35-10). Record on MDRF, EXHIBIT F.*
- 6.6.4.2.6 Verify Auxiliary Switch contacts 8-8c "CLOSED" - (OTB35-11 and OTB35-12). Record on MDRF, EXHIBIT F.*
- 6.6.4.2.7 Verify Auxiliary Switch contacts 5-5c "OPEN" - (OTB34-7 and OTB34-8). Record on MDRF, EXHIBIT F.*
- 6.6.4.2.8 Verify Auxiliary Switch contacts 4-4c "CLOSED" - (OTB34-1 and OTB34-3). Record on MDRF, EXHIBIT F.*
- 6.6.4.2.9 Verify Auxiliary Switch contacts 9-9c "OPEN" - (OTB35-3 and OTB35-4). Record on MDRF, EXHIBIT F.*

CAUTION

DO NOT TEST AUX SWITCH CONTACTS 1-1c OR 2-2c (ENERGIZED).

- 6.6.4.2.10 Close breaker using the maintenance operating device and verify. Green Off/Red On. Record on MDRF, EXHIBIT F.*
- 6.6.4.2.11 Verify that breaker cannot be racked out. Record on MDRF, EXHIBIT F.*
- 6.6.4.3 Trip Test Number (2) - K Relay Remote Simulate
 - 6.6.4.3.1 Remove jumper between OTB31-9 and OTB31-10 (refer to step 6.6.4.1.4). Record on MDRF, EXHIBIT F.*
 - 6.6.4.3.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F.*
 - 6.6.4.3.3 Reinstall jumper between OTB31-9 and OTB31-10. Record on MDRF, EXHIBIT F.*
 - 6.6.4.3.4 Close breaker by depressing "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F.*
- 6.6.4.4 Trip Test Number (3) - Remote MT Pushbutton Simulate

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- 6.6.4.4.1 Momentarily jumper OTB32-3 and OTB32-4. Record on MDRF, EXHIBIT F. *
- 6.6.4.4.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.4.4.3 Remove jumper completely from OTB32-3 and OTB32-4. Record on MDRF, EXHIBIT F. *
- 6.6.4.4.4 Close breaker by depressing "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.4.5 Trip Test Number (4) - Remote K Relay Contact Simulate
 - 6.6.4.5.1 Momentarily jumper OTB31-3 and OTB31-4. Record on MDRF, EXHIBIT F. *
 - 6.6.4.5.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F. *
 - 6.6.4.5.3 Remove jumper completely from OTB31-3 and OTB31-4. Record on MDRF, EXHIBIT F. *
 - 6.6.4.5.4 Close breaker by operating "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.4.6 Trip Test Number (5) - Emergency Trip Pushbutton
 - 6.6.4.6.1 Operate the "EMERGENCY TRIP" Pushbutton.
 - 6.6.4.6.2 Verify breaker "OPENS." •Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.4.7 Trip Test Number (6) - Local Test Trip and Close Pushbutton
 - 6.6.4.7.1 Place breaker in "TEST" Position (EXHIBIT A). Record on MDRF, EXHIBIT F. *
 - 6.6.4.7.2 Close breaker using the maintenance operating device and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *

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- 6.6.4.7.3 Operate Test Trip Switch, and verify "OPEN." Green On/Red Off. Record on MDRF, EXHIBIT F.*
- 6.6.4.7.4 Operate Close Test Switch, and verify "CLOSED." Green Off/Red On. Record on MDRF, EXHIBIT F.*
- 6.6.4.7.5 Verify that breaker cannot be racked in. Record on MDRF, EXHIBIT F.*
- 6.6.4.7.6 Operate Test Trip Switch.
- 6.6.4.7.7 Verify breaker is "OPEN." Green On/Red Off. Record on MDRF, EXHIBIT F.*
- 6.6.4.7.8 Open 2D4P101 (also de-energizes TCB-8 Control Voltage). Verify Green Off. Record on MDRF, EXHIBIT F.*
- 6.6.4.7.9 Remove test jumper between OTB31-9 and OTB31-10. Record on MDRF, EXHIBIT F.*
- 6.6.4.7.10 Reinstall green wire, removed in Step 6.6.4.1.5, to OTB31-4. Record on MDRF, EXHIBIT F.*
- 6.6.4.7.11 Remove "TEMPORARY" test switch between OTB31-1 and OTB31-2. Record on MDRF, EXHIBIT F.*
- 6.6.4.7.12 Should a Trip Test fail to operate the breaker, proceed to Step 6.6.10.
- 6.6.4.7.13 Reinsert breaker into "OPERATE" Position (EXHIBIT A). Record on MDRF, EXHIBIT F.*
- 6.6.5 Trip Latch Check - TCB-5 (EXHIBIT D) ATTACHMENT 8.5
- 6.6.5.1 Preparation
- 6.6.5.1.1 Verify 2B1509 and 2B1606 "OPEN" (EXHIBIT E). Record on MDRF, EXHIBIT F.*
- 6.6.5.1.2 Verify TCB-5 is in "OPERATE" Position and in "TRIPPED" mode. Green On/Red Off. Record on MDRF, EXHIBIT F.*
- 6.6.5.1.3 Open 2D1P103. Verify Green Off/Red Off. Record on MDRF, EXHIBIT F.*

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- 6.6.5.1.4 Install test jumper between OTB3-9 and OTB3-10. Record on MDRF, EXHIBIT F. ↗
- 6.6.5.1.5 Remove green wire from OTB3-4. Record on MDRF, EXHIBIT F. ↗
- 6.6.5.1.6 Install "TEMPORARY" test switch (N.O. Momentary Contact Pushbutton) between OTB3-1 and OTB3-2. Record on MDRF, EXHIBIT F. ↗
- 6.6.5.1.7 Close 2D1P103 and verify. Green On/Red Off. Record on MDRF, EXHIBIT F. ↗
- 6.6.5.1.8 Close breaker by depressing "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. ↗
- 6.6.5.1.9 Verify breaker is closed. Record on MDRF, EXHIBIT F. ↗
- 6.6.5.1.10 Verify Auxiliary Switch contacts 3-3c "CLOSED" - (OTB4-5 and OTB4-6). Record on MDRF, EXHIBIT F. ↗
- 6.6.5.1.11 Verify Auxiliary Switch contacts 10-10c "OPEN" - (OTB8-1 and OTB8-2). Record on MDRF, EXHIBIT F. ↗
- 6.6.5.1.12 Verify Auxiliary Switch contacts 6-6c "OPEN" - (OTB8-7 and OTB8-8). Record on MDRF, EXHIBIT F. ↗
- 6.6.5.1.13 Verify Auxiliary Switch contacts 7-7c "CLOSED" - (OTB8-9 and OTB8-10). Record on MDRF, EXHIBIT F. ↗
- 6.6.5.1.14 Verify Auxiliary Switch contacts 8-8c "OPEN" - (OTB8-11 and OTB8-12). Record on MDRF, EXHIBIT F. ↗
- 6.6.5.1.15 Verify Auxiliary Switch contacts 5-5c "CLOSED" - (OTB4-9 and OTB4-10). Record on MDRF, EXHIBIT F. ↗
- 6.6.5.1.16 Verify Auxiliary Switch contacts 4-4c "OPEN" - (OTB4-4 and OTB4-6). Record on MDRF, EXHIBIT F. ↗
- 6.6.5.1.17 Verify Auxiliary Switch contacts 9-9c "CLOSED" - (OTB8-1 and OTB8-2). Record on MDRF, EXHIBIT F. ↗

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CAUTION

DO NOT TEST AUX SWITCH CONTACTS 1-1c OR 2-2c (ENERGIZED).

↗ ATTACHMENT 8.4

- 6.6.5.2 Trip test number (1) - Manual Trip Button on breaker.
- 6.6.5.2.1 Depress trip button on breaker front and verify. Green On/Red Off. Record on MDRF, EXHIBIT F.★
- 6.6.5.2.2 Verify Auxiliary Switch contacts 3-3c "OPEN" - (OTB4-5 and OTB4-6). Record on MDRF, EXHIBIT F.★
- 6.6.5.2.3 Verify Auxiliary Switch contacts 10-10c "CLOSED" - (OTB8-1 and OTB8-2). Record on MDRF, EXHIBIT F.★
- 6.6.5.2.4 Verify Auxiliary Switch contacts 6-6c "CLOSED" - (OTB8-7 and OTB8-8). Record on MDRF, EXHIBIT F.★
- 6.6.5.2.5 Verify Auxiliary Switch contacts 7-7c "OPEN" - (OTB8-9 and OTB8-10). Record on MDRF, EXHIBIT F.★
- 6.6.5.2.6 Verify Auxiliary Switch contacts 8-8c "CLOSED" - (OTB8-11 and OTB8-12). Record on MDRF, EXHIBIT F.★
- 6.6.5.2.7 Verify Auxiliary Switch contacts 5-5c "OPEN" - (OTB4-9 and OTB4-10). Record on MDRF, EXHIBIT F.★
- 6.6.5.2.8 Verify Auxiliary Switch contacts 4-4c "CLOSED" - (OTB4-4 and OTB4-6). Record on MDRF, EXHIBIT F.★
- 6.6.5.2.9 Verify Auxiliary Switch contacts 9-9c "OPEN" - (OTB8-1 and OTB8-2). Record on MDRF, EXHIBIT F.★

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CAUTION

DO NOT TEST AUX SWITCH CONTACTS 1-1c OR 2-2c (ENERGIZED).

- 6.6.5.2.10 Close breaker using the maintenance operating device and verify. Green Off/Red On. Record on MDRF, EXHIBIT F.★
- 6.6.5.2.11 Verify that breaker cannot be racked out. Record on MDRF, EXHIBIT F.★
- 6.6.5.3 Trip Test Number (2) - K Relay Remote Simulate
- 6.6.5.3.1 Remove jumper between OTB3-9 and OTB3-10 (refer to step 6.6.5.1.4). Record on MDRF, EXHIBIT F.★

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- 6.6.5.3.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.5.3.3 Reinstall jumper between OTB3-9 and OTB3-10. Record on MDRF, EXHIBIT F. *
- 6.6.5.3.4 Close breaker by depressing "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.5.4 Trip Test Number (3) - Remote MT Pushbutton Simulate
 - 6.6.5.4.1 Momentarily jumper OTB2-9 and OTB2-10. Record on MDRF, EXHIBIT F. *
 - 6.6.5.4.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F. *
 - 6.6.5.4.3 Remove jumper completely from OTB2-9 and OTB2-10. Record on MDRF, EXHIBIT F. *
 - 6.6.5.4.4 Close breaker by depressing "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.5.5 Trip Test Number (4) - Remote K Relay Contact Simulate
 - 6.6.5.5.1 Momentarily jumper OTB3-3 and OTB3-4. Record on MDRF, EXHIBIT F. *
 - 6.6.5.5.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F. *
 - 6.6.5.5.3 Remove jumper completely from OTB3-3 and OTB3-4. Record on MDRF, EXHIBIT F. *
 - 6.6.5.5.4 Close breaker by operating "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.5.6 Trip Test Number (5) - Emergency Trip Pushbutton
 - 6.6.5.6.1 Operate the "EMERGENCY TRIP" Pushbutton.

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- 6.6.5.6.2 Verify breaker "OPENS". Green On/Red Off. Record on MDRF, EXHIBIT F.*
- 6.6.5.7 Trip Test Number (6) - Local Test Trip and Close Pushbutton
- 6.6.5.7.1 Place breaker in "TEST" Position (EXHIBIT A). Record on MDRF, EXHIBIT F.* ATTACHMENT 8.1
- 6.6.5.7.2 Close breaker using the maintenance operating device and verify. Green Off/Red On. Record on MDRF, EXHIBIT F.*
- 6.6.5.7.3 Operate Test Trip Switch, and verify "OPEN." Green On/Red Off. Record on MDRF, EXHIBIT F.*
- 6.6.5.7.4 Operate Close Test Switch, and verify "CLOSED." Green Off/Red On. Record on MDRF, EXHIBIT F.*
- 6.6.5.7.5 Verify that breaker cannot be racked in. Record on MDRF, EXHIBIT F.*
- 6.6.5.7.6 Operate Test Trip Switch. Rev. 1
- 6.6.5.7.7 Verify breaker is "OPEN." Green On/Red Off. Record on MDRF, EXHIBIT F.*
- 6.6.5.7.8 Open 2D1P103 (also de-energizes TOB-1 Control Voltage). Verify Green Off. Record on MDRF, EXHIBIT F.*
- 6.6.5.7.9 Remove test jumper between OTB3-9 and OTB3-10. Record on MDRF, EXHIBIT F.*
- 6.6.5.7.10 Reinstall green wire, removed in Step 6.6.5.1.5, to OTB3-4. Record on MDRF, EXHIBIT F.*
- 6.6.5.7.11 Remove "TEMPORARY" test switch between OTB3-1 and OTB3-2. Record on MDRF, EXHIBIT F.*
- 6.6.5.7.12 Should a Trip Test fail to operate the breaker, proceed to Step 6.6.10.
- 6.6.5.7.13 Reinsert breaker into "OPERATE" Position (EXHIBIT A). Record on MDRF, EXHIBIT F.* ATTACHMENT 8.1

6.6.6 Trip Latch Check - TOB-6.

6.6.6.1 Preparation

- 6.6.6.1.1 Verify ZB1509 and ZB1606 "OPEN" (EXHIBIT E). Record on MDRF, EXHIBIT F.*
- 6.6.6.1.2 Verify TOB-6 is in "OPERATE" Position and in "TRIPPED" mode. Green On/Red Off. Record on MDRF, EXHIBIT F.*
- 6.6.6.1.3 Open 2D2P103. Verify Green Off/Red Off. Record on MDRF, EXHIBIT F.*
- 6.6.6.1.4 Install test jumper between OTB12-9 and OTB12-10. Record on MDRF, EXHIBIT F.*
- 6.6.6.1.5 Remove green wire from OTB12-4. Record on MDRF, EXHIBIT F.*
- 6.6.6.1.6 Install "TEMPORARY" test switch (N.O. Momentary Contact Pushbutton) between OTB12-1 and OTB12-2. Record on MDRF, EXHIBIT F.*
- 6.6.6.1.7 Close 2D2P103, and verify. Green On/Red Off. Record on MDRF, EXHIBIT F.*
- 6.6.6.1.8 Close breaker by depressing "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F.*
- 6.6.6.1.9 Verify breaker is closed. Record on MDRF, EXHIBIT F.*
- 6.6.6.1.10 Verify Auxiliary Switch contacts 3-3c "CLOSED" - (OTB13-5 and OTB13-6). Record on MDRF, EXHIBIT F.*
- 6.6.6.1.11 Verify Auxiliary Switch contacts 10-10c "OPEN" - (OTB17-1 and OTB17-2). Record on MDRF, EXHIBIT F.*
- 6.6.6.1.12 Verify Auxiliary Switch contacts 6-6c "OPEN" - (OTB17-7 and OTB17-8). Record on MDRF, EXHIBIT F.*
- 6.6.6.1.13 Verify Auxiliary Switch contacts 7-7c "CLOSED" - (OTB17-9 and OTB17-10). Record on MDRF, EXHIBIT F.*
- 6.6.6.1.14 Verify Auxiliary Switch contacts 8-8c "OPEN" - (OTB17-11 and OTB17-12). Record on MDRF, EXHIBIT F.*

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- 6.6.6.1.15 Verify Auxiliary Switch contacts 5-5c "CLOSED" - (OTB13-9 and OTB13-10). Record on MDRF, EXHIBIT F. *
- 6.6.6.1.16 Verify Auxiliary Switch contacts 4-4c "OPEN" - (OTB13-4 and OTB13-6). Record on MDRF, EXHIBIT F. *
- 6.6.6.1.17 Verify Auxiliary Switch contacts 9-9c "CLOSED" - (OTB17-3 and OTB17-4). Record on MDRF, EXHIBIT F. *

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CAUTION

DO NOT TEST AUX SWITCH CONTACTS 1-1c OR 2-2c (ENERGIZED).

- 6.6.6.2 Trip test number (1) - Manual Trip Button on breaker.
- 6.6.6.2.1 Depress trip button on breaker front and verify. Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.6.2.2 Verify Auxiliary Switch contacts 3-3c "OPEN" - (OTB13-5 and OTB13-6). Record on MDRF, EXHIBIT F. *
- 6.6.6.2.3 Verify Auxiliary Switch contacts 10-10c "CLOSED" - (OTB17-1 and OTB17-2). Record on MDRF, EXHIBIT F. *
- 6.6.6.2.4 Verify Auxiliary Switch contacts 6-6c "CLOSED" - (OTB17-7 and OTB17-8). Record on MDRF, EXHIBIT F. *
- 6.6.6.2.5 Verify Auxiliary Switch contacts 7-7c "OPEN" - (OTB17-9 and OTB17-10). Record on MDRF, EXHIBIT F. *
- 6.6.6.2.6 Verify Auxiliary Switch contacts 8-8c "CLOSED" - (OTB17-11 and OTB17-12). Record on MDRF, EXHIBIT F. *
- 6.6.6.2.7 Verify Auxiliary Switch contacts 5-5c "OPEN" - (OTB13-9 and OTB13-10). Record on MDRF, EXHIBIT F. *
- 6.6.6.2.8 Verify Auxiliary Switch contacts 4-4c "CLOSED" - (OTB13-4 and OTB13-6). Record on MDRF, EXHIBIT F. *
- 6.6.6.2.9 Verify Auxiliary Switch contacts 9-9c "OPEN" - (OTB17-3 and OTB17-4). Record on MDRF, EXHIBIT F. *

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→ ATTACHMENT 8.4

CAUTION

DO NOT TEST AUX SWITCH CONTACTS 1-1c OR 2-2c (ENERGIZED).

- 6.6.6.2.10 Close breaker using the maintenance operating device and verify. Green Off/Red On. Record on MDRF, EXHIBIT F.*
- 6.6.6.2.11 Verify that breaker cannot be racked out. Record on MDRF, EXHIBIT F.*

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6.6.6.3 Trip Test Number (2) - K Relay Remote Simulate

- 6.6.6.3.1 Remove jumper between OTB12-9 and OTB12-10 (refer to step 6.6.6.1.4). Record on MDRF, EXHIBIT F.*
- 6.6.6.3.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F.*
- 6.6.6.3.3 Reinstall jumper between OTB12-9 and OTB12-10. Record on MDRF, EXHIBIT F.*
- 6.6.6.3.4 Close breaker by depressing "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F.*

6.6.6.4 Trip Test Number (3) - Remote MT Pushbutton Simulate

- 6.6.6.4.1 Momentarily jumper OTB11-9 and OTB11-10. Record on MDRF, EXHIBIT F.*
- 6.6.6.4.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F.*
- 6.6.6.4.3 Remove jumper completely from OTB11-9 and OTB11-10. Record on MDRF, EXHIBIT F.*
- 6.6.6.4.4 Close breaker by depressing "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F.*

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- 6.6.6.5 Trip Test Number (4) - Remove K Relay Contact Simulate
- 6.6.6.5.1 Momentarily jumper OTB12-3 and OTB12-4. Record on MDRF, EXHIBIT F. *
- 6.6.6.5.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.6.5.3 Remove jumper completely from OTB12-3 and OTB12-4. Record on MDRF, EXHIBIT F. *
- 6.6.6.5.4 Close breaker by operating "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.6.6 Trip Test Number (5) - Emergency Trip Pushbutton
- 6.6.6.6.1 Operate the "EMERGENCY TRIP" Pushbutton.
- 6.6.6.6.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.6.7 Trip Test Number (6) - Local Test Trip and Close Pushbutton
- 6.6.6.7.1 Place breaker in "TEST" Position (EXHIBIT A). Record on MDRF, EXHIBIT F. *
- 6.6.6.7.2 Close breaker using the maintenance operating device and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.6.7.3 Operate Test Trip Switch, and verify "OPEN." Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.6.7.4 Operate Close Test Switch, and verify "CLOSED." Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.6.7.5 Verify that breaker cannot be racked in. Record on MDRF, EXHIBIT F. *
- 6.6.6.7.6 Operate Test Trip Switch.
- 6.6.6.7.7 Verify breaker is "OPEN." Green On/Red Off. Record on MDRF, EXHIBIT F. *

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* ATTACHMENT 8.4

- 6.6.6.7.8 Open 2D2P103 (also de-energizes TCB-2 and TCB-4 Control Voltage). Verify Green Off. Record on MDRF, EXHIBIT F. *
- 6.6.6.7.9 Remove test jumper between OTB12-9 and OTB12-10. Record on MDRF, EXHIBIT F. *
- 6.6.6.7.10 Reinstall green wire removed in Step 6.6.6.1.5, to OTB12-4. Record on MDRF, EXHIBIT F. *
- 6.6.6.7.11 Remove "TEMPORARY" test switch between OTB12-1 and OTB12-2. Record on MDRF, EXHIBIT F. *
- 6.6.6.7.12 Should a Trip Test fail to operate the breaker, proceed to Step 6.6.10.
- 6.6.6.7.13 Reinsert breaker into "OPERATE" Position (EXHIBIT A). Record on MDRF, EXHIBIT F. * ATTACHMENT 8.1
- 6.6.7 Trip Latch Check - TCB-7
- 6.6.7.1 Preparation
- 6.6.7.1.1 Verify 2B1509 and 2B1606 "OPEN" (EXHIBIT E). Record on MDRF, EXHIBIT F. * ATTACHMENT 8.6
- 6.6.7.1.2 Verify TCB-7 is in "OPERATE" Position and in "TRIPPED" mode. Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.7.1.3 Open 2D3P101. Verify Green Off/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.7.1.4 Install test jumper between OTB24-9 and OTB24-10. Record on MDRF, EXHIBIT F. *
- 6.6.7.1.5 Remove green wire from OTB24-4. Record on MDRF, EXHIBIT F. *
- 6.6.7.1.6 Install "TEMPORARY" test switch (N.O. Momentary Contact Pushbutton) between OTB24-1 and OTB24-2. Record on MDRF, EXHIBIT F. *
- 6.6.7.1.7 Close 2D3P101, and verify. Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.7.1.8 Close breaker by depressing "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *

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- 6.6.7.1.9 Verify breaker is closed. Record on MDRF, EXHIBIT F.★
- 6.6.7.1.10 Verify Auxiliary Switch contacts 3-3c "CLOSED" - (OTB24-5 and OTB24-6). Record on MDRF, EXHIBIT F.★
- 6.6.7.1.11 Verify Auxiliary Switch contacts 10-10c "OPEN" - (OTB29-1 and OTB29-2). Record on MDRF, EXHIBIT F.★
- 6.6.7.1.12 Verify Auxiliary Switch contacts 6-6c "OPEN" - (OTB29-7 and OTB29-8). Record on MDRF, EXHIBIT F.★
- 6.6.7.1.13 Verify Auxiliary Switch contacts 7-7c "CLOSED" - (OTB29-9 and OTB29-10). Record on MDRF, EXHIBIT F.★
- 6.6.7.1.14 Verify Auxiliary Switch contacts 8-8c "OPEN" - (OTB29-11 and OTB29-12). Record on MDRF, EXHIBIT F.★
- 6.6.7.1.15 Verify Auxiliary Switch contacts 5-5c "CLOSED" - (OTB25-9 and OTB25-10). Record on MDRF, EXHIBIT F.★
- 6.6.7.1.16 Verify Auxiliary Switch contacts 4-4c "OPEN" - (OTB25-4 and OTB25-6). Record on MDRF, EXHIBIT F.★
- 6.6.7.1.17 Verify Auxiliary Switch contacts 9-9c "CLOSED" - (OTB29-3 and OTB29-4). Record on MDRF, EXHIBIT F.★

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CAUTION

DO NOT TEST AUX SWITCH CONTACTS 1-1c OR 2-2c (ENERGIZED).

- 6.6.7.2 Trip test number (1) - Manual Trip Button on breaker.
- 6.6.7.2.1 Depress trip button on breaker front and verify. Green On/Red Off. Record on MDRF, EXHIBIT F.★
- 6.6.7.2.2 Verify Auxiliary Switch contacts 3-3c "OPEN" - (OTB24-5 and OTB24-6). Record on MDRF, EXHIBIT F.★
- 6.6.7.2.3 Verify Auxiliary Switch contacts 10-10c "CLOSED" - (OTB29-1 and OTB29-2). Record on MDRF, EXHIBIT F.★
- 6.6.7.2.4 Verify Auxiliary Switch contacts 6-6c "CLOSED" - (OTB29-7 and OTB29-8). Record on MDRF, EXHIBIT F.★

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ATTACHMENT D.4

- 6.6.7.2.5 Verify Auxiliary Switch contacts 7-7c "OPEN" - (OTB29-9 and OTB29-10). Record on MDRF, EXHIBIT F. *
- 6.6.7.2.6 Verify Auxiliary Switch contacts 8-8c "CLOSED" - (OTB29-11 and OTB29-12). Record on MDRF, EXHIBIT F. *
- 6.6.7.2.7 Verify Auxiliary Switch contacts 5-5c "OPEN" - (OTB25-9 and OTB25-10). Record on MDRF, EXHIBIT F. *
- 6.6.7.2.8 Verify Auxiliary Switch contacts 4-4c "CLOSED" - (OTB25-4 and OTB25-6). Record on MDRF, EXHIBIT F. *
- 6.6.7.2.9 Verify Auxiliary Switch contacts 9-9c "OPEN" - (OTB29-3 and OTB29-4). Record on MDRF, EXHIBIT F. *

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CAUTION

DO NOT TEST AUX SWITCH CONTACTS 1-1c OR 2-2c (ENERGIZED).

- 6.6.7.2.10 Close breaker using the maintenance operating device and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.7.2.11 Verify that breaker cannot be racked out. Record on MDRF, EXHIBIT F. *
- 6.6.7.3 Trip Test Number (2) - K Relay Remote Simulate
 - 6.6.7.3.1 Remove jumper between OTB24-9 and OTB24-10 (refer to step 6.6.7.1.4). Record on MDRF, EXHIBIT F. *
 - 6.6.7.3.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F. *
 - 6.6.7.3.3 Reinstall jumper between OTB24-9 and OTB24-10. Record on MDRF, EXHIBIT F. *
 - 6.6.7.3.4 Close breaker by depressing "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.7.4 Trip Test Number (3) - Remote MT Pushbutton Simulate

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- 6.6.7.4.1 Momentarily jumper OTB23-9 and OTB23-10. Record on MDRF, EXHIBIT F. *
- 6.6.7.4.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.7.4.3 Remove jumper completely from OTB23-9 and OTB23-10. Record on MDRF, EXHIBIT F. *
- 6.6.7.4.4 Close breaker by depressing "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.7.5 Trip Test Number (4) - Remote K Relay Contact Simulate
 - 6.6.7.5.1 Momentarily jumper OTB24-3 and OTB24-4. Record on MDRF, EXHIBIT F. *
 - 6.6.7.5.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F. *
 - 6.6.7.5.3 Remove jumper completely from OTB24-3 and OTB24-4. Record on MDRF, EXHIBIT F. *
 - 6.6.7.5.4 Close breaker by operating "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.7.6 Trip Test Number (5) - Emergency Trip Pushbutton
 - 6.6.7.6.1 Operate the "EMERGENCY TRIP" Pushbutton.
 - 6.6.7.6.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.7.7 Trip Test Number (6) - Local Test Trip and Close Pushbutton
 - 6.6.7.7.1 Place breaker in "TEST" Position (EXHIBIT A). Record on MDRF, EXHIBIT F. *
ATTACHMENT 5.1
 - 6.6.7.7.2 Close breaker using the maintenance operating device and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
 - 6.6.7.7.3 Operate Test Trip Switch, and verify "OPEN." Green On/Red Off. Record on MDRF, EXHIBIT F. *

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- 6.6.7.7.4 Operate Close Test Switch, and verify "CLOSED." Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.7.7.5 Verify that breaker cannot be racked in. Record on MDRF, EXHIBIT F. *
- 6.6.7.7.6 Operate Test Trip Switch. Record on MDRF, EXHIBIT F. *
- 6.6.7.7.7 Verify breaker is "OPEN." Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.7.7.8 Open 2D3P101 (also de-energizes TCB-3 Control Voltage). Verify Green Off. Record on MDRF, EXHIBIT F. *
- 6.6.7.7.9 Remove test jumper between OTB24-9 and OTB24-10. Record on MDRF, EXHIBIT F. *
- 6.6.7.7.10 Reinstall green wire, removed in Step 6.6.7.1.5, to OTB24-4. Record on MDRF, EXHIBIT F. *
- 6.6.7.7.11 Remove "TEMPORARY" test switch between OTB24-1 and OTB24-2. Record on MDRF, EXHIBIT F. *
- 6.6.7.7.12 Should a Trip Test fail to operate the breaker, proceed to Step 6.6.10.
- 6.6.7.7.13 Reinsert breaker into "OPERATE" Position (EXHIBIT A). Record on MDRF, EXHIBIT F. *

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ATTACHMENT -

6.6.8 Trip Latch Check - TCB-8

6.6.8.1 Preparation

ATTACHMENT 8.6

- 6.6.8.1.1 Verify ZB1509 and ZB1606 "OPEN" (EXHIBIT E). Record on MDRF, EXHIBIT F. *
- 6.6.8.1.2 Verify TCB-8 is in "OPERATE" Position and in "TRIPPED" mode. Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.8.1.3 Open 2D4P101. Verify Green Off/Red Off. Record on MDRF, EXHIBIT F. *

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- 6.6.8.1.4 Install test jumper between OTB33-9 and OTB33-10. Record on MDRF, EXHIBIT F. *
- 6.6.8.1.5 Remove green wire from OTB33-4. Record on MDRF, EXHIBIT F. *
- 6.6.8.1.6 Install "TEMPORARY" test switch (N.O. Momentary Contact Pushbutton) between OTB33-1 and OTB33-2. Record on MDRF, EXHIBIT F. *
- 6.6.8.1.7 Close 2D4P101, and verify. Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.8.1.8 Close breaker by depressing "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.8.1.9 Verify breaker is closed. Record on MDRF, EXHIBIT F. *
- 6.6.8.1.10 Verify Auxiliary Switch contacts 3-3c "CLOSED" - (OTB34-5 and OTB34-6). Record on MDRF, EXHIBIT F. *
- 6.6.8.1.11 Verify Auxiliary Switch contacts 10-10c "OPEN" - (OTB38-1 and OTB38-2). Record on MDRF, EXHIBIT F. *
- 6.6.8.1.12 Verify Auxiliary Switch contacts 6-6c "OPEN" - (OTB38-7 and OTB38-8). Record on MDRF, EXHIBIT F. *
- 6.6.8.1.13 Verify Auxiliary Switch contacts 7-7c "CLOSED" - (OTB38-9 and OTB38-10). Record on MDRF, EXHIBIT F. *
- 6.6.8.1.14 Verify Auxiliary Switch contacts 8-8c "OPEN" - (OTB38-11 and OTB38-12). Record on MDRF, EXHIBIT F. *
- 6.6.8.1.15 Verify Auxiliary Switch contacts 5-5c "CLOSED" - (OTB34-9 and OTB34-10). Record on MDRF, EXHIBIT F. *
- 6.6.8.1.16 Verify Auxiliary Switch contacts 4-4c "OPEN" - (OTB34-4 and OTB34-6). Record on MDRF, EXHIBIT F. *
- 6.6.8.1.17 Verify Auxiliary Switch contacts 9-9c "CLOSED" - (OTB38-3 and OTB38-4). Record on MDRF, EXHIBIT F. *

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CAUTION

DO NOT TEST AUX SWITCH CONTACTS 1-1c OR 2-2c (ENERGIZED).

* ATTACHMENT 8.4

6.6.8.2 Trip test number (1) - Manual Trip Button on breaker.

- 6.6.8.2.1 Depress trip button on breaker front and verify. Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.8.2.2 Verify Auxiliary Switch contacts 3-3c "OPEN" - (OTB34-5 and OTB34-6). Record on MDRF, EXHIBIT F. *
- 6.6.8.2.3 Verify Auxiliary Switch contacts 10-10c "CLOSED" - (OTB38-1 and OTB38-2). Record on MDRF, EXHIBIT F. *
- 6.6.8.2.4 Verify Auxiliary Switch contacts 6-6c "CLOSED" - (OTB38-7 and OTB38-8). Record on MDRF, EXHIBIT F. *
- 6.6.8.2.5 Verify Auxiliary Switch contacts 7-7c "OPEN" - (OTB38-9 and OTB38-10). Record on MDRF, EXHIBIT F. *
- 6.6.8.2.6 Verify Auxiliary Switch contacts 8-8c "CLOSED" - (OTB38-11 and OTB38-12). Record on MDRF, EXHIBIT F. *
- 6.6.8.2.7 Verify Auxiliary Switch contacts 5-5c "OPEN" - (OTB34-9 and OTB34-10). Record on MDRF, EXHIBIT F. *
- 6.6.8.2.8 Verify Auxiliary Switch contacts 4-4c "CLOSED" - (OTB34-4 and OTB34-6). Record on MDRF, EXHIBIT F. *
- 6.6.8.2.9 Verify Auxiliary Switch contacts 9-9c "OPEN" - (OTB38-3 and OTB38-4). Record on MDRF, EXHIBIT F. *

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CAUTION

DO NOT TEST AUX SWITCH CONTACTS 1-1c OR 2-2c (ENERGIZED).

- 6.6.8.2.10 Close breaker using the maintenance operating device and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.8.2.11 Verify that breaker cannot be racked out. Record on MDRF, EXHIBIT F. *

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6.6.8.3 Trip Test Number (2) - K Relay Remote Simulate

- 6.6.8.3.1 Remove jumper between OTB33-9 and OTB33-10 (refer to step 6.6.8.1.4). Record on MDRF, EXHIBIT F. *

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ATTACHMENT 3.4

- 6.6.8.3.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.8.3.3 Reinstall jumper between OTB33-9 and OTB33-10. Record on MDRF, EXHIBIT F. *
- 6.6.8.3.4 Close breaker by depressing "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.8.4 Trip Test Number (3) - Remote MT Pushbutton Simulate
 - 6.6.8.4.1 Momentarily jumper OTB32-9 and OTB32-10. Record on MDRF, EXHIBIT F. *
 - 6.6.8.4.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F. *
 - 6.6.8.4.3 Remove jumper completely from OTB32-9 and OTB32-10. Record on MDRF, EXHIBIT F. *
 - 6.6.8.4.4 Close breaker by depressing "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.8.5 Trip Test Number (4) - Remote K Relay Contact Simulate
 - 6.6.8.5.1 Momentarily jumper OTB33-3 and OTB33-4. Record on MDRF, EXHIBIT F. *
 - 6.6.8.5.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F. *
 - 6.6.8.5.3 Remove jumper completely from OTB33-3 and OTB33-4. Record on MDRF, EXHIBIT F. *
 - 6.6.8.5.4 Close breaker by operating "TEMPORARY" test switch and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.8.6 Trip Test Number (5) - Emergency Trip Pushbutton
 - 6.6.8.6.1 Operate the "EMERGENCY TRIP" Pushbutton.

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* ATTACHMENT 8.4

- 6.6.8.6.2 Verify breaker "OPENS." Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.8.7 Trip Test Number (6) - Local Test Trip and Close Pushbutton
ATTACHMENT 8.1
- 6.6.8.7.1 Place breaker in "TEST" Position (EXHIBIT A). Record on MDRF, EXHIBIT F. *
- 6.6.8.7.2 Close breaker using the maintenance operating device and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.8.7.3 Operate Test Trip Switch, and verify "OPEN." Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.8.7.4 Operate Close Test Switch, and verify "CLOSED." Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.8.7.5 Verify that breaker cannot be racked in. Record on MDRF, EXHIBIT F. *
- 6.6.8.7.6 Operate Test Trip Switch.
- 6.6.8.7.7 Verify breaker is "OPEN." Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.8.7.8 Open 2D4P101 (also de-energizes TCB-4 Control Voltage). Verify Green Off. Record on MDRF, EXHIBIT F. *
- 6.6.8.7.9 Remove test jumper between OTB33-9 and OTB33-10. Record on MDRF, EXHIBIT F. *
- 6.6.8.7.10 Reinstall green wire, removed in Step 6.6.8.1.5, to OTB33-4. Record on MDRF, EXHIBIT F. *
- 6.6.8.7.11 Remove "TEMPORARY" test switch between OTB33-1 and OTB33-2. Record on MDRF, EXHIBIT F. *
- 6.6.8.7.12 Should a Trip Test fail to operate the breaker, proceed to Step 6.6.10.
- 6.6.8.7.13 Reinsert breaker into "OPERATE" Position (EXHIBIT A). Record on MDRF, EXHIBIT F. *
- ATTACHMENT 8.1

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ATTACHMENT 8.4

6.6.9 Trip Latch Check - TOB-9

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6.6.9.1 Preparation

ATTACHMENT 8.6

- 6.6.9.1.1 Verify ZB1509 and ZB1606 "OPEN" (EXHIBIT E). Record on MDRF, EXHIBIT F. *
- 6.6.9.1.2 Verify TOB-9 is in "OPERATE" position and in "TRIPPED" mode. Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.9.1.3 Close breaker by close button and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.9.1.4 Verify breaker is closed. Record on MDRF, EXHIBIT F. *
- 6.6.9.1.5 Verify Auxiliary Switch contacts 3-3c "CLOSED" - (OTB20-2 and OTB20-3). Record on MDRF, EXHIBIT F. *
- 6.6.9.1.6 Verify Auxiliary Switch contacts 10-10c "OPEN" - (OTB21-1 and OTB21-2). Record on MDRF, EXHIBIT F. *
- 6.6.9.1.7 Verify Auxiliary Switch contacts 6-6c "OPEN" - (OTB21-7 and OTB21-8). Record on MDRF, EXHIBIT F. *
- 6.6.9.1.8 Verify Auxiliary Switch contacts 7-7c "CLOSED" - (OTB21-9 and OTB21-10). Record on MDRF, EXHIBIT F. *
- 6.6.9.1.9 Verify Auxiliary Switch contacts 8-8c "OPEN" - (OTB21-11 and OTB21-12). Record on MDRF, EXHIBIT F. *
- 6.6.9.1.10 Verify Auxiliary Switch contacts 5-5c "CLOSED" - (OTB20-7 and OTB20-8). Record on MDRF, EXHIBIT F. *
- 6.6.9.1.11 Verify Auxiliary Switch contacts 4-4c "OPEN" - (OTB20-1 and OTB20-3). Record on MDRF, EXHIBIT F. *
- 6.6.9.1.12 Verify Auxiliary Switch contacts 9-9c "CLOSED" - (OTB21-3 and OTB21-4). Record on MDRF, EXHIBIT F. *

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CAUTION

DO NOT TEST AUX SWITCH CONTACTS 1-1c OR 2-2c (ENERGIZED).

* ATTACHMENT 8.4

6.6.9.2 Trip test number (1) - Manual Trip Button on breaker.

- 6.6.9.2.1 Depress trip button on breaker front and verify. Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.9.2.2 Verify Auxiliary Switch contacts 3-3c "OPEN" - (OTB20-2 and OTB20-3). Record on MDRF, EXHIBIT F. *
- 6.6.9.2.3 Verify Auxiliary Switch contacts 10-10c "CLOSED" - (OTB21-1 and OTB21-2). Record on MDRF, EXHIBIT F. *
- 6.6.9.2.4 Verify Auxiliary Switch contacts 6-6c "CLOSED" - (OTB21-7 and OTB21-8). Record on MDRF, EXHIBIT F. *
- 6.6.9.2.5 Verify Auxiliary Switch contacts 7-7c "OPEN" - (OTB21-9 and OTB21-10). Record on MDRF, EXHIBIT F. *
- 6.6.9.2.6 Verify Auxiliary Switch contacts 8-8c "CLOSED" - (OTB21-11 and OTB21-12). Record on MDRF, EXHIBIT F. *
- 6.6.9.2.7 Verify Auxiliary Switch contacts 5-5c "OPEN" - (OTB20-7 and OTB20-8). Record on MDRF, EXHIBIT F. *
- 6.6.9.2.8 Verify Auxiliary Switch contacts 4-4c "CLOSED" - (OTB20-1 and OTB20-3). Record on MDRF, EXHIBIT F. *
- 6.6.9.2.9 Verify Auxiliary Switch contacts 9-9c "OPEN" - (OTB21-3 and OTB21-4). Record on MDRF, EXHIBIT F. *

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CAUTION

DO NOT TEST AUX SWITCH CONTACTS 1-1c OR 2-2c (ENERGIZED).

- 6.6.9.2.10 Close breaker using the maintenance operating device and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.9.2.11 Verify that breaker cannot be racked out. Record on MDRF, EXHIBIT F. *

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6.6.9.3 Trip Test Number (2) - Trip Coil Simulate.

- 6.6.9.3.1 Open 2D2P103 and verify. Green Off/Red Off, TOB-2, TOB-6, and TOB-9. Record on MDRF, EXHIBIT F. *
- 6.6.9.3.2 Install a jumper between BC1 and BC2 in Section 03, EXHIBIT D. Record on MDRF, EXHIBIT F. *

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- 6.6.9.3.3 Close 2D2P103 and verify. Green On/Red Off, TOB-2, TOB-6, and TOB-9. Record on MDRF, EXHIBIT F. *
- 6.6.9.3.4 Close breaker using Close Button on door of compartment B, Section 03 and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.9.3.5 Trip breaker using Trip Button on door of compartment B, Section 03 and verify. Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.9.3.6 Open 2D2P103 and verify. Green Off/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.9.3.7 Remove jumper between BC1 and BC2. Record on MDRF, EXHIBIT F. *
- 6.6.9.4 Trip Test Number (3) - Under-voltage Device Trip Simulate.
- 6.6.9.4.1 Remove two (2) wires on BC4 and connect them together. Record on MDRF, EXHIBIT F. *
- 6.6.9.4.2 Close 2D2P103 and verify. Green On/Red Off, TOB-2, TOB-6, and TOB-9. Record on MDRF, EXHIBIT F. *
- 6.6.9.4.3 Close breaker using Close Button on door of compartment B, Section 03 and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.9.4.4 Depress Trip Button on door and verify "OPEN". Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.9.4.5 Open 2D2P103 and Verify. Green Off/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.9.4.6 Reconnect the two (2) wires on BC4 (refer to step 6.6.9.4.1). Record on MDRF, EXHIBIT F. *
- 6.6.9.4.7 Close 2D2P103 and verify. Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.9.5 Trip Test Number (4) - Test Trip and Close Pushbutton.
- 6.6.9.5.1 Place breaker into "TEST" Position (refer to Exhibit A). Record on MDRF, EXHIBIT F. *

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* ATTACHMENT 8.4

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- 6.6.9.5.2 Close breaker using maintenance operating device and verify. Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.9.5.3 Operate Test Trip Button and verify "OPEN." Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.9.5.4 Operate Test Close Button and verify "CLOSED." Green Off/Red On. Record on MDRF, EXHIBIT F. *
- 6.6.9.5.5 Verify that breaker cannot be racked into the "OPERATE" Position. Record on MDRF, EXHIBIT F. *
- 6.6.9.5.6 Operate Test Trip Switch
- 6.6.9.5.7 Verify breaker is open. Green On/Red Off. Record on MDRF, EXHIBIT F. *
- 6.6.9.5.8 Open 2D2P103 (also de-energizes TCB-2 and TCB-6 Control Voltage). Verify Green off. Record on MDRF, EXHIBIT F. *
- 6.6.9.5.9 Should a Trip Test fail to operate the breaker, proceed to Step 6.6.10.
- 6.6.9.5.10 Reinsert breaker into "Operate" position, EXHIBIT A. Record on MDRF, EXHIBIT F. * ATTACHMENT 8.1
- 6.6.10 Trip Latch Adjustment (All Breakers)
- 6.6.10.1 Verify Control Power Off; both indicator lights, RED and GREEN OFF. Record on MDRF, EXHIBIT F. *
- 6.6.10.2 Trip breaker by depressing manual Trip Button on front of breaker. Record on MDRF, EXHIBIT F. *
- 6.6.10.3 Withdraw breaker to "TEST" Position (EXHIBIT A). Record on MDRF, EXHIBIT F. * ATTACHMENT 8.1
- 6.6.10.4 Verify that the Buffer Paddle (stops against end of latch adjustment screw) is tightly fastened to trip shaft by holding trip shaft and checking for relative motion of Buffer Paddle. Any motion is removed by tightening the fasteners holding Buffer Paddle to trip shaft. Record on MDRF, EXHIBIT F. *

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7. ATTACHMENT 8.4

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REVISION 0ORIGINAL
MOVED FROM PAGE 4

- ~~6.5~~ Reinsert circuit breaker into the cubicle, but only to the Test
~~6.7~~ position stop, in accordance with Attachment 8.1.

6.0 PROCEDURE (Cont'd)6.8. ~~6.6~~ Restoration and Post-Maintenance Checks

- ~~6.8.1~~ ~~6.6.1~~ Sign the associated Maintenance Order to verify that the equipment is ready to be returned to service.
- ~~6.8.2~~ ~~6.6.2~~ Notify Operations that the maintenance activity has been completed and the equipment is now ready for verification of functional acceptability and return to operable status.
- ~~6.8.3~~ ~~6.6.3~~ Record satisfactory completion of Section 6.6 on Attachment 8.4.

7.0 RECORDS

- 7.1 Complete all data on the Maintenance Data Record Form (MDRF), Attachment 8.4. of this procedure and forward the entire work package, including "Maintenance Order," to the Immediate Supervisor for approval and record disposition per S0123-I-1.3. CDM File No., based on the system involved, must be entered on the MDRF.

8.0 ATTACHMENTS

- 8.1 Withdrawing, Manual Closing and Inserting Instructions for AK-25 Circuit Breaker
- 8.2 Under-Voltage Tripping Device
- 8.3 Special Tools and Consumables List
- 8.4 Maintenance Data Record Form (MDRF)

Stan Stalwach 6/10/72
STAN STALWACH
STATION MAINTENANCE MANAGER

RO/NUS:tn

WITHDRAWING, MANUAL CLOSING AND INSERTING OF THE AK-25 BREAKER

I. Withdrawing

- A. Ensure the breaker is tripped OPEN by pushing manual trip button.
- B. Pull racking handle up and forward as far as it will travel, disengaging the primary disconnects.
- C. Slide breaker out until the position stop engages in the front slot in the bottom of the breaker carriage. Breaker is now in the TEST position and primary power disconnect contacts are safely disengaged from the line and load terminals, but the secondary control disconnects are engaged.
- D. Lift position stop handle and slide the breaker forward until the position stop engages the rear slot in the bottom of the breaker carriage. Breaker is now in the SAFETY position stop and both primary and secondary contacts are disengaged.
- E. Again lift the position stop handle and slide the breaker slightly forward to remove it from the closure.

II. Manual Closing

NOTE: Refer to Reference 2.2.3, page 7 for description of maintenance handle.

- A. Place the two small hooks of the maintenance handle into the two slots located in the lower portion of the front escutcheon.
- B. Downward action of the maintenance handle forces the solenoid armature upwards and closes the breaker contacts.

NOTE: Refer to Reference 2.2.2, Page 4.

III. Inserting

- A. Raise the breaker until the guides on the sides of the breaker mate with the supporting channels in the enclosure.
- B. Slide the breaker into the cubicle until the SAFETY position stop engages, which occurs after the breaker has traveled only a short distance.

SAN ONOFRE NUCLEAR GENERATING STATION
UNITS 2 & 3

MAINTENANCE PROCEDURE S023-I-4.36
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ATTACHMENT 8.1
PAGE 2 OF 2

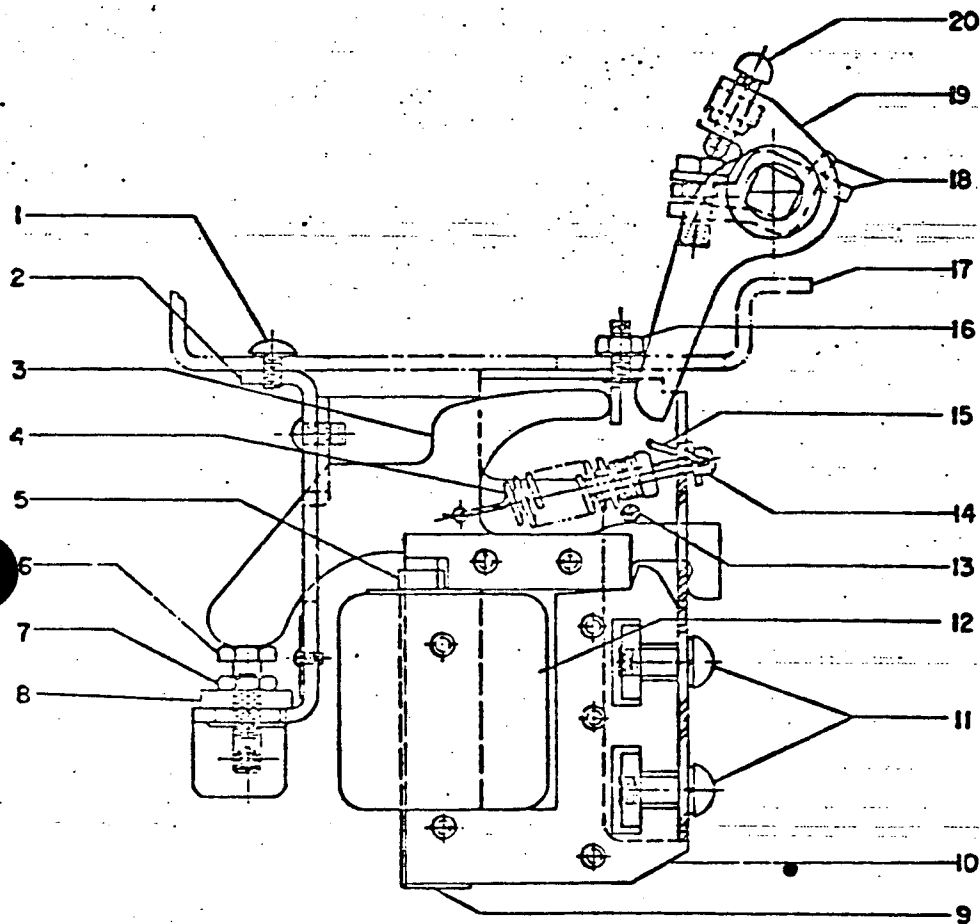
WITHDRAWING, MANUAL CLOSING AND INSERTING OF THE AK-25 BREAKER

III. Inserting (Cont'd)

- C. Lift position stop handle and push the breaker further into the cubicle until the TEST position stop engages. Secondary Control Contacts are now engaged.
- D. Lift position stop handle, raise rackout handle forward and up as far as its travel permits and push the breaker back into the cubicle until rackout pins on the handle assembly bear against the housing rackout cams.
- E. Pushing downward on the rackout handle forces the pins on the handle up into the slot in the stationary cam plate. This action moves the breaker through a final short distance into the cubicle and allows the operator to provide the necessary force to make the primary disconnect contacts engage the stationary studs in the cubicle.

NOTE: If the racking handle is not completely in the down position, the breaker cannot be operated in the "fully in" or "test" positions.

- F. In rotating the rackout handle, ensure the handle is rotated downwards as far as its free travel permits, then pull the handle down to ensure the trip interlock is released.

UNDER-VOLTAGE TRIPPING DEVICE

1. Mounting Screw
2. Frame
3. Armature
4. Spring
5. Shading Ring
6. Adjusting Screw
7. Locking Nut
8. Bushing
9. Clamp
10. Magnet
11. Screws
12. Coil
13. Rivet
14. Adjusting Screw
15. Locking Wire
16. Mounting Nut
17. Mechanism Frame
18. Trip Paddle Clamps
19. Trip Paddle
20. Adjusting Screw

ATTACHMENT 8.3
~~EXHIBIT B~~

SPECIAL TOOLS, ~~TEST EQUIPMENT~~ AND CONSUMABLES LIST

- 1) Multimeter (Simpson Model #260-6P or equivalent)
- 2) Variable Power Supply (0-130VDC 10 Amps Cap.)
- 8 X) Wrench, Open End, 5/16 Inch ~~Rev. 1~~
- 11 X) Spring Scale, 2 lb. range, 1/2 oz. increments (or equivalent) ~~Rev. 1~~
- 5) Test Light and Leads
- 6) Lubricant (Mechanical Parts - G. E. Spec. No. D50H15 or equivalent)
- 7) Lubricant (Electrical Parts - G.E. Spec. No. D50H047 or equivalent) ~~Rev. 1~~
- 3 X) Feeler Gauge
- 9) Solvent (AEC Alcohol - Marsh Romack or equivalent) ~~Rev. 1~~
- 10) Test Switch (Shop Stock Momentary Switch and Test Leads)
- 4 X) Maintenance Operating Device *HANDLE FOR*
MANUALLY OPERATED BREAKERS ~~Rev. 1~~

SAN ONOFRE NUCLEAR GENERATING STATION
UNITS 2 & 3MAINTENANCE PROCEDURE S023-1-4.36
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ATTACHMENT 8.4
PAGE 1 OF 2MAINTENANCE DATA RECORD FORM

Breaker No. _____

Date _____

Prerequisites Met _____

Signature _____

Date _____

Step No.	Data Description	Condition or Values	Acceptance Criteria	Recorder/Verifier Signature/Date
6.2.2	Check under-voltage tripping device armature clearance	Sat/Unsat	Armature has freedom to move with respect to its pivot on the magnet guide provided by the pivot	/
6.3.1	Connect variable DC power supply (100-130VDC) to circuit breaker terminals	Sat/Unsat	Terminal C2(-) Terminal C3(+)	/
6.3.3	Adjust variable DC power supply output test voltage as measured across circuit breaker terminals C2(-) and C3(+)	100VDC	$\pm 0.5V$	/
6.3.4	Adjust under-voltage device armature pickup voltage setting	100VDC $\pm 0.5V$	Under-voltage device armature operates	/
6.3.7	Completed Section 6.3	Sat/Unsat	Variable DC power supply disconnected from circuit breaker terminals.	/
6.4.2	Measure gap clearance between under-voltage device armature arm and trip paddle	_____ in.	$\geq .03125$ $\leq .032$	/
6.4.3	Measure over-travel movement of the under-voltage device armature arm after trip occurs.	_____ in.	$\geq 1/32"$ $\leq 1/16"$	/

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ATTACHMENT 8.4
EXHIBIT FMAINTENANCE DATA RECORD FORM

EQUIPMENT AND PROCEDURE IDENTIFICATION				
Equipment Description:		S/U System Designator:		
		Equip. Tag No:		
Procedure Title: Under-Voltage Tripping Device of the GE AK-2-25 Circuit Breakers in the Reactor Trip Switchgear Procedure No: MPES008 Rev.		Quality Class:		
		SWP No:		
		Clearance No:		
		Unit No:		
Control Number:				
TEST EQUIPMENT/SPECIAL TOOLS				
DESCRIPTION	COMPONENT ID	RECALL DATE	RANGE	SETPOINT
3.0 Prerequisites Verified			INITIAL	DATE
(Log exceptions in Remarks)				

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MAINTENANCE DATA RECORD FORM

EQUIPMENT NO. _____

6.0	PROCEDURE	MAINTENANCE		QA/QC	
SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Initial Trip Test					
6.1.1 Breaker in Operate Closed	Green _____ Red _____				
6.1.2 D.C. Control Power On:					
2D1P103 Closed	2D1P103 _____				
2D2P103 Closed	2D2P103 _____				
2D3P101 Closed	2D3P101 _____				
2D4P101 Closed	2D4P101 _____				
6.1.3 2E1509 Open	2E1509 _____				
6.1.4 2E1606 Open	2E1606 _____				
6.1.5 Open 2D1P103 TOB - 1	2D1P103 _____ Green _____ Red _____				
TOB - 5	Green _____ Red _____				
6.1.6 Close 2D1P103 TOB - 1	2D1P103 _____ Green _____ Red _____				
TOB - 5	Green _____ Red _____				
6.1.7 Open 2D2P103 TOB - 2	2D2P103 _____ Green _____ Red _____				
TOB - 6	Green _____ Red _____				
TOB - 9	Green _____ Red _____				

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Exhibit F

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EXHIBIT F

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MAINTENANCE DATA RECORD FORM

EQUIPMENT NO. _____

6.0	PROCEDURE	MAINTENANCE		QA/QC	
SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Initial Trip Test					
6.1.8 Close 2D2P103	2D2P103 _____				
TOB - 2	Green _____				
	Red _____				
TOB - 6	Green _____				
	Red _____				
TOB - 9	Green _____				
	Red _____				
6.1.9 Open 2D3P101	2D3P101 _____				
TOB - 3	Green _____				
	Red _____				
TOB - 7	Green _____				
	Red _____				
6.1.10 Close 2D3P101	2D3P101 _____				
TOB - 3	Green _____				
	Red _____				
TOB - 7	Green _____				
	Red _____				
6.1.11 Open 2D4P101	2D4P101 _____				
TOB - 4	Green _____				
	Red _____				
TOB - 8	Green _____				
	Red _____				
6.1.12 Close 2D4P101	2D4P101 _____				
TOB - 4	Green _____				
	Red _____				
TOB - 8	Green _____				
	Red _____				

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MAINTENANCE DATA RECORD FORM

EQUIPMENT NO. _____

6.0	PROCEDURE	MAINTENANCE		QA/QC	
SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Armature Clearance Test					
TCB - 1					
6.2.1 Trip TCB - 1	TCB - 1 _____				
6.2.2 TCB - 1 to Test	TCB - 1 _____				
6.2.3 Open 2D1P103	Green _____ Red _____				
6.2.5 Armature Clearance	Sat _____ #Unsat _____				
TCB - 2					
6.2.1 Trip TCB - 2	TCB - 2 _____				
6.2.2 TCB - 2 to Test	TCB - 2 _____				
6.2.3 Open 2D2P103	Green _____ Red _____				
6.2.5 Armature Clearance	Sat _____ #Unsat _____				
TCB - 3					
6.2.1 Trip TCB - 3	TCB - 3 _____				
6.2.2 TCB - 3 to Test	TCB - 3 _____				
6.2.3 Open 2D3P101	Green _____ Red _____				
6.2.5 Armature Clearance	Sat _____ #Unsat _____ Red _____				
TCB - 4					
6.2.1 Trip TCB - 4	TCB - 4 • _____				
6.2.2 TCB - 4 to Test	TCB - 4 _____				
6.2.3 Open 2D4P101	Green _____ Red _____				
6.2.5 Armature Clearance	Sat _____ #Unsat _____				
TCB - 5					
6.2.1 Trip TCB - 5	TCB - 5 _____				
6.2.2 TCB - 5 to Test	TCB - 5 _____				
6.2.3 Open 2D1P103	Green _____ Red _____				
6.2.5 Armature Clearance	Sat _____ #Unsat _____				

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6.0		PROCEDURE	MAINTENANCE		QA/QC	
SECTION		DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Armature Clearance Test						
TCB - 6						
6.2.1	Trip TCB - 6	TCB - 6 _____				
6.2.2	TCB - 6 to Test	TCB - 6 _____				
6.2.3	Open 2D2P103	Green _____				
		Red _____				
6.2.5	Armature Clearance	Sat _____ #Unsat _____				
TCB - 7						
6.2.1	Trip TCB - 7	TCB - 7 _____				
6.2.2	TCB - 7 to Test	TCB - 7 _____				
6.2.3	Open 2D3P101	Green _____				
		Red _____				
6.2.5	Armature Clearance	Sat _____ #Unsat _____				
TCB - 8						
6.2.1	Trip TCB - 8	TCB - 8 _____				
6.2.2	TCB - 8 to Test	TCB - 8 _____				
6.2.3	Open 2D4P101	Green _____				
		Red _____				
6.2.5	Armature Clearance	Sat _____ #Unsat _____				
TCB - 9						
6.2.1	Trip TCB - 9	TCB - 9 _____				
6.2.2	TCB - 9 to Test	TCB - 9 _____				
6.2.3	Open 2D2P103	Green _____				
		Red _____				
6.2.5	Armature Clearance	Sat _____ #Unsat _____				
Instantaneous U.V. Pickup Setting						
TCB - 1						
6.3.1	Trip TCB - 1	TCB - 1 _____				
6.3.2	TCB - 1 to Test	TCB - 1 _____				

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MAINTENANCE DATA RECORD FORM

EQUIPMENT NO. _____

6.0 PROCEDURE		MAINTENANCE		QA/QC	
SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Instantaneous U.V. Pickup Setting					
6.3.3 Open 2D1P103	Green _____ Red _____				
6.3.4 Power Supply Connected	Yes _____ No _____				
6.3.5 Locking Wire Removed	Yes _____ No _____				
6.3.6 Power Supply Set	_____ DCV				
6.3.7 Pickup Set	_____ DCV				
6.3.8 Locking Wire Re-installed	Yes _____ No. _____				
6.3.9 Power Supply Removed	Yes _____ No _____				
6.3.10 TCB - 1 To Operate	TCB - 1 _____				
6.3.11 Close 2D1P103	Green _____ Red _____				
TCB - 2					
6.3.1 Trip TCB - 2	TCB - 2 _____				
6.3.2 TCB - 2 To Test	TCB - 2 _____				
6.3.3 Open 2D2P103	Green _____ Red _____				
6.3.4 Power Supply Connected	Yes _____ No _____				
6.3.5 Locking Wire Removed	Yes _____ No _____				
6.3.6 Power Supply Set	_____ DCV				
6.3.7 Pickup Set	_____ DCV				
6.3.8 Locking Wire Re-installed	Yes _____ No. _____				
6.3.9 Power Supply Removed	Yes _____ No _____				
6.3.10 TCB - 2 To Operate	TCB - 2 _____				
6.3.11 Close 2D2P103	Green _____ Red _____				

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MAINTENANCE DATA RECORD FORM

EQUIPMENT NO. _____

6.0		PROCEDURE		MAINTENANCE		QA/QC	
SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
Instantaneous U.V. Pickup Setting							
TOB - 3							
6.3.1 Trip TOB - 3	TOB - 3 _____						
6.3.2 TOB - 3 To Test	TOB - 3 _____						
6.3.3 Open 2D3P101	Green _____ Red _____						
6.3.4 Power Supply Connected	Yes _____ No _____						
6.3.5 Locking Wire Removed	Yes _____ No _____						
6.3.6 Power Supply Set	_____ DCV						
6.3.7 Pickup Set	_____ DCV						
6.3.8 Locking Wire Re- installed	Yes _____ No _____						
6.3.9 Power Supply Removed	Yes _____ No _____						
6.3.10 TOB - 3 To Operate	TOB - 3 _____						
6.3.11 Close 2D3P101	Green _____ Red _____						
TOB - 4							
6.3.1 Trip TOB - 4	TOB - 4 _____						
6.3.2 TOB - 4 To Test	TOB - 4 _____						
6.3.3 Open 2D4P101	Green _____ Red _____						
6.3.4 Power Supply Connected	Yes _____ No _____						
6.3.5 Locking Wire Removed	Yes _____ No _____						
6.3.6 Power Supply Set	_____ DCV						
6.3.7 Pickup Set	_____ DCV						
6.3.8 Locking Wire Re- installed	Yes _____ No _____						
6.3.9 Power Supply Removed	Yes _____ No _____						
6.3.10 TOB - 4 To Operate	TOB - 4 _____						
6.3.11 Close 2D4P101	Green _____ Red _____						

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MAINTENANCE DATA RECORD FORM

EQUIPMENT NO. _____

6.0 PROCEDURE		MAINTENANCE		QA/QC	
SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Instantaneous U.V. Pickup Setting					
TCB - 5					
6.3.1 Trip TCB - 5	TCB - 5 _____				
6.3.2 TCB - 5 To Test	TCB - 5 _____				
6.3.3 Open 2D1P103	Green _____				
	Red _____				
6.3.4 Power Supply Connected	Yes _____ No _____				
6.3.5 Locking Wire Removed	Yes _____ No _____				
6.3.6 Power Supply Set	_____ DCV				
6.3.7 Pickup Set	_____ DCV				
6.3.8 Locking Wire Re-installed	Yes _____ No _____				
6.3.9 Power Supply Removed	Yes _____ No _____				
6.3.10 TCB - 5 To Operate	TCB - 5 _____				
6.3.11 Close 2D1P103	Green _____				
	Red _____				
TCB - 6					
6.3.1 Trip TCB - 6	TCB - 6 _____				
6.3.2 TCB - 6 To Test	TCB - 6 _____				
6.3.3 Open 2D2P103	Green _____				
	Red _____				
6.3.4 Power Supply Connected	Yes _____ No _____				
6.3.5 Locking Wire Removed	Yes _____ No _____				
6.3.6 Power Supply Set	_____ DCV				
6.3.7 Pickup Set	_____ DCV				
6.3.8 Locking Wire Re-installed	Yes _____ No _____				
6.3.9 Power Supply Removed	Yes _____ No _____				
6.3.10 TCB - 6 To Operate	TCB - 6 _____				
6.3.11 Close 2D2P103	Green _____				
	Red _____				

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6.0 PROCEDURE		MAINTENANCE		QA/QC	
SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Instantaneous U.V. Pickup Setting					
TOB - 7					
6.3.1 Trip TOB - 7	TOB - 7 _____				
6.3.2 TOB - 7 To Test	TOB - 7 _____				
6.3.3 Open 2D3P101	Green _____ Red _____				
6.3.4 Power Supply Connected	Yes _____ No _____				
6.3.5 Locking Wire Removed	Yes _____ No _____				
6.3.6 Power Supply Set	_____ DCV				
6.3.7 Pickup Set	_____ DCV				
6.3.8 Locking Wire Re-installed	Yes _____ No _____				
6.3.9 Power Supply Removed	Yes _____ No _____				
6.3.10 TOB - 7 To Operate	TOB - 7 _____				
6.3.11 Close 2D3P101	Green _____ Red _____				
TOB - 8					
6.3.1 Trip TOB - 8	TOB - 8 _____				
6.3.2 TOB - 8 To Test	TOB - 8 _____				
6.3.3 Open 2D4P101	Green _____ Red _____				
6.3.4 Power Supply Connected	Yes _____ No _____				
6.3.5 Locking Wire Removed	Yes _____ No _____				
6.3.6 Power Supply Set	_____ DCV				
6.3.7 Pickup Set	_____ DCV				
6.3.8 Locking Wire Re-installed	Yes _____ No _____				
6.3.9 Power Supply Removed	Yes _____ No _____				
6.3.10 TOB - 8 To Operate	TOB - 8 _____				
6.3.11 Close 2D4P101	Green _____ Red _____				

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EQUIPMENT NO. _____

6.0 PROCEDURE		MAINTENANCE		QA/QC	
SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Instantaneous U.V. Pickup Setting					
TCB - 9					
6.3.1 Trip TCB - 9	TCB - 9 _____				
6.3.2 TCB - 9 To Test	TCB - 9 _____				
6.3.3 Open 2D2P103	Green _____ Red _____				
6.3.4 Power Supply Connected	Yes _____ No _____				
6.3.5 Locking Wire Removed	Yes _____ No _____				
6.3.6 Power Supply Set	_____ DCV				
6.3.7 Pickup Set	_____ DCV				
6.3.8 Locking Wire Re-installed	Yes _____ No _____				
6.3.9 Power Supply Removed	Yes _____ No _____				
6.3.10 TCB - 9 To Operate	TCB - 9 _____				
6.3.11 Close 2D2P103	Green _____ Red _____				
Positive Trip Check					
TCB - 1					
6.4.1 TCB - 1 to Safety Stop	TCB - 1 _____				
6.4.2 Open 2D1P103	Green _____ Red _____				
6.4.3 Close TCB - 1	TCB - 1 _____				
6.4.5 TCB - 1 Trip	_____ Inches				
6.4.6 Adjusted Trip	_____ Inches				
TCB - 2					
6.4.1 TCB - 2 to Safety Stop	TCB - 2 _____				
6.4.2 Open 2D2P103	Green _____ Red _____				
6.4.3 Close TCB - 2	TCB - 2 _____				
6.4.5 TCB - 2 Trip	_____ Inches				
6.4.6 Adjusted Trip	_____ Inches				

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6.0	PROCEDURE	MAINTENANCE		QA/QC	
SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Positive Trip Check					
TCB - 3					
6.4.1 TCB - 3 to Safety Stop	TCB - 3 _____				
6.4.2 Open 2D3P101	Green _____ Red _____				
6.4.3 Close TCB - 3	TCB - 3 _____				
6.4.5 TCB - 3 Trip	_____ Inches				
6.4.6 Adjusted Trip	_____ Inches				
TCB - 4					
6.4.1 TCB - 4 to Safety Stop	TCB - 4 _____				
6.4.2 Open 2D4P101	Green _____ Red _____				
6.4.3 Close TCB - 4	TCB - 4 _____				
6.4.5 TCB - 4 Trip	_____ Inches				
6.4.6 Adjusted Trip	_____ Inches				
TCB - 5					
6.4.1 TCB - 5 to Safety Stop	TCB - 5 _____				
6.4.2 Open 2D1P103	Green _____ Red _____				
6.4.3 Close TCB - 5	TCB - 5 _____				
6.4.5 TCB - 5 Trip	_____ Inches				
6.4.6 Adjusted Trip	_____ Inches				
TCB - 6					
6.4.1 TCB - 6 to Safety Stop	TCB - 6 _____				
6.4.2 Open 2D2P103	Green _____ Red _____				
6.4.3 Close TCB - 6	TCB - 6 _____				
6.4.5 TCB - 6 Trip	_____ Inches				
6.4.6 Adjusted Trip	_____ Inches				

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PROCEDURE		MAINTENANCE		QA/QC	
SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Positive Trip Check					
TCB - 7					
6.4.1 TCB - 7 to Safety Stop	TCB - 7 _____				
6.4.2 Open 2D3P101	Green _____ Red _____				
6.4.3 Close TCB - 7	TCB - 7 _____				
6.4.5 TCB - 7 Trip	_____ Inches				
6.4.6 Adjusted Trip	_____ Inches				
TCB - 8					
6.4.1 TCB - 8 to Safety Stop	TCB - 8 _____				
6.4.2 Open 2D4P101	Green _____ Red _____				
6.4.3 Close TCB - 8	TCB - 8 _____				
6.4.5 TCB - 8 Trip	_____ Inches				
6.4.6 Adjusted Trip	_____ Inches				
TCB - 9					
6.4.1 TCB - 9 to Safety Stop	TCB - 9 _____				
6.4.2 Open 2D2P103	Green _____ Red _____				
6.4.3 Close TCB - 9	TCB - 9 _____				
6.4.5 TCB - 9 Trip	_____ Inches				
6.4.6 Adjusted Trip	_____ Inches				
Trip Torque Verification & Cleaning					
TCB - 1					
6.5.1.1 Trip TCB - 1	TCB - 1 _____				
6.5.1.2 TCB - 1 To Test	TCB - 1 _____				
6.5.1.3 Open 2D1P103	Green _____ Red _____				

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6.0 PROCEDURE		MAINTENANCE		QA/QC	
SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Trip Torque Verification & Cleaning					
6.5.1.5 Close TCB - 1	TCB - 1 _____				
6.5.1.6 Breaker Trip (Maximum 1.5 in-lbs)	_____ in-lbs Sat _____ #Unsat _____				
6.5.2.1 TCB - 1 to Safety Stop	TCB - 1 _____				
6.5.2.2 Trip-Shaft Bearing	Sat _____ #Unsat _____				
TCB - 2					
6.5.1.1 Trip TCB - 2	TCB - 2 _____				
6.5.1.2 TCB - 2 To Test	TCB - 2 _____				
6.5.1.3 Open 2D2P103	Green _____ Red _____				
6.5.1.5 Close TCB - 2	TCB - 2 _____				
6.5.1.6 Breaker Trip (Maximum 1.5 in-lbs)	_____ in-lbs Sat _____ #Unsat _____				
6.5.2.1 TCB - 2 to Safety Stop	TCB - 2 _____				
6.5.2.3 Trip-Shaft Bearing	Sat _____ #Unsat _____				
TCB - 3					
6.5.1.1 Trip TCB - 3	TCB - 3 _____				
6.5.1.2 TCB - 3 To Test	TCB - 3 _____				
6.5.1.3 Open 2D3P101	Green _____ Red _____				
6.5.1.5 Close TCB - 3	TCB - 3 _____				
6.5.1.6 Breaker Trip (Maximum 1.5 in-lbs)	_____ in-lbs Sat _____ #Unsat _____				
6.5.2.1 TCB - 3 to Safety Stop	TCB - 3 _____				
6.5.2.3 Trip-Shaft Bearing	Sat _____ #Unsat _____				

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6.0 PROCEDURE		MAINTENANCE		QA/QC	
SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Trip Torque Verification & Cleaning					
TOB - 4					
6.5.1.1 Trip TOB - 4	TOB - 4 _____				
6.5.1.2 TOB - 4 To Test	TOB - 4 _____				
6.5.1.3 Open 2D4P101	Green _____				
	Red _____				
6.5.1.5 Close TOB - 4	TOB - 4 _____				
6.5.1.6 Breaker Trip	_____ in-lbs				
(Maximum 1.5 in-lbs)	Sat _____ #Unsat _____				
6.5.2.1 TOB - 4 to Safety Stop	TOB - 4 _____				
6.5.2.3 Trip-Shaft Bearing	Sat _____ #Unsat _____				
TOB - 5					
6.5.1.1 Trip TOB - 5	TOB - 5 _____				
6.5.1.2 TOB - 5 To Test	TOB - 5 _____				
6.5.1.3 Open 2D1P103	Green _____				
	Red _____				
6.5.1.5 Close TOB - 5	TOB - 5 _____				
6.5.1.6 Breaker Trip	_____ in-lbs				
(Maximum 1.5 in-lbs)	Sat _____ #Unsat _____				
6.5.2.1 TOB - 5 to Safety Stop	TOB - 5 _____				
6.5.2.3 Trip-Shaft Bearing	Sat _____ #Unsat _____				
TOB - 6					
6.5.1.1 Trip TOB - 6	TOB - 6 _____				
6.5.1.2 TOB - 6 To Test	TOB - 6 _____				
6.5.1.3 Open 2D2P103	Green _____				
	Red _____				
6.5.1.5 Close TOB - 6	TOB - 6 _____				
6.5.1.6 Breaker Trip	_____ in-lbs				
(Maximum 1.5 in-lbs)	Sat _____ #Unsat _____				
6.5.2.1 TOB - 6 to Safety Stop	TOB - 6 _____				
6.5.2.3 Trip-Shaft Bearing	Sat _____ #Unsat _____				

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6.0 PROCEDURE		MAINTENANCE		QA/QC	
SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Trip Torque Verification & Cleaning					
TOB - 7					
6.5.1.1 Trip TOB - 7	TOB - 7 _____				
6.5.1.2 TOB - 7 To Test	TOB - 7 _____				
6.5.1.3 Open 2D3P101	Green _____				
	Red _____				
6.5.1.5 Close TOB - 7	TOB - 7 _____				
6.5.1.6 Breaker Trip	_____ in-lbs				
(Maximum 1.5 in-lbs)	Sat _____ #Unsat _____				
6.5.2.1 TOB - 7 to Safety Stop	TOB - 7 _____				
6.5.2.3 Trip-Shaft Bearing	Sat _____ #Unsat _____				
TOB - 8					
6.5.1.1 Trip TOB - 8	TOB - 8 _____				
6.5.1.2 TOB - 8 To Test	TOB - 8 _____				
6.5.1.3 Open 2D4P101	Green _____				
	Red _____				
6.5.1.5 Close TOB - 8	TOB - 8 _____				
6.5.1.6 Breaker Trip	_____ in-lbs				
(Maximum 1.5 in-lbs)	Sat _____ #Unsat _____				
6.5.2.1 TOB - 8 to Safety Stop	TOB - 8 _____				
6.5.2.3 Trip-Shaft Bearing	Sat _____ #Unsat _____				
TOB - 9					
6.5.1.1 Trip TOB - 9	TOB - 9 _____				
6.5.1.2 TOB - 9 To Test	TOB - 9 _____				
6.5.1.3 Open 2D2P103	Green _____				
	Red _____				
6.5.1.5 Close TOB - 9	TOB - 9 _____				
6.5.1.6 Breaker Trip	_____ in-lbs				
(Maximum 1.5 in-lbs)	Sat _____ #Unsat _____				
6.5.2.1 TOB - 9 to Safety Stop	TOB - 9 _____				
6.5.2.3 Trip-Shaft Bearing	Sat _____ #Unsat _____				

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6.0	PROCEDURE	MAINTENANCE		QA/QC	
SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment					
TCB - 1 Preparation					
6.6.1.1.1 Open ZB1509 and ZB1606	ZB1509 _____ ZB1606 _____				
6.6.1.1.2 TCB - 1 in Operate Position and in Tripped Mode	Green _____ Red _____				
6.6.1.1.3 Open 2D1P103	Green _____ Red _____				
6.6.1.1.4 Test Jumper Installed Between OTB1-9 & OTB1-10	Yes _____ No _____				
6.6.1.1.5 Remove Green Wire From OTB1-4	Yes _____ No _____				
6.6.1.1.6 Test Switch Installed Between OTB1-1 & OTB1-2	Yes _____ No _____				
6.6.1.1.7 Close 2D1P103	Green _____ Red _____				
6.6.1.1.8 Close TCB - 1	Green _____ Red _____				
6.6.1.1.9 TCB - 1 Closed	Yes _____ No _____				
6.6.1.1.10 Auxiliary Switch Contacts 3-3c	OTB4-2 _____ OTB4-3 _____				
6.6.1.1.11 Auxiliary Switch Contacts 10-10c	OTB5-1 _____ OTB5-2 _____				
6.6.1.1.12 Auxiliary Switch Contacts 6-6c	OTB5-7 _____ OTB5-8 _____				
6.6.1.1.13 Auxiliary Switch Contacts 7-7c	OTB5-9 _____ OTB5-10 _____				
6.6.1.1.14 Auxiliary Switch Contacts 8-8c	OTB5-11 _____ OTB5-12 _____				
6.6.1.1.15 Auxiliary Switch Contacts 5-5c	OTB4-7 _____ OTB4-8 _____				

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6.0 PROCEDURE		MAINTENANCE		QI/QC	
SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment					
6.6.1.1.16 Auxiliary Switch	OTB4-1				
Contacts 4-4c	OTB4-3				
6.6.1.1.17 Auxiliary Switch	OTB5-3				
Contacts 9-9c	OTB5-4				
TCB - 1 Trip Test #1					
6.6.1.2.1 Trip TCB - 1	Green _____ Red _____				
6.6.1.2.2 Auxiliary Switch	OTB4-2				
Contacts 3-3c	OTB4-3				
6.6.1.2.3 Auxiliary Switch	OTB5-1				
Contacts 10-10c	OTB5-2				
6.6.1.2.4 Auxiliary Switch	OTB5-7				
Contacts 6-6c	OTB5-8				
6.6.1.2.5 Auxiliary Switch	OTB5-9				
Contacts 7-7c	OTB5-10				
6.6.1.2.6 Auxiliary Switch	OTB5-11				
Contacts 8-8c	OTB5-12				
6.6.1.2.7 Auxiliary Switch	OTB4-7				
Contacts 5-5c	OTB4-8				
6.6.1.2.8 Auxiliary Switch	OTB4-1				
Contacts 4-4c	OTB4-3				
6.6.1.2.9 Auxiliary Switch	OTB5-3				
Contacts 9-9c	OTB5-4				
6.6.1.2.10 Close TCB - 1	Green _____ Red _____				
6.6.1.2.11 TCB - 1 Will Not Rackout	Yes _____ No _____				
TCB - 1 Trip Test #2					
6.6.1.3.1 Jumper Between OTB1-9 & OTB1-10 Removed	Yes _____ No _____				
6.6.1.3.2 TCB - 1 Open	Green _____ Red _____				

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6.0 PROCEDURE		MAINTENANCE		QA/QC	
SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment 6.6.1.3.3 Jumper Between OTB1-9 & OTB1-10 Connected 6.6.1.3.4 Close TCB - 1	Yes _____ No _____ Green _____ Red _____				
TCB - 1 Trip Test #3 6.6.1.4.1 Jumper Between OTB2-3 & OTB2-4 6.6.1.4.2 TCB - 1 Open 6.6.1.4.3 Jumper Between OTB2-3 & OTB2-4 Removed 6.6.1.4.4 Close TCB - 1	Yes _____ No _____ Green _____ Red _____ Yes _____ No _____ Green _____ Red _____				
TCB - 1 Trip Test #4 6.6.1.5.1 Jumper Between OTB1-3 & OTB1-4 6.6.1.5.2 TCB - 1 Open 6.6.1.5.3 Jumper Between OTB1-3 & OTB1-4 Removed 6.6.1.5.4 Close TCB - 1	Yes _____ No _____ Green _____ Red _____ Yes _____ No _____ Green _____ Red _____				
TCB - 1 Trip Test #5 6.6.1.6.2 TCB - 1 Open	Green _____ Red _____				
TCB - 1 Trip Test #6 6.6.1.7.1 TCB - 1 in Test 6.6.1.7.2 Close TCB - 1 6.6.1.7.3 Trip TCB - 1	TCB - 1 _____ Green _____ Red _____ Green _____ Red _____				

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6.0 PROCEDURE		MAINTENANCE		QA/QC	
SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment					
6.6.1.7.4 Close TCB - 1	Green _____ Red _____				
6.6.1.7.5 TCB - 1 Will Not Rack In	Yes _____ No _____				
6.6.1.7.7 Trip TCB - 1	Green _____ Red _____				
6.6.1.7.8 Open 2D1P103	Green _____				
6.6.1.7.9 Jumper Between OTB1-9 & OTB1-10 Removed	Yes _____ No _____				
6.6.1.7.10 Connected Green Wire to OTB1-4	Yes _____ No _____				
6.6.1.7.11 Switch Between OTB1-1 & OTB1-2 Removed	Yes _____ No _____				
6.6.1.7.13 TCB-1 to Operate	TOP - 1 _____				
TCB - 2 Preparation					
6.6.2.1.1 Open 2B1509 and 2B1606	2B1509 _____ 2B1606 _____				
6.6.2.1.2 TCB - 2 in Operate Position and in Tripped Mode	Green _____ Red _____				
6.6.2.1.3 Open 2D2P103	Green _____ Red _____				
6.6.2.1.4 Test Jumper Installed Between OTB10-9 & OTB10-10	Yes _____ No _____				

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6.0 PROCEDURE		MAINTENANCE		QA/QC	
SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment					
6.6.2.1.5 Green Wire Re-moved from OTB10-4	Yes _____ No _____				
6.6.2.1.6 Test Switch Installed Between OTB10-1 & OTB10-2	Yes _____ No _____				
6.6.2.1.7 Close 2D2P103	Green _____ Red _____				
6.6.2.1.8 Close TCB - 2	Green _____ Red _____				
6.6.2.1.9 TCB - 2 Closed	Yes _____ No _____				
6.6.2.1.10 Auxiliary Switch Contacts 3-3c	OTB13-2 _____ OTB13-3 _____				
6.6.2.1.11 Auxiliary Switch Contacts 10-10c	OTB14-1 _____ OTB14-2 _____				
6.6.2.1.12 Auxiliary Switch Contacts 6-6c	OTB14-7 _____ OTB14-8 _____				
6.6.2.1.13 Auxiliary Switch Contacts 7-7c	OTB14-9 _____ OTB14-10 _____				
6.6.2.1.14 Auxiliary Switch Contacts 8-8c	OTB14-11 _____ OTB14-12 _____				
6.6.2.1.15 Auxiliary Switch Contacts 5-5c	OTB13-7 _____ OTB13-8 _____				
6.6.2.1.16 Auxiliary Switch Contacts 4-4c	OTB13-1 _____ OTB13-3 _____				
6.6.2.1.17 Auxiliary Switch Contacts 9-9c	OTB14-3 _____ OTB14-4 _____				
TCB - 2 Trip Test #1					
6.6.2.2.1 Trip TCB - 2	Green _____ Red _____				
6.6.2.2.2 Auxiliary Switch Contacts 3-3c	OTB13-2 _____ OTB13-3 _____				
6.6.2.2.3 Auxiliary Switch Contacts 10-10c	OTB14-1 _____ OTB14-2 _____				
6.6.2.2.4 Auxiliary Switch Contacts 6-6c	OTB14-7 _____ OTB14-8 _____				

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SECTION		DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment						
6.6.2.2.5	Auxiliary Switch	OTB14-9 _____				
	Contacts 7-7c	OTB14-10 _____				
6.6.2.2.6	Auxiliary Switch	OTB14-11 _____				
	Contacts 8-8c	OTB14-12 _____				
6.6.2.2.7	Auxiliary Switch	OTB13-7 _____				
	Contacts 5-5c	OTB13-8 _____				
6.6.2.2.8	Auxiliary Switch	OTB13-1 _____				
	Contacts 4-4c	OTB13-3 _____				
6.6.2.2.9	Auxiliary Switch	OTB14-3 _____				
	Contacts 9-9c	OTB14-4 _____				
6.6.2.2.10	Close TCB - 2	Green _____ Red _____				
6.6.2.2.11	TCB - 2 Will Not Rackout	Yes _____ No _____				
TCB - 2 Trip Test #2						
6.6.2.3.1	Jumper Between OTB10-9 & OTB10-10 Removed	Yes _____ No _____				
6.6.2.3.2	TCB - 2 Open	Green _____ Red _____				
6.6.2.3.3	Jumper Between OTB10-9 & OTB10-10 Connected	Yes _____ No _____				
6.6.2.3.4	Close TCB - 2	Green _____ Red _____				
TCB - 2 Trip Test #3						
6.6.2.4.1	Jumper Between OTB11-3 & OTB11-4	Yes _____ No _____				
6.6.2.4.2	TCB - 2 Open	Green _____ Red _____				
6.6.2.4.3	Jumper Between OTB11-3 & OTB11-4 Removed	Yes _____ No _____				

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SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment					
6.6.2.4.4 Close TCB - 2	Green _____ Red _____				
TCB - 2 Trip Test #4					
6.6.2.5.1 Jumper Between OTB10-3 & OTB10-4	Yes _____ No _____				
6.6.2.5.2 TCB - 2 Open	Green _____ Red _____				
6.6.2.5.3 Jumper Between OTB10-3 & OTB10-4 Removed	Yes _____ No _____				
6.6.2.5.4 Close TCB - 2	Green _____ Red _____				
TCB - 2 Trip Test #5					
6.6.2.6.2 TCB - 2 Open	Green _____ Red _____				
TCB - 2 Trip Test #6					
6.6.2.7.1 TCB - 2 In Test	TCB - 2 _____				
6.6.2.7.2 Close TCB - 2	Green _____ Red _____				
6.6.2.7.3 Trip TCB - 2	Green _____ Red _____				
6.6.2.7.4 Close TCB - 2	Green _____ Red _____				
6.6.2.7.5 TCB - 2 Will Not Rack In	Yes _____ No _____				
6.6.2.7.7 Trip TCB - 2	Green _____ Red _____				
6.6.2.7.8 Open 2D2P103	Green _____				
6.6.2.7.9 Jumper Between OTB10-9 & OTB10-10 Removed	Yes _____ No _____				
6.6.2.7.10 Green Wire Re-installed on OTB10-4	Yes _____ No _____				

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SECTION		DATA/VERIFIED COMPLETE		INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment							
6.6.2.7.11	Switch Between OTB10-1 & OTB10-2 Removed	Yes _____ No _____					
6.6.2.7.13	TOB - 2 To Operate						
TOB - 3 Preparation							
6.6.3.1.1	Open ZB1509 and ZB1606	ZB1509 _____ ZB1606 _____					
6.6.3.1.2	TOB - 3 In Operate Position and in Tripped Mode	Green _____ Red _____					
6.6.3.1.3	Open ZD3P101	Green _____ Red _____					
6.6.3.1.4	Test Jumper Installed Between OTB22-9 & OTB22-10	Yes _____ No _____					
6.6.3.1.5	Green Wire Removed from OTB22-4	Yes _____ No _____					
6.6.3.1.6	Test Switch Installed Between OTB22-1 & OTB22-2	Yes _____ No _____					
6.6.3.1.7	Close ZD3P101	Green _____ Red _____					
6.6.3.1.8	Close TOB - 3	Green _____ Red _____					
6.6.3.1.9	TOB - 3 Closed	Yes _____ No _____					
6.6.3.1.10	Auxiliary Switch Contacts 3-3c	OTB25-2 _____ OTB25-3 _____					
6.6.3.1.11	Auxiliary Switch Contacts 10-10c	OTB26-1 _____ OTB26-2 _____					

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SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment					
6.6.3.1.12 Auxiliary Switch	OTB26-7 _____				
Contacts 6-6c	OTB26-8 _____				
6.6.3.1.13 Auxiliary Switch	OTB26-9 _____				
Contacts 7-7c	OTB26-10 _____				
6.6.3.1.14 Auxiliary Switch	OTB26-11 _____				
Contacts 8-8c	OTB26-12 _____				
6.6.3.1.15 Auxiliary Switch	OTB25-7 _____				
Contacts 5-5c	OTB25-8 _____				
6.6.3.1.16 Auxiliary Switch	OTB25-1 _____				
Contacts 4-4c	OTB25-3 _____				
6.6.3.1.17 Auxiliary Switch	OTB26-3 _____				
Contacts 9-9c	OTB26-4 _____				
TOB - 3 Trip Test #1					
6.6.3.2.1 Trip TOB - 3	Green _____				
	Red _____				
6.6.3.2.2 Auxiliary Switch	OTB25-2 _____				
Contacts 3-3c	OTB25-3 _____				
6.6.3.2.3 Auxiliary Switch	OTB26-1 _____				
Contacts 10-10c	OTB26-2 _____				
6.6.3.2.4 Auxiliary Switch	OTB26-7 _____				
Contacts 6-6c	OTB26-8 _____				
6.6.3.2.5 Auxiliary Switch	OTB26-9 _____				
Contacts 7-7c	OTB26-10 _____				
6.6.3.2.6 Auxiliary Switch	OTB26-11 _____				
Contacts 8-8c	OTB26-12 _____				
6.6.3.2.7 Auxiliary Switch	OTB25-7 _____				
Contacts 5-5c	OTB25-8 _____				
6.6.3.2.8 Auxiliary Switch	OTB25-1 _____				
Contacts 4-4c	OTB25-3 _____				
6.6.3.2.9 Auxiliary Switch	OTB26-3 _____				
Contacts 9-9c	OTB26-4 _____				
6.6.3.2.10 Close TOB - 3	Green _____				
	Red _____				
6.6.3.2.11 TOB - 3 Will Not Rackout	Yes _____ No _____				

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SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment					
TOB-3 Trip Test #2					
6.6.3.3.1 Jumper Between OTB22-9 & OTB22-10 Removed	Yes _____ No _____				
6.6.3.3.2 TOB - 3 Open	Green _____ Red _____				
6.6.3.3.3 Jumper Between OTB22-9 & OTB22-10 Connected	Yes _____ No _____				
6.6.3.3.4 Close TOB - 3	Green _____ Red _____				
TOB - 3 Trip Test #3					
6.6.3.4.1 Jumper Between OTB23-3 & OTB23-4	Yes _____ No _____				
6.6.3.4.2 TOB - 3 Open	Green _____ Red _____				
6.6.3.4.3 Jumper Between OTB23-3 & OTB23-4 Removed	Yes _____ No _____				
6.6.3.4.4 Close TOB - 3	Green _____ Red _____				
TOB - 3 Trip Test #4					
6.6.3.5.1 Jumper Between OTB22-3 & OTB22-4	Yes _____ No _____				
6.6.3.5.2 TOB - 3 Open	Green _____ Red _____				
6.6.3.5.3 Jumper Between OTB22-3 & OTB22-4 Removed	Yes _____ No _____				
6.6.3.5.4 Close TOB - 3	Green _____ Red _____				

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SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment TCB-3 Trip Test #5 6.6.3.6.2 TCB - 3 Open	Green _____ Red _____				
TCB - 3 Trip Test #6 6.6.3.7.1 TCB - 3 In Test 6.6.3.7.2 Close TCB - 3 6.6.3.7.3 Trip TCB - 3 6.6.3.7.4 Close TCB - 3 6.6.3.7.5 TCB - 3 Will Not Rack In 6.6.3.7.7 Trip TCB - 3 6.6.3.7.8 Open 2D3P101 6.6.3.7.9 Jumper Between OIB22-9 & OIB22-10 Removed 6.6.3.7.10 Green Wire Re-installed on OIB22-4 6.6.3.7.11 Switch Between OIB22-1 & OIB22-2 Removed 6.6.3.7.13 TCB-3 to Operate	TCB - 3 _____ Green _____ Red _____ Green _____ Red _____ Green _____ Red _____ Yes _____ No _____ Green _____ Red _____ Green _____ Yes _____ No _____ Yes _____ No _____ Yes _____ No _____ TCB - 3 _____				
TCB - 4 Preparation 6.6.4.1.1 Open ZS1509 and ZS1606 6.6.4.1.2 TCB -4 In Operate Position & in Tripped Mode 6.6.4.1.3 Open 2D4P101	ZS1509 _____ ZS1606 _____ Green _____ Red _____ Green _____ Red _____				

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SECTION		DATA/VERIFIED COMPLETE		INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment							
6.6.4.1.4	Test Jumper Installed Between OTB31-9 & OTB31-10	Yes _____	No _____				
6.6.4.1.5	Green Wire Removed from OTB31-4	Yes _____	No _____				
6.6.4.1.6	Test Switch Installed Between OTB31-1 & OTB31-2	Yes _____	No _____				
6.6.4.1.7	Close 2D4P101	Green _____					
		Red _____					
6.6.4.1.8	Close TOB - 4	Green _____					
		Red _____					
6.6.4.1.9	TOB - 4 Closed	Yes _____	No _____				
6.6.4.1.10	Auxiliary Switch Contacts 3-3c	OTB34-2 _____					
		OTB34-3 _____					
6.6.4.1.11	Auxiliary Switch Contacts 10-10c	OTB35-1 _____					
		OTB35-2 _____					
6.6.4.1.12	Auxiliary Switch Contacts 6-6c	OTB35-7 _____					
		OTB35-8 _____					
6.6.4.1.13	Auxiliary Switch Contacts 7-7c	OTB35-9 _____	⊙				
		OTB35-10 _____					
6.6.4.1.14	Auxiliary Switch Contacts 8-8c	OTB35-11 _____					
		OTB35-12 _____					
6.6.4.1.15	Auxiliary Switch Contacts 5-5c	OTB34-7 _____					
		OTB34-8 _____					
6.6.4.1.16	Auxiliary Switch Contacts 4-4c	OTB34-1 _____					
		OTB34-3 _____					
6.6.4.1.17	Auxiliary Switch Contacts 9-9c	OTB35-3 _____					
		OTB35-4 _____					

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6.0 PROCEDURE		MAINTENANCE		QA/QC	
SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment					
TCB-4 TRIP TEST #1					
6.6.4.2.1 Trip TCB-4	Green _____ Red _____				
6.6.4.2.2 Auxiliary Switch	OTB34-2 _____				
Contacts 3-3c	OTB34-3 _____				
6.6.4.2.3 Auxiliary Switch	OTB35-1 _____				
Contacts 10-10c	OTB35-2 _____				
6.6.4.2.4 Auxiliary Switch	OTB35-7 _____				
Contacts 6-6c	OTB35-8 _____				
6.6.4.2.5 Auxiliary Switch	OTB35-9 _____				
Contacts 7-7c	OTB35-10 _____				
6.6.4.2.6 Auxiliary Switch	OTB35-11 _____				
Contacts 8-8c	OTB35-12 _____				
6.6.4.2.7 Auxiliary Switch	OTB34-7 _____				
Contacts 5-5c	OTB34-8 _____				
6.6.4.2.8 Auxiliary Switch	OTB34-1 _____				
Contacts 4-4c	OTB34-3 _____				
6.6.4.2.9 Auxiliary Switch	OTB35-3 _____				
Contacts 9-9c	OTB35-4 _____				
6.6.4.2.10 Close TCB-4	Green _____ Red _____				
6.6.4.2.11 TCB-4 Will Not Rackout	Yes _____ No _____				
TCB-4 TRIP TEST #2					
6.6.4.3.1 Jumper Between OTB31-9 & OTB31-10 Removed	Yes _____ No _____				
6.6.4.3.2 TCB-4 Open	Green _____ Red _____				
6.6.4.3.3 Jumper Between OTB31-9 & OTB31-10 Connected	Yes _____ No _____				
6.6.4.3.4 Close TCB-4	Green _____ Red _____				

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SECTION		DATA/VERIFIED COMPLETE		INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment							
TCB-4 TRIP TEST #3							
6.6.4.4.1	Jumper Between OTB32-3 & OTB32-4	Yes _____	No _____				
6.6.4.4.2	TCB-4 Open	Green _____	Red _____				
6.6.4.4.3	Jumper Between OTB32-3 & OTB32-4	Yes _____	No _____				
	Removed						
6.6.4.4.4	Close TCB-4	Green _____	Red _____				
TCB-4 TRIP TEST #4							
6.6.4.5.1	Jumper Between OTB31-3 & OTB31-4	Yes _____	No _____				
6.6.4.5.2	TCB-4 Open	Green _____	Red _____				
6.6.4.5.3	Jumper Between OTB31-3 & OTB31-4	Yes _____	No _____				
	Removed						
6.6.4.5.4	Close TCB-4	Green _____	Red _____				
TCB-4 TRIP TEST #5							
6.6.4.6.2	TCB-4 Open	Green _____	Red _____				

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SECTION		DATA/VERIFIED COMPLETE		INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment							
TCB-4 TRIP TEST #6							
6.6.4.7.1	TCB-4 In-Test	TCB-4					
6.6.4.7.2	Close TCB-4	Green					
		Red					
6.6.4.7.3	Trip TCB-4	Green					
		Red					
6.6.4.7.4	Close TCB-4	Green					
		Red					
6.6.4.7.5	TCB-4 Will Not Rack In	Yes _____ No _____					
6.6.4.7.7	Trip TCB-4	Green					
		Red					
6.6.4.7.8	Open 2D4P101	Green					
6.6.4.7.9	Jumper Between OTB31-9 & OTB31-10	Yes _____ No _____					
	Removed						
6.6.4.7.10	Green Wire Re-installed on OTB31-4	Yes _____ No _____					
6.6.4.7.11	Switch Between OTB31-1 & OTB31-2	Yes _____ No _____					
	Removed						
6.6.4.7.13	TCB-4 To Operate	TCB-4					
TCB - 5 PREPARATION							
6.6.5.1.1	Open 2P1509 and 2B1606	2P1509 2B1606					
6.6.5.1.2	TCB -5 In Operate Position & In Tripped Mode	Green Red					
6.6.5.1.3	Open 2D1P103	Green Red					

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SECTION		DATA/VERIFIED COMPLETE		INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment							
6.6.5.1.4	Test Jumper Installed Between OTB3-9 & OTB3-10	Yes _____	No _____				
6.6.5.1.5	Green Wire Removed from OTB3-4	Yes _____	No _____				
6.6.5.1.6	Test Switch Installed Between OTB3-1 & OTB3-2	Yes _____	No _____				
6.6.5.1.7	Close 2D1P103	Green _____ Red _____					
6.6.5.1.8	Close TCB-5	Green _____ Red _____					
6.6.5.1.9	TCB-5 Closed	Yes _____	No _____				
6.6.5.1.10	Auxiliary Switch Contacts 3-3c	OTB4-5 _____ OTB4-6 _____					
6.6.5.1.11	Auxiliary Switch Contacts 10-10c	OTB8-1 _____ OTB8-2 _____					
6.6.5.1.12	Auxiliary Switch Contacts 6-6c	OTB8-7 _____ OTB8-8 _____					
6.6.5.1.13	Auxiliary Switch Contacts 7-7c	OTB8-9 _____ OTB8-10 _____					
6.6.5.1.14	Auxiliary Switch Contacts 8-8c	OTB8-11 _____ OTB8-12 _____					
6.6.5.1.15	Auxiliary Switch Contacts 5-5c	OTB4-9 _____ OTB4-10 _____					
6.6.5.1.16	Auxiliary Switch Contacts 4-4c	OTB4-4 _____ OTB4-6 _____					
6.6.5.1.17	Auxiliary Switch Contacts 9-9c	OTB8-3 _____ OTB8-4 _____					

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SECTION		DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment						
TCB - 5 Trip Test #1						
6.6.5.2.1	Trip TCB - 5	Green _____ Red _____				
6.6.5.2.2	Auxiliary Switch	OTB4-5 _____				
	Contacts 3-3c	OTB4-6 _____				
6.6.5.2.3	Auxiliary Switch	OTB8-1 _____				
	Contacts 10-10c	OTB8-2 _____				
6.6.5.2.4	Auxiliary Switch	OTB8-7 _____				
	Contacts 6-6c	OTB8-8 _____				
6.6.5.2.5	Auxiliary Switch	OTB8-9 _____				
	Contacts 7-7c	OTB8-10 _____				
6.6.5.2.6	Auxiliary Switch	OTB8-11 _____				
	Contacts 8-8c	OTB8-12 _____				
6.6.5.2.7	Auxiliary Switch	OTB4-9 _____				
	Contacts 5-5c	OTB4-10 _____				
6.6.5.2.8	Auxiliary Switch	OTB4-4 _____				
	Contacts 4-4c	OTB4-6 _____				
6.6.5.2.9	Auxiliary Switch	OTB8-3 _____				
	Contacts 9-9c	OTB8-4 _____				
6.6.5.2.10	Close TCB - 5	Green _____ Red _____				
6.6.5.2.11	TCB - 5 Will Not Rackout	Yes _____ No _____				
TCB - 5 Trip Test #2						
6.6.5.3.1	Jumper Between OTB3-9 & OTB3-10 Removed	Yes _____ No _____				
6.6.5.3.2	TCB - 5 Open	Green _____ Red _____				
6.6.5.3.3	Jumper Between OTB3-9 & OTB3-10 Connected	Yes _____ No _____				
6.6.5.3.4	Close TCB - 5	Green _____ Red _____				

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SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE	
Trip Latch Check and Adjustment						
TCB - 5 Trip Test #3						
6.6.5.4.1 Jumper Between OIB2-9 & OIB2-10	Yes _____ No _____					
6.6.5.4.2 TCB - 5 Open	Green _____ Red _____					
6.6.5.4.3 Jumper Between OIB2-9 & OIB2-10 Removed	Yes _____ No _____					
6.6.5.4.4 Close TCB - 5	Green _____ Red _____					
TCB - 5 Trip Test #4						
6.6.5.5.1 Jumper Between OIB3-3 & OIB3-4	Yes _____ No _____					
6.6.5.5.2 TCB - 5 Open	Green _____ Red _____					
6.6.5.5.3 Jumper Between OIB3-3 & OIB3-4 Removed	Yes _____ No _____					
6.6.5.5.4 Close TCB - 5	Green _____ Red _____					
TCB - 5 Trip Test #5						
6.6.5.6.2 TCB - 5 Open	Green _____ Red _____					
TCB - 5 Trip Test #6						
6.6.5.7.1 TCB - 5 In Test	TCB - 5 _____					
6.6.5.7.2 Close TCB - 5	Green _____ Red _____					
6.6.5.7.3 Trip TCB - 5	Green _____ Red _____					
6.6.5.7.4 Close TCB - 5	Green _____ Red _____					

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6.0		PROCEDURE		MAINTENANCE		QA/QC	
SECTION		DATA/VERIFIED COMPLETE		INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment							
6.6.5.7.5	TCB - 5 Will Not Rack In	Yes _____	No _____				
6.6.5.7.7	Trip TCB - 5	Green _____					
		Red _____					
6.6.5.7.8	Open 2D1P103	Green _____					
6.6.5.7.9	Jumper Between OTB3-9 & OTB3-10	Yes _____	No _____				
	Removed						
6.6.5.7.10	Green Wire Re-installed on OTB3-4	Yes _____	No _____				
6.6.5.7.11	Switch Between OTB3-1 & OTB3-2	Yes _____	No _____				
	Removed						
6.6.5.7.13	TCB-5 to Operate	TCB - 5 _____					
TCB - 6 Preparation							
6.6.6.1.1	Open 2B1509 and 2B1606	2B1509 _____					
		2B1606 _____					
6.6.6.1.2	TCB - 6 In Operate Position & in Tripped Mode	Green _____					
		Red _____					
6.6.6.1.3	Open 2D2P103	Green _____					
		Red _____					
6.6.6.1.4	Test Jumper Installed Between OTB12-9 & OTB12-10	Yes _____	No _____				
6.6.6.1.5	Green Wire Removed from OTB12-4	Yes _____	No _____				
6.6.6.1.6	Test Switch Installed Between OTB12-1 & OTB12-2	Yes _____	No _____				

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6.0		PROCEDURE	MAINTENANCE		QA/QC	
SECTION		DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment						
6.6.6.1.7	Close 2D2P103	Green _____ Red _____				
6.6.6.1.8	Close TOB - 6	Green _____ Red _____				
6.6.6.1.9	TOB - 6 Closed	Yes _____ No _____				
6.6.6.1.10	Auxiliary Switch	OTB13-5 _____				
	Contacts 3-3c	OTB13-6 _____				
6.6.6.1.11	Auxiliary Switch	OTB17-1 _____				
	Contacts 10-10c	OTB17-2 _____				
6.6.6.1.12	Auxiliary Switch	OTB17-7 _____				
	Contacts 6-6c	OTB17-8 _____				
6.6.6.1.13	Auxiliary Switch	OTB17-9 _____				
	Contacts 7-7c	OTB17-10 _____				
6.6.6.1.14	Auxiliary Switch	OTB17-11 _____				
	Contacts 8-8c	OTB17-12 _____				
6.6.6.1.15	Auxiliary Switch	OTB13-9 _____				
	Contacts 5-5c	OTB13-10 _____				
6.6.6.1.16	Auxiliary Switch	OTB13-4 _____				
	Contacts 4-4c	OTB13-6 _____				
6.6.6.1.17	Auxiliary Switch	OTB17-3 _____				
	Contacts 9-9c	OTB17-4 _____				
TOB - 6 Trip Test #1						
6.6.6.2.1	Trip TOB - 6	Green _____ Red _____				
6.6.6.2.2	Auxiliary Switch	OTB13-5 _____				
	Contacts 3-3c	OTB13-6 _____				
6.6.6.2.3	Auxiliary Switch	OTB17-1 _____				
	Contacts 10-10c	OTB17-2 _____				
6.6.6.2.4	Auxiliary Switch	OTB17-7 _____				
	Contacts 6-6c	OTB17-8 _____				
6.6.6.2.5	Auxiliary Switch	OTB17-9 _____				
	Contacts 7-7c	OTB17-10 _____				
6.6.6.2.6	Auxiliary Switch	OTB17-11 _____				
	Contacts 8-8c	OTB17-12 _____				

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6.0		PROCEDURE	MAINTENANCE		QA/QC	
SECTION		DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment						
6.6.6.2.7	Auxiliary Switch Contacts 5-5c	OTB13-9 _____ OTB13-10 _____				
6.6.6.2.8	Auxiliary Switch Contacts 4-4c	OTB13-4 _____ OTB13-6 _____				
6.6.6.2.9	Auxiliary Switch Contacts 9-9c	OTB17-3 _____ OTB17-4 _____				
6.6.6.2.10	Close TCB - 6	Green _____ Red _____				
6.6.6.2.11	TCB - 6 Will Not Rackout	Yes _____ No _____				
TCB - 6 Trip Test #2						
6.6.6.3.1	Jumper Between OTB12-9 & OTB12-10 Removed	Yes _____ No _____				
6.6.6.3.2	TCB - 6 Open	Green _____ Red _____				
6.6.6.3.3	Jumper Between OTB12-9 & OTB12-10 Connected	Yes _____ No _____				
6.6.6.3.4	Close TCB - 6	Green _____ Red _____				
TCB - 6 Trip Test #3						
6.6.6.4.1	Jumper Between OTB11-9 & OTB11-10	Yes _____ No _____				
6.6.6.4.2	TCB - 6 Open	Green _____ Red _____				
6.6.6.4.3	Jumper Between OTB11-9 & OTB11-10 Removed	Yes _____ No _____				
6.6.6.4.4	Close TCB - 6	Green _____ Red _____				

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SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment					
TOB - 6 Trip Test #4					
6.6.6.5.1 Jumper Between OTB12-3 & OTB12-4	Yes _____ No _____				
6.6.6.5.2 TOB - 6 Open	Green _____ Red _____				
6.6.6.5.3 Jumper Between OTB12-3 & OTB12-4 Removed	Yes _____ No _____				
6.6.6.5.4 Close TOB - 6	Green _____ Red _____				
TOB - 6 Trip Test #5					
6.6.6.6.2 TOB - 6 Open	Green _____ Red _____				
TOB - 6 Trip Test #6					
6.6.6.7.1 TOB - 6 In Test	TOB - 6 _____				
6.6.6.7.2 Close TOB - 6	Green _____ Red _____				
6.6.6.7.3 Trip TOB - 6	Green _____ Red _____				
6.6.6.7.4 Close TOB - 6	Green _____ Red _____				
6.6.6.7.5 TOB - 6 Will Not Rack In	Yes _____ No _____				
6.6.6.7.7 Trip TOB - 6	Green _____ Red _____				
6.6.6.7.8 Open 2D2F103	Green _____				
6.6.6.7.9 Jumper Between OTB12-9 & OTB12-10 Removed	Yes _____ No _____				
6.6.6.7.10 Green Wire Re-installed on OTB12-4	Yes _____ No _____				

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SECTION		DATA/VERIFIED COMPLETE		INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment							
6.6.6.7.11 Switch Between OTB12-1 & OTB12-2 Removed		Yes _____ No _____					
6.6.6.7.13 TCB-6 to Operate		TCB - 6 _____					
TCB - 7 Preparation							
6.6.7.1.1	Open ZB1509 and ZB1606	ZB1509 _____ ZB1606 _____					
6.6.7.1.2	TCB - 7 in Operate Position & In Tripped Mode	Green _____ Red _____					
6.6.7.1.3	Open 2D3P101	Green _____ Red _____					
6.6.7.1.4	Test Jumper Installed Between OTB24-9 and OTB24-10	Yes _____ No _____					
6.6.7.1.5	Green Wire Removed from OTB24-4	Yes _____ No _____					
6.6.7.1.6	Test Switch Installed Between OTB24-1 and OTB24-2	Yes _____ No _____					
6.6.7.1.7	Close 2D3P101	Green _____ Red _____					
6.6.7.1.8	Close TCB - 7	Green _____ Red _____					
6.6.7.1.9	TCB - 7 Closed	Yes _____ No _____					
6.6.7.1.10	Auxiliary Switch Contacts 3-3c	OTB24-5 _____ OTB25-6 _____					
6.6.7.1.11	Auxiliary Switch Contacts 10-10c	OTB29-1 _____ OTB29-2 _____					

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SECTION		DATA/VERIFIED COMPLETE		INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment							
6.6.7.1.12	Auxiliary Switch	OTB29-7	_____				
	Contacts 6-6c	OTB29-8	_____				
6.6.7.1.13	Auxiliary Switch	OTB29-9	_____				
	Contacts 7-7c	OTB29-10	_____				
6.6.7.1.14	Auxiliary Switch	OTB29-11	_____				
	Contacts 8-8c	OTB29-12	_____				
6.6.7.1.15	Auxiliary Switch	OTB25-9	_____				
	Contacts 5-5c	OTB25-10	_____				
6.6.7.1.16	Auxiliary Switch	OTB25-4	_____				
	Contacts 4-4c	OTB25-6	_____				
6.6.7.1.17	Auxiliary Switch	OTB29-3	_____				
	Contacts 9-9c	OTB29-4	_____				
TCB - 7 Trip Test #1							
6.6.7.2.1	Trip TCB - 7	Green	_____				
		Red	_____				
6.6.7.2.2	Auxiliary Switch	OTB24-5	_____				
	Contacts 3-3c	OTB24-6	_____				
6.6.7.2.3	Auxiliary Switch	OTB29-1	_____				
	Contacts 10-10c	OTB29-2	_____				
6.6.7.2.4	Auxiliary Switch	OTB29-7	_____				
	Contacts 6-6c	OTB29-8	_____				
6.6.7.2.5	Auxiliary Switch	OTB29-9	_____				
	Contacts 7-7c	OTB29-10	_____				
6.6.7.2.6	Auxiliary Switch	OTB29-11	_____				
	Contacts 8-8c	OTB29-12	_____				
6.6.7.2.7	Auxiliary Switch	OTB25-9	_____				
	Contacts 5-5c	OTB25-10	_____				
6.6.7.2.8	Auxiliary Switch	OTB25-4	_____				
	Contacts 4-4c	OTB25-6	_____				
6.6.7.2.9	Auxiliary Switch	OTB29-3	_____				
	Contacts 9-9c	OTB29-4	_____				
6.6.7.2.10	Close TCB-7	Green	_____				
		Red	_____				
6.6.7.2.11	TCB-7 Will Not Rackout	Yes	_____ No _____				

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SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment					
TCB - 7 Trip Test #2					
6.6.7.3.1 Jumper Between OTB24-9 & OTB24-10 Removed	Yes _____ No _____				
6.6.7.3.2 TCB - 7 Open	Green _____ Red _____				
6.6.7.3.3 Jumper Between OTB24-9 & OTB24-10	Yes _____ No _____				
6.6.7.3.4 Close TCB - 7	Green _____ Red _____				
TCB - 7 Trip Test #3					
6.6.7.4.1 Jumper Between OTB23-9 & OTB23-10	Yes _____ No _____				
6.6.7.4.2 TCB - 7 Open	Green _____ Red _____				
6.6.7.4.3 Jumper Between OTB23-9 & OTB23-10 Removed	Yes _____ No _____				
6.6.7.4.4 Close TCB - 7	Green _____ Red _____				
TCB - 7 Trip Test #4					
6.6.7.5.1 Jumper Between OTB24-3 & OTB24-4	Yes _____ No _____				
6.6.7.5.2 TCB - 7 Open	Green _____ Red _____				
6.6.7.5.3 Jumper Between OTB24-3 and OTB24-4 Removed	Yes _____ No _____				

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6.0 PROCEDURE		MAINTENANCE		QA/QC	
SECTION	DATA VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment					
6.6.7.5.4 Close TCB - 7	Green _____ Red _____				
TCB - 7 Trip Test #5					
6.6.7.6.2 TCB - 7 Open	Green _____ Red _____				
TCB - 7 Trip Test #6					
6.6.7.7.1 TCB - 7 In Test	TCB - 7 _____				
6.6.7.7.2 Close TCB - 7	Green _____ Red _____				
6.6.7.7.3 Trip TCB - 7	Green _____ Red _____				
6.6.7.7.4 Close TCB - 7	Green _____ Red _____				
6.6.7.7.5 TCB - 7 Will Not Rack In	Yes _____ No _____				
6.6.7.7.7 Trip TCB - 7	Green _____ Red _____				
6.6.7.7.8 Open 2D3P101	Green _____				
6.6.7.7.9 Jumper Between OTB24-9 & OTB24-10 Removed	Yes _____ No _____				
6.6.7.7.10 Green Wire Re-Installed on OTB24-4	Yes _____ No _____				
6.6.7.7.11 Switch Between OTB24-1 & OTB24-2 Removed	Yes _____ No _____				
6.6.7.7.13 TCB-7 to Operate	TCB - 7 _____				
TCB - 6 Preparation					
6.6.8.1.1 Open ZB1509 and ZB1606	ZB1509 _____ ZB1606 _____				

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6.0		PROCEDURE		MAINTENANCE		QA/QC	
SECTION		DATA/VERIFIED COMPLETE		INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment							
6.6.8.1.2	TCB - 8 In Operate Position & in Tripped Mode	Green _____					
		Red _____					
6.6.8.1.3	Open 2D4P101	Green _____					
		Red _____					
6.6.8.1.4	Test Jumper Installed Between OTB33-9 & OTB33-10	Yes _____					
6.6.8.1.5	Green Wire Removed from OTB33-4	Yes _____	No _____				
6.6.8.1.6	Test Switch Installed Between OTB33-1 & OTB33-2	Yes _____	No _____				
6.6.8.1.7	Close 2D4P101	Green _____					
		Red _____					
6.6.8.1.8	Close TCB - 8	Green _____					
		Red _____					
6.6.8.1.9	TCB - 8 Closed	Yes _____	No _____				
6.6.8.1.10	Auxiliary Switch Contacts 3-3c	OTB34-5 _____					
		OTB34-6 _____					
6.6.8.1.11	Auxiliary Switch Contacts 10-10c	OTB38-1 _____					
		OTB38-2 _____					
6.6.8.1.12	Auxiliary Switch Contacts 6-6c	OTB38-7 _____					
		OTB38-8 _____					
6.6.8.1.13	Auxiliary Switch Contacts 7-7c	OTB38-9 _____					
		OTB38-10 _____					
6.6.8.1.14	Auxiliary Switch Contacts 8-8c	OTB38-11 _____					
		OTB38-12 _____					
6.6.8.1.15	Auxiliary Switch Contacts 5-5c	OTB34-9 _____					
		OTB34-10 _____					
6.6.8.1.16	Auxiliary Switch Contacts 4-4c	OTB34-4 _____					
		OTB34-6 _____					
6.6.8.1.17	Auxiliary Switch Contacts 9-9c	OTB38-3 _____					
		OTB38-4 _____					

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6.0	PROCEDURE	MAINTENANCE		QA/QC	
SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment TOB - 8 Trip Test #1					
6.6.8.2.1 Trip TOB - 8	Green _____ Red _____				
6.6.8.2.2 Auxiliary Switch	OTB34-5 _____				
Contacts 3-3c	OTB34-6 _____				
6.6.8.2.3 Auxiliary Switch	OTB38-1 _____				
Contacts 10-10c	OTB38-2 _____				
6.6.8.2.4 Auxiliary Switch	OTB38-7 _____				
Contacts 6-6c	OTB38-8 _____				
6.6.8.2.5 Auxiliary Switch	OTB38-9 _____				
Contacts 7-7c	OTB38-10 _____				
6.6.8.2.6 Auxiliary Switch	OTB38-11 _____				
Contacts 8-8c	OTB38-12 _____				
6.6.8.2.7 Auxiliary Switch	OTB34-9 _____				
Contacts 5-5c	OTB34-10 _____				
6.6.8.2.8 Auxiliary Switch	OTB34-4 _____				
Contacts 4-4c	OTB34-6 _____				
6.6.8.2.9 Auxiliary Switch	OTB38-3 _____				
Contacts 9-9c	OTB38-4 _____				
6.6.8.2.10 Close TOB - 8	Green _____ Red _____				
6.6.8.2.11 TOB - 8 Will Not Rackout	Yes _____ No _____ •				
TOB - 8 Trip Test #2					
6.6.8.3.1 Jumper Between OTB33-9 & OTB33-10 Removed	Yes _____ No _____				
6.6.8.3.2 TOB - 8 Open	Green _____ Red _____				
6.6.8.3.3 Jumper Between OTB33-9 & OTB33-10 Connected	Yes _____ No _____				
6.6.8.3.4 Close TOB - 8	Green _____ Red _____				

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6.0		PROCEDURE	MAINTENANCE		QA/QC	
SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE	
Trip Latch Check and Adjustment TOB - 8 Trip Test #3						
6.6.8.4.1 Jumper Between OTB32-9 & OTB32-10	Yes _____ No _____					
6.6.8.4.2 TOB - 8 Open	Green _____ Red _____					
6.6.8.4.3 Jumper Between OTB32-9 & OTB32-10 Removed	Yes _____ No _____					
6.6.8.4.4 Close TOB - 8	Green _____ Red _____					
TOB - 8 Trip Test #4						
6.6.8.5.1 Jumper Between OTB33-3 & OTB33-4	Yes _____ No _____					
6.6.8.5.2 TOB - 8 Open	Green _____ Red _____					
6.6.8.5.3 Jumper Between OTB33-3 & OTB33-4 Removed	Yes _____ No _____					
6.6.8.5.4 Close TOB - 8	Green _____ Red _____					
TOB - 8 Trip Test #5						
6.6.8.6.2 TOB - 8 Open	Green _____ Red _____					
TOB - 8 Trip Test #6						
6.6.8.7.1 TOB - 8 In Test	TOB - 8 _____					
6.6.8.7.2 Close TOB - 8	Green _____ Red _____					
6.6.8.7.3 Trip TOB - 8	Green _____ Red _____					
6.6.8.7.4 Close TOB - 8	Green _____ Red _____					

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SECTION		DATA/VERIFIED COMPLETE		INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment							
6.6.8.7.5	TOB - 8 Will Not Rack In	Yes _____	No _____				
6.6.8.7.7	Trip TOB - 8	Green _____					
		Red _____					
6.6.8.7.8	Open 2D4P101	Green _____					
6.6.8.7.9	Jumper Between OTB33-9 and OTB33-10 Removed	Yes _____	No _____				
6.6.8.7.10	Green Wire Re-Installed on OTB33-4	Yes _____	No _____				
6.6.8.7.11	Switch Between OTB33-1 & OTB33-2 Removed	Yes _____	No _____				
6.6.8.7.13	TOB-8 To Operate	TOB - 8 _____					
TOB - 9 Preparation							
6.6.9.1.1	Open ZB1509 and ZB1606	ZB1509 _____	ZB1606 _____				
6.6.9.1.2	TOB - 9 In Operate Position & In Tripped Mode	Green _____					
		Red _____					
6.6.9.1.3	Close TOB - 9	Green _____					
		Red _____					
6.6.9.1.4	TOB - 9 Closed	Yes _____	No _____				
6.6.9.1.5	Auxiliary Switch Contacts 3-3c	OTB20-2 _____					
		OTB20-3 _____					
6.6.9.1.6	Auxiliary Switch Contacts 10-10c	OTB21-1 _____					
		OTB21-2 _____					
6.6.9.1.7	Auxiliary Switch Contacts 6-6c	OTB21-7 _____					
		OTB21-8 _____					
6.6.9.1.8	Auxiliary Switch Contacts 7-7c	OTB21-9 _____					
		OTB21-10 _____					
6.6.9.1.9	Auxiliary Switch Contacts 8-8c	OTB21-11 _____					
		OTB21-12 _____					

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SECTION		DATA/VERIFIED COMPLETE		INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment							
6.6.9.1.10	Auxiliary Switch	OTB20-7					
	Contacts 5-5c	OTB20-8					
6.6.9.1.11	Auxiliary Switch	OTB20-1					
	Contacts 4-4c	OTB20-3					
6.6.9.1.12	Auxiliary Switch	OTB21-3					
	Contacts 9-9c	OTB21-4					
TCB - 9 Trip Test #1							
6.6.9.2.1	Trip TCB - 9	Green					
		Red					
6.6.9.2.2	Auxiliary Switch	OTB20-2					
	Contacts 3-3c	OTB20-3					
6.6.9.2.3	Auxiliary Switch	OTB21-1					
	Contacts 10-10c	OTB21-2					
6.6.9.2.4	Auxiliary Switch	OTB21-7					
	Contacts 6-6c	OTB21-8					
6.6.9.2.5	Auxiliary Switch	OTB21-9					
	Contacts 7-7c	OTB21-10					
6.6.9.2.6	Auxiliary Switch	OTB21-11					
	Contacts 8-8c	OTB21-12					
6.6.9.2.7	Auxiliary Switch	OTB20-7					
	Contacts 5-5c	OTB20-8					
6.6.9.2.8	Auxiliary Switch	OTB20-1					
	Contacts 4-4c	OTB20-3					
6.6.9.2.8	Auxiliary Switch	OTB21-3					
	Contacts 9-9c	OTB21-4					
6.6.9.2.10	Close TCB - 9	Green					
		Red					
6.6.9.2.11	TCB - 9 Will Not Rackout	Yes	No				
TCB - 9 Trip Test #2							
6.6.9.3.1	Open 2D2P103	Green					
	TCB - 2	Red					

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SECTION	DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment					
TCB - 6	Green _____ Red _____				
TCB - 9	Green _____ Red _____				
6.6.9.3.2 Jumper Between BC1 & BC2 Installed	Yes _____ No _____				
6.6.9.3.3 Close 2D2P103 TCB - 2	Green _____ Red _____				
TCB - 6	Green _____ Red _____				
TCB - 9	Green _____ Red _____				
6.6.9.3.4 Close TCB - 9	Green _____ Red _____				
6.6.9.3.5 Trip TCB - 9	Green _____ Red _____				
6.6.9.3.6 Open 2D2P103	Green _____ Red _____				
6.6.9.3.7 Jumper Between BC1 & BC2 Removed	Yes _____ No _____				
TCB - 9 Trip Test #3					
6.6.9.4.1 Two Wires on BC4 Connected Together	Yes _____ No _____				
6.6.9.4.2 Close 2D2P103 TCB - 2	Green _____ Red _____				
TCB - 6	Green _____ Red _____				
TCB - 9	Green _____ Red _____				

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MAINTENANCE DATA RECORD FORM

EQUIPMENT NO. _____

6.0		PROCEDURE	MAINTENANCE		QA/QC	
SECTION		DATA/VERIFIED COMPLETE	INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment						
6.6.9.4.3	Close TCB - 9	Green _____ Red _____				
6.6.9.4.4	Trip TCB - 9	Green _____ Red _____				
6.6.9.4.5	Open 2D2P103	Green _____ Red _____				
6.6.9.4.6	Two Wires on BC4 Connected	Yes _____ No _____				
6.6.9.4.7	Close 2D2P103	Green _____ Red _____				
TCB - 9 Trip Test #4						
6.6.9.5.1	TCB - 9 To Test	TCB - 9 _____				
6.6.9.5.2	Close TCB - 9	Green _____ Red _____				
6.6.9.5.3	Trip TCB - 9	Green _____ Red _____				
6.6.9.5.4	Close TCB - 9	Green _____ Red _____				
6.6.9.5.5	TCB - 9 Will Not Rack In	Yes _____ No _____				
6.6.9.5.7	Trip TCB - 9	Green _____ Red _____				
6.6.9.5.8	Open 2D2P103	Green _____ Red _____				
6.6.9.5.10	TCB-9 To Operate	TCB - 9 _____				
Trip Latch Adjustment All Breakers						
6.6.10.1	Control Power Off	Green _____ Red _____				
6.6.10.2	Trip Breaker	TCB - _____				
6.6.10.3	Breaker To Test	TCB - _____				
6.6.10.4	Buffer Paddle Fastened	Yes _____ No _____				

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MAINTENANCE DATA RECORD FORM

EQUIPMENT NO. _____

6.0		PROCEDURE		MAINTENANCE		QA/QC	
SECTION		DATA/VERIFIED COMPLETE		INITIAL	DATE	INITIAL	DATE
Trip Latch Check and Adjustment Trip Latch							
Adjustment All Breakers							
6.6.10.6	Close Breaker	TOB -	_____				
6.6.10.7	Trip Breaker	TOB -	_____				
6.6.10.8	Breaker Will Not Close	Yes _____	No _____				
6.6.10.10	Breaker Will Close	Yes _____	No _____				
6.6.10.11	Trip Breaker	TOB -	_____				
6.6.10.12	Contacts Move Toward Close Before Trip	Yes _____	No _____				
6.6.10.13	Position of Slot Noted	Yes _____	No _____				
6.6.10.14	Latch Trip Check	Sat _____	#Unsat _____				

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OF 104MAINTENANCE DATA RECORD FORM

EQUIPMENT NO. _____

6.0		PROCEDURE		MAINTENANCE		QA/QC	
SECTION		DATA/VERIFIED COMPLETE		INITIAL	DATE	INITIAL	DATE
RESTORED PER PROCEDURE SECTION 6.7							
DEFINE DISCREPANCIES UNDER REMARKS							
REMARKS:							
PERFORMED BY:						DATE:	
REVIEWED BY:						DATE:	
APPROVED (BPC)						DATE:	
APPROVED (SCE)						DATE:	
REVIEWED QA						DATE:	

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MAINTENANCE DATA RECORD FORM

Test Equipment	SCE No.	Calibration Due Date

~~6.8.3~~
~~6.6.3~~

Restoration and Post Maintenance Checks, Section 6.6,
satisfactorily completed.

1

REMARKS:

COMPLETED BY: _____ DATE: _____

REVIEWED BY: _____ DATE: _____

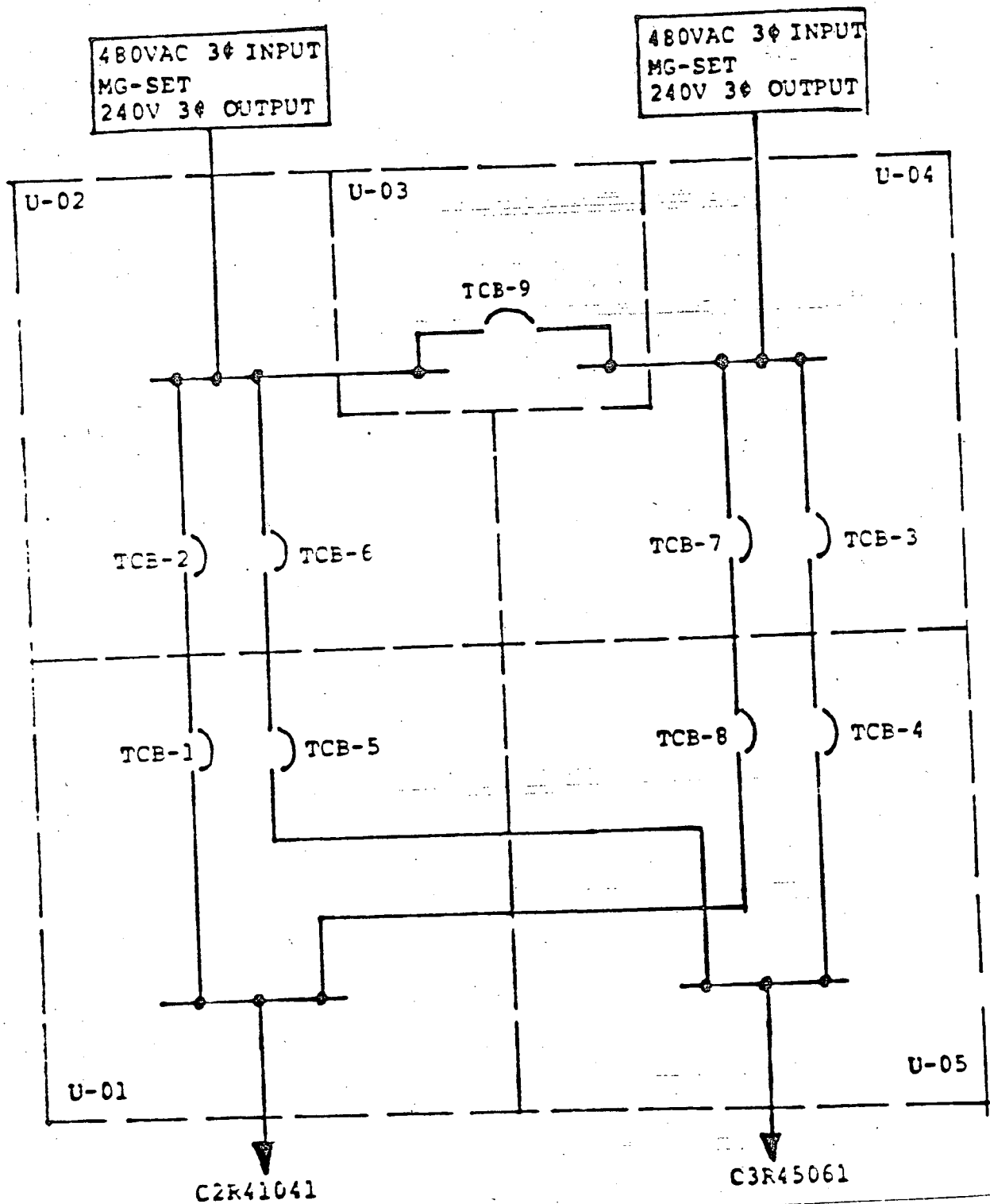
Immediate Supervisor

S023-1-4.36

ATTACHMENT 8.5
~~EXHIBIT D~~

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TCB ORIENTATION



PAGE

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POWER ISOLATION TABLEPAGE 104
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POWER SOURCE	DC DIST. SW. NO.	TERM. BD. NO.	CABINET (LOAD)	BREAKER NO.
125VDC Source #1	2D1P103	OTB03-11(P) OTB03-12(N)	U01 2L033	TCB-1 TCB-5
125VDC Source #2	2D2P103	OTB12-11(P) OTB12-12(N)	U02 2L033	TCB-2 TCB-6 TCB-9
125VDC Source #3	2D3P101	OTB24-11(P) OTB24-12(N)	U04 2L033	TCB-3 RCB-7
125VDC Source #4	2D4P101	OTB33-11(P) OTB33-12(N)	U05 2L033	TCB-4 TCB-8
480VAC Source to MG 2B1509	-	-	2L045	MG-
480VAC Source to MG 2B1606	-	-	2L046	MG-

Note: This table is for a guide only. Check the latest wiring diagram before using.

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OF

EFFECTIVE DATE JUN 10 1982

INSPECTION AND ADJUSTMENT OF UNDER-VOLTAGE TRIPPING DEVICE
(GE Circuit Breaker AK-15 and 25)

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2.0	REFERENCES	2
3.0	PREREQUISITES	2
4.0	PRECAUTIONS AND LIMITATIONS	2
5.0	CHECK-OFF LISTS	3
6.0	PROCEDURE	3
	6.1 Withdraw Breaker from Cubicle	3
	6.2 Check Under-Voltage Tripping Device Armature Clearance	3
	6.3 Check Under-Voltage Tripping Device Pick-up Voltage Setting	3
	6.4 Positive Trip Check and Adjustment	4
	6.5 Reinsert Breaker in Cubicle	4
	6.6 Restoration and Post-Maintenance Checks	5
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	8.1 Withdrawing, Manual Closing and Inserting Instructions for AK-25 Circuit Breaker	
	8.2 Under-Voltage Tripping Device	
	8.3 Special Tools and Consumables List	
	8.4 Maintenance Data Record Form (MDRF)	

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RECEIVED

JUN 14 1982

CDM SITE

List Of Effective Pages

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Attachment 8.1 1-2	0
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INSPECTION AND ADJUSTMENT OF UNDER-VOLTAGE TRIPPING DEVICE
(GE Circuit Breaker AK-15 and 25)

1.0 OBJECTIVE

- 1.1 This procedure applies to and provides the necessary information for accomplishing the inspection and adjustment of the Under-Voltage Tripping Device in the G.E. AK-2-15 and 2/3-25 Circuit Breakers.

2.0 REFERENCES

- 2.1 S023-0-23.0, "Equipment Status Control"
- 2.2 Reactor Trip Circuit Breaker Switchgear, S023-944-351 which includes the following:
- 2.2.1 GEI-50299B - Power Circuit Breakers Types AK-2-15 & AK-2/3-25
- 2.2.2 GEK-7302B Installation and Operation of Type AK Low Voltage Power Circuit Breakers
- 2.2.3 GEF-4149F-Power Circuit Breakers Renewal Parts
- 2.3 Wiring Diagrams - Reactor Trip Circuit, Bechtel Spec. No. S023-944-33 through S023-944-41-3.

3.0 PREREQUISITES

- 3.1 Operations has been notified concerning the activity that will be performed and the subject equipment has been released for the performance of this procedure in accordance with Reference 2.1.
- 3.2 All measuring devices used in the performance of this procedure have a valid calibration which exceeds the expected duration of this procedure.
- 3.3 Materials listed on Attachment 8.3 are available.
- 3.4 Circuit Breaker No. has been entered on the MDRF, Attachment 8.4.
- 3.5 Sign the Maintenance Data Record Form (MDRF), Attachment 8.4, documenting that all prerequisites have been met.

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 When using volatile solvents, ensure adequate ventilation is provided and that smoking and/or open flames are prohibited.
- 4.2 Ensure electrical power to the breaker is de-energized by electrical measurement.

INSPECTION AND ADJUSTMENT OF UNDER-VOLTAGE TRIPPING DEVICE
(GE Circuit Breaker AK-15 and 25)

4.0 PRECAUTIONS AND LIMITATIONS (Cont'd)

- 4.3 Extreme care must be exercised to minimize exposure (ALARA) of all personnel. Radiological hazards and requirements as identified on the Radiation Exposure Permit shall be observed.

5.0 CHECK-OFF LISTS

- 5.1 The Maintenance Data Record Form (MDRF), Attachment 8.4, shall be used to record the following:

- 5.1.1 Data taken during this maintenance action.
- 5.1.2 Completion of Section 6.0 of this procedure.
- 5.1.3 Discrepancies discovered during the performance of this procedure.

6.0 PROCEDURE

NOTE: Discrepancies discovered shall be reported to the Immediate Supervisor. This Supervisor shall ensure that discrepancies are properly documented in accordance with S0123-I-1.3.

- 6.1 Withdraw the Breaker from the cubicle, in accordance with Instructions Attachment 8.1, and move to work area.

NOTE: Refer to Attachment 8.2.

6.2 Check Under-Voltage Tripping Device Armature Clearance

- 6.2.1 Loosen screws (Item 11).
- 6.2.2 Move magnet (Item 10) up or down to obtain armature (Item 3) freedom with respect to its pivot on the magnet and guide provided by rivet (Item 13). Record results on MDRF, Attachment 8.4.
- 6.2.3 Retighten screws.

NOTE: Refer to Attachment 8.2 and Reference 2.2.1, page 32.

6.3 Check Under-Voltage Tripping Device Pick-Up Voltage Setting

NOTE: Ensure breaker is tripped (open)

- 6.3.1 Connect variable DC power supply (100 to 130VDC) to circuit breaker terminals C2 (-) and C3 (+). Record completion on MDRF, Attachment 8.4.

INSPECTION AND ADJUSTMENT OF UNDER-VOLTAGE TRIPPING DEVICE
(GE Circuit Breaker AK-15 and 25)

6.0 PROCEDURE (Cont'd)

6.3.2 Remove locking wire (Item 15).

NOTE: Under-voltage device is set to pickup at approximately 80% of bus voltage (125VDC) and drop out between 30% and 60%.

6.3.3 Set power supply to 100VDC ($\pm 0.5V$) measured across circuit breaker terminals C2(-) and C3(+). Record test voltage setting on MDRF, Attachment 8.4.

6.3.4 If required, turning the under-voltage device adjusting screw (Item 14) CW/CCW to raise/lower pick-up voltage to 100VDC ($\pm 0.5V$). Record adjusted voltage setting on MDRF, Attachment 8.4.

6.3.5 Reinstall the locking wire (Item 15).

6.3.6 Disconnect the variable power supply from circuit breaker terminals C2 and C3.

6.3.7 Record satisfactory completion of Section 6.3.

NOTE: Refer to Attachment 8.2.

6.4 Positive Trip Check And Adjustment

6.4.1 While holding the under-voltage tripping device armature, Item 3 of Attachment 8.2, in the energized position, close the circuit breaker manually in accordance with Attachment 8.1.

6.4.2 Place feeler guage between under-voltage device armature arm and trip paddle and if necessary, use adjusting screw (Item 20) to attain gap clearance $\geq .03125$ " but $\leq .032$ ".

6.4.3 Slowly, release under-voltage device armature arm until trip occurs. Movement of the armature arm should continue $1/32$ " to $1/16$ " beyond the point when tripping occurs to ensure "positive tripping" action. Record satisfactory over-travel movement on the MDRF, Attachment 8.4.

6.5 Reinsert circuit breaker into the cubicle, but only to the Test position stop, in accordance with Attachment 8.1.

INSPECTION AND ADJUSTMENT OF UNDER-VOLTAGE TRIPPING DEVICE
(GE Circuit Breaker AK-15 and 25)

6.0 PROCEDURE (Cont'd)

6.6 Restoration and Post-Maintenance Checks

- 6.6.1 Sign the associated Maintenance Order to verify that the equipment is ready to be returned to service.
- 6.6.2 Notify Operations that the maintenance activity has been completed and the equipment is now ready for verification of functional acceptability and return to operable status.
- 6.6.3 Record satisfactory completion of Section 6.6 on Attachment 8.4.

7.0 RECORDS

- 7.1 Complete all data on the Maintenance Data Record Form (MDRF), Attachment 8.4. of this procedure and forward the entire work package, including "Maintenance Order," to the Immediate Supervisor for approval and record disposition per S0123-I-1.3. CDM File No., based on the system involved, must be entered on the MDRF.

8.0 ATTACHMENTS

- 8.1 Withdrawing, Manual Closing and Inserting Instructions for AK-25 Circuit Breaker
- 8.2 Under-Voltage Tripping Device
- 8.3 Special Tools and Consumables List
- 8.4 Maintenance Data Record Form (MDRF)

Stan Stalwach 6/10/72
STAN STALWACH
STATION MAINTENANCE MANAGER

RO/NUS:tn

WITHDRAWING, MANUAL CLOSING AND INSERTING OF THE AK-25 BREAKER

I. Withdrawing

- A. Ensure the breaker is tripped OPEN by pushing manual trip button.
- B. Pull racking handle up and forward as far as it will travel, disengaging the primary disconnects.
- C. Slide breaker out until the position stop engages in the front slot in the bottom of the breaker carriage. Breaker is now in the TEST position and primary power disconnect contacts are safely disengaged from the line and load terminals, but the secondary control disconnects are engaged.
- D. Lift position stop handle and slide the breaker forward until the position stop engages the rear slot in the bottom of the breaker carriage. Breaker is now in the SAFETY position stop and both primary and secondary contacts are disengaged.
- E. Again lift the position stop handle and slide the breaker slightly forward to remove it from the closure.

II. Manual Closing

NOTE: Refer to Reference 2.2.3, page 7 for description of maintenance handle.

- A. Place the two small hooks of the maintenance handle into the two slots located in the lower portion of the front escutcheon.
- B. Downward action of the maintenance handle forces the solenoid armature upwards and closes the breaker contacts.

NOTE: Refer to Reference 2.2.2, Page 4.

III. Inserting

- A. Raise the breaker until the guides on the sides of the breaker mate with the supporting channels in the enclosure.
- B. Slide the breaker into the cubicle until the SAFETY position stop engages, which occurs after the breaker has traveled only a short distance.

WITHDRAWING, MANUAL CLOSING AND INSERTING OF THE AK-25 BREAKER

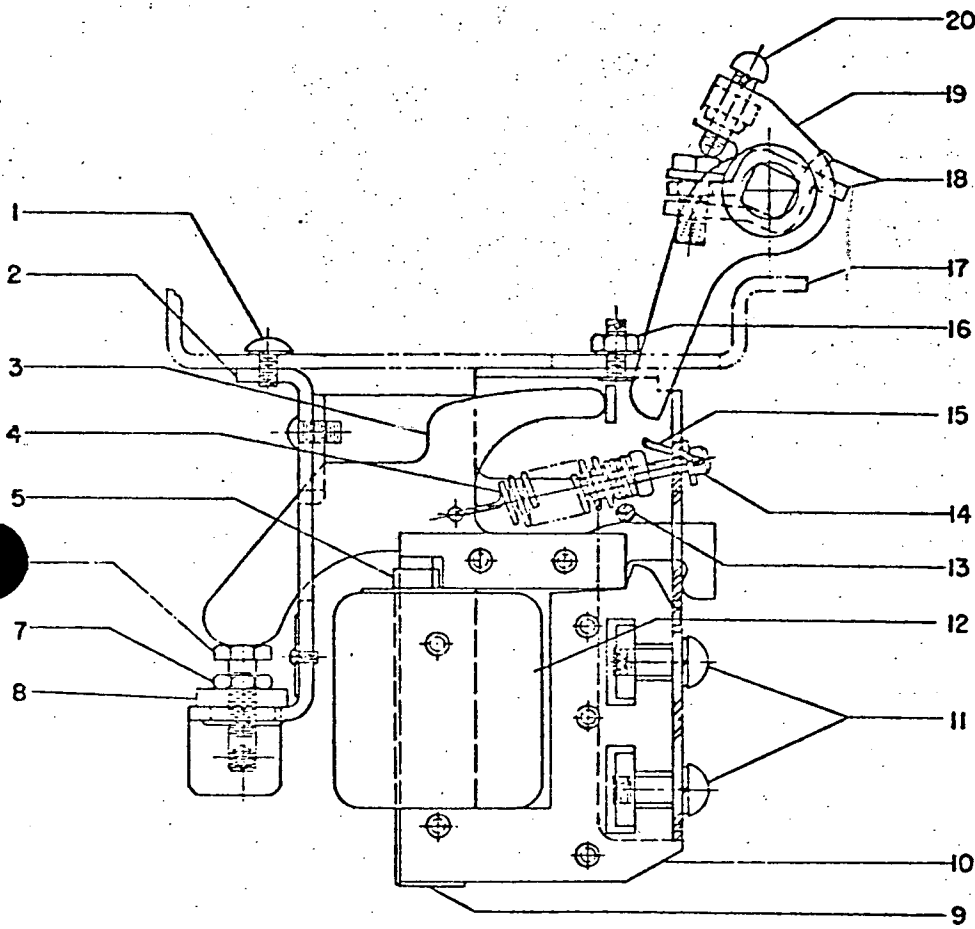
III Inserting (Cont'd)

- C. Lift position stop handle and push the breaker further into the cubicle until the TEST position stop engages. Secondary Control Contacts are now engaged.
- D. Lift position stop handle, raise rackout handle forward and up as far as its travel permits and push the breaker back into the cubicle until rackout pins on the handle assembly bear against the housing rackout cams.
- E. Pushing downward on the rackout handle forces the pins on the handle up into the slot in the stationary cam plate. This action moves the breaker through a final short distance into the cubicle and allows the operator to provide the necessary force to make the primary disconnect contacts engage the stationary studs in the cubicle.

NOTE: If the racking handle is not completely in the down position, the breaker cannot be operated in the "fully in" or "test" positions.

- F. In rotating the rackout handle, ensure the handle is rotated downwards as far as its free travel permits, then pull the handle down to ensure the trip interlock is released.

UNDER-VOLTAGE TRIPPING DEVICE



1. Mounting Screw
2. Frame
3. Armature
4. Spring
5. Shading Ring
6. Adjusting Screw
7. Locking Nut
8. Bushing
9. Clamp
10. Magnet
11. Screws
12. Coil
13. Rivet
14. Adjusting Screw
15. Locking Wire
16. Mounting Nut
17. Mechanism Frame
18. Trip Paddle Clamps
19. Trip Paddle
20. Adjusting Screw

SPECIAL TOOLS AND CONSUMABLES LIST

1. Multimeter (Simpson Model #260-6P or equivalent)
2. Variable DC Power Supply (0-130VDC 10 Amps Cap.)
3. Feeler Gauge
4. Maintenance Handle for Manually Closing Breakers

MAINTENANCE DATA RECORD FORM

Breaker No. _____

Date _____

Prerequisites Met _____

Signature _____

Date _____

Step No.	Data Description	Condition or Values	Acceptance Criteria	Recorder/Verifier Signature/Date
6.2.2	Check under-voltage tripping device armature clearance	Sat/Unsat	Armature has freedom to move with respect to its pivot on the magnet guide provided by the pivot	_____ / _____
6.3.1	Connect variable DC power supply (100-130VDC) to circuit breaker terminals	Sat/Unsat	Terminal C2(-) Terminal C3(+)	_____ / _____
6.3.3	Adjust variable DC power supply output test voltage as measured across circuit breaker terminals C2(-) and C3(+)	100VDC	± 0.5V	_____ / _____
6.3.4	Adjust under-voltage device armature pickup voltage setting	100VDC ± 0.5V	Under-voltage device armature operates	_____ / _____
6.3.7	Completed Section 6.3	Sat/Unsat	Variable DC power supply disconnected from circuit breaker terminals.	_____ / _____
6.4.2	Measure gap clearance between under-voltage device armature arm and trip paddle	_____ in.	≥ .03125 ≤ .032	_____ / _____
6.4.3	Measure over-travel movement of the under-voltage device armature arm after trip occurs.	_____ in.	≥ 1/32" ≤ 1/16"	_____ / _____

MAINTENANCE DATA RECORD FORM

Test Equipment	SCE No.	Calibration Due Date

6.6.3 Restoration and Post Maintenance Checks, Section 6.6,
satisfactorily completed. _____ /

REMARKS: _____

COMPLETED BY: _____

DATE: _____

REVIEWED BY: _____

DATE: _____

Immediate Supervisor