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ENGINEERING DATA TRANSMITTAL

Page 1 of 1

1. EDT

606577

2. To: (Receiving Organization) SST Retrieval Projects	3. From: (Originating Organization) SST Retrieval Projects	4. Related EDT No.: N/A
5. Proj./Prog./Dept./Div.: W-320/73532	6. Cog. Engr.: J. R. Bellomy	7. Purchase Order No.: N/A
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		10. System/Bldg./Facility: 241-C-106
11. Receiver Remarks:		12. Major Assm. Dwg. No.: H-2-820748
		13. Permit/Permit Application No.: N/A
		14. Required Response Date: N/A

15. DATA TRANSMITTED					(F)	(G)	(H)	(I)
(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	Approval Designator	Reason for Transmittal	Originator Disposition	Receiver Disposition
1	WHC-SD-W320-ATP-004	A11	0	ERS, C-Farm Electrical Distribution	SQ	1	N/A	N/A

16. KEY			
Approval Designator (F)	Reason for Transmittal (G)		Disposition (H) & (I)
E, S, Q, D or N/A (see WHC-CM-3-5, Sec.12.7)	1. Approval 2. Release 3. Information	4. Review 5. Post-Review 6. Dist. (Receipt Acknow. Required)	1. Approved 2. Approved w/comment 3. Disapproved w/comment 4. Reviewed no/comment 5. Reviewed w/comment 6. Receipt acknowledged

17. SIGNATURE/DISTRIBUTION (See Approval Designator for required signatures)										(G)	(H)
Reason	Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(J) Name	(K) Signature	(L) Date	(M) MSIN	Reason	Disp.
1	1	Cog. Eng. J. R. Bellomy	<i>[Signature]</i>	12-12-95	S2-48	Project W-320 Files	<i>[Signature]</i>	12-12-95	S2-48	3	
1	1	Cog. Mgr. J. W. Bailey	<i>[Signature]</i>	12-12-95	S2-48	Central Files (20)	<i>[Signature]</i>	12-12-95	L8-04	3	
1	1	QA J. J. Huston	<i>[Signature]</i>	12-12-95	S2-48	OSTI (2)	<i>[Signature]</i>	12-12-95	A3-36	3	
1	1	Safety M. N. Latham	<i>[Signature]</i>	12-12-95	S2-48						
		Env.									
3		J. T. Lilly			S2-47						
3		T. J. Kasnick			S2-47						

18. J. R. Bellomy Signature of EDT Originator Date	19. Authorized Representative for Receiving Organization Date	20. J. W. Bailey Cognizant Manager Date	21. DOE APPROVAL (if required) Ctrl. No. ☐ Approved ☐ Approved w/comments ☐ Disapproved w/comments
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ERS, C-Farm Electrical Distribution

J. R. Bellomy

Westinghouse Hanford Company, Richland, WA 99352

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Karl J. Brown 12/19/95
Release Approval Date

Approved for Public Release

ACCEPTANCE TEST PROCEDURE WHC-SD-W320-ATP-004

TEST TITLE ERS, C-Farm Electrical Distribution

LOCATION C-Farm

PROJECT NUMBER W-320

WORK ORDER ER6159

PROJECT TITLE W-320 Equipment Removal System

Prepared By
ICF Kaiser Hanford Company
Richland, Washington

For Westinghouse Hanford Company
Subcontract WHC-380393

PROCEDURE APPROVAL

ICF KAISER HANFORD COMPANY (ICF KH)

<u>Dan Larson</u>	<u>12-11-95</u>	<u>Hayle Bryan</u>	<u>12-7-95</u>
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Checker	Date	Safety	Date
<u>David [Signature]</u>	<u>12/11/95</u>	<u>C. [Signature]</u>	<u>12-11-95</u>
Environmental	Date	Quality Engineering	Date
<u>[Signature]</u>	<u>12/11/95</u>		
Project Management	Date		

Westinghouse Hanford Company (WHC)

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Projects Department	Date	Quality Assurance	Date
<u>N/A</u>		<u>[Signature]</u>	<u>12-11-95</u>
Safety	Date	Operations	Date

EXECUTION AND TEST APPROVAL

EXECUTED BY

_____ Test Director/Organization	_____ Date	_____ Test Operator/Organization	_____ Date
_____ Recorder/Organization	_____ Date		

WITNESSES

_____ Witness/Organization	_____ Date	_____ Title III Inspector	_____ Date
_____ Witness/Organization	_____ Date	_____ Witness/Organization	_____ Date

A-E APPROVAL

ICF Kaiser Hanford Company (ICF KH)

Without exceptions _____	With exceptions resolved _____	With exceptions outstanding _____
--------------------------	--------------------------------	-----------------------------------

_____ Acceptance Inspection	_____ Date	_____ Design Engineer	_____ Date
_____ Project Manager	_____ Date		

TEST APPROVAL AND ACCEPTANCE

Westinghouse Hanford Company

Without exceptions _____	With exceptions resolved _____	With exceptions outstanding _____
--------------------------	--------------------------------	-----------------------------------

_____ (Title or Department)	_____ Date	_____ (Title or Department)	_____ Date
_____ (Title or Department)	_____ Date	_____ (Title or Department)	_____ Date

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NOTE: At completion of test, enter pages added during performance of test to this Table of Contents.

1 PURPOSE

This Acceptance Test Procedure (ATP) has been prepared to demonstrate that the C-Farm Electrical Distribution, in the Equipment Removal System portion of Project W-320, functions as required by the design criteria.

2 REFERENCES

2.1 DRAWINGS

H-2-820748, Sh 1, Rev 0
H-2-820748, Sh 2, Rev 0

2.2 SPECIFICATIONS

Construction Specification W-320-C2

2.3 ENGINEERING CHANGE NOTICES (ECNs)

Prior to final test approval, markup the controlled copy of this ATP with all of the ECNs written against it.

3 RESPONSIBILITIES

3.1 GENERAL

Each company or organization participating in this ATP will designate personnel to assume the responsibilities and duties as defined herein for their respective roles. The designees shall become familiar with this ATP and the systems involved to the extent that they can perform their assigned duties.

3.2 WHC PROJECT ENGINEER

3.2.1 Designates a Test Director.

3.2.2 Signs Execution and Test Approval page when test is complete and accepted.

3.2.3 Signs exception form when all exceptions have been resolved.

3.2.4 Provides a distribution list for the approved and accepted ATP.

3.3 TEST DIRECTOR

3.3.1 Coordinates and directs acceptance testing.

3.3.2 Coordinates testing with ICF KH Utilities.

3.3.3 Coordinates testing with ICF KH Craft.

3.3.4 Distributes the approved testing schedule before start of testing.

3.3.5 Notifies concerned parties when a change is made in the testing schedule.

- 3.3.6 Schedules and conducts a pretest kickoff meeting with test participants when necessary.
- 3.3.7 Confirms that field testing and inspection of the system or portion of the system to be tested has been completed.
- 3.3.8 Stops any test which, in his or her judgement, may cause damage to the system until the problem has been resolved.
- 3.3.9 After verifying there is no adverse impact, may alter the sequence in which systems or subsystems are tested.
- 3.3.10 If a test is to be suspended for a period of time, ensures that the system is left in a safe mode.
- 3.3.11 Before restarting suspended test, re-verifies the test prerequisites.
- 3.3.12 Initiates ECNs to document required changes to the ATP.
- 3.3.13 Reviews recorded data, discrepancies, and exceptions.
- 3.3.14 Signs Execution and Test Approval page when test has been performed.
- 3.3.15 Takes necessary actions to clear exceptions to the test, and signs exception form when exceptions have been resolved.
- 3.3.16 Obtains required signatures on the ATP Master before reproduction and distribution.
- 3.4 WITNESSES (Provided by Participating Organizations. One witness shall be a Title III acceptance inspector.)
 - 3.4.1 Witnesses the tests.
 - 3.4.2 Reviews results of testing.
 - 3.4.3 Assists the Test Director when requested.
 - 3.4.4 Signs Execution and Test Approval page when test has been performed.
 - 3.4.5 Signs exception form when exception has been resolved.
- 3.5 RECORDER (Provided by ICF KH)
 - 3.5.1 Prepares a field copy from the ATP Master.
 - 3.5.2 Records names of all designated personnel on field copy of ATP before start of testing.
 - 3.5.3 Records test instrument identification numbers and calibration expiration dates, as required.
 - 3.5.4 Initials and dates every test step on the field copy as it is completed next to the step number or on a Data Sheet, when provided. Records test data.

- 3.5.5 Records exceptions on an exception form. Uses additional exception forms as needed. Notifies the Test Director at time the exception is made.
- 3.5.6 Signs Execution and Test Approval page when test has been performed.
- 3.5.7 After test is finished, assigns alpha numeric page numbers to added data sheets and exception forms. Records page numbers in the Table of Contents.
- 3.5.8 Transfers Field copy entries for each step to the Master in ink or type, signs, and dates. Transmits the completed Master to the Test Director for approval signature routing. Transmits the Field copy to Construction Document Control for inclusion in the official project file.
- 3.5.9 Signs exception form when exception has been resolved and transmits to Test Director.

3.6 TEST OPERATOR

- 3.6.1 Performs test under direction of the Test Director.
- 3.6.2 Provides labor, equipment, and test instruments required for performing tests which have not been designated as being provided by others.
- 3.6.3 Confirms that all equipment required for performing test will be available at the start of testing.
- 3.6.4 Signs the Execution and Test Approval page.

3.7 A-E ACCEPTANCE INSPECTION, DESIGN ENGINEER, AND PROJECT MANAGER

- 3.7.1 Evaluates results.
- 3.7.2 Signs for A-E Approval on Execution and Test Approval page.

4 CHANGE CONTROL

Required changes to this ATP must be processed on ECNs in accordance with company procedures. If a need for change is discovered in the course of running the test, the test shall be stopped until the ECN is approved. However, this does not prevent the running of another portion of the test unaffected by the change.

5 EXECUTION

5.1 OCCUPATIONAL SAFETY AND HEALTH

Individuals shall carry out their assigned work in a safe manner to protect themselves and others from undue hazards and to prevent damage to property and environment. Facility line managers shall assure the safety of activities

within their areas to prevent injury, property damage, or interruption of operation. Performance of test activities shall always include safety and health aspects.

These tests involve working near energized equipment; all procedural requirements for working near energized equipment shall be followed.

5.2 PERFORMANCE

- 5.2.1 Conduct testing in accordance with ICF KH Procedure CON 3.5 (Performance and Recording of Acceptance Test Procedures).
- 5.2.2 Perform test following the steps and requirements of this procedure.
- 5.2.3 As each step in Sections 7, 8, and 9 are completed, the person completing the step shall initial and date in the space provided.

6 EXCEPTIONS

6.1 GENERAL

Exceptions to the required test results are sequentially numbered and recorded on individual exception forms (KEH-428). This enables case-by-case resolution and approval of each exception.

Errors/exceptions in the ATP itself shall NOT be processed as test exceptions (see Section 4 CHANGE CONTROL).

6.2 RECORDING

- 6.2.1 Number each exception sequentially as it occurs and record it on an exception form.
- 6.2.2 Enter name and organization of the individual that identifies each exception.
- 6.2.3 Enter planned action to resolve each exception when such determination is made.

6.3 RETEST/RESOLUTION

Record the action taken to resolve each exception. Action taken may not be the same as planned action.

- 6.3.1 When action taken results in an acceptable retest, sign and date Retest Execution and Acceptance section of the exception form.
- 6.3.2 When action taken does not involve an acceptable retest, strike out the Retest Execution and Acceptance section of the exception form.

6.4 APPROVAL AND ACCEPTANCE

The Test Director provides final approval and acceptance of exceptions by checking one of the following on exception form:

- 6.4.1 Retest Approved and Accepted: Applicable when Retest Execution and Acceptance section is completed.
- 6.4.2 Exception Accepted-As-Is: Requires detailed explanation.
- 6.4.3 Other: Requires detailed explanation.

The Test Director signs and dates the exception form and obtains other approvals, if required.

6.5 DISTRIBUTION

A copy of the approved exception form is distributed to each participant. The signed original is attached to the ATP Master.

7 PREREQUISITES, EQUIPMENT/INSTRUMENTS, AND ABBREVIATIONS

7.1 PREREQUISITES

The following conditions shall exist at start of testing for that portion of the system being tested.

- _____ 7.1.1 Systems have been inspected for compliance with construction documents.
- _____ 7.1.2 Reference documents (including this ATP) have been verified for correct revision number and outstanding ECNs.
- _____ 7.1.3 A Prejob Safety Analysis has been prepared and a Prejob Safety Meeting has been conducted.
- _____ 7.1.4 Test instruments have a valid calibration stamp attached. Test instrument identification numbers and calibration expiration dates have been recorded in Step 7.2.
- _____ 7.1.5 Power is tagged out upstream (primary side) of the 13.8 kV-480 V supply transformer.
- _____ 7.1.6 Power is available at the 13.8 kV lines. Taps on the 13.8 kV-480 V supply transformer have been set to provide 480 V within range of +5% and -0%. Actual tap depends on the value of the supply voltage to the transformer primary.
- _____ 7.1.7 Power Distribution Panel (C-PDP-1) circuit breakers have been continuity tested.
- _____ 7.1.8 Wiring for the entire system has been continuity tested, meggered, and hy-potted, as applicable.
- _____ 7.1.9 ICF KH Utilities has released the supply transformer for use.

- _____ 7.1.10 Grounding has been visually inspected and continuity tested.
- _____ 7.1.11 All circuit breakers on the PDP are open (OFF position).
- _____ 7.1.12 All circuit breakers on the Transformer/Breakers Skid are open (OFF position).
- _____ 7.1.13 All circuit breakers on the Transfer Switches/Breakers Skid are open (OFF position).
- _____ 7.1.14 The disconnects on the W-320 support trailers are open.
- _____ 7.1.15 All worker safety equipment required to perform test is readily available.

7.2 EQUIPMENT/INSTRUMENTS

Supplied by Test Operator unless otherwise noted.

7.2.1 Volt-ohmmeters (VOM): 120/240 to 277/480 V

Instrument No. _____ Expiration Date _____

7.2.2 Ammeters: 0 - 10 amp (Low amperes anticipated since no load.)

Instrument No. _____ Expiration Date _____

7.2.3 Phase Rotation Meter

Instrument No. _____ Expiration Date _____

7.3 ABBREVIATIONS

A	A phase voltage or current
B	B phase voltage or current
C	C phase voltage or current
CB	Circuit Breaker
CT	Current Transformer
ECN	Engineering Change Notice
ERS	Equipment Removal System
GND/G	Ground or Ground Bus
H	120 V Hot Leg
HPPT	High Pressure Pump Trailer
IT	Instrument Trailer
L1	First 120 V Hot Leg

L2	Second 120 V Hot Leg
MCC	Motor Control Center
PDP	Power Distribution Panel
PT	Potential Transformer
SBT	Strong Back Trailer
SPT	Single-phase Transformer
TS	Transfer switch
VOM	Volt-ohmmeter

8 EQUIPMENT REMOVAL SYSTEM - C-FARM ELECTRICAL TESTS

8.1 PREPARATION

8.1.1 Verify prerequisites of Step 7.1 have been met.

8.2 CIRCUIT BREAKER SETTINGS

The following steps will establish the settings for the Main Disconnect breaker and the MCC-N1 feeder breaker.

8.2.1 Verify that the Main Disconnect breaker has an 800 amp rating plug installed in the T36 Digitrip RMS 310 module. If an adjustable plug is installed, it should be set at 800 amp.

8.2.2 Verify that the Main Disconnect breaker has the short delay pickup set at $8 \times I_n$ and that the time delay is set at 300 ms.

8.2.3 Verify that the Main Disconnect breaker has ground fault settings at 200 amps (1X) and Inst (0 ms).

8.2.4 Verify that the MCC-N1 feeder breaker has an 800 amp plug installed in the T33 Digitrip RMS 310 module. If an adjustable plug is installed, it should be set at 800 amp.

8.2.5 Verify that the MCC-N1 feeder breaker has the short time delay pickup set at $6 \times I_n$.

8.3 IQ DATA SETTINGS

8.3.1 Remove plastic cover from the IQ data module.

8.3.2 Locate the voltage selection block to the left of center of the unit. Set jumpers for operation at 425 to 680 V.

8.3.3 Locate the 2 field selectable DIP switches to the upper right corner of the module. The 2 DIP switches have 8 switches which may be positioned. Position these DIP switches as follows:

SWITCH 1	SWITCH 2
Sw 1 - ON	Sw 1 - ON
Sw 2 - OFF	Sw 2 - ON
Sw 3 - ON	Sw 3 - ON
Sw 4 - OFF	Sw 4 - ON
Sw 5 - ON	Sw 5 - UNUSED
Sw 6 - UNUSED	Sw 6 - UNUSED
Sw 7 - UNUSED	Sw 7 - UNUSED
Sw 8 - ON	Sw 8 - OFF

8.3.4 Reinstall the plastic cover.

CAUTION: Observe proper electrical safety precautions around energized equipment.

8.4 MEASUREMENTS - PHASE ROTATION and VOLTAGE

8.4.1 Connect the phase rotation meter at the output of the MCC-N1 feeder breaker.

8.4.2 Verify the 225 kVA Transformer C-T-1 is energized.

8.4.3 Close the Main Disconnect breaker (ON position).

8.4.4 Using the VOM, measure V_{AB} across the secondary of the potential transformers. Record results in Data Sheet.

8.4.5 Using the VOM, measure V_{BC} across the secondary of the potential transformers. Record results in Data Sheet.

8.4.6 Using the VOM, measure V_{CA} across the secondary of the potential transformers. Record results in Data Sheet.

8.4.7 If any of the voltages in Steps 8.4.3, 8.4.4, and 8.4.5 are not within the range of 480 to 510 V, stop the test and notify the Test Director.

8.4.8 Test the Main Disconnect breaker using the red test pushbutton on the Digitrip unit. If the circuit breaker does not trip, notify the Test Director.

8.4.9 Reset and close the Main Disconnect breaker (ON position).

8.4.10 Close the MCC-N1 feeder breaker (ON position).

8.4.11 Test the MCC-N1 feeder breaker using the red test pushbutton on the Digitrip unit. If the circuit breaker does not trip, notify the Test Director.

8.4.12 Reset and close the MCC-N1 feeder breaker (ON position).

8.4.13 Using the phase rotation meter, verify that the phase rotation corresponds to the Hanford standard, clockwise rotation for A,B,C. If not, stop the test and notify the Test Director.

8.4.14 Open the MCC-N1 feeder breaker (OFF position).

8.4.15 Connect the VOM to measure V_{AB} on the load side of the MCC-N1 feeder breaker.

8.4.16 Close the MCC-N1 feeder breaker (ON position).

8.4.17 Switch the IQ Data unit to record V_{AB} . Record the displayed value on the Data Sheet.

8.4.18 Record the value from the VOM on the Data Sheet.

- _____ 8.4.19 Verify that the voltages in the preceding two steps are in the range of 480 to 510 V. If not, stop the test and notify the Test Director.
- _____ 8.4.20 Open the MCC-N1 feeder breaker (OFF position).
- _____ 8.4.21 Connect the VOM to measure V_{BC} on the load side of the MCC-N1 feeder breaker.
- _____ 8.4.22 Close the MCC-N1 feeder breaker (ON position).
- _____ 8.4.23 Switch the IQ Data unit to record V_{BC} . Record the displayed value on the Data Sheet.
- _____ 8.4.24 Record the value from the VOM on the Data Sheet.
- _____ 8.4.25 Verify that the voltages measured in the preceding 2 steps are in the range of 480 to 510 V. If not, stop the test and notify the Test Director.
- _____ 8.4.26 Open the MCC-N1 feeder breaker (OFF position).
- _____ 8.4.27 Connect the VOM to measure V_{CA} on the load side of the MCC-N1 feeder breaker.
- _____ 8.4.28 Close the MCC-N1 feeder breaker (ON position).
- _____ 8.4.29 Switch the IQ data unit to record V_{CA} . Record the displayed value on the Data Sheet.
- _____ 8.4.30 Record the value from the VOM on the Data Sheet.
- _____ 8.4.31 Verify that the voltages measured in the preceding 2 steps are in the range of 480 to 510 V. If not, stop the test and notify the Test Director.
- _____ 8.4.32 Open the MCC-N1 feeder breaker (OFF position).
- _____ 8.4.33 Connect the VOM to measure V_{AN} on the load side of the MCC-N1 feeder breaker.
- _____ 8.4.34 Close the MCC-N1 feeder breaker (ON position).
- _____ 8.4.35 Switch the IQ Data unit to record V_{AN} . Record the displayed value on the Data Sheet.
- _____ 8.4.36 Record the value from the VOM on the Data Sheet.
- _____ 8.4.37 Close the MCC-N1 feeder breaker (OFF position).
- _____ 8.4.38 Connect the VOM to measure V_{BN} on the load side of the MCC-N1 feeder breaker.
- _____ 8.4.39 Close the MCC-N1 feeder breaker (ON position).
- _____ 8.4.40 Switch the IQ data unit to record V_{BN} . Record the displayed value on the Data Sheet.
- _____ 8.4.41 Record the value from the VOM on the Data Sheet.

- _____ 8.4.42 Open the MCC-N1 feeder breaker (OFF position).
- _____ 8.4.43 Connect the VOM to measure V_{CN} on the load side of the MCC-N1 feeder breaker.
- _____ 8.4.44 Close the MCC-N1 feeder breaker (ON position).
- _____ 8.4.45 Switch the IQ Data unit to record V_{CN} . Record the displayed value on the Data Sheet.
- _____ 8.4.46 Record the value from the VOM on the Data Sheet.
- _____ 8.4.47 Verify that the voltages measured in Steps 8.4.36, 8.4.41, and 8.4.46 are in the range of 277 to 295 V. If not, stop the test and notify the Test Director.
- _____ 8.4.48 Open the MCC-N1 feeder breaker (OFF position). Disconnect the VOM.

8.5 MEASUREMENTS - PHASE CURRENTS

NOTE: Since there are no loads applied to the PDP, values of current in the following steps are expected to be very low.

- _____ 8.5.1 Place the clamp-on ammeter to measure the current flowing in the A phase to the Main Disconnect breaker.
- _____ 8.5.2 Record the A phase current on the Data Sheet.
- _____ 8.5.3 Switch the IQ Data unit to record I_A . Record the displayed value on the Data Sheet.
- _____ 8.5.4 Place the clamp-on ammeter to measure the current flowing in the B phase to the Main Disconnect breaker.
- _____ 8.5.5 Record the B phase current on the Data Sheet.
- _____ 8.5.6 Switch the IQ data unit to record I_B . Record the displayed value on the Data Sheet.
- _____ 8.5.7 Place the clamp-on ammeter to measure the current flowing in the C phase to the Main Disconnect breaker.
- _____ 8.5.8 Record the C phase current on the Data Sheet.
- _____ 8.5.9 Switch the IQ Data unit to record I_C . Record the displayed value on the Data Sheet.
- _____ 8.5.10 The phase currents measured by the IQ Data unit should be approximately the same as the measurement of the same current by the clamp-on ammeter. For each phase, compare the 2 measurements. If they differ by more than 10%, notify the Test Director. (Since there is no load on the PDP, the currents should be close to zero.)

8.6 TRANSFORMER SPT

- _____ 8.6.1 Close the Transformer/Breakers Skid feeder breaker located at the C-PDP-1 (ON position).
- _____ 8.6.2 Close the primary circuit breaker (SPT-PRIMARY-CB) that supplies transformer SPT.
- _____ 8.6.3 Using the VOM, measure the secondary voltage across the hot legs, L1 and L2, of the transformer. Record value on the Data Sheet. If this value is less than 210 V or greater than 260 V, stop the test and notify the Test Director.
- _____ 8.6.4 Using the VOM, measure the voltage from one of the hot legs to the transformer neutral. Record the value on the Data Sheet. If this value is less than 110 V or greater than 135 V, stop the test and notify the Test Director.
- _____ 8.6.5 Using the VOM, measure the voltage from the other hot leg to the transformer neutral. Record the value on the Data Sheet. If this value is less than 110 V or greater than 135 V, stop the test and notify the Test Director.

8.7 CONSTRUCTION CONEX TRAILER

- _____ 8.7.1 Close feeder breaker CC-FB on the Transformer/Breakers Skid (ON position).
- _____ 8.7.2 Using the VOM, measure the voltage from hot (L1) to neutral on the load side of the feeder breaker. Record the value on the Data Sheet.
- _____ 8.7.3 Using the VOM, measure the voltage from the other hot leg (L2) to neutral on the load side of the feeder breaker. Record the value on the Data Sheet.
- _____ 8.7.4 Verify both voltage measurements are in the range of 110 to 135 V; if not, stop the test and notify the Test Director.

8.8 CONSTRUCTION OFFICE TRAILER

- _____ 8.8.1 Close feeder breaker OFF-FB on the Transformer/Breakers Skid (ON position).
- _____ 8.8.2 Using the VOM, measure the voltage from hot (L1) to neutral on the load side of the feeder breaker. Record the value on the Data Sheet.
- _____ 8.8.3 Using the VOM, measure the voltage from the other hot leg (L2) to neutral on the load side of the feeder breaker. Record the value on the Data Sheet.
- _____ 8.8.4 Verify both voltage measurements are in the range of 110 to 135 V; if not, stop the test and notify the Test Director.

8.9 WRAM/CHANGE TRAILER

- _____ 8.9.1 Close feeder breaker WE-FB on the Transformer/Breakers Skid (ON position).

- _____ 8.9.2 Using the VOM, measure the voltage from hot (L1) to neutral on the load side of the feeder breaker. Record the value on the Data Sheet.
- _____ 8.9.3 Using the VOM, measure the voltage from the other hot leg (L2) to neutral on the load side of the feeder breaker. Record the value on the Data Sheet.
- _____ 8.9.4 Verify both voltage measurements are in the range of 110 to 135 V; if not, stop the test and notify the Test Director.

8.10 TRANSFER SWITCHES/BREAKERS SKID

- _____ 8.10.1 Open door of transfer switch HPPT-TS. Connect the VOM to read V_{AB} at the load terminals of transfer switch HPPT-TS. Also, connect the phase rotation meter at the same load terminals.
- _____ 8.10.2 Close the HPPT-FB feeder breaker at the PDP (ON position).
- _____ 8.10.3 Defeat the interlock in transfer switch HPPT-TS, and shift transfer switch HPPT-TS to the NORMAL position.
- _____ 8.10.4 Record the value from the VOM on the Data Sheet. Verify that the phase rotation corresponds to the Hanford standard, clockwise rotation for A,B,C. If not, stop the test and notify the Test Director.
- _____ 8.10.5 Open the HPPT-FB feeder breaker at the PDP (OFF position).
- _____ 8.10.6 Connect the VOM to read V_{AC} at the load terminals of transfer switch HPPT-TS. Disconnect the phase rotation meter.
- _____ 8.10.7 Close the HPPT-FB feeder breaker at the PDP (ON position).
- _____ 8.10.8 Record the value from the VOM on the Data Sheet.
- _____ 8.10.9 Verify that the voltages measured in Steps 8.10.4 and 8.10.8 are in the range of 480 to 510 V. If not, stop the test and notify the Test Director.
- _____ 8.10.10 Open the HPPT-FB feeder breaker at the PDP (OFF position).
- _____ 8.10.11 Disconnect the VOM from transfer switch HPPT-TS and close the door.
- _____ 8.10.12 Shift transfer switch HPPT-TS to the OFF position.
- _____ 8.10.13 Open door of transfer switch IT-TS. Connect the VOM to read V_{AB} at the load terminals of transfer switch IT-TS. Also, connect the phase rotation meter at the same load terminals.
- _____ 8.10.14 Close the IT-FB feeder breaker at the PDP (ON position).
- _____ 8.10.15 Defeat the interlock in transfer switch IT-TS and shift transfer switch IT-TS to the NORMAL position.
- _____ 8.10.16 Record the value from the VOM on the Data Sheet. Verify that the phase rotation corresponds to the Hanford standard, clockwise rotation for A,B,C. If not, stop the test and notify the Test Director.

- _____ 8.10.17 Open the IT-FB feeder breaker at the PDP (OFF position).
- _____ 8.10.18 Connect the VOM to read V_{AC} at the load terminals of transfer switch IT-TS. Disconnect the phase rotation meter.
- _____ 8.10.19 Close the IT-FB feeder breaker at the PDP (ON position).
- _____ 8.10.20 Record the value from the VOM on the Data Sheet.
- _____ 8.10.21 Verify that the voltages measured in Steps 8.10.16 and 8.10.20 are in the range of 480 to 510 V. If not, stop the test and notify the Test Director.
- _____ 8.10.22 Open the IT-FB feeder breaker at the PDP (OFF position).
- _____ 8.10.23 Disconnect the VOM from transfer switch IT-TS and close the door.
- _____ 8.10.24 Shift transfer switch IT-TS to the OFF position
- _____ 8.10.25 Open door of transfer switch SBT-TS. Connect the VOM to read V_{AB} at the load terminals of transfer switch SBT-TS. Also, connect the phase rotation meter at the same load terminals.
- _____ 8.10.26 Close the SBT-FB feeder breaker at the PDP (ON position).
- _____ 8.10.27 Defeat the interlock in transfer switch SBT-TS and shift transfer switch SBT-TS to the NORMAL position.
- _____ 8.10.28 Record the value from the VOM on the Data Sheet. Verify that the phase rotation corresponds to the Hanford standard, clockwise rotation for A,B,C. If not, stop the test and notify the Test Director.
- _____ 8.10.29 Open the SBT-FB feeder breaker at the PDP (OFF position).
- _____ 8.10.30 Connect the VOM to read V_{AC} at the load terminals of transfer switch SBT-TS. Disconnect the phase rotation meter.
- _____ 8.10.31 Close the SBT-FB feeder breaker at the PDP (ON position).
- _____ 8.10.32 Record the value from the VOM on the Data Sheet.
- _____ 8.10.33 Verify that the voltages measured in Steps 8.10.28 and 8.10.32 are in the range of 480 to 510 V. If not, stop the test and notify the Test Director.
- _____ 8.10.34 Open the SBT-FB feeder breaker at the PDP (OFF position).
- _____ 8.10.35 Disconnect the VOM from transfer switch SBT-TS and close the door.
- _____ 8.10.36 Shift transfer switch SBT-TS to the OFF position.

Upon completion of the testing steps, the positions of circuit breakers and disconnect switches used in this test should be as shown in the following table. If any of the devices are not in the required position, notify the Test Director. The Test Director will determine the appropriate action.

TEST COMPLETION FINAL EQUIPMENT LINEUP			
LOCATION	PERFORM/VERIFY	INITIAL	DATE
XFER SW/BKRS Skid	Breaker HPPT-FB: OFF		
XFER SW/BKRS Skid	Breaker IT-FB: OFF		
XFER SW/BKRS Skid	Breaker SBT-FB: OFF		
XFER SW/BKRS Skid	Transfer switch HPPT-TS: OFF		
XFER SW/BKRS Skid	Transfer switch IT-TS: OFF		
XFER SW/BKRS Skid	Transfer switch SBT-TS: OFF		
XFER SW/BKRS Skid	Breaker SPT-PRIMARY: ON		
XFMR/BKRS Skid	Breaker CC-FB: ON		
XFMR/BKRS Skid	Breaker OFF-FB: ON		
XFMR/BKRS Skid	Breaker WE-FB: ON		
XFMR/BKRS Skid	GEN AUX breaker: OFF		
PDP	Breaker MCC-N1: OFF		
PDP	Breaker IT-FB: OFF		
PDP	Breaker HPPT-FB: OFF		
PDP	Breaker SBT-FB: OFF		
PDP	Breaker TRANSFORMER/BREAKERS SKID: ON		
PDP	All (4) Spare breakers: OFF		
PDP	Main Disconnect Breaker: ON		

DATA SHEET WHC-SD-W320-ATP-004

STEP	PERFORM/VERIFY			
		MEASUREMENT	INITIAL	DATE
8.4.3	Measurement of PT voltage $V_{AB} =$	volts		
8.4.4	Measurement of PT voltage $V_{BC} =$	volts		
8.4.5	Measurement of PT voltage $V_{CA} =$	volts		
8.4.17	IQ DATA $V_{AB} =$	volts		
8.4.18	VOM $V_{AB} =$	volts		
8.4.23	IQ DATA $V_{BC} =$	volts		
8.4.24	VOM $V_{BC} =$	volts		
8.4.29	IQ DATA $V_{CA} =$	volts		
8.4.30	VOM $V_{CA} =$	volts		
8.4.35	IQ DATA $V_{AN} =$	volts		
8.4.36	VOM $V_{AN} =$	volts		
8.4.40	IQ DATA $V_{BN} =$	volts		
8.4.41	VOM $V_{BN} =$	volts		
8.4.45	IQ DATA $V_{CN} =$	volts		
8.4.46	VOM $V_{CN} =$	volts		
8.5.2	Ammeter A ph =	amps		
8.5.3	IQ DATA A ph =	amps		
8.5.5	Ammeter B ph =	amps		
8.5.6	IQ DATA B ph =	amps		
8.5.8	Ammeter C ph =	amps		
8.5.9	IQ DATA C ph =	amps		
8.6.2	SPT full secondary voltage =	volts		
8.6.3	SPT L1 voltage =	volts		
8.6.4	SPT L2 voltage =	volts		
8.7.2	CC-FB $V_{L1} =$	volts		
8.7.3	CC-FB $V_{L2} =$	volts		
8.8.2	OFF-FB $V_{L1} =$	volts		
8.8.3	OFF-FB $V_{L2} =$	volts		
8.9.2	WE-FB $V_{L1} =$	volts		
8.9.3	WE-FB $V_{L2} =$	volts		
8.10.4	HPPT-TS VOM $V_{AB} =$	volts		
8.10.8	HPPT-TS VOM $V_{AC} =$	volts		
8.10.16	IT-TS VOM $V_{AB} =$	volts		
8.10.20	IT-TS VOM $V_{AC} =$	volts		
8.10.28	SBT-TS VOM $V_{AB} =$	volts		
8.10.32	SBT-TS VOM $V_{AC} =$	volts		