Sta 4 (3)

OCT 2 9 1997 **ENGINEERING DATA TRANSMITTAL**

Page 1 of 1

1. EDT 607819

2. To: (Receiving Organization)	3. From: (Originating Organization)	4. Related EDT No.:
W-030 TEST REVIEW BOARD	DISPOSAL PROJECTS	616327
5. Proj./Prog./Dept./Div.:	**6. Design Authority/ Design Agent/Cog. Engr.:**	**7. Purchase Order No.:**
PROJECT W-030	D.B. Cole/S.R. Pierce	NA
8. Originator Remarks:		**9. Equip./Component No.:**
Release of test report for pre-operational test of W-030 Primary Ventilation Condensate System. Project W-030 provides the AY/AZ tank farms ventilation upgrade.		NA
		10. System/Bldg./Facility: AY/AZ Tank Farms
11. Receiver Remarks: **11A. Design Baseline Document?** [ ] Yes [X] No		**12. Major Assm. Dwg. No.:** NA
		13. Permit/Permit Application No.: NA
		14. Required Response Date: Sept. 5, 1997

15. DATA TRANSMITTED

(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	(F) Approval Designator	(G) Reason for Transmittal	(H) Originator Disposition	(I) Receiver Disposition
1	HNF-SD-W030-TD-005	-	0	W030 AY/AZ TANK FARM PREOP. TEST, PRIMARY VENT CONDENSATE	Q	2	1	

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 4. Review 2. Release 5. Post-Review 3. Information 6. Dist. (Receipt Acknow. Required)	1. Approved 4. Reviewed no/comment 2. Approved w/comment 5. Reviewed w/comment 3. Disapproved w/comment 6. Receipt acknowledged

17. SIGNATURE/DISTRIBUTION
(See Approval Designator for required signatures)

(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN
2	1	Design Authority	SR Pierce	~~10/24/97~~ 10-13-97		2	1	GP Hopkins		10/21/97	
-	--	Design Agent	NA			3	--	LF Hill	-----		
2	1	Cog.Eng.	DB Cole	9/3/97		3	--	MD Gerken	-----		
2	1	Cog. Mgr.	KA Cologi	9/3/97		1	1			10-22-97	R1-56
2	1	QA	HM Chafin	9-3-97							
3	--	Safety	WP Nelson	-----							

18.	19.	20.	21. DOE APPROVAL (if required) Ctrl. No.
Signature of EDT Originator / Date: 9-3-97	Authorized Representative for Receiving Organization / Date: 9/3/97	Design Authority/ Cognizant Manager / Date: 10/24/97	[ ] Approved [ ] Approved w/comments [ ] Disapproved w/comments

BD-7400-172-2 (05/96) GEF097

BD-7400-172-1 (07/91)

PREOPERATIONAL TEST REPORT, PRIMARY VENTILATION CONDENSATE SYSTEM

FT CLIFTON
NUMATEC HANFORD COMPANY, Richland, WA 99352
U.S. Department of Energy Contract DE-AC06-96RL13200

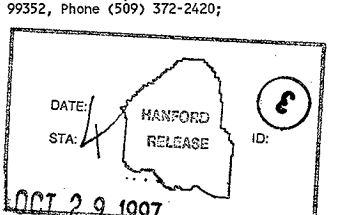
EDT/ECN: 607819 UC: 2030
Org Code: 8C473 Charge Code: NH107
B&R Code: EW3130010 Total Pages: 52

Key Words: TEST, CONDENSATE, COOLING, VENT, UPGRADE

Abstract: Preoperational test report for Primary Ventilation Condensate System, Project W-030. Project W-030 provides a ventilation upgrade for the four Aging Waste Facility tanks.

The system provides a collection point for condensate generated by the W-030 primary vent offgas cooling system serving tanks AY101, AY102, AZ101, AZ102. The system is located inside a shielded ventilation equipment cell and consists of a condensate seal pot, sampling features, a drain line to existing Catch Tank 241-AZ-151, and a cell sump jet pump. The tests verify correct system operation and correct indications displayed by the central Monitor and Control System.

Release Approval — Date: 10/29/97



Release Stamp

Approved for Public Release

W030 AY/AZ TANK FARM PREOPERATIONAL TESTING, PRIMARY VENT CONDENSATE SYSTEM TEST REPORT

ATTACHMENTS

Attachment 1 - Test Report Checklist
Attachment 2 - Copy of original test procedure with recorded data, including:
Appendix A - List of Instrumentation Requiring Calibration Verification
Appendix B - PVCS Manual Valves Alignment
Appendix C - Manual Valve Cycle List
Appendix D - Signature/Initial Verification Table
Appendix E - Test Log
Attachment 3 - Test Exception Report W030-TE-009
Attachment 4 - Calibration, Grooming, and Alignment (CGA) data.

REFERENCES

1. WHC-SD-W030-POTP-005, Rev. 0	*Preoperational Test Procedure, Primary Ventilation Condensate System*
2. H-2-131072	*P&ID Primary Vent Condensate System*
3. H-2-131075	*P&ID K1 Primary Tank Vent System*
4. WHC-SD-W030-SUP-003 Rev. 0	*Startup Test Plan, W-030*

INTRODUCTION

Preoperational Test WHC-SD-W030-POTP-005 was performed in July 1996, and was completed with a single test exception; a copy of the test exception report is attached herewith. All system instrumentation was calibrated and all system instrument loop checks were completed prior to testing in accordance with a Project W030 internal CGA Plan. CGA data are included as Attachment-4 to this report. All test actions were initiated and/or verified at the central control room graphic screens of the Monitor and Control System (MCS).

The Primary Vent Condensate System operates as designed, and all components tested by the procedure operated satisfactorily meeting the test objectives as outlined in reference-4 for the applicable system which is designed as shown on reference-2.

This test report includes a copy of the final approved test procedure, annotated with field test data and initialed by the Test Engineer. Recorded data were required primarily for information.

SUMMARY OF TEST RESULTS

Acceptance Criteria: The following criteria were evaluated in the course of testing:

ITEM/FUNCTION TESTED	ACCEPTANCE CRITERIA	TEST RESULT
MANUAL VALVES	VALVES OPERATE PROPERLY	CRITERIA MET
LEAK DETECTORS/ALARMS FOR SUMPS IN PRIMARY CELL, FILTER ROOMS A & B	ALARMS ACTIVATE ON MCS GRAPHICS SCREEN, RESET ON RETURN TO NORMAL CONDITION	CRITERIA MET
PRIMARY CELL SUMP JET PUMP	PUMP IS OPERABLE, AND CAN EMPTY SUMP BELOW LEAK DETECTOR/ALARM LEVEL	CRITERIA MET
LOW LEVEL ALARM, SEAL POT	ALARM ACTIVATES ON MCS GRAPHICS SCREEN, RESETS ON RETURN TO NORMAL CONDITION	CRITERIA MET
HIGH LEVEL ALARM, SEAL POT	ALARM ACTIVATES ON MCS GRAPHICS SCREEN, RESETS ON RETURN TO NORMAL CONDITION	CRITERIA MET
SEAL POT SAMPLE PUMP	PUMP OPERATES IN FORWARD AND REVERSE MODES, DISPENSES A SAMPLE INTO SAMPLE BOTTLE, AND CLEARS SAMPLE LINE	CRITERIA MET
SEAL POT DRAIN TO CATCH TANK	ABILITY TO DRAIN SEAL POT AT A RATE SUFFICIENT FOR NORMAL SERVICE CONDITIONS (3 GPM OR GREATER); ABILITY TO MAINTAIN A FLUID LOOP SEAL ABOVE LOW LEVEL ALARM SETPOINT	CRITERIA MET
SEAL POT DRAIN FLOW INDICATOR AND FLOW TOTALIZER	INSTRUMENTS PROVIDE INDICATION ON MCS GRAPHICS SCREEN OF FLOW RATE AND TOTAL DRAINAGE FLOW FROM SEAL POT	CRITERIA MET

System Alarm Tests: All system alarms were verified during the preoperational test. Conditions were established locally to force occurrence of system alarms (low and high seal pot level and leak detectors in the vent cell sump and filter room sumps). The alarms were verified on the applicable computer graphics screen in the control room.

Seal Pot Sampling System Test: The seal pot sample pump was operated to verify the recirculation sampling flow path to and from the seal pot. The sample station was used to collect a sample of the seal pot contents. The sample head was changed out to accommodate a 150 ml sample bottle as the planned 60 ml bottles are no longer used. The pump was tested in the forward and reverse directions. In the process the ability of pump to first dispense a sample, then clear the sample line, was verified. Two plant operators performed the steps necessary to draw a sample, affording them some hands-on experience.

System Filling: Filling of the seal pot was accomplished using the vent cell sump jet pump. This was done to prove the operability of the jet pump as well as its ability to lower the vent cell sump level sufficiently to clear the leak detector alarm in the sump. The jet pump capacity was not measured but appears to function in a satisfactory manner; the intended design rate is 3 gal/min.

The seal pot was drained via the flow transmitter, and the volume drained was measured and compared to the installed integrator. The maximum flow rate obtained during draining of the 80-gallon seal pot was approximately 3.5 gal/min, decreasing to approximately 1.5 gal/min at the lowest tank level; this drainage is acceptable since nominal routine drain rate was expected to be less than 0.5 gal/min. A quantity of approximately 46 gallons of water was required to change seal pot level indication from a low level to a high level condition.

Test Notes: The test procedure required a Test Engineer's signature (but not the date of signature) on some of the test steps. Signatures, along with dates, were provided on a calibration verification sheet, valve alignment checklist, valve cycling checklist, and test log (see Appendices A, B, C, and E), as well as the "prerequisite" steps in Section 4.0. Performance dates for specific test steps may be verified from archived work packages containing the original test record (see Attachment 1).

Test steps requiring a Test Engineer's signature were those which entailed either recording data or verifying pretest conditions, system configuration, or expected operating conditions or responses which constitute the acceptance criteria for the test. Recorded data were required primarily for information.

In CGA tests, one leak-detector instrument could not be tested because that part of the piping system is not yet installed.

CONCLUSIONS

The test procedure was completed satisfactorily. All local and remote alarms, instruments, and interlocks operated as designed.

ATTACHMENT 1 - TEST REPORT CHECKLIST			
ITEM	**REQUIRED ACTION TO BE VERIFIED**	**INITIALS**	**DATE**
1	Test completed per approved procedure	JTC	10/8/97
2	Required enclosures provided	JTC	10/8/97
	a. Summary of test results	JTC	10/8/97
	b. Signed/dated procedure validation sheet	JTC	10/8/97
	c. Applicable ECNs and NCRs N/A	JTC	10/8/97
	d. Onsite vendor test procedures/reports N/A	JTC	10/8/97
	e. Applicable/important vendor data N/A	JTC	10/8/97
	f. CVI list, Major equipment N/A	JTC	10/8/97
	g. Instrument and Loop calibration data	JTC	10/8/97
3	Test Exceptions (TEs) - Qty. 01	JTC	10/8/97
	a. All listed in TE Log N/A	JTC	10/8/97
	b. All TE reports closed/signed/dated	JTC	10/8/97
4	All applicable test steps signed/dated (1)	JTC	10/8/97
5	Test personnel	JTC	10/8/97
	a. All qualified (2)	JTC	10/8/97
	b. All have signed/dated signature log	JTC	10/8/97
6	Recorded test data	JTC	10/8/97
	a. Summary of acceptance criteria incl.	JTC	10/8/97
	b. All required data entered	JTC	10/8/97
	c. All data meets acceptance criteria (3)	JTC	10/8/97
7	Related Acceptance Test Report (ATR) (4)	JTC	10/8/97
	a. Report No: N/A	JTC	10/8/97
	b. TEs covered in this test: N/A (4)	JTC	10/8/97
8	Filename, original test record 2E-96-00283	JTC	10/8/97

NOTES:
1. All test steps are signed off by the responsible person. Where the signoff date is not noted, the test summary presents appropriate disposition (Test Notes).
2. No personnel qualification standard was established for this test beyond that required to perform the responsibilities listed in section 2.3. The individuals assigned were deemed qualified by their management.
3. Where acceptance criteria was not specified in the procedure, it is addressed in the test report.
4. For description of ATR issues, see Test Report (Test Notes).

ATTACHMENT 2

COPY OF ORIGINAL TEST PROCEDURE

WITH RECORDED DATA

~~Page 1 of~~

VERIFICATION / VALIDATION CHECKSHEET

PROCEDURE NUMBER: WHC-SD-W030-POTP-005 REVISION NUMBER: 0

PROCEDURE TITLE: Preoperational Testing, Primary Ventilation Condensate

VERIFICATION

PROCEDURE WRITER: Gary Howell DATE: 3/4/96

PEER REVIEWER: Arnold T Hayes DATE: 3/7/96

VALIDATION

OPERATOR: T.K. Neag DATE: 3/8/96

The operator performing the validation must be familiar with area and the systems involved. If there are any NO responses, the Operator shall document the reason in the DISCREPANCIES Section and ensure that the pertinent information is forwarded to the Procedure Writer for resolution.

Shift Manager/QE Review R. Gutierrez DATE: 3/8/96

Resolved JC

VERIFICATION

COGNIZANT ENGINEER: Scott R Rae DATE: 3/16/96

NOTE: OUTSTANDING DISCREPANCIES EXIST; SEE VALIDATION CHECKLIST.

Review validation comments and ensure proper disposition of validation comments.
Verify that this checksheet can be completed without any NO responses. If there are any NO responses, the justification shall be explained and documented in the DISCREPANCIES Section.

Author/Cognizant Engineer
J.V. Johnston Print Name/Signature

APPROVAL DESIGNATOR SQ

PROCEDURE APPROVAL BY TEST REVIEW BOARD (TRB)

TRB Chair	3-27-96 Date	TWRS Operations	3-28-96 Date
TWRS Engineering	3/28/96 Date	TWRS Safety	4/1/96 Date
Construction Projects Startup	3/28/96 Date	Quality Assurance	3/20/96 Date
Project Management	4/1/96 Date	ICF-KH Construction	N/A Date

The original signatures are on file.

TABLE OF CONTENTS

1.0 PURPOSE

1.1 This procedure has been prepared to verify the Primary Ventilation Condensate System (PVCS) operates in accordance with the system design.

2.0 INFORMATION

2.1 SCOPE

2.1.1 This procedure will demonstrate the operation of the following "components" and "system" operations. The PVCS provides a condensate collection point for the Tank Farms Ventilation Facility. The system consists of Condensate Seal Pot (AZ-PC-SP-1) Liquid Sampling System (AZ-PC-P-1), Seal Pot drain line and Primary Ventilation Cell Sump Jet (AZ-PC-J-1):

2.1.2 Interfacing systems include Primary Tank Ventilation, Catch Tank (241-AZ-151) and Monitoring and Control System (MCS).

2.1.3 This test will demonstrate the mechanical and electrical operation for both local and remote functions.

2.2 TERMS AND DEFINITIONS

2.2.1 FI - Flow Indicator
2.2.2 HS - Hand Switch
2.2.3 MCS - Monitoring and Control System
2.2.4 POTP - Preoperational Testing Procedure

2.3 RESPONSIBILITIES

2.3.1 The Craft (TWRS Maintenance and/or Construction Forces) personnel are responsible for:

- Providing assistance during POTP testing.

2.3.2 Test Director (TD) responsibilities.

- Safe and productive accomplishment of the tests necessary to achieve startup.
- Ensure safe working conditions and practices.
- Ensure compliance with test documents, Operational Safety Requirements/Documents (OSRs/OSDs) during testing.
- Communicate and coordinate the tests with the East Tank Farm Shift Manager.
- Ensure appropriate review/approval of any modifications to test procedures are completed prior to returning to work
- Direct line of communication and centralized point of control during normal, abnormal, and casualty situations.
- Provides the M&TE equipment found in STEP 4.9 of this procedure.
- Conducts pre-job planning meeting as necessary.
- Scheduling/rescheduling of the test as required.
- Delegates any of the above responsibilities as needed to a deputy.

2.3.3 The Test Engineering Personnel (TEP) responsibilities:

- Providing technical support during testing.
- Providing programming support during testing.
- Forcing data in PLC program during testing.
- Direct preoperational testing
- Review test documents to validate acceptance
- Prepare post testing documents
- Records equipment status and data per this procedure.
- Conducts pre-job system walkdown.
- Recording data exceptions and other notes as required on the POTP Data Sheets.

2.3.4 Operations Personnel (OP) responsibilities:

- Observing test activities for training purposes.

2.4 CHANGE CONTROL

2.4.1 Test procedure administrative or editorial changes required during testing may be accommodated as exceptions in the released test report, if the changes will not affect operating facility safety, function, or performance and will not compromise or influence test data. Requirement changes, changes to acceptance criteria, or changes to Danger, Caution, Special Precautions, or other safety or environmental instructions in test procedures prepared as supporting documents must be made by engineering change notice.

2.5 EXCEPTIONS

2.5.1 Exceptions to results or to the test procedure will be given a sequential number and recorded on Appendix G, Test Exception log sheet. A test exception report, Appendix F, will be filled out to record and disposition each test exception.

2.6 REFERENCES

2.6.1 The following documents were used to write or are referenced in this procedure:

- Project W-030 Startup Test Plan Rev 0, WHC-SD-W030-SUP-003
- H-2-131072 Rev 0, Sht 1 of 1, P&ID Primary Vent Condensate System
- H-2-131075 Rev 0, Sht 3 of 3, P&ID K1 Primary Tank Vent System
- W-030-C2 Rev 0, Tank Farm Ventilation Upgrade
- W-030-C3 Rev 0, Tank Farm Ventilation Upgrade
- W-030-P9 Rev 0, Tank Farm Pressure Transmitter Enclosure
- W-030-P22 Rev 0, Sample Pump
- W-030-P23 Rev 0, Process Sampler

2.7 ENVIRONMENTAL

2.7.1 Hazardous and mixed waste should be disposed of according to TO-100-052, or by calling Environmental Waste Operations at 372-1208.

2.8 SAFETY

Warning - In addition to contamination hazards, operators should be aware of the possibility of coming into contact with poisonous snakes and spiders.

2.8.1 The following administrative procedures control work performed in this POTP:

- Safety Manual, WHC-CM-1-10
- Industrial Hygiene Manual, WHC-CM-1-11
- Tank Farm Health and Safety Plan, (HASP) WHC-SD-WM-HSP-002

2.8.2 The primary vent cell requires confined space monitoring prior to entry.

2.9 RADIATION AND CONTAMINATION CONTROL

2.9.1 The work covered by this procedure is performed outside of the tank farm and does not require entry into a radiation/contamination control area.

2.10 QUALITY ASSURANCE

2.10.1 No Quality Assurance witness, holdpoints or verifications are required in this procedure. Quality Assurance shall review and approve the test procedure, the final test report and the disposition of all test exceptions.

2.11 GENERAL INFORMATION

2.11.1 Active PVCS interlocks - NONE.

2.12 LIMITS AND PRECAUTIONS

2.12.1 If during performance of this procedure, any of the following conditions are found, immediately notify the assigned TD and TEP:

- Any equipment malfunction which could prevent fulfillment of it's functional requirements.
- Personnel error or procedural inadequacy which could prevent fulfillment of procedural requirements.

2.12.2 The TD and TEP may choose to stop work and place equipment in a safe condition based on the significance of the malfunction, error or inadequacy.

2.12.3 Contact TD and TEP for additional instructions if changing plant conditions affect work or delays in work extend past end of the (testing) shift.

2.12.4 If any waste is generated during performance of this instruction consult Facility/Plant/Area Hazardous Waste Coordinator for specific instructions to ensure compliance with WHC and DOE environmental standards, as applicable, for correct disposal. Waste water from this test shall be disposed of via the floor drain in building 241-AZ-701 or poured into one of the cooling towers. The floor drain in building 241-AZ-701 discharges to Manhole #1 which drains to B Pond.

2.12.5 Comply with WHC and plant/facility specific lock and tag or over-tagging requirements, as applicable.

2.12.6 All Measuring and Test Equipment (M&TE) used during performance of this procedure to collect qualitative data with the exception of "timing devices", shall meet the following requirements:

- Be within its current calibration cycle as evidenced by an affixed calibration label.
- Be capable of the desired range.
- Have an accuracy (consistent with state-of-the-art limitations) equal to or greater than the accuracy specified in the procedure.
- Any M&TE used in the test should be recorded in the Test Log.

2.12.7 Timing measurements shall be made with commercially available timing devices.

2.12.8 The Test Director (TD) has overall control of the testing process and change record authorization for this POTP. The TD is responsible for conducting the test, data collection, and ensuring compliance with all POTP requirements.

2.12.9 All test data readings are to be taken and recorded for each location where the capability exists (i.e. local instrument, LOI, OS).

3.0 RECORDS

3.1 This PVCS POTP as well as all completed attachments/appendices will be filed as a permanent test record.

4.0 PREREQUISITES

NOTE: Unless otherwise specified, prerequisite actions may be performed in any order.

4.1 Perform a pretest briefing for all personnel involved in the performance of this POTP.
Test Director _____ Date 7/7/86

4.2 Perform a walkdown inspection of the systems tested by this POTP.
Test Director _____ Date 7/8/86

4.3 Two way portable radio communication between the control room and equipment locations has been verified.
Test Director _____ Date 7/9/96

4.4 The official POTP copy and all other photocopies that will be used during testing have been verified to be the latest approved/released document revision.
Test Director _____ Date 7/9/96

4.5 The Test Director has verified, by reviewing the TAG LOGBOOK and walkdown of system being tested, that all components within and including the test boundary have been "BLUE" tagged.
Test Director _____ Date 7/9/96

4.6 All personnel who will be involved with this procedure have provided the required signature verification information in Attachment A.
Test Director _____ Date 7/9/96

4.7 Notify Safety, 24 hours prior to performing this test, to establish confined space monitoring for the primary vent cell.

Test Director _____ Date 7/9/96

4.8 The cover block to the Primary Vent Cell Must be removed.

Test Director _____ Date 7/9/96

4.9 EQUIPMENT/INSTRUMENTS

Minimum supplied calibrated testing equipment provided by the TD unless otherwise noted.

4.9.1 50 foot length of standard garden hose.

4.9.2 One five gallon bucket and a one gallon bucket.

4.9.3 10 foot length of 1" tygon tubing and hose clamp.

4.9.4 Electrical jump 12" in length.

4.9.5 60 ml sample bottle.

5.0 PROCEDURE

5.1 Preoperational testing PVCS shall be performed using "Attachment A" of this procedure.

1.0 INITIAL CONDITIONS

None

2.0 VERIFY all system instrumentation in Appendix A is calibrated and has a current calibration tag affixed to each instrument and that all loop calibrations are complete.

Test Engineer: [signature]

3.0 VERIFY the SYSTEM IS ALIGNED for preoperational testing in accordance with Appendix B.

Test Engineer: [signature]

4.0 CYCLE ALL MANUAL VALVES, listed in Appendix C, full travel and verify proper operation.

Test Engineer: [signature]

5.0 RECORD all valve deficiences in Appendix E, Test Log.

6.0 PRIMARY VENT CELL SUMP AND SEAL POT TESTING

6.1 VERIFY Confined Space Monitoring has been established prior to entry into the Primary Vent Cell.

Test Engineer: [signature]

6.2 ADD clean water to the Primary Vent Cell Sump, using a five gallon bucket, until the Eductor Jet suction line is below the surface of the water.

6.3 VERIFY Leak Detector Alarm LDA-AZ702-1 is activated on graphics screen 03LeakDt.v.

Test Engineer: [signature]

6.4 CONNECT a water supply hose to HV-AZPCJ-1B.

6.5 OPEN the Eductor Jet discharge valve, HV-AZPCJ-1A.

6.6 OPEN the Eductor Jet water isolation valve, HV-AZPCJ-1C.

6.7 OPEN the Eductor Jet water supply valve, HV-AZPCJ-1B.

6.8 VERIFY Leak Detector Alarm LDA-AZ702-1 clears on graphics screen 03LeakDt.v, proving JET Pump operation

Test Engineer: [signature]

6.9 VERIFY Low Level Alarm LAL-AZPCSP-1 is received on graphics screen 16PriCoo.v as water is pumped into the Seal Pot from the Primary Vent Cell Sump.

Test Engineer: T.H.A. W030-TP-009

6.10 CONTINUE to add water, using the Primary Vent Cell Sump Jet Pump, to the Condensate Seal Pot until the Condensate Seal pot high level alarm, LAH-AZPCSP-1, is received on graphics screen 16PriCoo.v.

6.11 VERIFY a High Level Alarm, LAH-AZPCSP-1, is received on graphics screen 16PriCoo.v.

Test Engineer: J.D. Howell

6.12 CLOSE the Eductor Jet water supply valve HV-AZCPJ-1B.

6.13 CLOSE the Eductor Jet water isolation valve, HV-AZCPJ-1C.

6.14 CLOSE the Eductor Jet discharge isolation valve, HV-AZCPJ-1A.

6.15 REMOVE any remaining water in the Primary Vent Cell Sump using a wet-dry vacuum.

6.16 VERIFY Leak Detector Alarm LDA-AZ702-1 is reset on graphics screen 03LeakDt.v.

Test Engineer: J.D. Howell

7.0 SAMPLE PUMP (AZ-PC-P-1) AND SAMPLE STATION (AZ-PC-S-1)

7.1 PLACE a sample bottle in the sampler.

7.2 PLACE local control switch HS-AZPCP-1, for Sample Pump AZ-PC-P-1, in FORWARD.

NOTE - The sample pump is a 2.5/3.0 GPM tubing pump direct driven by an electric motor.

7.3 VERIFY Sample Pump AZ-PC-P-1 operates in the forward direction, pumping water to the sample bottle.

Test Engineer: J.D. Howell

7.4 OPERATE the sample pump on recirc for five to ten minutes.

7.5 OPEN Sample Bottle inlet isolation valve, HV-AZPC-5.

7.6 THROTTLE HV-AZPC-4 as necessary to establish flow to the sample bottle.

7.7 CLOSE Sample Bottle inlet isolation valve, HV-AZPC-5, when bottle reaches desired level.

7.8 PLACE local control switch HS-AZPCP-1, for Sample Pump AZ-PC-P-1, in OFF.

7.9 VERIFY Sample Pump AZ-PC-P-1 stops.
Test Engineer: T D Howell

7.10 OPEN Sample Bottle inlet isolation valve, HV-AZPC-5.

7.11 PLACE local control switch HS-AZPCP-1, for Sample Pump AZ-PC-P-1, in REVERSE.

7.12 VERIFY Sample Pump AZ-PC-P-1 operates in the REVERSE direction (opposite to the direction of rotation in step 7.3).
Test Engineer: T D Howell

7.13 ALLOW sample pump to operate for approximately 5 minutes to remove all water from sample line.

7.14 PLACE local control switch HS-AZPCP-1, for Sample Pump AZ-PC-P-1, in OFF.

7.15 REMOVE sample bottle from sampler and dispose of water via floor drain in North Room of building 241-AZ-701 or pour into a cooling tower.

8.0 DRAIN LINE TO CATCH TANK 241-AZ-151 AND FLOW INDICATOR

NOTE- Leak detector LDE-AZ503-1 will not be tested in this procedure as it will not be installed until hot tie-in occurs. This instrument will be tested using a Calibration, Grooming and Alignment work package after it is installed.

8.1 RECORD the reading on the Condensate Seal Pot drain line flow totalizer on graphics screen 04Totalz.v.

0 gallons

Test Engineer: T D Howell

8.2 PLACE a bucket at the end of pipe 1" PC-AZ503-M27 to collect water to be drained from the Condensate Seal Pot.

8.3 OPEN Condensate Seal Pot drain line isolation valve HV-AZPCSP-1A to establish flow in the line.

8.4 RECORD drain line flow as indicated on FI-AZPC-1 on graphics screen 16PriCoo.v.

3.0 gpm

Test Engineer: ZA Howell

8.5 CLOSE Condensate Seal Pot drain line isolation valve HV-AZPCSP-1A prior to overflowing the bucket.

8.6 POUR water contained in bucket in a nearby cooling tower or dispose of via the floor drain in the North Room of building 241-AZ-701.

8.7 REPEAT steps 8.2 through 8.6 until no further water can be drained from the Condensate Seal Pot. Do not record flows for additional draining performed.

8.8 VERIFY Condensate Seal Pot high level, LAH-AZPCSP-1, is reset on graphics screen 16PriCoo.v.

Test Engineer: ZA Howell

8.9 RECORD the reading on the Condensate Seal Pot drain line flow totalizer on graphics screen 04Totalz.v.

108 gallons

Test Engineer: ZA Howell

8.10 OPEN Seal Pot drain bypass valve HV-AZPCSP-1B. (WO30-TS-009)

9.0 PRIMARY VENT FILTER ROOMS LEAK DETECTION - ROOMS A & B

9.1 CONNECT an electrical jumper between the bare ends of the two leak detector probes.

9.2 VERIFY Leak Detector Room A alarm LDA-AZ702-2A is activated on graphics screen 03LeakDt.v.

Test Engineer: ZA Howell

9.3 REMOVE the electrical jumper from between the bare ends of the two leak detector probes.

8.11 VERIFY Low Level Alarm LAL-AZPCSP-1 is received on graphics screen 16PriCoo.v as water is drained from the Seal Pot.

Test Engineer: ZA Howell

8.12 CLOSE Seal Pot drain bypass valve HV-AZPCSP-1B.

9.4 VERIFY Leak Detector Room A alarm LDA-AZ702-2A is reset on graphics screen 03LeakDt.v.

Test Engineer: ZA Howell

9.5 VERIFY Leak Detector Room B alarm LDA-AZ702-2B is reset on graphics screen 03LeakDt.v.

Test Engineer: ZB Howell

9.6 CONNECT an electrical jumper between the bare ends of the two leak detector probes.

9.7 VERIFY Leak Detector Room B alarm LDA-AZ702-2B is activated on graphics screen 03LeakDt.v.

Test Engineer: ZB Howell

9.8 REMOVE the electrical jumper from between the bare ends of the two leak detector probes.

9.9 VERIFY Leak Detector Room B alarm LDA-AZ702-2B is reset on graphics screen 03LeakDt.v.

Test Engineer: ZB Howell

9.10 VERIFY Leak Detector Room B alarm LDA-AZ702-2B is reset on graphics screen 03LeakDt.v.

Test Engineer: ZB Howell

10.0 SECURE FROM POTP

10.1 VERIFY that all Temporary Test equipment has been removed from the Primary Vent Condensate System and all pipe caps reinstalled as necessary.

Test Engineer: ZB Howell

APPENDIX A - List of Instrumentation Requiring Calibration Verification			
Equipment Number	Functional Description	Signature	Date/Time
FT AZPC-1	Condensate Seal Pot drain Flow Transmitter located in E/I Room A.	TS Howell	7/9/96 0900

Appendix B - PVCS Manual Valves Alignment

VALVE NUMBER	VALVE NAME	REQUIRED POSITION	INITIALS	IV
HV-AZK108-1D	Condenser AZ-K1-8-1 Condensate Drain Block Valve in Primary Vent Cell.	OPEN	C.W.	7/11
HV-AZPC-1	Condensate Sample Suction Line Block Valve in Primary Vent Filter Room A.	OPEN	M.L.W.	7/11
HV-AZPC-4	Consensate Sample Line Back Pressure Throttle Valve in Primary Vent Filter Room A.	OPEN	M.L.W.	7/11
HV-AZPC-2	Condensate Sample Discharge Line Block Valve in Primary Vent Filter Room A.	OPEN	M.L.W.	7/11
HV-AZPC-3	Sampler AZ-PC-S-1 Vent Line Block Valve in Primary Vent Filter Room A.	OPEN	M.L.W.	7/11
HV-AZPC-5	Condensate Sample Line Block Valve to Sample Bottle in Primary Vent Filter Room A.	CLOSED	M.L.W.	7/11
HV-AZPCSP-1A	Seal Pot AZ-PC-SP-1 Oultet Block Valve in Primary Vent Cell.	CLOSED	M.L.W.	7/11
HV-AZPCSP-1B	Seal Pot AZ-PC-SP-1 Drain Block Valve in Primary Vent Cell.	CLOSED	M.L.W.	7/11
HV-AZPCJ-1A	Jet AZ-PC-J-1 Outlet Block Valve in Primary Vent Cell.	CLOSED	M.L.W.	7/11
HV-AZPCJ-1B	Jet AZ-PC-J-1 Inlet Block Valve outside Primary Vent Cell	CLOSED	M.L.W.	7/11
HV-AZPCJ-1C	Jet AZ-PC-J-1 Inlet Block Valve outside Primary Vent Cell	CLOSED	M.L.W.	7/11

Performed By: Martin L. Willis (PRINT NAME) M.L.W. (INITIALS) 7-11-96 (DATE)
Verified BY: T.G. Howell (PRINT NAME) 7/11 (INITIALS) 7/11/96 (DATE)

APPENDIX C MANUAL VALVE CYCLE LIST

Valve Number	Valve Description	Signature/ Date/Time
HV-AZK108-1D	Condenser AZ-K1-8-1 Condensate Drain Block Valve in Primary Vent Cell.	TB Howell 7/14/96 10:30
HV-AZPC-1	Condensate Sample Suction Line Block Valve in Primary Vent Filter Room A.	TB Howell
HV-AZPC-4	Consensate Sample Line Back Pressure Throttle Valve in Primary Vent Filter Room A.	TB Howell
HV-AZPC-2	Condensate Sample Discharge Line Block Valve in Primary Vent Filter Room A.	TB Howell
HV-AZPC-3	Sampler AZ-PC-S-1 Vent Line Block Valve in Primary Vent Filter Room A.	TB Howell
HV-AZPC-5	Condensate Sample Line Block Valve to Sample Bottle in Primary Vent Filter Room A.	TB Howell
HV-AZPCSP-1A	Seal Pot AZ-PC-SP-1 Oultet Block Valve in Primary Vent Cell.	TB Howell
HV-AZPCSP-1B	Seal Pot AZ-PC-SP-1 Drain Block Valve in Primary Vent Cell.	TB Howell
HV-AZPCJ-1A	v Jet AZ-PC-J-1 Outlet Block Valve in Primary Vent Cell.	TB Howell
HV-AZPCJ-1B	Jet AZ-PC-J-1 Inlet Block Valve outside Primary Vent Cell	TB Howell
HV-AZPCJ-1C	Jet AZ-PC-J-1 Inlet Block Valve outside Primary Vent Cell	TB Howell

APPENDIX D

SIGNATURE/INITIAL VERIFICATION

All persons involved in procedure performance, data recording, and verification or evaluatic test steps shall provide their name, job title, signature, and initials in the following tat

NAME (PRINT)	TITLE	SIGNATURE	INITIAL
Thomas G. Hurd II	Test Engineer	Thomas G. Hurd II	TGH
Charles Kearney	Control Room Operator	C Kearney	CMC
Martin L. Willis	Local Test Operator	Martin L. Willis	MLW
James H. Stoll	Witness	James H. Stoll	JHS
Ron Alvarado	Witness	Ron Alvarado	RAA
Ron Potter	Witness	Ron Potter	RDP
C.A. Willoughby		C.A. Willoughby	CAW

APPENDIX E

TEST LOG	TEST NUMBER: WHC-SD-W030-POTP-005	TEST LOG PAGE NUMBER: 1 of 1

TEST TITLE:-

TIME/DATE	EVENT DESCRIPTION/SIGNATURE
14:00/2/11/96	Seal pot level detector not functioning properly. The high level alarm will not clear until the low level alarm comes in. Will trouble shoot and re-run this portion of the test. TS Howell
14:00, 2/12/96	Repeated test of seal pot level detection circuit. Seal pot level alarms work satisfactorily. Will write a test exception for seal pot low level. The procedure was written incorrectly to to test this alarm. TS Howell

ATTACHMENT 3

TEST EXCEPTION REPORT W030-TE-009

TEST EXCEPTION REPORT

TEST PROCEDURE NO. & SECTION:	TEST NAME:	T.E. NUMBER:
WHC-SD-W030-POTP-005, Section 6.0	Preoperational Testing, Ventilation Condensate System	W030-TE-009

DESCRIPTION OF PROBLEM: Test procedure was written assuming that the seal pot low level alarm would annunciate on an increasing seal pot level. The low level alarm in fact annunciates on a decreasing seal pot level. This shows an absence of water in the tank for a true low level indication. The normal draining flowpath via the flow element, FE-AZPC-1, does not drain the tank low enough to bring in the low level alarm thus normal tank operation will be in a non-alarm state until the high level alarm is received. An abnormal alignment, such as draining through the flow element bypass line, will bring in the tank low level alarm indicating an abnormal condition.

ORIGINATOR:	IMPACT ON TESTING: ☐ HOLD FOR RESOLUTION ☒ CONTINUE
ZA Howell 7/16/96	ZA Howell 7/16/96
ORG: DATE:	PIC DATE

DISPOSITION: Delete Step 6.9 from procedure and add the following steps to section 8.0 to perform test of the low level alarm per design:

8.10 OPEN Seal Pot drain bypass valve HV-AZPCSP-1B.
8.11 VERIFY Low Level Alarm LAL-AZPCSP-1 is received on graphics screen 16PriCoo.v as water is drained from the Seal Pot.

Test Engineer _____

8.12 CLOSE Seal Pot drain bypass valve HV-AZPCSP-1B.

DISPOSITION AND RETEST REQUIREMENTS BY:	DISPOSITION ACTIONS COMPLETE:
ZA Howell 7/16/96 DATE	Verified By: LF Hall 7/16/96 DATE
QAE CONCURRENCE WITH DISPOSITION (if required): Hankin Chaffin 7-16-96 DATE	RETEST COMPLETE: ZA Howell 7/16/96 PIC DATE

ATTACHMENT 4

CALIBRATION, GROOMING, AND ALIGNMENT PLAN

WITH CALIBRATION DATA

CONTENTS:

1. Calibration, Grooming, and Alignment Plan for Project W-030 (unreleased document).
2. Instrument Loop Signoff Sheets with list of applicable loop drawings (see note below).
3. Instrument loop calibration sheets, each followed by related field instrument cal. sheets.
4. Instrument cal. sheets for (non-loop) local instruments (if any).

NOTE: Generally, "loops" refers to those instruments related to the central Monitor and Control System (MCS), although there are some non-MCS "local loops" as noted in the signoff sheets. Loop data sheets are attached in the order shown on the loop signoff sheets. Generally, each loop will include a loop-test data sheet, followed by its associated field-instrument calibration data sheet (with the most recent data presented first) and any other relevant calibration information. Additional supporting data may be found in the archived original test records.

CALIBRATION, GROOMING, AND ALIGNMENT PLAN

FOR PROJECT W-030

TANK FARM VENTILATION UPGRADE

PLAN APPROVAL

Frank Clifford Startup Manager	3/6/96 Date	M. D. Hardwick TWRS Operations	3-7-96 Date
Scott Rood TWRS Engineering	3/6/96 Date	W H Bruce TWRS Maintenance	3-7-96 Date
Thomas G Powell Construction Projects Startup	3-6-96 Date	Hank M. Chapin Quality Assurance	3-7-96 Date
J A Calen Project Management	3/7/96 Date	L G Hill Lowell Hill	3/6/96 Date

The original signatures are on file.

SECTION NO. PAGE

1.0 PURPOSE AND SCOPE

The purpose of this Calibration, Grooming, and Alignment (CGA) Plan is to provide a safe, uniform, and expeditious method for verifying calibration of instrumentation and associated instrument loops in the Project W-030, Tank Farm Ventilation Upgrade.

1.1 The instrument loops will be calibrated on a system basis and will be identified in a list as part of each system CGA package.

2.0 REFERENCES

2.1 Drawing H-2-131000, Shts. 1 thru 4 (W-030 Drawing List).

2.2 Drawing ES-W030-Y00, Shts. 1 thru 5 (W030 MCS Logic Diagram Drawing List).

2.3 Memorandum Of Understanding (MOU), Project W-030 Test Configuration Control, EDT No. 614741.

3.0 CHANGE CONTROL

Administrative or editorial changes required to this plan, during testing, may be accommodated as exceptions in the released test report, if the changes will not affect operating facility safety, function, or performance and will not compromise or influence test data. Addition or deletion of steps or major changes to this plan will be accomplished by revision and approval by the original signature authorities.

4.0 EXCEPTIONS

Exceptions to results or to the test procedure will be given a sequential number and recorded on Test Exception log sheet in the applicable CGA Pacakge attachment. A test exception report will be filled out to record and disposition each test exception.

5.0 PERSONNEL REQUIREMENTS

5.1 Instrument Technician (2).
5.2 MCS Operator (1).
5.3 Electrician (as needed).
5.4 Test Engineer (1)

6.0 PRECAUTIONS AND LIMITATIONS

6.1 During the performance of this procedure, if any of the following conditions are found, immediately stop work, place equipment in a safe condition, and notify the Test Engineer and take appropriate action to resolve the problem quickly:

6.1.1 Stop work if any condition could jeopardize personnel safety or jeopardize damage to equipment/components.

6.1.2 Stop work if personnel error or procedural error/inadequacy could prevent fulfillment of this procedure.

6.1.3 Stop work if any un-safe condition exists.

6.2 Review hazards in the work area (if any), prior to start of this test.

6.3 Sections or steps within sections of this procedure (except for prerequisites, Section 6.0) may be performed out of sequence under direction and authority of the Test Engineer.

6.4 Performance of this procedure requires stationing of an Operator in the Control Room.

7.0 Special Tools, Equipment, and Materials

7.1 The following is a general list of test equipment that may be required to perform the testing under this procedure:

7.1.1 Digital Multimeter (DMM).

7.1.2 Decade Box.

7.1.3 Calibrated Pressure Source.

7.1.4 Calibrated Pressure Gauge.

7.1.5 Calibrated Power Supply.

7.1.6 Two-Way Radios or Sound Powered Phones to communicate between field devices and Control Room.

7.2 The Measuring and Test Equipment (M&TE) used to collect test data during performance of this procedure shall meet the following requirements:

7.2.1 It shall be within its current calibration cycle as evidenced by an affixed calibration label.

7.2.2 It shall be capable of providing the desired range.

7.2.3 It shall have an accuracy consistent with state-of-the-art limitations. It shall be equal to or greater than the input tolerance specified on the Data Sheets or if device being calibrated is not recall related, at least 4 times greater than the specified device tolerance.

8.0 PREREQUISITES

8.1 Perform a pre-job meeting and walkdown prior to testing.

8.2 Identify safety concerns (if any) related to the testing and assure compliance with safety requirements.

8.3 Establish communications between field devices and Control Room.

8.4 Personnel radiological safety will be as specified by a Radiation Work Procedure for instrumentation/instrument loops requiring entry into the tank farm.

8.5 Equipment and materials entering a contamination control area shall be minimized.

9.0 PROCEDURE

9.1 Test Boundaries

This procedure provides boundaries within which the test personnel can work, allowing them flexibility to perform the testing and still work in a safe manner. These boundaries are as follows:

9.1.1 Test personnel must work within the site Lock and Tag procedures and identify those pieces of equipment that must be tagged out prior to the test.

9.1.2 Test personnel shall have the freedom to lift leads for diagnostic testing. The circuits being tested shall be restored to a normal configuration upon completion of testing or at the end of the shift, if testing of that loop does not continue on the next shift.

9.1.3 Test personnel shall have the freedom to change the order in which the testing is being performed.

9.1.4 Test personnel shall have the authority to change the system configuration to match the drawing configuration if wiring is found not to be in accordance with the construction drawings and applicable ECN's on systems that have been turned over to WHC. The change must be noted/logged in the daily test log located in the Control Room. The contractor should be notified in cases where the system has not been turned over to WHC.

9.1.5 If the system configuration does not work as designed and is installed according to the contract drawings, the problem shall be noted in the daily test log and the design engineer shall be notified immediately to begin processing an ECN to correct the problem.

9.1.6 Test personnel, when completing a loop test, shall document it in the daily test log and initial for completion on the package instrument list. Also items found that are not installed per construction drawings, and any other problems/fixes shall be documented in the daily test log.

9.2 Test Execution

The test should be performed in accordance with the following steps:

9.2.1 The Test Engineer shall identify and initiate any system alignments that may be required for the loops to be tested.

9.2.2 Identify on Loop Test Data Sheet, the sensor actuation method to be used. Record the test instrument type (ie: pressure source, etc.), instrument number, model, and calibration due date at the bottom of the Data Sheet (M&TE Inst. No.).

9.2.3 Identify if instrument calibration has been performed or will be performed as part of the loop test. This information will be provided on the calibration data sheet attached to the Loop Test Data Sheet.

9.2.4 Connect the sensor actuation device to the loop to be tested.

9.2.5 Loop tolerances are determined using the "Square Root of the Sum of the Squares (SRSS)" method as noted in ANSI/ASME PTC 19.1-1985, Part 1, "Measurement Uncertainties," and ANSI/ISA-S67.04-1988, Section 4.4.1. Loop tolerances will be pre-calculated and shown on the Loop Calibration Data Sheet.

9.2.6 Initiate the process input as shown on the Loop Calibration Data Sheet and then record the results in the spaces provided (LOI and MCS Screens) as applicable.

9.2.7 Verify annunciator setpoints and record the actual setpoint in the space provided on the Loop Test Data Sheet.

9.2.8 Additional remarks or comments may be recorded in the space provided on the Loop Test Data Sheet.

9.2.9 If there are any problems with the test that cannot be resolved quickly, then initiate a Test Exception on the form provided as part of each test package.

9.2.10 When all loop tests for a system have been completed, then the Test Engineer shall review the test data and sign in the space titled "Loop Complete" on Loop Test Data Sheets.

9.2.11 The associated P&ID shall be highlighted as loops are completed as a method of tracking test completion.

9.3 DOCUMENT CONFIGURATION CONTROL

All personnel involved with this CGA Procedure and the actual testing shall handle all documentation in accordance with EDT No. 614741, Memorandum of Understanding, Project W-030 Test Configuration Control. The Test Engineer shall review this EDT with all personnel involved in the testing to ensure everyone understands the scope of this document.

10.0 RESTORATION

10.1 Upon completion of loop testing, restore the loop to it's design configuration.

10.2 Remove/disconnect all test equipment used to perform the loop test.

10.3 Verify loop restoration by observing that loop indications, alarms and/or computer points are consistent with expected conditions.

11.0 RECORDS

11.1 All data sheets, test exception logs and test exception forms will become part of the system preoperational test report that will be developed upon completion of each system Preoperational Test Procedure.

12.0 ATTACHMENTS

12.1 The attachments to this document will be laid out by system and will contain the following items for each instrument loop in that system:

- Instrument Loop Sign-Off Sheet
- Instrument Test Data Sheet
- Loop Calibration Data Sheet
- System P&ID
- Test Exception Log
- Test Exception Form

12.2 The following system test packages will be developed for testing and will become attachments to this document:

Attachment A- Raw Water System Test Package
Attachment B- Primary Ventilation Condensate System Test Package
Attachment C- Recirculation Condenser Cooling System Test Package
Attachment D- Recirculation Ventilation System Test Package
Attachment E- Primary Ventilation Condensate Cooling System Test Package
Attachment F- Primary Tank Ventilation System Test Package
Attachment G- Vent Building Ventilation System Test Package

W-030 LOOP TEST DATA SHEETS

and

W-030 CALIBRATION DATA SHEETS

for the

PRIMARY VENTILATION CONDENSATE SYSTEM

CGA PACKAGE #2 INSTRUMENT LIST
PRIMARY VENT CONDENSATE SYSTEM

Tag	Complete
FI-AZPC-1	M L, 93
LDA-AZ702-2A	L421
LDA-AZ702-2B	L421
LAH-AZPCSP-1	L421
LAL-AZPCSP-1	L421,
LDA-AZ702-1	L421
LDA-AZ503-1	← Not installed yet.
HS-AZPCP-1	D.L, — LOCAL LOOP

LOOP DIAGRAMS

H-2-131311 Sht.1

H-2-131311 Sht.2
↓ SHT. 6
SHT. 9

Tag: FI_AZ___PC_1 I/O Type: AI Description: SealPot Flow

Cntlr: 24 Chan No: 25 P&ID: H-2-131072 Logic:

Remarks: _____

Location: _____

Actuation Method: 4-20mA Simulator FINAL CAL TO BE DONE IN PREOP

Sensor Calibration:

☐ 5 pt cal

☐ _____ per procedure _____ (data attached) _____ (signoff)

Loop Tolerance: 0.5 % = $\sqrt{(\text{sensor})^2 + (\text{xmitter})^2 + (0.5\ \%)^2 + (0.2\ \%)^2}$ (other) (DCS)

Units: GPM			LOI	Screen1	Screen2	Screen3
Process	Input	Readout Tolerance	LCU3-37	16PriCoo		
Lo:	0.00	-.03 - .03	0	0		
Hi:	5.00	4.97 - 5.03	4.99	5		

Annunciator(s):	Priority	Setpoint	Tolerance	Trip Point
Max:	0	99999.99	-	
HiHi:	0	99999.99	-	
Hi:	0	99999.99	-	
Lo:	0	-9999.99	-	
LoLo:	0	-9999.99	-	
Min:	0	-9999.99	-	

Other:

_____

_____

MTE Instr. No: 817-13-55-023 Due Date: 3-26-97

(signoff) Loop Complete: D.S. Date: 9/2/96

Tag: FT-AZPC-1 P&ID: H-2-131072, SH 1 LOOP: H-2-131311, SH 2

Manufacturer: MICRO-MOTION Model No.: RFT9739/E1SU Serial No: 1521855
SENSOR S/N - 309401
MODULES/N - 1516410

MTE Instr. No: 817.45.08.040 Due Date: 2.28.98

Input Range 0-5 Tolerance .5% - OUTPUT
2% - SCREEN

Units: GPM

Input (ma)	Output (ma)	MICON (gal)	Lo:	Hi:	As Found	In/Out	As Left
4.00	4.00	0	3.92 (-0.1)	4.08 (0.1)	4.00 (0.0)	IN	4.00
8.00	8.00		7.92	8.08	8.00	IN	8.00
12.00	12.00	2.5	11.92 (2.4)	12.08 (2.6)	12.00 (2.5)	IN	12.00
16.00	16.00		15.92	16.08	16.00	IN	16.00
20.00	20.00	5	19.92 (4.90)	20.08 (5.1)	20.00 (5.0)	IN	20.00

(signoff) Calibrated By: Paul M. Zyluski Date: 5.27.97

Location: I.E RM 'A'

Comments Perform auto zero - check config per data listed below.

Service # - 1.800.522.4277 (MICRO MOTION INC. BOULDER, Co. 80301 - (303) 530-8400)

TRANSMITTER	S/N
RFT9739E1SU	1516410

SENSOR	S/N
CMF050M009NU	309401

CAL FACTORS
FLOW - 14.5174.75
DENSITY(D_1) = .001
DENSITY(D_2) = .9978
K_1 - 6343.14
K_2 - 7704.7
TCoeff - 4.44

FLOW DIR - FWD ONLY

FAULT - UPSCALE

INPUT SETTING	DAMPING	CUTOFF
MASS FLOW	.8	.25
DENSITY	.2	0
Vol FLOW	.8	
TEMP.	2	

Tag: LDA_702_2A I/O Type: DI Description: FltrRmA LeakDet

Cntlr: 28 Chan No: 10 P&ID: H-2-131072 Logic:

Remarks: _____

Location: _____

Actuation Method: Jumper Sensor

Sensor Calibration:

☐ N/A per procedure _____ (data attached) LFH (signoff)

Setpoint:

Loop Tolerance:

Process State		Color	LOI LCU3-46	Screen1 03LeakDt	Screen2	Screen3
Lo (0):	LEAK	3	OFF	Yellow		
Hi (1):	NORMAL	2	ON	Green		

Annunciator(s):	Priority	Alarm Color (actual)
Hi:	0	
Lo:	2	Yellow

Other: TMACS got alarm

MTE Instr. No: _____ Due Date: _____

(signoff) Loop Complete: LF Hill Date: 4/3/96

Tag: LDY-AZ702-2A P&ID: H-2-131072, SH 1 LOOP: H-2-131311, SH 9

Manufacturer: B/W Controls Model No.: ELECTRODE Serial No: 2E-000-737

MTE Instr. No: N/A Due Date: N/A

Input Range Functional Tolerance N/A

Units: Switch

Input	Output	Lo:	Hi:	As Found	In/Out	As Left
Jumper	Switch	"See instructions below"				

(signoff) Calibrated By: P Zyglinski / S Fitzsimmons Date: 4.21.97

Location: Fltr Rm A Leak Det.

Comments: Instructions: Jumper sensor.
ALARM LDA-AZ702-2A RECIEVED AT MICON? (Y) N

Tag: LDA_702_2B I/O Type: DI Description: FltrRmB LeakDet

Cntlr: 28 Chan No: 11 P&ID: H-2-131072 Logic:

Remarks: _____

Location: _____

Actuation Method: Jumper Sensor

Sensor Calibration:

☐ N/A per procedure _____ (data attached) LEH (signoff)

Setpoint:

Loop Tolerance:

Process State		Color	LOI LCU3-46	Screen1 03LeakDt	Screen2	Screen3
Lo (0):	LEAK	3	OFF	Yellow		
Hi (1):	NORMAL	2	ON	Green		

Annunciator(s):	Priority	Alarm Color (actual)
Hi:	0	
Lo:	2	Yellow

Other: TMACS got alarm

MTE Instr. No: _____ Due Date: _____

(signoff) Loop Complete: L E Hill Date: 4/3/96

Tag: LDY-AZ702-2B P&ID: H-2-131072, SH 1 LOOP: H-2-131311, SH 9

Manufacturer: B/W Controls Model No.: ELECTRODE Serial No: 2E-000-738

MTE Instr. No: N/A Due Date: N/A

Input Range Functional Tolerance

Units: Switch

Input	Output	Lo:	Hi:	As Found	In/Out	As Left
Jumper	Switch	"See instructions below"				

(signoff) Calibrated By: P. Zylstra / S Fitzsimmons Date: 4.21.97

Location: Filtr. Rm 'B' Leak detector

Comments Instructions: Jumper sensor.

Alarm LDA-AZ 702-2B Recieved at MICON? (Y)/N

Tag: LAH_AZ__PCSP_1 I/O Type: DI Description: SealPot Lvl Hi

Cntlr: 28 Chan No: 25 P&ID: H-2-131072 Logic:

Remarks: _____

Location: _____

Actuation Method: push-to-test on signal conditioner

Sensor Calibration:

☐ _____ per procedure _____ (data attached) _____ (signoff)

Setpoint:

Loop Tolerance:

Process State		Color	LOI LCU3-37	Screen1 16PriCoo	Screen2 02Main.v	Screen3
Lo (0):	HIGH	3	OFF	Alarm	Alarm	_____
Hi (1):	NORMAL	2	ON	(normal)	(normal)	_____

Annunciator(s):	Priority	Alarm Color (actual)
Hi:	0	_____
Lo:	2	yellow

Other: Also checked open loop resulting in alarm _____

_____ _____

MTE Instr. No: _____ Due Date: _____

(signoff) Loop Complete: J T Hill Date: 7/8/96

Tag: LAH-AZPCSP-1 P&ID: H2-131072

Manufacturer: B/W Controls Model No.: MAGNETEK Serial No: 2E-000-766

MTE Instr. No: N/A Due Date: N/A

Input Range N/A Tolerance N/A

Units: N/A

Input	Output	Lo:	Hi:	As Found	In/Out	As Left
	Functional					

(signoff)Calibrated By: Paul M. Zyluneski Date: 7.14.97

Location: SEAL POT LEVEL HIGH (VENT CELL)

Comments

Short out element by installing jumper at head connection on vent cell roof.

Does LAH-AZPCSP-1 Actuate at MICON DCS? (Y)/N

Tag: LAL_AZ__PCSP_1 I/O Type: DI Description: SealPot LvlLo

Cntlr: 28 Chan No: 26 P&ID: H-2-131072 Logic:

Remarks: _____

Location: _____

Actuation Method: push-to-Test on signal conditioner.

Sensor Calibration:

☐ _____ per procedure _____ (data attached) _____ (signoff)

Setpoint:

Loop Tolerance:

Process State		Color	LOI LCU3-37	Screen1 16PriCoo	Screen2 02Main.v	Screen3
Lo (0):	LOW	3	OFF	Alarm	Alarm	_____
Hi (1):	NORMAL	2	ON	(normal)	(normal)	_____

Annunciator(s):	Priority	Alarm Color (actual)
Hi:	0	—
Lo:	2	yellow

Other: also checked open loop giving alarm _____

_____ _____

MTE Instr. No: _____ Due Date: _____

(signoff) Loop Complete: L F Hill Date: 7/8/96

Tag: LAL-AZPCSP-1 P&ID: #2-131072 L(

Manufacturer: B/W Controls Model No.: MAGNETEK Serial No: ZE-000-766

MTE Instr. No: N/A Due Date: N/A

Input Range N/A Tolerance N/A

Units: N/A

Input	Output	Lo:	Hi:	As Found	In/Out	As Left
	Functional					

(signoff)Calibrated By: Paul M. Zyliński Date: 7.14.97

Location: SEAL POT LEVEL LOW. (VENT CELL)

Comments

Short out element by installing jumper at head connection on vent cell roof.

Does LAL-AZPCSP-1 actuate at MICON DCS? (Y)N

Tag: LDA_702_1 I/O Type: DI Description: VentCellLeakDet

Cntlr: 28 Chan No: 9 P&ID: H-2-131072 Logic:

Remarks: _____

Location: _____

Actuation Method: jumper sensor

Sensor Calibration:

☐ N/A per procedure _____ (data attached) LGH (signoff)

Setpoint:

Loop Tolerance:

Process State		Color	LOI LCU3-46	Screen1 03LeakDt	Screen2	Screen3
Lo (0):	LEAK	3	~~ON~~ OFF	3		
Hi (1):	NORMAL	2	~~OFF~~ ON LGH	2		

Annunciator(s):	Priority	Alarm Color (actual)
Hi:	0	—
Lo:	2	Yellow

Other: TMACS got alarm

MTE Instr. No: N/A Due Date: _____

(signoff) Loop Complete: LGH Date: 4/3/96

Tag: LDY-AZ702-1 P&ID: H-2-131072, SH 1 LOOP: H-2-131311, SH 6

Manufacturer: B/W Controls Model No.: B/W 6013 Serial No: 2E-000-736

MTE Instr. No: N/A Due Date: N/A

Input Range Functional Tolerance N/A

Units: Switch

Input	Output	Lo:	Hi:	As Found	In/Out	As Left
Jumper	Switch	" See instructions below "				

(signoff) Calibrated By: Gylinski / Stitzsimmons Date: 4.21.97

Location: Vent Cell Leak detector

Comments:

Instructions: *Jumper sensor at terminal head on roof of Bld ven
ALARM LDA-AZ702-1 RECIEVED AT MICON? (Y)N

* Vent Cell is normally inaccessible (coverblock), perform functional from Bld. Vent Roof top at terminal head. If vent cell is open and accessible, perform functional locally at detector.

Tag: LDA_AZ__503_1 I/O Type: DI Description: PV_M27 LeakDet

Cntlr: 28 Chan No: 8 P&ID: H-2-131072 Logic:

Remarks: _____

Location: _____

Actuation Method: _____

_____

Sensor Calibration:

☐ _____ per procedure _____ (data attached) _____ (signoff)

Setpoint:

Loop Tolerance:

Process State		Color	LOI LCU3-45	Screen1 03LeakDt	Screen2	Screen3
Lo (0):	LEAK	3	_____	_____	_____	_____
Hi (1):	NORMAL	2	_____	_____	_____	_____

Annunciator(s):	Priority	Alarm Color (actual)
Hi:	0	_____
Lo:	2	_____

Other:

_____ _____

_____ _____

MTE Instr. No: _____ Due Date: _____

(signoff) Loop Complete: _____ Date: _____

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