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1	RPP-5056	N/A	0	TEST REPORT FOR ACCEPTANCE	SQ	1	1	1
				TEST PROCEDURE FOR PUMPING				
				INSTRUMENTATION AND				
				CONTROL SKID "L"				

16. KEY

Approval Designator (F)	Reason for Transmittal (G)	Disposition (H) & (I)
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1	1	Design Authority W.F. ZUROFF	[signature]	11/1/99	57-24						
1	1	Design Agent B.R. JOHNS	BRJohns	11/1/99	57-24						
1	1	Cog. Eng. B.R. JOHNS	BRJohns	11/1/99	57-24						
1	1	Cog. Mgr. M.R. KOCH	MRKoch	11/1/99							
1	1	QA ~~T.J. VOLKMAN~~ M.C. ILLGES	[signature]	11-5-99	57-24						
1	1	Safety F.A. ZAK	[signature]	11/8/99							
		Env. N/A									

18.	19.	20.	21. DOE APPROVAL (if required)
BRJohns B.R. JOHNS — Signature of EDT Originator — Date 11/1/99	MRKoch M.R. KOCH — Authorized Representative for Receiving Organization — Date 11-1-99	[signature] W.F. ZUROFF — Design Authority/ Cognizant Manager — Date 11/1/99	Ctrl No. N/A ( ) Approved ( ) Approved w/comments ( ) Disapproved w/comments

TEST REPORT FOR ACCEPTANCE TEST PROCEDURE FOR PUMPING INSTRUMENTATION AND CONTROL SKID "L"

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COGEMA ENGINEERING CORPORATION
Richland, WA 99352
U.S. Department of Energy Contract DE-AC06-96RL13200

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Abstract:
This is a Test Report for Acceptance Test Procedure (ATP) RPP-5055. This test report provides the results of the inspection and testing of the new Pumping Instrumentation and Control (PIC) skid designed as "L". The ATP was successfully completed. A copy of the completed ATP is in the Appendix of this document.

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Release Approval — Date 11/8/99 — Release Stamp

Approved For Public Release

TEST REPORT FOR ACCEPTANCE TEST PROCEDURE FOR PUMPING INSTRUMENTATION AND CONTROL SKID "L"

1.0 INTRODUCTION

This test report provides the results from the performance of Acceptance Test Procedure (ATP) RPP-5055, for Pumping and Instrumentation Control (PIC) skid "L". The ATP verifies the proper construction of the PIC skid "L" by Site Fabrication Services along with proper programming of the Programmable Logic Controller (PLC) by engineering. New PIC skid "L" will be used for the pumping of tank U-105. A copy of the actual test results is in the Appendix of this document.

2.0 DESCRIPTION OF TEST

The test was performed at the Site Fabrication Services location. The ATP ensured the PIC skid was assembled and functioned as per the design drawings. Inputs to the skid were simulated to ensure proper equipment connections and wiring.

The ATP document provided detailed instructions for each test step and spaces for recording the data and signoffs. A copy of the test results including exceptions is in the Appendix.

3.0 TEST METHOD AND TEST EQUIPMENT

The ATP detailed the test methods and the test equipment to be used for testing. Test equipment identification and calibration dates are recorded on the ATP data sheets. Quality Control and Engineering witnessed the performance of the ATP.

4.0 TEST RESULTS

The ATP was successfully completed. Discrepancies in the test procedure were listed as exceptions. All the exceptions identified became part of the ATP and are in the Appendix along with the ATP results. All exceptions were reviewed, resolved and signed off as closed for this ATP.

A National Electrical Code (NEC) inspection was performed as part of the ATP. The NEC inspector accepted the electrical power portion of the skid and placed a blue acceptance sticker on the distribution panel. A Pressure Vessel inspector checked the water and air compressor tanks along with the associated relief valves. The installation of these tanks was acceptable. A copy of the NEC and Pressure Vessel inspection reports are in the Appendix of this document.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The PIC skid is found to be ready for field operation. All exceptions were resolved. An Operational Test Procedure (OTP) will be performed after the skid is set up for field configuration.

6.0 REFERENCES

RPP-5055, REVISION 0, *ACCEPTANCE TEST PROCEURE FOR PUMPING AND INSTRUMENTATION CONTROL SKIDS,* Lockheed Martin Hanford Corporation, Richland, Washington.

2H9903386, Site Fabrication Services work package.

7.0 APPENDIX

Copy of ATP, RPP-5055, Revision 0.

NEC Inspection Report

Pressure Vessel Inspection Report

4.0 PREREQUISITES

4.1 DRAWING VERIFICATION

A check of the constructed skid is to be compared to either the redlined drawings or the final unreleased skid drawings. Engineering and Quality Assurance shall verify the accuracy of the essential and support drawings. Engineering shall determine a resolution for all discrepancies by either correcting the drawings or changing the equipment.

The following drawings shall be walked down for verification of proper construction of the skid:

4.1.1 Wire terminations and wiring labeling on drawings H-14-103538, sheets 7 through 12 and H-14-103541, sheet 5.
4.1.2 Panel board arrangement on drawing H-14-103537.
4.1.3 Flow diagrams on drawings H-14-103538, sheet 5 and H-14-103543.

Drawing verification completed. (Final drawing release is not required to continue with this ATP.)

* See exception #1

BR Johns 10/19/99
Cognizant Engineer Signature Date

* K. Wilhoy 10/19/99
Quality Assurance Inspector Signature Date

4.2 PRESSURE VESSEL INSPECTION

A pressure vessel inspection by a third party inspector is required for the air compressor, the air receiver tank and relief valves located in the air compressor cabinet and the water tank and relief valves in the water cabinet. The inspection is to verify that the equipment meets National Codes for pressure vessels. An outside-certified inspector will perform this inspection. (This inspection shall be completed prior to checking the air compressor and water systems.)

Pressure vessel inspection report received. (The ATP can continue before the report is received, but must be received prior to performing section 5.8.)

Report # TPI-WT-139, 140

Ken Walling 10/19/99
Quality Assurance Inspector Signature Date

4.3 NATIONAL ELECTRICAL CODE (NEC) INSPECTION

4.3.1 An NEC inspection shall be performed to verify compliance to NFPA 70, latest version.
4.3.2 Areas in particular to be inspected are 480vac and 120vac wiring and grounding.
4.3.3 An NEC inspection sticker is to be placed inside the panel board door upon the NEC inspector's acceptance of the electrical portion of the skid.

The NEC inspection performed and an NEC inspection sticker placed on the panel board door. (This needs to be completed prior to the section 5.0 functional checks.)

Report # 8157

Ken Walling 10/19/99
Quality Assurance Inspector Signature Date

4.4 SUPPLIES

The following supplies are required for this ATP:
Note: Test sections may commence prior to assembly of all the test equipment. Engineer and/or PIC are to ensure test equipment available prior to the start of each section.

4.4.1 Volt/ohm meter (VOM): Portable, 0-600vac.

Calibration No. 817-45-08-065 Exp. Date 2/17/00 QA KW 10/19/99

Calibration No. _____ Exp. Date _____ QA _____

4.4.2 Transmation current (milliamp) simulator or equivalent

Calibration No. 817-13-20-031 Exp. Date 3-31-00 QA RR

Calibration No. _____ Exp. Date _____ QA _____

4.4.3 Manometer (capable of a minimum of 5 inches water gauge to a maximum of 20 inches water gauge for this ATP) must have a read out of variable test pressure.

Calibration No. 819-35-40-001 Exp. Date 4-7-00 QA RR

Calibration No. _____ Exp. Date _____ QA _____

4.4.4 Megaohm meter, at least 500vac range.

Calibration No. 681-45-45-001 Exp. Date 7/16/00 QA KW 10/19/99

4.4.5 BRY 480vac, 3 phase, 30-ampere power source for PIC skid.
4.4.6 BRY Selector switches (2 each) with at least one NO and one NC contact.
4.4.7 BRY Proximity switches (for simulating LS-1 and LS-2), 2 each.
4.4.8 BRY Leak detector probes (2 each), (Not required to be green tagged.) or 2 ON/OFF switches can be used to simulate leak detectors.

4.5 PRESTART CONDITIONS

4.5.1 BAY Fill the water tank at least one-third to half full of water.

4.5.2 BAY Ensure the PIC skid is grounded in preparation for ATP testing.

4.5.3 Ensure the following PIC skid valves in the WFIE cabinet are OPEN prior to starting this ATP.

BAY SALW-V-6035L (EQUALIZING)
BAY SALW-V-6036L (EQUALIZING)

4.5.4 Ensure the following PIC skid valves are CLOSED prior to starting this ATP.

Air Compressor cabinet:

BAY SALW-V-6025L
BAY SALW-V-6026L
BAY SALW-V-6034L
BAY SALW-V-6043L
BAY SALW-V-6044L
BAY SALW-V-6046L
BAY SALW-V-6047L
BAY SALW-V-6048L
BAY SALW-V-6049L

Water cabinet:

BAY SALW-V-6027L
BAY SALW-V-6028L
BAY SALW-V-6029L
BAY SALW-V-6030L
BAY SALW-V-6031L
BAY SALW-V-6032L
BAY SALW-V-6037L

WFIE Cabinet:

BAY SALW-V-6001L
BAY SALW-V-6002L
BAY SALW-V-6003L
BAY SALW-V-6004L
BAY SALW-V-6005L
BAY SALW-V-6006L
BAY SALW-V-6007L
BAY SALW-V-6008L
BAY SALW-V-6011L
BAY SALW-V-6012L
BAY SALW-V-6013L
BAY SALW-V-6014L

BAY SALW-V-6015L
BAY SALW-V-6016L
BAY SALW-V-6017L
BAY SALW-V-6018L
BAY SALW-V-6019L
BAY SALW-V-6020L
BAY SALW-V-6021L
BAY SALW-V-6035L LOW
BAY SALW-V-6035L HIGH
BAY SALW-V-6036L LOW
BAY SALW-V-6036L HIGH

4.5.5 *Ensure the following PIC skid circuit disconnects, breakers and fuses are* OPEN or OFF prior to starting this ATP.

BRJ SALW-DS-6002L BRJ SALW-DS-6003L BRJ SALW-DS-6004L BRJ SALW-DS-6005L

The following breakers are in distribution panel SALW-DP-6001L:

BRJ Breaker "MAIN"
BRJ Breaker 1
BRJ Breaker 3
BRJ Breaker 5
BRJ Breaker 7
BRJ Breaker 9
BRJ Breaker 11
BRJ Breaker 13
BRJ Breaker 2
BRJ Breaker 4
BRJ Breaker 6
BRJ Breaker 8
BRJ Breaker 10
BRJ Breaker 12
BRJ Breaker 14

The following fuses are inside the Instrument Enclosure:

BRJ Fuses FA/FB BRJ Fuses FC/FD
BRJ Fuses (Leak detector/Heat trace)

4.5.6 Check for lose electrical connections at the following locations:

BRJ Terminal boards in Instrument Enclosure
BRJ Motor starters and disconnect switches
BRJ Terminal board in junction box inside the WFIE cabinet
BRJ Terminal board in junction box for FGM outside WFIE cabinet
BRJ Terminal board in heat trace splice box outside WFIE cabinet
BRJ Distribution panel board
BRJ 480vac power plug

4.5.7 BRJ Ensure desiccant and filters are installed in the air compressor dryer and the before and after filters. No desiccant. See exception 2 Desiccant in dryer 10/20/99 BRJ

4.5.8 BRJ All personnel initialing and/or signing this procedure shall enter their signature and initials on the Procedure Performer Signature Sheet on the last page of this document.

4.5.9 BRJ A pre-job safety meeting has been held before starting section 5.0 of this ATP.

5.0 PROCEDURE

5.1 CONTINUITY CHECKS

Continuity checks shall be performed with a calibrated VOM. Perform the checks as identified below. Readings are to be less than 1 ohm. Record ohms reading on the line(s) provided. Out of tolerance readings must be corrected and rechecked prior to going to the next section. NOTE: NEC inspection must be completed prior to proceeding.

5.1.1 480vac main power plug to line side of main disconnect switch (SALW-DS-6002L). Check all three phases and ground.

✓ (RED) ✓ (YELLOW) ✓ (BLUE) ✓ (GND)

5.1.2 Load side of main disconnect switch (SALW-DS-6002L) to line side of transformer disconnect switch (SALW-DS-6003L). Check all three phases and ground.

Exception 3

✓ (RED) ✓ (YELLOW) ____ (BLUE) ✓ (GND)

5.1.3 Load side of main disconnect switch (SALW-DS-6002L) to line side of jet pump motor starter (SALW-DS-6005L). Check all three phases and ground.

✓ (RED) ✓ (YELLOW) ✓ (BLUE) ✓ (GND)

5.1.4 Load side of main disconnect switch (SALW-DS-6002L) to line side of air compressor motor starter (SALW-DS-6004L). Check all three phases and ground.

✓ (RED) ✓ (YELLOW) ✓ (BLUE) ✓ (GND)

5.1.5 Load side of transformer disconnect switch (SALW-DS-6003L) through primary of transformer (SALW-XFMR-6001L). Check between the two-phase wires going to the transformer.

✓ (continuity through transformer primary)

5.1.6 Line side of main breaker in panel board (SALW-DP-6001L) through secondary of transformer (SALW-XFMR-6001L). Check between the two phases and between each phase and neutral going to the transformer secondary.

✓ (Phase-A to phase-C, continuity through transformer secondary)

✓ (Phase-A to neutral, continuity through transformer secondary)

✓ (Phase-C to neutral, continuity through transformer secondary)

5.1.7 Load side of breakers in distribution panel (SALW-DP-6001L) to terminal point identified:

✓ Circuit 3 to TB10 in Instrument Enclosure
✓ Circuit 5 to TB13 in Instrument Enclosure
✓ Circuit 12 to Air Conditioner/Heater receptacle in Instrument Enclosure
✓ Circuit 6 to safe side terminal board in Intrinsic Safe Panel
✓ Circuit 1 to terminal board in FGM power junction box
✓ Circuit 11 to terminal board in FGM power junction box
✓ Circuit 13 to terminal board in FGM power junction box
✓ Circuit 14 to terminal board in FGM power junction box
✓ Circuit 2 to terminal board in FGM heat trace splice box
✓ Circuit 10 to terminal board in FGM heat trace splice box
✓ Circuit 4 to receptacle in air compressor cabinet
✓ Circuit 7 to receptacles in WFIE cabinet
✓ Circuit 8 to receptacle in Water cabinet
✓ Circuit 9 to outside receptacle below panel board

Section 5.1 completed and all recorded readings within tolerance.

* Ka Wolbrey 10/19/99
Quality Assurance Inspector Signature Date

* SEE EXCEPTION #3

5.2 MEGGERING OF POWER WIRES

The power wires shall be checked for resistance to ground and phase to phase. A 500-volt megger shall be used for this check. Minimum acceptable readings expected are greater than 1000 megaohm or infinity. Test the circuits listed below. Record readings on the lines provided. Out of tolerance readings must be corrected and rechecked before going to the next section.

5.2.1 Each of the three phases at the pins of the power plug to ground and phase to phase. (Ensure main disconnect SALW-DS-6002L is OPEN.)

A-GND ∞ ; B-GND ∞ ; C-GND ∞ ; A-B ∞ ; A-C ∞ ; B-C ∞

5.2.2 Each of the three phases at the load side of the main disconnect switch (SALW-DS-6002L) to ground and phase to phase. (Ensure switches SALW-DS-6003L, SALW-DS-6004L and SALW-DS-6005L are OPEN.)

A-GND ∞ ; B-GND ∞ ; C-GND ∞ ; A-B ∞ ; A-C ∞ ; B-C ∞

5.2.3 Each of the two phases on the load side of the transformer disconnect switch (SALW-DS-6003L) to ground.

A-GND ∞ ; B-GND ∞ ;

5.2.4 Each of the three phases on the load side of the air compressor motor to ground.

A-GND ∞ ; B-GND ∞ ; C-GND ∞

Move to before 5.2.3 BAJ

5.2.5 BAJ Disconnect the neutral at the distribution panel from ground.

5.2.6 Each of the two phases and neutral to ground at the distribution panel.

A-GND ∞ ; B-GND ∞ ; NEUTRAL-GND ∞

5.2.7 BAJ Reconnect the ground to the neutral at the distribution panel.

5.2.8 BAJ Disconnect the circuit 6 wire at the safe side terminal block in the intrinsic safe panel.

5.2.9 Megger each of the 14 circuits from the wire disconnected at the load side of the breaker to ground in the distribution panel.

NOTE: Disconnect each wire from the load side of the breaker prior to performing the megger check. Reconnect after meggering.

CKT.#1 to GND ∞ ; CKT.#2 to GND ∞ ; CKT.#3 to GND ∞ ; CKT.#4 to GND ∞ ; CKT.#5 to GND ∞ ; CKT.#6 to GND ∞ ; CKT.#7 to GND ∞ ; CKT.#8 to GND ∞ ; CKT.#9 to GND ∞ ; CKT.#10 to GND ∞ ; CKT.#11 to GND ∞ ; CKT.#12 to GND ∞ ; CKT.#13 to GND ∞ ; CKT.#14 to GND ∞ ;

5.2.10 BAY Ensure the load-side wire at each breaker is connected.

5.2.11 BAY Reconnect the circuit-6-wire to the safe side terminal board at the Intrinsic safe panel.

Section 5.2 completed and all recorded readings are within tolerance.

Quality Assurance Inspector Signature 10/19/99
Date

5.3 ELECTRICAL POWER CHECKS

The voltage checks are to verify proper voltages throughout the skid at specific termination points. Voltages checked are 480vac, 3 phase; 120vac, single phase; and 24vdc. Out of tolerance readings must be corrected when found before going to the next step in this section.

5.3.1 BAJ Ensure that all electrical connections are completed. Wires lifted during the megger checks are to be reconnected.

5.3.2 BAJ Ensure all switches and breakers are open and the six fuses in the instrument cabinet are open.

5.3.3 BAJ Ensure that all the fuses are in the two safety switches (SALW-DS-6002L) (SALW-DS-6003L) and motor starters (SALW-DS-6004L) (SALW-DS-6005L) including the control transformers are installed.

5.3.4 BAJ Connect the main power plug on the skid to a three phase, 480vac power source. Source to be protected by no greater than 30 amperes over current protection.

5.3.5 BAJ Turn ON the power source to the skid.

5.3.6 BAJ Verify 480vac +10vac/-20vac on the line side of the main disconnect switch (SALW-DS-6002L). Record the voltage.

493 vac A-B
497 vac A-C Exception 4
496 vac B-C

5.3.7 BAJ Close the main disconnect switch (SALW-DS-6002L).

5.3.8 BAJ Verify 480vac +10vac/-20vac on the line side of the transformer disconnect switch (SALW-DS-6003L). Record the voltage.

493 vac A-C exception 4

5.3.9 BAJ Verify 480vac +10vac/-20vac on the line side of the air compressor motor starter (SALW-DS-6003L). Record the voltage.

492 vac A-B
496 vac A-C exception 4
495 vac B-C

5.3.10 BA Verify 480vac +10vac/-20vac on the line side of the pump motor starter (SALW-DS-6005L). Record the voltage. 492 vac A-B
496 vac A-C
495 vac B-C
exception 4

5.3.11 BA Remove the dead front on the panel board (SALW-DP-6001L) for access to the main breaker for a voltage measurement.

5.3.12 BA Close the transformer disconnect switch (SALW-DS-6003L).

5.3.13 BA Check for 240vac +10/-20 at the line side of the main breaker. Record voltage. 246 vac

5.3.14 BA Open the transformer disconnect switch (SALW-DS-6003L).

5.3.15 BA Replace the dead front on the panel board (SALW-DP-6001L).

5.3.16 BA Close the transformer disconnect switch (SALW-DS-6003L).

5.3.17 BA Close the 100 ampere main breaker in the panel board (SALW-DP-600PL).

5.3.18 _____Check voltages for circuits at the following locations. Record the voltage reading on the space provided.

CKT #	CHECK VOLTAGE AT	BKR OPEN VOLTAGE (NEAR 0vac)	BKR CLOSED VOLTAGE (120+/-10vac)	OPEN BKR
1	FGM J-BOX	0	123	✓
2	FGM HT BOX	0	123	✓
3	TB10, INSTR PNL	0	122	✓
4	RCPT, AIR COMP	0	122	✓
5	TB13, INSTR PNL	0	122	✓
6	TB, INTRINSIC PNL	0	122	✓
7	RCPT, WFIE	0	122	✓
8	RCPT, WATER CAB	0	122	✓
9	OUTSIDE RCPT.	0	122	✓
10	FGM HT BOX	0	123	✓
11	FGM J-BOX	0	123	✓
12	RCPT, INSTR PNL	0	123	✓
13	FGM J-BOX	0	123	✓
14	FGM J-BOX	0	123	✓

5.3.19 BRJ Install fuses FA, FB, FC and FD and close fuseholder.

5.3.20 BRJ Install fuses and close heat trace/leak detector fuseholder.
Close ckt 5 BRJ 10/19/99

5.3.21 BRJ Verify 120vac +/-10vac at the following fuseholder load side locations.

FA 122 ; FB 122 ; FC 122 ; FD 122 ;
close ckt 3 BRJ 10/19/99
Heat trace fuse(wire CKT3H-B) 122 ;

Leak Detector fuse(wire CKT3H-A) 122

5.3.22 BRJ Verify 24vdc +/-2vdc at each 24vdc power supply.

First power supply 24.11 ; second power supply 24.10
Open ckt 3 and 5 BRJ 10/19/99

5.3.23 BRJ Open the 100 ampere main breaker in the panel board (SALW-DP-6001L).

5.3.24 BRJ Open the transformer disconnect switch (SALW-DS-6003L).

5.3.25 BRJ Open the main disconnect switch (SALW-DS-6002L).

Voltage checks completed satisfactorily. *SEE EXCEPTION #4

* Ken Wilburg 10/19/99
Quality Assurance Inspector Signature Date

5.5 SKID ELECTRICAL POWER UP

During the following sections for instrument calibration and PLC/DTAM programming, electrical power will be required to the skid. The following sequence can be used to power up and power down the skid. Record breakers closed or opened in table below. Only circuits required to be powered need to be closed.

SWITCH OR BREAKER	Close	Open	Close	Open	Close	Open	Close	Open
SALW-DS-6002L								
SALW-DS-6003L								
CKT. #1								
CKT. #2								
CKT. #3								
CKT. #4								
CKT. #5								
CKT. #6								
CKT. #7								
CKT. #8								
CKT. #9								
CKT. #10								
CKT. #11								
CKT. #12								
CKT. #13								
CKT. #14								

N/A BRY 10/21/99

5.6 CALIBRATIONS

Instrumentation equipment on the skid requires calibration prior to the functional testing. Lockheed Martin procedures will be used for this calibration. The table below identifies the equipment requiring calibration and the procedure for performing the calibration.

INSTRUMENT	LOCATION	PROCEDURE
SALW-PS-6004L	INSTRU. AIR CAB.	6-PCD-508
SALW-WFT-6002L	WFIE CABINET	6-PCD-361
SALW-LT-6003L	WATER CABINET	6-PCD-361
SALW-SGT-6001L	WFIE CABINET	6-PCD-361
SALW-CONV-6001L	WFIE CABINET	6-CVT-520
SALW-FQIT-6001L	INSTRUMENT CAB.	Data sheet & Vendor Man.
SALW-PI-6006L	AIR COMPRS. CABINET	6-TF-509
SALW-PI-6001L	WFIE CABINET	6-TF-509
SALW-PI-6005L	WFIE CABINET	6-TF-509
SALW-PI-6002L	WFIE CABINET	6-TF-509
SALW-PI-6003L	WFIE CABINET	6-TF-509
SALW-PI-6004L	WFIE CABINET	6-TF-509
SALW-PI-6007L	AIR COMPRS. CABINET	6-TF-509
SALW-PI-6008L	WATER CABINET	6-TF-509

Calibrations completed. Work package no. WS-99-1380, -1381, -1382, -1383

BRJohns 10/20/99
Engineer Signature Date

5.7 PLC/DTAM PROGRAMMING

This section is where the programs for the PLC and DTAM will be entered. Power will be required at the instrument cabinet to power up the PLC and DTAM. Power will also be required to the GFCI receptacle for power to the laptop computer. Lockheed Martin Interim Stabilization engineering will perform the programming of the PLC and DTAM. The final software programs shall be documented as required by HNF-3828, section 3.4. This documentation is not part of this ATP, but will be tracked by the Acceptance for Beneficial Use (ABU) document.

PLC/DTAM programmed.

BRJohns 10/20/99
Engineer Signature Date

5.8 SKID ELECTRICAL AND PROCESS AIR POWER-UP

See exception 2

NOTE: The Third Party Pressure Vessel inspection report must be received prior to proceeding with this section. Refer to section 4.2.

5.8.1 MJ **ENSURE** the skid and remote equipment are connected before proceeding with the functional testing.

5.8.2 MJ **ENERGIZE** the Pumping and Instrumentation Control Skid by **CLOSING** the following DISCONNECT SWITCHES in the order found below:

DISCONNECT SWITCH	ENERGIZED (✔)
SALW-DS-6002L	✓
SALW-DS-6003L	✓
SALW-DS-6004L	✓
SALW-DS-6005L	✓

5.8.3 WWS **ENERGIZE** the Pumping and Instrumentation Control Skid by **CLOSING** the following Circuit Breakers located in SALW-DP-6001L "SALW SKID DIST PNL" in the order found below:

DISCONNECT SWITCH	ENERGIZED (✔)
"MAIN"	✓
1, FGM AND HEATER (SPARE)	✓
3, HEAT TRACE & LEAK DETECTION IN INSTRUMENT ENCLOSURE	✓
5, INSTRUMENT CABINET	✓
7, WEIGHT FACTOR INSTRUMENT ENCLOSURE RECEPTACLES	✓
9, RECEPTACLE NEAR PNLBD	✓
11, FGM AND HEATER	✓
13, FGM SAMPLE/RETURN HEAT TRACE (SPARE)	✓
2, HEAT TRACE/FGM IA LINE (SPARE)	✓
4, AIR COMPRESSOR CABINET FAN, HEATER & RECEPTACLE (GFCI)	✓
6, INTRINSICALLY SAFE PANEL	✓
8, WATER TANK CABINET HEATER	✓
10, HEAT TRACE FOR DIPTUBES & FGM IA LINE	✓
12, INSTR CAB A/C & HTR RCPT	✓
14, FGM SAMPLE/RETURN HEAT TRACE	✓

5.8.4 MNJ **ACKNOWLEDGE** any initial skid alarms.

5.8.5 MNJ **OPEN** valve SALW-V-6034L (located in the Air COMP Cabinet).

5.8.6 MNJ **START** air compressor SALW-CMP-6001L "SALW SKID IA COMP" by **POSITIONING** switch on the SALW-DS-6004L to the ON position.

5.8.7 MNJ **VERIFY** that Air Compressor starts and builds up pressure **AND** shuts off at 86 to 94 psig, as indicated by pressure gauge SALW-PI-6006L (AIR DRYER INLET PRESS). Record shut off pressure: 90 psig

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5.8.8 **CHECK** the tubing in the instrument air cabinet using a soap and water test to visually identify any air leaks. Repair as necessary. Deenergize the compressor motor and bleed off air as necessary to make repairs.

5.8.9 MNJ **BLEED** off air by slowly opening valve SALW-V-6043L until the compressor restarts, then close the valve and note the restart pressure.

*see exception 5

5.8.10 BRJ **VERIFY** the air compressor restarts upon low pressure of 58 to 62 psig. Record pressure: 70* psig

5.8.11 MNJ **VALVE** in air to the PIC Skid Water Tank by **SLOWLY PERFORMING** the following (Refer to H-14-103543 Sheet 1):

5.8.12 **CHECK** for air leaks as each remaining step in this section is performed. Make repairs as necessary. Deenergize compressor motor and bleed off air pressure if necessary to make the repairs.

5.8.13 MNJ **SLOWLY OPEN** valve SALW-V-6025L located in the air compressor cabinet.

5.8.14 MNJ **SLOWLY OPEN** valve SALW-V-6027L (located near the water tank).

5.8.15 MNJ **SLOWLY OPEN** valve SALW-V-6028L (located near the water tank).

5.8.16 MNJ **ADJUST** Pressure Regulator Valve SALW-PCV-6006L to 30 psi (± 3 psig) as indicated by pressure gauge SALW-PI-6008L (WTR TK PRESS).

5.8.17 MNJ **VALVE IN** air to WFIE Cabinet by **PERFORMING** the following (Refer to H-14-103543 Sheet 1):

5.8.18 MNJ **SLOWLY OPEN** valve SALW-V-6026L located in the Air Compressor Cabinet.

5.8.19 MNJ **SLOWLY OPEN** valve SALW-V-6001L, located in the bottom of WFIE Cabinet. (NOTE: SALW-PRV-6002L may open if pressure through SALW-PCV-6001L is too high.)

5.8.20 MNJ **ADJUST** pressure control valve SALW-PCV-6001L in WFIE Cabinet to 20 psi (± 2.5 psi) as indicated by the pressure gauge located on the face of the valve.

5.8.21 MNJ **SLOWLY OPEN** valve SALW-V-6004L, located in the middle of WFIE Cabinet.

5.8.22 MNJ **SLOWLY OPEN** valve SALW-V-6003L, located in the middle of WFIE Cabinet.

CAUTION: The next three steps cause air to flow from ports on outside of WFIE cabinet.

5.8.23 MNJ **SLOWLY OPEN** valve SALW-V-6005L, located in the bottom left of WFIE Cabinet.

5.8.24 MNJ **SLOWLY OPEN** valve SALW-V-6006L, located in the bottom left of WFIE Cabinet.

5.8.25 MNJ **SLOWLY OPEN** valve SALW-V-6007L, located in the bottom left of WFIE Cabinet.

5.8.26 MNJ **SLOWLY OPEN** valve SALW-V-6020L, located in the middle left of WFIE Cabinet.

5.8.27 MNJ **SLOWLY OPEN** valve SALW-V-6021L, located in the middle left of WFIE Cabinet.

5.8.28 MNJ **SLOWLY OPEN** valve SALW-V-6019L, located in the middle left of WFIE Cabinet.

5.8.29 MNJ **ADJUST** the air flow through the diptubes by **PERFORMING** the following:

5.8.30 MNJ **ADJUST** flow to dip tubes to 1.5 CFH (± 0.5 CFH) as indicated by SALW-FIV-6002L.

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5.8.31 MNJ **ADJUST** flow to dip tubes to 1.5 CFH (± 0.5 CFH) as indicated by SALW-FIV-6003L.

1.5 BRJohnson 10/28/99
Flow Engineer Signature Date

5.8.32 MNJ **ADJUST** flow to dip tubes to 1.5 CFH (± 0.5 CFH) as indicated by SALW-FIV-6004L.

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Flow Engineer Signature Date

5.8.33 MNJ **VALVE IN** SALW-WFT-6002L **AND** SALW-SGT-6001L by **PERFORMING** the following:

5.8.34 MNJ **ENSURE** the LOW side **AND** HIGH side isolation valves, located on SALW-V-6036L in cabinet WFIE Cabinet are OPEN.

5.8.35 MNJ **ENSURE** SALW-WFT-6002L EQUALIZING valve on valve manifold SALW-V-6036L in cabinet WFIE Cabinet is CLOSED.

5.8.36 MNJ **ENSURE** the LOW side **AND** the HIGH side isolation valves, located on SALW-V-6035L in cabinet WFIE Cabinet are OPEN.

5.8.37 MNJ **ENSURE** SALW-SGT-6001L equalizing valve on valve manifold SALW-V-6035L in cabinet WFIE Cabinet is CLOSED.

5.8.38 MNJ **CONFIRM** that a signal is present between WFIE Cabinet instruments and the Programmable Logic Controller by **PERFORMING** the following:

5.8.39 MNJ **VERIFY** Weight Factor is approximately 0.0" (±0.5") Water Gauge as indicated by Data Table Access Module. If DTAM displays "<<<<" indicating less than zero, verify continuity between the transmitter and the Programmable Logic Controller and proceed with the test.

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5.8.41 MNJ **VERIFY** Specific Gravity is approximately 0.0" (±0.5") Water Gauge as indicated by Data Table Access Module. If DTAM displays "<<<<" indicating less than zero, verify continuity between the transmitter and the Programmable Logic Controller and proceed with the test.

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5.8.42 MNJ **OPEN** valve SALW-V-6035L Equalizing.

5.8.43 MNJ **CLOSE** valves SALW-V-6035L HI and LO.

5.8.44 MNJ **OPEN** valve SALW-V-6036L Equalizing.

5.8.45 MNJ **CLOSE** valves SALW-V-6036L HI and LO.

5.8.46 MNJ **CLOSE** valves SALW-V-6019L, SALW-V-6021L and SALW-V-6020L.

5.8.47 MNJ **VERIFY** all air leaks repaired.

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5.8.48 Engineer to **VERIFY** that section 5.8 is complete by **SIGNING** below.

* See exception #5 _____ 10/20/99
Engineer Signature Date

5.8.49 Quality Assurance Inspector to **VERIFY** that section 5.8 is complete by signing below.

* _____ 10/20/99
Quality Assurance Inspector Signature Date

5.9 SKID WATER DRIP SYSTEM

See exception 2

5.9.1 BLY **Provide** a container to capture water expelled from the dip tubes and pressure relief valve SALW-PRV-6001L on the outside of the WFIE cabinet.

5.9.2 MWJ **ACTUATE** the Dip Tube Drip system by **SLOWLY OPENING** the following valves:

VALVES	OPEN (✓)
SALW-V-6016L located in the middle of WFIE Cabinet	✓
SALW-V-6013L located in the middle of WFIE Cabinet	✓
SALW-V-6008L located in the middle of WFIE Cabinet	✓

CAUTION

Relief valve (SALW-PRV-6001L) will actuate and relieve pressure at 25 psig.

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5.9.3 MWJ **SLOWLY OPEN** SALW-V-6018L **WHILE CAREFULLY ADJUSTING** Pressure Regulator SALW-PCV-6005L, located in the bottom of WFIE Cabinet to 20 psig (± 2 psig) as indicated by SALW-PI-6001L in the middle of WFIE Cabinet.

5.9.4 MWJ **ADJUST** valve SALW-V-6014L to allow APPROXIMATELY 2 drops/second as indicated by sight glass SALW-FG-6001L (±1 drop/second).

5.9.5 MWJ **ADJUST** valve SALW-V-6015L to allow APPROXIMATELY 2 drops/second as indicated by sight glass SALW-FG-6002~~K~~L (±1 drop/second). BLY

5.9.6 BRD **VALVE OUT** the dip tube drip water by **SLOWLY CLOSING** the following:

VALVE	CLOSED (✓)
SALW-V-6015L **located in the middle of WFIE Cabinet**	✓
SALW-V-6014L ***located in the middle of WFIE Cabinet***	✓
SALW-V-6008L **located in the middle of WFIE Cabinet**	✓
SALW-V-6013L **located in the middle of WFIE Cabinet**	✓

5.9.7 MWD ✓ **Ensure** equalizing valve SALW-V-6035L is OPEN.

5.9.8 MWD ✓ **Ensure** HI and LO isolation valves on SALW-V-6035L are CLOSED.

5.9.9 MWD ✓ **Ensure** equalizing valve SALW-V-6036L is OPEN.

5.9.10 MWD ✓ **Ensure** HI and LO isolation valves on SALW-V-6036L are CLOSED.

5.9.11 MWD **Ensure** the following valves in the order listed: SALW-V-6019L, SALW-V-6021L, SALW-V-6020L, SALW-V-6007L, SALW-V-6006L, and SALW-V-6005L are CLOSED.

5.9.12 MWD **SLOWLY** open valve SALW-V-6044L in the Air Compressor Cabinet.

5.9.13 MWD **Verify** air flows from pressure regulator SALW-PCV-6007L outside Air Compressor Cabinet.

5.9.14 MWD **CLOSE** valve SALW-V-6044L in the Air Compressor Cabinet.

5.9.15 MWD **SLOWLY** open valve SALW-V-6048L in Air Compressor Cabinet.

5.9.16 MWD **Verify** air flows from pressure regulator SALW-PCV-6008L outside Air Compressor Cabinet.

5.9.17 MWD **CLOSE** valve SALW-V-6048L in the Air Compressor Cabinet.

5.9.18 MNJ **SLOWLY** crack open valve SALW-V-6046L in the Air Compressor Cabinet to **VERIFY** air flow at the fitting for the AOV, then **RECLOSE** SALW-V-6046L.

5.9.19 MNJ **SLOWLY** crack open valves SALW-V-6047L and SALW-V-6046L in the Air Compressor Cabinet to **VERIFY** air flow at the drain line.

5.9.20 MNJ **CLOSE** valves SALW-V-6047L and SALW-V-6046L in the Air Compressor Cabinet.

5.9.21 MNJ **SLOWLY** crack open valve SALW-V-6043L in the Air Compressor Cabinet to **VERIFY** air flow at the tank drain line.

5.9.22 MNJ **CLOSE** valve SALW-V-6043L in the Air Compressor Cabinet.

5.9.23 Engineer to **VERIFY** that section 5.9 is complete by **SIGNING** below.
Exception 2 was completed and signed off prior to performing this section.

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Engineer Signature Date

5.9.24 Quality Assurance Inspector to **VERIFY** that section 5.9 is complete by signing below.

[illegible] 10-20-99
Quality Assurance Inspector Signature Date

5.10 ANALOG INPUT SIGNALS TO THE PLC AND DTAM

Water Tank Level Transmitter

5.10.1 MND **PREPARE** the Water Tank Level Transmitter SALW-LT-6003L for test signals by **PERFORMING** the following:

5.10.2 MND **ENSURE** valve SALW-V-6029L, located in the bottom of WATER TANK ENCL, is CLOSED.

5.10.3 MND **ENSURE** valve SALW-V-6031L, located in the bottom of WATER TANK ENCL, is CLOSED.

5.10.4 MND **CONNECT** 0-62" test Manometer pressure source to the HIGH PRESSURE vent/test port of the level transmitter SALW-LT-6003L.

5.10.5 MND **VERIFY** the LOW PRESSURE vent/test port of the level transmitter SALW-LT-6003L is OPEN to atmosphere.

5.10.6 MND **ADJUST** the test Manometer on the SALW-LT-6003L to a pressure of 31" Water Gauge (± 1").

5.10.7 MND **RECORD** the following:

DATA TABLE ACCESS MODULE WATER TANK LEVEL (RANGE: 28.5 TO 33.5 Inches)
31.1 inches

NOTE - In the next step, the alarm should annunciate between 11.75" and 12.75" Water Gauge.

5.10.8 MND **VERY SLOWLY DECREASE** the Level Transmitter test Manometer pressure **UNTIL** the Data Table Access Module "PIC WATER LEVEL LOW" alarm (alarm 9) annunciates.

5.10.9 MND **ACKNOWLEDGE** the Water Tank Low Level alarm at the Data Table Access Module.

5.10.10___ **OBSERVE** the Data Table Access Module **AND RECORD** the water tank level readings below:

DATA TABLE ACCESS MODULE WATER TANK LEVEL (RANGE 11.75 to 12.75 inches Water Gauge)
12.2 inches

5.10.11 MW **SLOWLY INCREASE** the Level Transmitter test Manometer pressure to 15.5" Water Gauge.

5.10.12 MW **OBSERVE** the Data Table Access Module **AND RECORD** the water tank level readings below:

DATA TABLE ACCESS MODULE WATER TANK LEVEL (RANGE 14.5 to 16.5 inches)
15.5 inches

5.10.13 MW **VERIFY** "PIC WATER" is back to "norm" on DTAM.

5.10.14 MW **REMOVE** the test manometer from the SALW-LT-6003L high pressure vent/test port, AND **RE-INSTALL** vent plugs.

5.10.15 MW **RESTORE** the Water Tank Level Transmitter SALW-LT-6003L by **PERFORMING** the following:

5.10.16 MW **OPEN** valve SALW-V-6029L, located in the bottom of WATER TANK ENCL.

5.10.17 MW **OPEN** valve SALW-V-6031L, located in the bottom of WATER TANK ENCL.

5.10.18 MW **VERIFY** "WATER TANK" on DTAM shows a value in inches.

WEIGHT FACTOR TEST

5.10.19 MW **VERIFY** that NO Programmable Logic Controller input signals are FORCED and that the forcing function is DISABLED.

5.10.20 MW **CONNECT** the 0-500" Water Gauge test Manometer pressure source to the HIGH PRESSURE dip tube on the side of the "WFIE Cabinet."

5.10.21 MW **ENSURE** SALW-V-6001L is CLOSED.

5.10.22 MW **ENSURE** SALW-V-6005L is OPEN.

5.10.23 MW **ENSURE** SALW-V-6006L is OPEN.

5.10.24 MW **ENSURE** adjustment valves on SALW-FIV-6002L, SALW-FIV-6003L, SALW-FIV-6004L are CLOSED.

5.10.25 MW **ENSURE** SALW-WFT-6002L EQUALIZING valve located on SALW-V-6036L 3-Valve Manifold in cabinet WFIE Cabinet is CLOSED.

5.10.26 MW **ENSURE** the LOW side and HIGH side isolation valves, located on SALW-V-6036L 3-Valve Manifold in cabinet WFIE Cabinet are OPEN.

5.10.27 MW **SET** the test Manometer to 125" Water Gauge.

5.10.28 MW **OBSERVE** Data Table Access Module **AND RECORD** the Weight Factor on the table below.

DATA TABLE ACCESS MODULE WEIGHT FACTOR READING (RANGE 120 to 130 inches)
125.2 inches

5.10.29 MW **BLEED** off pressure from the manometer.

5.10.30 MW **CLOSE** SALW-V-6006L.

5.10.31 MW **OPEN** SALW-WFT-6002L equalizing valve, located on SALW-V-6036L 3-Valve Manifold in cabinet WFIE Cabinet.

5.10.32 MW **CLOSE** the LOW side and HIGH side isolation valves, located on SALW-V-6036L 3-Valve Manifold in cabinet WFIE Cabinet.

SPECIFIC GRAVITY TEST

5.10.33 MWJ **ENSURE** SALW-V-6007L is OPEN.

5.10.34 MWJ **ENSURE** SALW-V-6005L is OPEN.

5.10.35 MWJ **ENSURE** the LOW side and the HIGH side isolation valves, located on SALW-V-6035L in cabinet WFIE Cabinet are OPEN.

5.10.36 MWJ **CLOSE** the Specific Gravity Transmitter equalizing valve located on SALW-V-6035L in cabinet WFIE Cabinet.

5.10.37 MWJ **SET** the test Manometer to 5" Water Gauge (± .3").

5.10.38 MWJ **OBSERVE** Data Table Access Module **AND RECORD** the Specific Gravity reading on the table below.

DATA TABLE ACCESS MODULE SPECIFIC GRAVITY READING (RANGE 4.65 to 5.35 inches)
5.08 inches

5.10.39 MWJ **BLEED** off pressure from the manometer.

5.10.40 MWJ **DISCONNECT** the test manometer pressure source.

5.10.41 MWJ **CLOSE** SALW-V-6007L.

5.10.42 MWJ **CLOSE** SALW-V-6005L.

5.10.43 MWJ **OPEN** SALW-SGT-6001L equalizing valve, located on SALW-V-6035L 3-Valve Manifold in cabinet WFIE Cabinet.

5.10.44 MWJ **CLOSE** the LOW side and HIGH side isolation valves, located on SALW-V-6035L 3-Valve Manifold in cabinet WFIE Cabinet.

FLOW METER TEST

5.10.45 MWJ **IF** necessary **CONNECT** the brain terminal to the SALW-FQIT-6001L (SUPERNATANT FLOW XMIT), located in cabinet Instrument Cabinet.

5.10.46 MW ENSURE SALW-FQIT-6001L is powered and configured for simulated flow signals.

5.10.47 MW SIMULATE a flow signal of 2.0 gpm (50% span) with the hand held calibrator, or from flowmeter face plate.

5.10.48 MW VERIFY the SALW-FQIT-6001L transmitter is operating properly by RECORDING the following:

DATA TABLE ACCESS MODULE SUPERNATANT FLOW (RANGE: 1.8 TO 2.2 GPM)	SUPERNATANT FLOW XMIT SUPERNATANT FLOW (RANGE: 1.8 TO 2.2 GPM)
2.0 GPM	2.0 GPM

5.10.49 MW RESTORE the SALW-FQIT-6001L (SUPERNATANT FLOW TRANSMITTER) to its original configuration.

SUCTION AND DISCHARGE PRESSURE SIGNAL

5.10.50 MW CONNECT a current source to PSPT+ and PSPT- at the intrinsic side terminal board in the Intrinsic Safe panel.

5.10.51 MW SET the current to 4mA and record the suction pressure on SALW-PI-6012L in the table below. Reading is to be approximately zero.

5.10.52 MW SET the current source to 20mA and record the suction pressure in the table below. Reading is to be approximately 100psi.

5.10.53 MW DISCONNECT the current source.

5.10.54 MW CONNECT a current source to PDPT+ and PDPT- at the intrinsic side terminal board in the Intrinsic Safe panel.

5.10.55 MW SET the current to 4mA and record the discharge pressures on SALW-PI-6011L and on the DTAM in the table below. Readings are to be approximately zero.

5.10.56 MW **SET** the current source to 20mA and record the discharge pressures in the table below. Readings are to be approximately 300psi.

5.10.57 MW **DISCONNECT** the current source.

5.10.58 MW **RECORD** the following pressures on the table below:

SALW-PI-6012L JET PUMP SUCTION PRESSURE		DTAM DISCHARGE PRESSURE	SALW-PI-6011L JET PUMP DISCHARGE PRESSURE	
0.1	At 4mA	0	0.3	At 4mA
100.3	At 20mA	300	299.9	At 20mA

PIT FLAMMABLE GAS MONITOR ANALOG SIGNAL TO PLC

5.10.59 MW **CONNECT** a current source to terminal board TB1 in the PICS Instrument Enclosure, points FGM 0(+) and FGM 0(-).

5.10.60 MW **SET** current source to 4 mA (±.25 mA).

5.10.61 MW **RECORD** the Data Table Access Module Flammable Gas DISPLAY on the "Pit FGM Input/Output Table" below. (Expected value to be approximately 0%.)

5.10.62 MW **SET** current source to 10 mA (±.25 mA).

5.10.63 MW **RECORD** the Data Table Access Module Flammable Gas display on the "Pit FGM Input/Output Table" below. (Expected value to be approximately 11%.)

5.10.64 MW **SET** current source to 20 mA (±.25 mA).

5.10.65 MW **RECORD** the Data Table Access Module Flammable Gas display on the "Pit FGM Input/Output Table" below. (Expected value to be approximately 30%.)

Pit FGM Input/Output Table	
Input (mA)	**Output (as displayed on Data Table Access Module)**
4	0
10	11.3
20	30

5.10.66 MW **DISCONNECT** the current source.

DOME SPACE FLAMMABLE GAS MONITOR ANALOG SIGNAL TO PLC

5.10.67 MW **CONNECT** a current source to terminal board TB1 in the PICS Instrument Enclosure, points FGM 1(+) and FGM 1(-).

5.10.68 MW **SET** current source to 4mA (+/- .25mA).

5.10.69 MW **RECORD** the Data Table Access Module Flammable Gas DISPLAY on the "Dome Space FGM Input/Output Table" below. (Expected value to be approximately 0%.)

5.10.70 MW **SET** current source to 10 mA (±.25 mA).

5.10.71 MW **RECORD** the Data Table Access Module Flammable Gas display on the "Dome Space FGM Input/Output Table" below. (Expected value to be approximately 11%.)

5.10.72 MW **SET** current source to 20 mA (±.25 mA).

5.10.73 MW **RECORD** the Data Table Access Module Flammable Gas display on the "Dome Space FGM Input/Output Table" below. (Expected value to be approximately 30%.)

Dome Space FGM Input/Output Table	
Input (mA)	**Output (as displayed on Data Table Access Module)**
4	0
10	11.3
20	30

5.10.74 MW **DISCONNECT** the current source.

THERMOCOUPLE INPUTS TO PLC

5.10.75 MW **WARM** thermocouple SALW-TE-6004L, located in the Instrument Enclosure.

5.10.76 MW **VERIFY** Data Table Access Module displays a changed temperature.

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5.10.77 MW **VERIFY** SALW-TE-6004L temperature decreases after heat source removed.

5.10.78 MW **WARM** thermocouple SALW-TE-6003L, located in INSTRUMENT AIR ENCLOSURE.

5.10.79 BA **VERIFY** Data Table Access Module displays a changed temperature.

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5.10.80 MW **VERIFY** SALW-TE-6003L temperature decreases after heat source removed.

5.10.81 ___ **CONNECT** a thermocouple probe to the intrinsic side of top thermocouple module (MTL 3081) in the Intrinsic Safe Panel. (This will simulate pump temperature.)

5.10.82 ___ **WARM** the connected thermocouple probe.

5.10.83 ___ **VERIFY** Data Table Access Module displays a changed temperature.

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5.10.84 ___ **VERIFY** the connected probe temperature decreases after heat source removed.

5.10.85 ___ **DISCONNECT** the temperature probe.

5.10.86 ___ **CONNECT** a thermocouple probe to the second thermocouple module in the Intrinsic Safe panel. (This will simulate jumper temperature.)

5.10.87 ___ **WARM** the thermocouple probe.

5.10.88 ___ **VERIFY** Data Table Access Module (screen 25)displays a changed temperature

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5.10.89 ___ **VERIFY** SALW-TE-6002L temperature decreases after heat source removed.

5.10.90 ___ **DISCONNECT** the temperature probe.

RECIRCULATION FLUSH PRESSURE SIGNAL TO PLC

5.10.91 ___ **CONNECT** a current source to points RFPT+ and RFPT- at the intrinsic side terminal board in the Intrinsic Safe panel. (Set the current source to "TRANSMITTER SIMULATE."

5.10.92 ___ **SET** the current source to 4mA.

5.10.93 ___ **SLOWLY** increase the current output until an alarm on the DTAM for High Recirc. Flush Pressure(alarm Ø) occurs. (Approx. 12.5mA.)

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5.10.94 MWD **ACKNOWLEDGE** alarm.

5.10.95 MWD **VERIFY** the pressure on the DTAM for RFPT is approximately 15psi. 15.1 psi MWD 10-20-99

5.10.96 MWD **DECREASE** the current source to approximately 4mA.

5.10.97 MWD **VERIFY** the High Recirc. Flush Pressure alarm clears on the DTAM.

5.10.98 MWD **DISCONNECT** the current source.

5.10.99 MWD **VERIFY** a "RFPT SIGNAL LOSS" alarm (14) occurs.

5.10.100 MWD **ACKNOWLEDGE** the alarm.

JUMPER FLUSH PRESSURE SIGNAL TO PLC

5.10.101 MWD **CONNECT** a current source to points JFPT+ and JFPT- at the intrinsic side terminal board in the Intrinsic Safe panel.

5.10.102 MWD **SET** the current source to 4mA.

5.10.103 MWD **SLOWLY** increase the current output until an alarm on the DTAM for High Flush Pressure(alarm 3) occurs and the BLUE light on the instrument panel is ON. (Approx. 12.5mA.)

5.10.104 MWD **ACKNOWLEDGE** alarm.

5.10.105 MWD **VERIFY** the pressure on the DTAM for JFPT is approximately 15psi. 15.1 psi MWD 10-20-99

5.10.106 MWD **DECREASE** the current source to 4mA.

5.10.107 MWD **VERIFY** the High Flush Pressure alarm clears on the DTAM and the BLUE light turns OFF.

5.10.108 MWD **DISCONNECT** the current source.

5.10.109 MWD **VERIFY** a "JFPT SIGNAL LOSS" alarm (16) occurs.

5.10.110 MWD **ACKNOWLEDGE** the alarm.

5.10.111 Engineer **VERIFY** that section 5.10 is complete by **SIGNING** below.

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5.10.112 Quality Assurance Inspector **VERIFY** that section 5.10 is complete by signing below.

10-20-99
Quality Assurance Inspector Signature Date

5.11 DISCRETE SIGNAL INPUTS TO PLC AND DTAM

NOTE: The DIP switches on the Intrinsic Safe Panel may require changing in order to get the proper responses for LS-1 and LS-2.

JR-1 VALVE POSITION (LS-1/LS-2) INPUT

5.11.1 MWD **CONNECT** a normally closed transducer across the LS-1+ and LS-1- and a normally open transducer across the LS-2+ AND LS-2- points on the intrinsic safe terminal board in the Intrinsic Safe panel.

5.11.2 MWD **ACTUATE** both transducers by placing a piece of steel in front of the each transducer face.

5.11.3 MWD **VERIFY** the JR-1 valve indicates "norm" at the Data Table Access Module.

5.11.4 MWD **REMOVE** the metal from in front of the LS-1 switch installed in the above step.

5.11.5 MWD **VERIFY** the JR-1 valve indicates "NON-PROCESS" at the Data Table Access Module and address N20:32/0 is actuated on ladder 5 (rung 89).

5.11.6 MWD **REMOVE** the metal from in front of the LS-2 switch.

5.11.7 MWD **VERIFY** the JR-1 valve still indicates "NON-PROCESS" at the Data Table Access Module and address N20:32/1 is actuated on ladder 5 (rung 91).

5.11.8 MWD **REPLACE** the metal in front of the LS-2 and the LS-1 transducers.

5.11.9 MW **VERIFY** the JR-1 valve indicates " norm" at the Data Table Access Module and addresses N20:32/0 and N20:32/1 are clear on ladder 5 (rungs 89 and 91).

5.11.10 MW **REMOVE** the transducers.

Stopped 10/20/99 BAfohno 10/20/99 STOPPED 10-20-99

LOW PRESSURE INTERLOCK (PS-1) INPUT

5.11.11 MW **CONNECT** a normally closed switch across points PS-1-NO and PS-1-1(H) at the intrinsic safe terminal board in the Intrinsic Safe panel.

5.11.12 MW **VERIFY** the GREEN light on the instrument panel is ON.

5.11.13 MW **APPLY** software forces to allow the pump to start.

Exception 6 Turn ON/OFF switch on jet pump starter to ON

5.11.14 ___ **PRESS** the pump start from DTAM.

5.11.15 MW **VERIFY** the RED light on the instrument panel is ON and the GREEN light is OFF.

5.11.16 MW **OPEN** the PS-1 switch.

5.11.17 MW **VERIFY** that the amber light on the instrument panel turns ON immediately after the switch is open.

5.11.18 MW **VERIFY** a "XFR Pressure LOW" alarm (alarm 1) occurs at the DTAM and a pump shutdown occurs indicated by the horn sounding, strobe flashing, shutdown alarm on the DTAM, the red light turning OFF, and the green light turning ON. **ACKNOWLEDGE** alarms at Data Table Access Module to verify the various alarms.

5.11.19 MW **CLOSE** the PS-1 switch to clear the "XFR PRESSURE LOW" alarm and turn OFF amber light.

5.11.20 MW **REMOVE** the test switch.

5.11.21 MW **LEAVE** the forces in place for the high pressure test.

HIGH PRESSURE INTERLOCK (PS-1-1) INPUT

5.11.22 MW **CONNECT** a normally closed switch at points PS-1-NC and PS-1-1(H) at the intrinsic safe terminal board in the Intrinsic Safe panel.

5.11.23 MW **PRESS** the pump start from DTAM.

5.11.24 MW **VERIFY** the RED light on the instrument panel is ON and the GREEN light is OFF.

5.11.25 MW ___ **OPEN** the switch across the PS-1-1 points.

5.11.26 MW ___ **VERIFY** a "XFR Pressure HIGH" alarm (alarm 2) at the DTAM, and a pump shutdown occurs indicated by the horn sounding, strobe flashing, shutdown alarm on the DTAM, the red light turning OFF, and the green light turning ON after a 3 second delay. **ACKNOWLEDGE** the alarms at the DTAM to verify the various alarms.

5.11.27 MW ___ **DISCONNECT** the switch.

5.11.28 MW ___ **REMOVE** the software forces. as necessary BAJ 10/21/99

DILUTION TANK NO FLOW INPUT

MW MW 10-20-99

5.11.24 ___ **PLACE** a normally closed switch across terminal points DIL-F and CKT5H-A on terminal board TB4 in the Instrument Cabinet.

MW MW 10-20-99

5.11.25 ___ **VERIFY** no dilution tank no flow alarm on the DTAM (alarm 35, screen 135).

MW MW 10-20-99

5.11.26 ___ **OPEN** the switch at TB4.

5.11.27 MW ___ **VERIFY** a dilution tank no flow alarm on the DTAM.

5.11.28 MW ___ **ACKNOWLEDGE** the alarm.

5.11.29 MW ___ **CLOSE** the switch.

5.11.30 MW ___ **VERIFY** alarm clears.

5.11.31 MW ___ **DISCONNECT** the switch.

FLAMMABLE GAS MONITOR INPUT

5.11.32 MW ___ **CONNECT** a normally closed switch to points FGM and CKT5H-A on terminal board TB 4 in the instrument cabinet.

5.11.33 MW ___ **VERIFY** no FGM interlock alarm on the DTAM (alarm 22).

5.11.34 MW ___ **OPEN** the switch.

5.11.35 MW ___ **VERIFY** an FGM alarm on the DTAM.

5.11.36 MW ___ **ACKNOWLEDGE** the alarm.

5.11.37 MWJ **CLOSE** the switch.

5.11.38 MWJ **VERIFY** the FGM alarm clears.

5.11.39 MWJ **LEAVE** the switch connected for the Heat Trace check.

HEAT TRACE CONTROL FOR PUMP AND JUMPER

5.11.40 MWJ **VERIFY** that heat trace relays HT-1 and HT-2 are deenergized by checking for zero voltage across points 2 and 7 at each relay.

5.11.41 MWJ **VERIFY** zero voltage at TB12 between HT-1 and CKT3-N.

5.11.42 MWJ **TURN** ON heat trace from DTAM to actuate relays HT-1 and HT-2.

5.11.43 MWJ **CHECK** for 120vac at TB-12, points HT-1 and CKT3-N.

5.11.44 MWJ **OPEN** the FGM switch.

5.11.45 MWJ **VERIFY** 0vac at TB-12, points HT-1 and CKT3-N.

5.11.46 MWJ **TURN** OFF heat trace from the DTAM.

5.11.47 MWJ **REMOVE** the switch.

5.11.48 Engineer **VERIFY** that section 5.11 is complete by **SIGNING** below.
* See exception #6

BR Johnson 10/21/99
Engineer Signature Date

5.11.49 Quality Assurance Inspector **VERIFY** that section 5.11 is complete by signing below.

* Ka Williams 10/21/99
Quality Assurance Inspector Signature Date

5.12 HEATERS AND AIR CONDITIONER

5.12.1 MWJ **TURN** the heater ON in the air compressor cabinet. Set the thermostat high enough to allow the unit to operate.

5.12.2 MWJ **RESET** the thermostat to approximately 40 degrees F to allow the unit to turn OFF.

5.12.3 MWJ **TURN** the fan thermostat switch low to allow the fan in the air compressor cabinet to run.

5.12.4 MWJ **RESET** the fan switch to approximately 90 degrees.

5.12.5 MWJ **TURN** the heater ON in the WFIE cabinet. Set the thermostat high enough to allow the unit to operate.

5.12.6 MWJ **RESET** the thermostat to approximately 40 degrees F to allow the heater to turn OFF.

5.12.7 MWJ **TURN** the heater ON in the Water cabinet. Set the thermostat high enough to allow the unit to operate.

5.12.8 MWJ **RESET** the thermostat to approximately 40 degrees F to allow the heater to turn OFF.

5.12.9 MWJ **TURN** the heater ON in the Instrument cabinet. Set the thermostat high enough to allow the unit to operate.

5.12.10 MWJ **RESET** the thermostat to approximately 40 degrees F to allow the heater to turn OFF.

5.12.11 MWJ **TURN** ON the air conditioner in the Instrument cabinet. If necessary, remove the front grill on the unit and adjust the temperature setting lower to get the unit to operate.

5.12.12 MWJ **RESET** the temperature setting to approximately 90 to 95 degrees.

5.12.13 Engineer **VERIFY** that section 5.12 is complete by **SIGNING** below.

10/21/99

Engineer Signature Date

5.12.14 Quality Assurance Inspector **VERIFY** that section 5.12 is complete by signing below.

10/21/99

Quality Assurance Inspector Signature Date

5.13 LEAK DETECTION INTERLOCK CHECK

5.13.1 MWD Set up two buckets for leak detector testing if leak detector probes are used for testing.

NOTE - A supply of water needs to be available to pour into the buckets during testing.

- Pump operation will be simulated during the remainder of the ATP.

WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical. Comply with HNF-PRO-088, ELECTRICAL WORK SAFETY to avoid personnel electrical shock hazards.

5.13.2 MWD **PERFORM** or **VERIFY** performed the CGI dedication for the leak detector relays per HNF-4275 and WTF-1-18 and WTF-30-16.

5.13.3 MWD **CONNECT** a leak detector probe to the primary leak detector terminals at TB11 in the Instrument Cabinet, points SD-1A, SD-1B, SA-1A, and SA-1B and **CONNECT** a leak detector probe to leak detector #1 terminals at TB11 in the Instrument Cabinet, points SD-2A, SD-2B, SA-2A, and SA-2B. **IF NECESSARY** remove the jumpers from the terminal block for leak detector #1.

OR

MWD NA **CONNECT** a normally open switch to the primary leak detector terminals at TB11 in the Instrument Cabinet, points SD-1A, SD-1B, SA-1A, and SA-1B and **CONNECT** a normally open switch to leak detector #1 terminals at TB11 in the Instrument Cabinet, points SD-2A, SD-2B, SA-2A, and SA-2B. (NOTE: Connect SD-LA and SA-LA wires to one pole of the switch and SD-LB and SA-LB wires to the other pole of the switch.) **IF NECESSARY** remove the jumpers from the terminal block for leak detector #1.

5.13.4 MWD **VERIFY** no primary leak detector alarms at the DTAM (alarms 6 and 7).

5.13.5 MWD **PLACE** the primary leak detector assembly in a bucket of water **or** close the test switch on the primary leak detector.

5.13.6 MWJ **VERIFY** a leak detector leak and trouble alarm for the primary leak detector is received at the DTAM (alarm 6) after a 3 second delay.

5.13.7 MWJ **ACKNOWLEDGE** the Leak Detector Alarm at the Data Table Access Module.

5.13.8 MWJ **REMOVE** the leak detector assembly from the bucket and allow the water to drain off the assembly into the bucket **or** open the test switch.

5.13.9 MWJ **VERIFY** the leak detector alarms clear at the DTAM.

5.13.10 MWJ **DISCONNECT** one of the "SD" wires going to the probe or switch.

5.13.11 MWJ **VERIFY** trouble alarm 7 occurs.

5.13.12 MWJ **ACKNOWLEDGE** the alarm.

5.13.13 MWJ **VERIFY** no leak detector #1 alarms at the DTAM (alarms 18 and 19).

5.13.14 MWJ **PLACE** the leak detector #1 assembly in a bucket of water **or** close the switch for leak detector #1.

5.13.15 MWJ **VERIFY** a leak detector leak and trouble alarm for leak detector #1 is received at the DTAM.

5.13.16 MWJ **ACKNOWLEDGE** the Leak Detector Alarm at the Data Table Access Module.

5.13.17 MWJ **REMOVE** the leak detector assembly from the bucket and allow the water to drain off the assembly into the bucket **or** open the test switch.

5.13.18 MWJ **VERIFY** the leak detector alarms clear at the DTAM.

5.13.19 MWJ **DISCONNECT** one of the "SD" wires going to the probe or switch.

5.13.20 MWJ **VERIFY** trouble alarm 19 occurs.

5.13.21 MWJ **ACKNOWLEDGE** the alarm.

5.13.22 MWJ **DISCONNECT** the probes or switches from TB11.

5.13.23 MWJ **ENSURE** the jumpers for leak detector #1 are installed at TB11.

5.13.24 Engineer **VERIFY** that section 5.13 is complete by **SIGNING** below.

B.R. Johns 10/21/99
Engineer Signature Date

5.13.25 Quality Assurance Inspector **VERIFY** that section 5.13 is complete by signing below.

Ken Walthrey 10/21/99
Quality Assurance Inspector Signature Date

5.14 SKID SHUTDOWN AFTER ATP

5.14.1 Drain water from water tank in the Water Cabinet by opening valve SALW-V-6030L. Catch water in a container or route to an appropriate drain.

5.14.2 Ensure the following PIC skid valves in the WFIE cabinet are OPEN.

✓ SALW-V-6035L (EQUALIZING)
✓ SALW-V-6036L (EQUALIZING)

5.14.3 Ensure the following PIC skid valves are CLOSED.

Air Compressor cabinet:

✓ SALW-V-6025L
✓ SALW-V-6026L
✓ SALW-V-6034L
✓ SALW-V-6043L
✓ SALW-V-6044L
✓ SALW-V-6046L
✓ SALW-V-6047L
✓ SALW-V-6048L
✓ SALW-V-6049L

Water cabinet:

✓ SALW-V-6027L
✓ SALW-V-6028L
✓ SALW-V-6029L
✓ SALW-V-6030L
✓ SALW-V-6031L
✓ SALW-V-6032L
✓ SALW-V-6037L

WFIE Cabinet:

✓ SALW-V-6001L
✓ SALW-V-6002L
✓ SALW-V-6003L
✓ SALW-V-6004L
✓ SALW-V-6005L
✓ SALW-V-6006L
✓ SALW-V-6007L
✓ SALW-V-6008L
✓ SALW-V-6011L
✓ SALW-V-6012L
✓ SALW-V-6013L
✓ SALW-V-6014L
✓ SALW-V-6015L
✓ SALW-V-6016L
✓ SALW-V-6017L
✓ SALW-V-6018L
✓ SALW-V-6019L
✓ SALW-V-6020L
✓ SALW-V-6021L
✓ SALW-V-6035L LOW
✓ SALW-V-6035L HIGH
✓ SALW-V-6036L LOW
✓ SALW-V-6036L HIGH

5.14.4 Ensure the following PIC skid circuit disconnects, breakers and fuses are OPEN or OFF.

MNJ SALW-DS-6002L MNJ SALW-DS-6003L MNJ SALW-DS-6004L MNJ SALW-DS-6005L

The following breakers are in distribution panel SALW-DP-6001L:

✓ Breaker "MAIN"	✓ Breaker 2
✓ Breaker 1	✓ Breaker 4
✓ Breaker 3	✓ Breaker 6
✓ Breaker 5	✓ Breaker 8
✓ Breaker 7	✓ Breaker 10
✓ Breaker 9	✓ Breaker 12
✓ Breaker 11	✓ Breaker 14
✓ Breaker 13	

5.14.5 MW DISCONNECT the power plug from the 480vac power source.

5.14.6 BRJ ENSURE the power plug on the power cable is the correct model per H-14-103538, item 41.

5.14.7 Engineer **VERIFY** that section 5.14 is complete by **SIGNING** below.

BRJohns 10/21/99
Engineer Signature Date

5.14.8 Quality Assurance Inspector **VERIFY** that section 5.14 is complete by signing below.

Ken Wilberg 10/21/99
Quality Assurance Inspector Signature Date

5.15 REDLINE INCORPORATION

5.15.1 ✓ BRJ VERIFY the redlines identified in the redline log in the Fabrication work package are incorporated into the revised drawings for skid "L".

NOTE: Redlines incorporation must meet the intent of the redline log. The redlines may not be exactly the same as marked on the working drawings. Example: If a part was added to a drawing and then it is discovered that the part already existed on the drawing, then the final incorporation may be to increase the quantity of the existing part. Drawing views may change from the redline version in order to meet drafting standards.

5.15.2 Engineer to VERIFY section 5.15 is completed by signing below.

BR Johns 10/19/99
Engineer Signature Date

5.15.3 Quality Assurance Inspector to VERIFY section 5.15 is completed by signing below.

Ken Wilhoy 10/19/99
Quality Assurance Inspector Signature Date

ACCEPTANCE TEST PROCEDURE

This page may be reproduced as necessary

PAGE 1 of ___

ACCEPTANCE TEST PROCEDURE LOG

Name	Date	Comment
BRJohns	10/19/99	Step 5.2.5 is performed prior to 5.2.3. Step 5.2.9 Ensure equipment unplugged
—	—	from receptacles; Instrument cab light switch OFF and Fan temp switch
—	—	in air compressor cab set high.. Do not need to disconnect wires
—	—	from non-GFI breakers.
BRJohns	10/19/99	on steps 5.3.22, and 5.3.23 need to ~~open~~ close ckts 3 & 5 to check voltages
—	—	and then open when done.
BRJohns	10/20/99	Desiccant put in dryer. Suction and discharge indicators received per dwg.
BRJohns	10/20/99	Pressure Switch in air compressor cab. recalibrated, WS-99-1497
BRJohns	10/20/99	Stopped at 5.9.3 on day shift.
BRJohns	10/20/99	Did pre-job brief at start of ATP on swing shift.
BRJohns	10/20/99	Skip suction, discharge and FCM analog inputs due to no test equipment.
BRJohns	10/20/99	Step 5.10.93 corrected typo "alarm 9" should be "alarm 39".
BRJohns	10/20/99	Stopped at 5.11.10. Steps 5.11.1 through 5.11.10 are completed.
BRJohns	10/21/99	Started and completed ATP on 10/21/99.

WORK ORDER 2H9903386F

PAGE 123-54 OF ___

ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

This page may be reproduced as necessary

PAGE 1 of ___

ACCEPTANCE TEST PROCEDURE EXCEPTION LOG		
Number	**Date**	**Description**
1	10/19/99	H-14-103538, Sht 11. Wiring to SALW-PI-6011L and PI-6012L incorrect.
—	—	Not per drawing.
2	10/19/99	Step 4.5.7 Desiccant not in dryer.
3	10/19/99	Step 5.1.2 Third phase not connected.
4	10/19/99	Steps 5.3.6, 5.3.8, 5.3.9 & 5.3.10 the 480 vac readings are high.
5	10/20/99	Step 5.8.10 Pressure switch set point for compressor restart too high.
6	10/21/99	Step 5.11.14 Need jet pump starter switch to ON

WORK ORDER 2H990

PAGE 123-66 OF ___

ACCEPTANCE TEST PROCEDURE EXCEPTION RECORD

This page may be reproduced as necessary.

ATP step number: 4.1	**ATP Exception Log Number** 1

Description of Exception: Wiring to SALW-PI-6011L and SALW-PI-6012L incorrect, not per drawing. Need Inst. Tech to fix.

Resolution of Exception: Wire per drawing H-14-103538, sht. 11., Prior to equipment function check

Date of Resolution:	10/19/99
Cognizant Engineer signature:	BR Johns
Quality Assurance signature:	10/19/99 10/19/99
Design Authority:	10/20/99
RESOLUTION COMPLETED: (date)	10/20/99
Quality Assurance:	10/20/99
Cognizant Engineer:	BR Johns

WORK ORDER 2H99(

PAGE 123-61 OF

ACCEPTANCE TEST PROCEDURE EXCEPTION RECORD

This page may be reproduced as necessary.

ATP step number: 4.5.7	**ATP Exception Log Number** 2
Description of Exception: Desiccant not available for dryer.	
Resolution of Exception: Desiccant required to be in dryer prior to performing sections 5.8 and 5.9. DESICCANT INSTALLED VERIFIED KW 10/20/99	
Date of Resolution:	10/19/99
Cognizant Engineer signature:	BRJohns
Quality Assurance signature:	10/20/99 10/19/99
Design Authority:	10/20/99
RESOLUTION COMPLETED: (date)	10/20/99
Quality Assurance:	10/20/99
Cognizant Engineer:	BRJohns

ACCEPTANCE TEST PROCEDURE EXCEPTION RECORD

This page may be reproduced as necessary.

ATP step number: 5.1.2	**ATP Exception Log Number** 3
Description of Exception: Third phase not connected at line side of transformer disconnect switch. Step in error. Check only two phases.	
Resolution of Exception: Drawing H-14-103538, sht 5 - does not have third phase connected. Transformer is single phase and only requires two phases of the 480VAC.	
Date of Resolution:	10/19/99
Cognizant Engineer signature:	BR Johns
Quality Assurance signature:	10/20/99 10/19/99
Design Authority:	10/20/99
RESOLUTION COMPLETED: (date)	10/20/99
Quality Assurance:	10/20/99
Cognizant Engineer:	BR Johns

ACCEPTANCE TEST PROCEDURE EXCEPTION RECORD

This page may be reproduced as necessary.

ATP step number: 5.3.6, 5.3.8, 5.3.9, 5.3.10	**ATP Exception Log Number** 4
Description of Exception: The 480vac readings are too high. per the tolerance given.	
Resolution of Exception: Accept the readings. Voltage readings were taken at night. Incoming power may be higher due to most equipment in building shut off. Readings on fast skid taken during daytime were in the 480vac range. Voltage readings this time were 6vac high.	
Date of Resolution:	10/19/99
Cognizant Engineer signature:	BR Johns
Quality Assurance signature:	10/20/99 10/19/99
Design Authority:	10/20/99
RESOLUTION COMPLETED: (date)	10/20/99
Quality Assurance:	10/20/99
Cognizant Engineer:	BR Johns

ACCEPTANCE TEST PROCEDURE EXCEPTION RECORD

This page may be reproduced as necessary.

ATP step number: 5.8.10	**ATP Exception Log Number** 5
Description of Exception: Pressure switch in air compressor cabinet out of tolerance per ATP step 5.8.10.	
Resolution of Exception: Recalibrate switch. If switch will not recalibrate, complete ATP with switch as is. Identify step in WS-99-0146 to replace switch and recalibrate. The step(s) in WS-99-0146 to perform replacement and recalibration are 7.19 and cal package WS-99-1497.	
Date of Resolution:	10/21/99
Cognizant Engineer signature:	BRJohns
Quality Assurance signature:	10/21/99
Design Authority:	10/21/99
RESOLUTION COMPLETED: (date)	10/21/99
Quality Assurance:	Ken Withers 10/21/99
Cognizant Engineer:	BRJohns

ACCEPTANCE TEST PROCEDURE EXCEPTION RECORD

This page may be reproduced as necessary.

ATP step number: 5.M.14	**ATP Exception Log Number** 6
Description of Exception: Jet pump selector switch is OFF	
Resolution of Exception: Add step to turn ON selector switch on jet pump starter to allow contactor to close.	
Date of Resolution:	10/21/99
Cognizant Engineer signature:	BRJohns
Quality Assurance signature:	10/21/99 Ken Willburn 10/21/99
Design Authority:	per telecon to BRJohns from W.F. Zuroff as acceptable W.F. Zuroff BRJohns 10/21/99
RESOLUTION COMPLETED: (date)	10/21/99
Quality Assurance:	Ken Willburn 10/21/99
Cognizant Engineer:	BRJohns

ACCEPTANCE TEST PROCEDURE ACCEPTANCE RECORD

This Acceptance Test Procedure has been completed and the results, including red-line changes, exceptions, and exception resolutions, have been reviewed for compliance with the intent of the Purpose (Section 1.0). The test results are accepted by the undersigned:

BRJohns	Bruce R Johns	10/21/99
Cognizant Engineer (Signature)	**(Print Name)**	**Date**
KW 10/21/99	Ken Willoughby	10/25/99
Quality Assurance (Signature)	**(Print Name)**	**Date**

PROCEDURE PERFORMER SIGNATURE SHEET

All personnel who will be performing, initialing and signing the procedure shall enter their printed name, signature and initials below.

Bruce R. Johns	BR Johns	BRJ	
KEN WILLOUGHBY	K. Willoughby	KW	
JR Harris	JR Harris	JRH	
JEFF TUCKSEN	Jeff Tucksen	JT	GALLS
Mark Johnson	Mark Johnson	MNJ	
Gregg S. Seidel	[illegible]	GSS	
Dominique	Dowgill	DD	
Dave Eddie	Eddie	DE	
TJ Volkman	TJ Volkman	TJV	

NEC INSPECTION REPORT

Project/W.O. No.	Building No.	Code Edition	Report No.
2H-99-03386F	277-W	NEC, 1999 Edition	8157

Inspection Requested By	Phone	Inspector	Phone	
Bruce Johns	373-3429	Bresina WL	376-5265	Page 1 of 1

Item Inspected: Electrical installation on Skid-L as per work package 2H-99-03386F.

Condition Found: [X] Acceptable [ ] Unacceptable (see description below)

Inspector Signature:	Original Inspection Date	Closure Date
WL Bresina W.L. Bresina	Oct. 14, 1999	Oct. 14, 1999

	Description of NEC Violation	Cause Code	Days to Correct	Violation Corrected	Date
1					
2					
3					
6					
7					

Post-it® Fax Note 7671 | Date 10/28/99 | # of pages ▶ 1
To BRUCE JOHNS | From BILL BRESINA
Co./Dept. | Co.
Phone # | Phone # 376-5
Fax # 376-0369 | Fax #

Electrical service will be discontinued for the equipment or facility identified if violations are not corrected within time allowed by the "Days to Correct" column. "Days to Correct" starts with the original inspection date. For concerns regarding this, call the Chief Electrical Engineer at 376-6347.

K.EH2270.00 A-5001-068(6/95)

Too ☑ 10 28 99 06:45 ☎509 3

UNFIRED PRESSURE VESSEL - REPORT OF INSPECTION (Form NB-7)
THE HARTFORD STEAM BOILER INSPECTION AND INSURANCE COMPANY, HARTFORD, CT

TPI WO NO: 2W-99-_____ (1 Hrs)

1	Date Inspected 10/13/1999	Cert Exp 10/2001	Cert. Posted [X]Yes [ ] No	Owner No SKID-L	Jurisdiction No TPI-WT-139	National Board / Other NB-37821L
2	Owner: DEPARTMENT OF ENERGY (RL)		Owner Address: HANFORD, RICHLAND, WA 99352		Kind of Inspection [ ] Int'l [X]Ext	Certificate Inspection [X]Yes [ ]No
3	User Name: (LMHC) LOCKHEED MARTIN HANFORD CORP.			User Location: 200-W Will be at: 241-U FARM		Specific Location: SALT WELL SKID -L
4	Type [X]AIR TANK [ ]WATER TANK [ ]Other				Year Built 1998	Manufacture: BRUNNER ENG
5	Use: Storage [X]Receiver [ ]Process	Heat [ ]Exchange [ ]Other			Size: 14" X 20"	Inspection opening size: 2" PLUGS
	Pressure Gauge Tested [ ]Yes [X]No				Hydro Test: [ ]Yes [X]No	
6	Pressure Allowed (MAWP) This Inspection: 200 PSIG		Safety-Relief Valve: Stamped PSI: 125		Valve: SALW-PRV-6004L 1/2", 296 CFM	How Tested: NEW
7	**Certificate may be issued? [X] Yes [ ] No** (If No, explain fully under conditions)					
	7a. INSPECTION STATUS: [X] Passed [ ] Failed [ ] Passed with Discrepancy [ ] Reinspect					
	7b. VESSEL STATUS: [X] Active [ ] Inactive [X] New [ ] Exempt [ ] Removed					
8	**CONDITIONS:** Small Horizontal Air Accumulator for salt well support skid L.					

Inspected at 277-W Fabrication Shop during final assembly. Scheduled to be located at 241-U Tank U-105

8a: Internal Inspection not done or required this inspection..
Original Thickness: Shell = 0.106 Heads = 0.094

8b: External Inspection shows no dents, damage, leakage, corrosion or excess vibration.
Pressure guage: Installed & Proper Bottom drain: Installed & Suitable
Safety-Relief Valve Seal was intact with no evidence of damage or tampering

9	REQUIREMENTS/RECOMMENDATIONS: The following items are to be corrected:

1. None this inspection

10	Name of Facility Contact to whom requirements were explained: Douglas DeFord Tel: 373-5727 Copies to: Bruce Johns Tel: 373-3429 S7-24 David Saueressig Tel: 373-0183 S7-20, Mike Koch Tel: 373-2699 S7-24

I hereby Certify this is a true report of my inspection
Signature of Inspector

John L. Densley 372-0003	Commission No NB- 8032W	Employed By: The Hartford Steam Boiler Inspection and Insurance Co.

TPI-WT-139.doc

UNFIRED PRESSURE VESSEL - REPORT OF INSPECTION (Form NB-7)
THE HARTFORD STEAM BOILER INSPECTION AND INSURANCE COMPANY, HARTFORD, CT

TPI WO NO: 2W-99-_____ (1 Hrs)

1	Date Inspected 10/13/1999	Cert Exp 10/2001	Cert. Posted [X]Yes [ ] No	Owner No SKID-L	Jurisdiction No TPI-WT-140	National Board / Other NB- 105870
2	Owner: DEPARTMENT OF ENERGY (RL)		Owner Address: HANFORD, RICHLAND, WA 99352		Kind of Inspection [ ] Intl'l [X]Ext	Certificate Inspection [X]Yes [ ]No
3	User Name: (LMHC) LOCKHEED MARTIN HANFORD CORP.			User Location: 200-W Will be at: 241-U Farm		Specific Location: SALT WELL SKID-L
4	Type [ ]AIR TANK [X]WATER TANK [ ]Other				Year Built 1998	Manufacture: STOYSTOWN
5	Use: Storage [X]Receiver [ ]Process	Heat [ ]Exchange [ ]Other			Size: 20" X 60"	Inspection opening size: 2" PLUGS
	Pressure Gauge Tested [ ]Yes [X]No				Hydro Test: [ ]Yes [X]No	
6	Pressure Allowed (MAWP) This Inspection: 125 PSIG		Safety-Relief Valve: Stamped PSI: 60		Valve: SALW-PRV-6005L 3/4in, 158 CFM	How Tested: NEW
7	**Certificate may be issued? [X] Yes [ ] No** (If No, explain fully under conditions)					
	7a. INSPECTION STATUS: [X] Passed [ ] Failed [ ] Passed with Discrepancy [ ] Reinspect					
	7b. VESSEL STATUS: [X] Active [ ] Inactive [X] New [ ] Exempt [ ] Removed					
8	**CONDITIONS:** Vertical Water Accumulator for salt well support skid L.					

Inspected at 277-W Fabrication Shop during final assembly. Scheduled to be located at 241-U Tank U-105.

8a: Internal Inspection not done or required this inspection. Vessel is galvanized and not subject to internal corrosion.

8b: External Inspection shows no dents, damage, leakage, corrosion or excess vibration.
Pressure guage: Installed & Proper Bottom drain: Installed & Suitable
Safety-Relief Valve Seal was intact with no evidence of damage or tampering

9	REQUIREMENTS/RECOMMENDATIONS: The following items are to be corrected:

1. None this inspection

10	Name of Facility Contact to whom requirements were explained: Douglas DeFord Tel: 373-5727 Copies to: Bruce Johns Tel: 373-3429 S7-24 David Saueressig Tel: 373-0183 S7-20, Mike Koch Tel: 373-2699 S7-24

I hereby Certify this is a true report of my inspection
Signature of Inspector

John L. Densley 372-0003	Commission No NB- 8032W	Employed By: The Hartford Steam Boiler Inspection and Insurance Co.

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