

JUL 29 1997

ENGINEERING DATA TRANSMITTAL

Page 1 of 1  
1. EDT 617930

2. To: (Receiving Organization) Distribution	3. From: (Originating Organization) Cross Site Transfer System	4. Related EDT No.: 617903, 617933
5. Proj./Prog./Dept./Div.: W-058	6. Cog. Engr.: K. A. Colosi	7. Purchase Order No.: N/A
8. Originator Remarks: This Acceptance Test Procedure being submitted to the test review board for approval.		9. Equip./Component No.: N/A
11. Receiver Remarks:		10. System/Bldg./Facility: N/A
		12. Major Assm. Dwg. No.: N/A
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15. DATA TRANSMITTED					(F)	(G)	(H)	(I)
(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	Impact Level	Reason for Transmittal	Originator Disposition	Receiver Disposition
1	HNF KC WHC-SD-W058-ATP-003	—	0	Acceptance Test for SY farm and 244-A lift station instrumentation.	SQ	1	1	1

16. KEY					
Impact Level (F)		Reason for Transmittal (G)		Disposition (H) & (I)	
1, 2, 3, or 4 (see MRP 5.43)		1. Approval	4. Review	1. Approved	4. Reviewed no/comment
		2. Release	5. Post-Review	2. Approved w/comment	5. Reviewed w/comment
		3. Information	6. Dist. (Receipt Acknow. Required)	3. Disapproved w/comment	6. Receipt acknowledged

17. SIGNATURE/DISTRIBUTION (See Impact Level for required signatures)											
(G)	(H)	(J) Name (K) Signature (L) Date (M) MSIN				(J) Name (K) Signature (L) Date (M) MSIN				(G)	(H)
Reason	Disp.									Reason	Disp.
1	2	Cog. Eng. K. A. Colosi R3-25 <i>K. A. Colosi 6/11/97</i>									
1	2	Cog. Mgr. G. L. Parsons R3-47 <i>G. L. Parsons 6/10/97</i>									
1	2	QA L. R. Hall R3-47 <i>L. R. Hall 6/11/97</i>									
1	1	Safety O. M. Jaka R3-08 <i>O. M. Jaka 6/11/97</i>									
1	2	X-fer Cog. M. J. Sutey T4-08 <i>M. J. Sutey 6/10/97</i>									
1	2	Startup M. D. Gerken R3-25 <i>M. D. Gerken 6/11/97</i>									
1	1	Ops. D. R. Nunamaker T4-08 <i>D. R. Nunamaker 6/11/97</i>									

18. Signature of EDT Originator <i>K. A. Colosi</i> Date: <i>6/11/97</i>	19. Authorized Representative for Receiving Organization <i>K. A. Colosi</i> Date: <i>6/11/97</i>	20. Cognizant/Project Engineer's Manager <i>G. L. Parsons</i> Date: <i>6/16/97</i>	21. DOE APPROVAL (if required) Ltr. No. <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/comments <input type="checkbox"/> Disapproved w/comments
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# Acceptance test procedure for SY farm and 244-A lift station instrumentation

M. A. Friedrich  
Flour Daniel Northwest, Richland, WA 99352  
U.S. Department of Energy Contract DE-AC06-96RL13200

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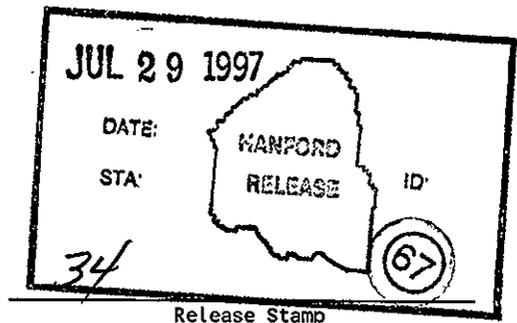
Abstract: This report documents the steps required to accept the SY farm and 244-A lift station instrumentation.

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 JUL 29 1997  
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Release Approval Date



Approved for Public Release

ACCEPTANCE TEST PROCEDURE

*HNF KL*  
WHC-SD-W058-ATP-003

TEST TITLE SY Farm and 244-A Lift Station Instrumentation

LOCATION SY Farm and 244-A Lift Station

PROJECT NUMBER W-058

WORK ORDER \_\_\_\_\_

PROJECT TITLE Replacement of Cross-Site Transfer System

Prepared By  
Fluor Daniel Northwest  
Richland, Washington

For Lockheed Martin Hanford Corp.

PROCEDURE APPROVAL

Fluor Daniel Northwest (FDNW)

<u>Mark Friederich</u>	<u>6-4-97</u>	<u>Robert B Hoffmann</u>	<u>6-4-97</u>
Author	Date	Technical Documents	Date
<u>C J Inmanis</u>	<u>6/4/97</u>	<u>NA</u>	_____
Checker	Date	Safety	Date
<u>NA</u>	_____	<u>Larry R. Hall</u>	<u>6-11-97</u>
Environmental	Date	Quality Engineering	Date
<u>J. W. Henderson</u>	<u>6/4/97</u>		
Project Management	Date		

Lockheed Martin Hanford Corp. (LMHC)

<u>M. T. Parsons</u>	<u>6-11-97</u>	<u>Larry R. Hall (FDNW)</u>	<u>6-11-97</u>
Projects Department - NHC	Date	Quality Assurance	Date
<u>W. B. Wilson</u>	<u>6-12-97</u>	<u>D. M. Munnich</u>	<u>6-12-97</u>
Safety	Date	Operations	Date

EXECUTION AND TEST APPROVAL

EXECUTED BY

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

WITNESSES

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

A-E APPROVAL

Fluor Daniel Northwest (FDNW)

Without exceptions \_\_\_\_\_      With exceptions resolved \_\_\_\_\_      With exceptions outstanding \_\_\_\_\_

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

TEST APPROVAL AND ACCEPTANCE

Lockheed Martin Hanford Corp. (LMHC)

Without exceptions \_\_\_\_\_      With exceptions resolved \_\_\_\_\_      With exceptions outstanding \_\_\_\_\_

_____ Projects Department	_____ Date	_____ Quality Assurance	_____ Date
_____ Safety	_____ Date	_____ Operations	_____ Date

## TABLE OF CONTENTS

Section		Page
	TITLE/PROCEDURE APPROVAL	1
	EXECUTION AND TEST APPROVAL	2
	TABLE OF CONTENTS	3
1	PURPOSE	4
2	REFERENCES	4
3	RESPONSIBILITIES	4
4	CHANGE CONTROL	7
5	EXECUTION	7
6	EXCEPTIONS	7
7	PREREQUISITES, EQUIPMENT/INSTRUMENTS, ABBREVIATIONS, AND ANNUNCIATORS	8
8	PREPARATION	10
9	SY TANK FARM INSTRUMENTATION TEST	11
10	244-A LIFT STATION INSTRUMENTATION TEST	14
	EXCEPTION FORM	23
	TEST EXCEPTION LOG	24

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

## 1 PURPOSE

This Acceptance Test Procedure (ATP) has been prepared to demonstrate that the SY Farm and 244-A Lift Station Instrumentation associated with the cross-site transfer system function as required by project criteria and HNF-SD-W058-SUP-002.

## 2 REFERENCES

### 2.1 DRAWINGS

H-2-822320, Sh 1, Rev 1	Jumper Arrangement Lift Station 244-A
H-2-822430, Sh 1, Rev 1	Elec/Inst Location/Termination Diagram PCU-1
H-2-822440, Sh 1, Rev 1	Instrumentation Plan, Elev, Detail, & Elementary Diagram
H-2-822442, Sh 1, Rev 0	Electrical Elementary Diagram Pump P-102-SY-02A
H-2-822500, Sh 3, Rev 0	Electrical Partial Plan & Details "SY" Tank Farm
H-2-822534, Sh 1, Rev 2	Electrical Plan, Section & Detail
H-2-822534, Sh 2, Rev 1	Electrical Wire Run & Termination
H-2-822537, Sh 1, Rev 1	Electrical Elementary MOV's 843, 844, 845, & 846

### 2.2 SPECIFICATIONS

W-058-P2, Rev 3	Process Monitor and Control System
W-058-P5, Rev 0	Process Instruments

### 2.3 OTHER DOCUMENTS

HNF-SD-W058-SUP-002 IS 10S	Project W-058 Startup Test Plan Lock and Tag Program
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## 3 RESPONSIBILITIES

### 3.1 GENERAL

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

### 3.2 NHC PROJECT ENGINEER

- 3.2.1 Designates a Test Director.
- 3.2.2 Coordinates testing with the SY Tank Farm Manager.
- 3.2.3 Acts as liaison between the participants in acceptance testing.
- 3.2.4 Distributes the approved testing schedule before start of testing.
- 3.2.5 Schedules and conducts a pretest kickoff meeting with test participants when necessary.

- 3.2.6 Notifies the persons supporting the test 2 days before the start of testing.
- 3.2.7 Schedules a dry run when necessary.
- 3.2.8 Notifies concerned parties when a change is made in the testing schedule.
- 3.2.9 Signs Execution and Test Approval page when test is approved and accepted.
- 3.2.10 Takes necessary action to clear exceptions to the test.
- 3.2.11 Signs Exception Form when exception has been resolved.
- 3.2.12 Provides a distribution list for the approved and accepted ATP.

### 3.3 TEST DIRECTOR

- 3.3.1 Coordinates and directs acceptance testing.
- 3.3.2 Confirms that field testing and inspection of the system or portion of the system to be tested has been completed.
- 3.3.3 Stops any test which, in his or her judgment, may cause damage to the system until the problem has been resolved.
- 3.3.4 After verifying there is no adverse impact, may alter the sequence in which systems or subsystems are tested.
- 3.3.5 Ensures that required environmental conditions are maintained.
- 3.3.6 If a test is to be suspended for a period of time, ensures that the system is left in a safe mode.
- 3.3.7 Before restarting suspended test, re-verifies the test prerequisites.
- 3.3.8 Initiates ECNs to document required changes to the ATP.
- 3.3.9 Reviews recorded data, discrepancies, and exceptions.
- 3.3.10 Obtains information or changes necessary to clear or resolve objections during the performance of the test.
- 3.3.11 Signs Execution and Test Approval page when test has been performed.
- 3.3.12 Signs Exception Form when exception has been resolved.
- 3.3.13 Obtains required signatures on the ATP Master prior to reproduction and distribution.

### 3.4 WITNESSES (Provided by Participating Organizations. One witness shall be a Title III acceptance inspector.)

- 3.4.1 Witness the tests.

- 3.4.2 Review results of testing.
- 3.4.3 Assist the Test Director when requested.
- 3.4.4 Sign Execution and Test Approval page when test has been performed.
- 3.4.5 Sign Exception Form when exception has been resolved.
- 3.5 RECORDER (Provided by FDNW)
  - 3.5.1 Prepares a Field copy from the ATP Master.
  - 3.5.2 Records names of all designated personnel on Field copy of ATP prior to start of testing.
  - 3.5.3 Records test instrument identification numbers and calibration expiration dates, as required.
  - 3.5.4 Initials and dates every test step on the Field copy as it is completed next to the step number or on a data sheet, when provided. Records test data. On data sheets where there is not room for both the initial and date, date may be entered at bottom of column.
  - 3.5.5 Records objections and exceptions on an Exception Form. Uses additional Exception Forms as needed. Notifies the Test Director at time the objection is made.
  - 3.5.6 Signs Execution and Test Approval page when test has been performed.
  - 3.5.7 After test is finished, assigns alpha numeric page numbers to added data sheets and Exception Forms. Records page numbers in the Table of Contents.
  - 3.5.8 Transfers Field copy entries for each step to the Master in ink or type, signs, and dates. Transmits the completed Master to the Test Director for approval signature routing. Transmits the Field copy to Construction Document Control for inclusion in the official project file.
  - 3.5.9 Signs Exception Form when exception has been resolved and transmits to Test Director.
- 3.6 TEST OPERATOR
  - 3.6.1 Performs test under direction of the Test Director.
  - 3.6.2 Provides labor, equipment, and test instruments required for performing tests which have not been designated as being provided by others.
  - 3.6.3 Requests in writing from the Test Director those services, materials, or equipment that have been designated as being supplied by others.
  - 3.6.4 Confirms that all equipment required for performing test will be available at the start of testing.

3.6.5 Signs the Execution and Test Approval page.

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

3.7.1 Evaluate results.

3.7.2 Sign for A-E Approval on Execution and Test Approval page.

4 CHANGE CONTROL

Test procedure editorial changes required during testing may be accommodated as exceptions in the released ATP and Test Report, if the changes cannot 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 must be processed on ECNs in accordance with company procedures, and if a need for change is discovered in the course of running the test, the test shall be stopped until the ECN is approved. However, this does not prevent the running of another portion of the test unaffected by the change.

5 EXECUTION

5.1 OCCUPATIONAL SAFETY AND HEALTH

Individuals shall carry out their assigned work in a safe manner to protect themselves and others from undue hazards and to prevent damage to property and environment. Facility line managers shall assure the safety of activities within their areas to prevent injury, property damage, or interruption of operation. Performance of test activities shall always include safety and health aspects.

5.2 PERFORMANCE

5.2.1 Conduct testing in accordance with CON 3.5 (Performance and Recording of Acceptance Test Procedures).

5.2.2 Perform test following the steps and requirements of this procedure.

6 EXCEPTIONS

6.1 GENERAL

Exceptions to the required test results are sequentially numbered and recorded on individual Exception Forms. This enables case-by-case resolution and approval of each exception.

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

## 6.2 RECORDING

6.2.1 Number each exception sequentially as it occurs and record it on an Exception Form (KEH-428), sample appended.

6.2.2 Enter name and organization of objecting party for each exception.

6.2.3 Enter planned action to resolve each exception when such determination is made.

## 6.3 RETEST/RESOLUTION

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

6.3.1 When action taken results in an acceptable retest, sign and date Retest Execution and Acceptance section of the Exception Form.

6.3.2 When action taken does not involve an acceptable retest, strike out the Retest Execution and Acceptance section of the Exception Form.

## 6.4 APPROVAL AND ACCEPTANCE

The customer provides final approval and acceptance of exceptions by checking one of the following on Exception Form.

6.4.1 Retest Approved and Accepted: Applicable when Retest Execution and Acceptance section is completed.

6.4.2 Exception Accepted-As-Is: Requires detailed explanation.

6.4.3 Other: Requires detailed explanation.

The customer signs and dates the Exception Form and obtains other customer internal approvals, if required.

## 6.5 DISTRIBUTION

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

## 7 PREREQUISITES, EQUIPMENT/INSTRUMENTS, ABBREVIATIONS, AND ANNUNCIATORS

### 7.1 PREREQUISITES

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

7.1.1 Systems have been inspected for compliance with construction documents. All construction acceptance testing associated with these systems have been completed, reviewed and approved.

7.1.2 Reference documents (including this ATP) have been verified for correct revision number and outstanding ECNs.

- 7.1.3 A Prejob Safety Analysis has been prepared and a Prejob Safety Meeting has been conducted.
- 7.1.4 Field and test instruments have a valid calibration stamp attached. Test instrument identification numbers and calibration expiration dates have been recorded in Para 7.2.
- 7.1.5 120 V ac power is available.
- 7.1.6 Voice communications are available between the 241-SY-271 Building and the 242-S control room.
- 7.1.7 Voice communications are available between the 241-SY-A Vault Pit and the 242-S control room.
- 7.1.8 Voice communications are available between the 244-A Lift Station and the 242-S control room.
- 7.1.9 An electrician is available to lift or jumper electrical wires during test.
- 7.1.10 Output contact of relay LDK-3162 has been tested and determined to be operational.

7.2 EQUIPMENT/INSTRUMENTS

Supplied by Test Operator unless otherwise noted.

- 7.2.1 Process Instrument Calibrator: Output 4-20 mA, 0-5 V; input 4-20 mA, 0-5 V; accuracy  $\pm 0.01$  mA, 0.1 V.  
 Manufacturer \_\_\_\_\_ Model No. \_\_\_\_\_ Serial No. \_\_\_\_\_  
 Calibration Date \_\_\_\_\_ Expiration Date \_\_\_\_\_
- 7.2.2 Thermocouple Simulator, Type K, 0 °F to 500 °F range, 5 percent accuracy, with leads.  
 Manufacturer \_\_\_\_\_ Model No. \_\_\_\_\_ Serial No. \_\_\_\_\_  
 Calibration Date \_\_\_\_\_ Expiration Date \_\_\_\_\_
- 7.2.3 Current Generator: Output 0-50 amps; accuracy  $\pm 1$  amp  
 Manufacturer \_\_\_\_\_ Model No. \_\_\_\_\_ Serial No. \_\_\_\_\_  
 Calibration Date \_\_\_\_\_ Expiration Date \_\_\_\_\_
- 7.2.4 Clamp on Ammeter: Scale 0-50 amps  
 Manufacturer \_\_\_\_\_ Model No. \_\_\_\_\_ Serial No. \_\_\_\_\_  
 Calibration Date \_\_\_\_\_ Expiration Date \_\_\_\_\_
- 7.2.5 Shorting Jumpers with ON-OFF switch: Approximately 12 inches long.

### 7.3 ABBREVIATIONS

DMM	Digital Multimeter
ECN	Engineering Change Notice
OIM	Operator Interface Machine (Located in 242-S Control Room)
PIC	Process Instrument Calibrator
RWP	Radiation Work Permit
SIM	Simulator
SWP	Special Work Procedure

8 PREPARATION

8.1 PERFORM THE FOLLOWING

           8.1.1 Verify all prerequisites of Para 7.1 have been met.

END OF SECTION 8

9 SY TANK FARM INSTRUMENTATION TEST

This test will demonstrate the integrity of the SY Tank Farm instruments associated with the Cross Site Transfer System.

9.1 TRANSFER PUMP P-102-SY-02A (Reference Drawing H-2-822442, Sh 1)

NOTE: OIM is located in the 242-S control room.

\_\_\_\_\_ 9.1.1 At MCC-3 compartment A3, located in the 241-SY-271 Building, verify power is ON to pump P-102-SY-02A.

\_\_\_\_\_ 9.1.2 Lock and tag MCC3 compartment A3 breaker open.

\_\_\_\_\_ 9.1.3 Lift T-leads from load side of pump P-102-SY-02A master terminal blocks in MCC3.

\_\_\_\_\_ 9.1.4 Remove lock and tag from MCC3 compartment A3 and close breaker.

\_\_\_\_\_ 9.1.5 At PCU-1, located in the 252-S Substation Building, disconnect wire LI-3102-1 from terminal TBI-13 and disconnect wire LI-3102-2 from terminal TBI-14.

\_\_\_\_\_ 9.1.6 Verify at OIM that LAH-3102 is not activated.

\_\_\_\_\_ 9.1.7 Connect a PIC to terminals TBI-13 and TBI-14 and set to 20 mA.

\_\_\_\_\_ 9.1.8 Verify at OIM that LI-3102 reads  $20 \pm 1$  feet.

\_\_\_\_\_ 9.1.9 Verify at OIM that LAH-3102 is activated.

\_\_\_\_\_ 9.1.10 From OIM, simulate start of transfer pump P-102-SY-02A.

\_\_\_\_\_ 9.1.11 Verify at OIM that transfer pump P-102-SY-02A indicates running status.

\_\_\_\_\_ 9.1.12 Verify starter M102 is energized.

\_\_\_\_\_ 9.1.13 From OIM, stop transfer pump P-102-SY-02A.

\_\_\_\_\_ 9.1.14 Verify at OIM that transfer pump P-102-SY-02A indicates not running status.

\_\_\_\_\_ 9.1.15 Verify starter M102 is not energized.

\_\_\_\_\_ 9.1.16 From OIM, simulate start of transfer pump P-102-SY-02A.

\_\_\_\_\_ 9.1.17 Verify at OIM that transfer pump P-102-SY-02A indicates running status.

\_\_\_\_\_ 9.1.18 Set PIC to 4 mA.

\_\_\_\_\_ 9.1.19 Verify at OIM that LI-3102 reads  $0 \pm 1$  feet.

\_\_\_\_\_ 9.1.20 Verify at OIM that LAH-3102 is not activated.

- \_\_\_\_\_ 9.1.21 Verify at OIM that transfer pump P-102-SY-02A indicates not running status.
- \_\_\_\_\_ 9.1.22 Set PIC to 12 mA.
- \_\_\_\_\_ 9.1.23 Verify at OIM that LI-3102 reads  $10 \pm 1$  feet.
- \_\_\_\_\_ 9.1.24 From OIM, simulate start of transfer pump P-102-SY-02A.
- \_\_\_\_\_ 9.1.25 Verify at OIM that transfer pump P-102-SY-02A indicates running status.
- \_\_\_\_\_ 9.1.26 From OIM, stop transfer pump P-102-SY-02A.
- \_\_\_\_\_ 9.1.27 Disconnect PIC from terminals TB1-13 and TB1-14.
- \_\_\_\_\_ 9.1.28 Reconnect wire LI-102SY-1 to terminal TB1-13 and reconnect wire LI-102SY-2 to terminal TB1-14.
- \_\_\_\_\_ 9.1.29 Lock and tag MCC3 compartment A3 breaker open.
- \_\_\_\_\_ 9.1.30 Reconnect T-leads to pump motor.
- \_\_\_\_\_ 9.1.31 Remove lock and tag from MCC3 compartment A3 and close breaker.

## 9.2 TRANSFER PUMP P-102-SY-02A CURRENT

- \_\_\_\_\_ 9.2.1 Lock and tag power feed to MCC3 breaker open.
- \_\_\_\_\_ 9.2.2 Connect current generator to CT primary in compartment A3.
- \_\_\_\_\_ 9.2.3 Set current generator to 0 amps.
- \_\_\_\_\_ 9.2.4 Verify at OIM that II-3102 reads  $0 \pm 0.5$  amps.
- \_\_\_\_\_ 9.2.5 Set current generator to 25 amps.
- \_\_\_\_\_ 9.2.6 Verify at OIM that II-3102 reads  $25 \pm 0.5$  amps.
- \_\_\_\_\_ 9.2.7 Set current generator to 50 amps.
- \_\_\_\_\_ 9.2.8 Verify at OIM that II-3102 reads  $50 \pm 0.5$  amps.
- \_\_\_\_\_ 9.2.9 Disconnect current generator.
- \_\_\_\_\_ 9.2.10 Remove lock and tag from power feed to MCC3 and close breaker.

9.3 VAULT PIT 241-SY-A INSTRUMENTATION (Reference Drawing H-2-822440, Sh 1, and H-2-822500, Sh 3)

NOTE: All steps are performed at the 241-SY-A Vault Pit unless otherwise specified.

CAUTION: Notify 200-W Tank Farm Operations that the master pump shutdown system is to be tested.

\_\_\_\_\_ 9.3.1 Verify that the master pump shutdown alarm light located on the west wall of the 271-SY Instrument Building is not activated.

\_\_\_\_\_ 9.3.2 At junction box JB-1, disconnect wire PSH-3113-1 from terminal 1.

\_\_\_\_\_ 9.3.3 Verify that the master pump shutdown alarm light is activated.

\_\_\_\_\_ 9.3.4 Reconnect wire PSH-3113-1 to terminal 1.

\_\_\_\_\_ 9.3.5 Verify that the master pump shutdown alarm light is not activated.

\_\_\_\_\_ 9.3.6 At junction box JB-1, disconnect wire ZSH-3113-1 from terminal 4.

\_\_\_\_\_ 9.3.7 Verify that the master pump shutdown alarm light is activated.

\_\_\_\_\_ 9.3.8 Reconnect wire ZSH-3113-1 to terminal 4.

\_\_\_\_\_ 9.3.9 Verify that the master pump shutdown alarm light is not activated.

END OF SECTION 9

10 244-A LIFT STATION INSTRUMENTATION TEST

This test will demonstrate the integrity of the instruments associated with the 244-A Lift Station.

10.1 TRANSFER VALVE MOV-844 (Reference Drawing H-2-822537, Sh 1)

NOTE: All steps are performed at the 244-A Lift Station unless otherwise noted (Reference Drawing H-2-822534, Sh 1).

- \_\_\_\_\_ 10.1.1 From OIM select position 1 for transfer valve MOV-844.
- \_\_\_\_\_ 10.1.2 At junction box JB-1, connect a DMM across terminals TB1-7 and TB1-16 and verify that it reads 120 V ac.
- \_\_\_\_\_ 10.1.3 Connect jumper across terminals TB1-12 and TB1-13.
- \_\_\_\_\_ 10.1.4 Verify at OIM that MOV-844 valve position indication is in Position 1.
- \_\_\_\_\_ 10.1.5 Disconnect jumper.
- \_\_\_\_\_ 10.1.6 From OIM select position 2 for transfer valve MOV-844.
- \_\_\_\_\_ 10.1.7 Connect a DMM across terminals TB1-8 and TB1-16 and verify that it reads 120 V ac.
- \_\_\_\_\_ 10.1.8 Connect jumper across terminals TB1-14 and TB1-15.
- \_\_\_\_\_ 10.1.9 Verify at OIM that MOV-844 valve position indication is in Position 2.
- \_\_\_\_\_ 10.1.10 Disconnect jumper.
- \_\_\_\_\_ 10.1.11 From OIM select position 3 for transfer valve MOV-844.
- \_\_\_\_\_ 10.1.12 Connect a DMM across terminals TB1-6 and TB1-16 and verify that it reads 120 V ac.
- \_\_\_\_\_ 10.1.13 Connect jumper across terminals TB1-10 and TB1-11.
- \_\_\_\_\_ 10.1.14 Verify at OIM that MOV-844 valve position indication is in Position 3.
- \_\_\_\_\_ 10.1.15 Disconnect jumper.

10.2 TRANSFER VALVE MOV-845

NOTE: All steps are performed at the 244-A Lift Station unless otherwise noted (Reference Drawing H-2-822534, Sh 1).

- \_\_\_\_\_ 10.2.1 From OIM select open position for transfer valve MOV-845.
- \_\_\_\_\_ 10.2.2 At junction box JB-1, connect a DMM across terminals TB1-17 and TB1-24 and verify that it reads 120 V ac.

- \_\_\_\_\_ 10.2.3 Connect a jumper across terminals TB1-20 and TB1-21.
- \_\_\_\_\_ 10.2.4 Verify at OIM that MOV-845 valve position indication is open.
- \_\_\_\_\_ 10.2.5 Disconnect jumper.
- \_\_\_\_\_ 10.2.6 From OIM select close position for transfer valve MOV-845.
- \_\_\_\_\_ 10.2.7 Connect a jumper across terminals TB1-22 and TB1-23.
- \_\_\_\_\_ 10.2.8 Verify at OIM that MOV-845 valve position indication is closed.
- \_\_\_\_\_ 10.2.9 Disconnect jumper.

10.3 TRANSFER VALVE MOV-843

NOTE: All steps are performed at the 244-A Lift Station unless otherwise noted (Reference Drawing H-2-822534, Sh 1).

- \_\_\_\_\_ 10.3.1 From OIM select position 1 for transfer valve MOV-843.
- \_\_\_\_\_ 10.3.2 At junction box JB-1, connect a DMM across terminals TB2-7 and TB2-16 and verify that it reads 120 V ac.
- \_\_\_\_\_ 10.3.3 Connect jumper across terminals TB2-12 and TB2-13.
- \_\_\_\_\_ 10.3.4 Verify at OIM that MOV-843 valve position indication is in Position 1.
- \_\_\_\_\_ 10.3.5 Disconnect jumper.
- \_\_\_\_\_ 10.3.6 From OIM select position 2 for transfer valve MOV-843.
- \_\_\_\_\_ 10.3.7 Connect a DMM across terminals TB2-8 and TB2-16 and verify that it reads 120 V ac.
- \_\_\_\_\_ 10.3.8 Connect jumper across terminals TB2-14 and TB2-15.
- \_\_\_\_\_ 10.3.9 Verify at OIM that MOV-843 valve position indication is in Position 2.
- \_\_\_\_\_ 10.3.10 Disconnect jumper.
- \_\_\_\_\_ 10.3.11 From OIM select position 3 for transfer valve MOV-843.
- \_\_\_\_\_ 10.3.12 Connect a DMM across terminals TB2-6 and TB2-16 and verify that it reads 120 V ac.
- \_\_\_\_\_ 10.3.13 Connect jumper across terminals TB2-10 and TB2-11.
- \_\_\_\_\_ 10.3.14 Verify at OIM that MOV-843 valve position indication is in Position 3.
- \_\_\_\_\_ 10.3.15 Disconnect jumper.

#### 10.4 TRANSFER VALVE MOV-846

NOTE: All steps are performed at the 244-A Lift Station unless otherwise noted (Reference Drawing H-2-822534, Sh 1).

- \_\_\_\_\_ 10.4.1 From OIM select open position for transfer valve MOV-846.
- \_\_\_\_\_ 10.4.2 At junction box JB-1, connect a DMM across terminals TB2-17 and TB2-24 and verify that it reads 120 V ac.
- \_\_\_\_\_ 10.4.3 Connect jumper across terminals TB2-20 and TB2-21.
- \_\_\_\_\_ 10.4.4 Verify at OIM that MOV-846 valve position indication is open.
- \_\_\_\_\_ 10.4.5 Disconnect jumper.
- \_\_\_\_\_ 10.4.6 From OIM select close position for transfer valve MOV-846.
- \_\_\_\_\_ 10.4.7 Connect jumper across terminals TB2-22 and TB2-23.
- \_\_\_\_\_ 10.4.8 Verify at OIM that MOV-846 valve position indication is closed.
- \_\_\_\_\_ 10.4.9 Disconnect jumper.

#### 10.5 PRESSURE TRANSMITTER PT-841

NOTE: All steps are performed at the 244-A Lift Station unless otherwise noted (Reference Drawing H-2-822534, Sh 1).

- \_\_\_\_\_ 10.5.1 At junction box JB-1, disconnect wire PT-841(+) from terminal TB3-1 and connect to positive terminal of PIC.
- \_\_\_\_\_ 10.5.2 Disconnect wire PT-841(-) from terminal TB3-2 and connect to negative terminal of PIC.
- \_\_\_\_\_ 10.5.3 Set PIC output to 4 mA.
- \_\_\_\_\_ 10.5.4 Verify at OIM that PI-841 reads  $0 \pm 0.5$  psig.
- \_\_\_\_\_ 10.5.5 Set PIC output to 12 mA.
- \_\_\_\_\_ 10.5.6 Verify at OIM that PI-841 reads  $25 \pm 0.5$  psig.
- \_\_\_\_\_ 10.5.7 Set PIC output to 20 mA.
- \_\_\_\_\_ 10.5.8 Verify at OIM that PI-841 reads  $50 \pm 0.5$  psig.
- \_\_\_\_\_ 10.5.9 Disconnect wire PT-841(+) from PIC and connect to terminal TB3-1.
- \_\_\_\_\_ 10.5.10 Disconnect wire PT-841(-) from PIC and connect to terminal TB3-2.

## 10.6 PRESSURE TRANSMITTER PT-842

NOTE: All steps are performed at the 244-A Lift Station unless otherwise noted (Reference Drawing H-2-822534, Sh 1).

- \_\_\_\_\_ 10.6.1 At junction box JB-1, disconnect wire PT-842(+) from terminal TB3-4 and connect to positive terminal of PIC.
- \_\_\_\_\_ 10.6.2 Disconnect wire PT-842(-) from terminal TB3-5 and connect to negative terminal of PIC.
- \_\_\_\_\_ 10.6.3 Set PIC output to 4 mA.
- \_\_\_\_\_ 10.6.4 Verify at OIM that PI-842 reads  $0 \pm 4$  psig.
- \_\_\_\_\_ 10.6.5 Set PIC output to 12 mA.
- \_\_\_\_\_ 10.6.6 Verify at OIM that PI-842 reads  $200 \pm 4$  psig.
- \_\_\_\_\_ 10.6.7 Verify at OIM that PAH-842 is not activated.
- \_\_\_\_\_ 10.6.8 Set PIC output to 20 mA.
- \_\_\_\_\_ 10.6.9 Verify at OIM that PI-842 reads  $400 \pm 4$  psig.
- \_\_\_\_\_ 10.6.10 Verify at OIM that PAH-842 is activated.
- \_\_\_\_\_ 10.6.11 Set PIC output to 13 mA.
- \_\_\_\_\_ 10.6.12 Verify at OIM that PAH-842 is not activated.
- \_\_\_\_\_ 10.6.13 Disconnect wire PT-842(+) from PIC and connect to terminal TB3-4.
- \_\_\_\_\_ 10.6.14 Disconnect wire PT-842(-) from PIC and connect to terminal TB3-5.

## 10.7 SUPERNATE TRANSFER LINE TEMPERATURE

NOTE: All steps are performed at the 244-A Lift Station unless otherwise noted (Reference Drawing H-2-822534, Sh 1 and 2).

- \_\_\_\_\_ 10.7.1 Disconnect wire TE841(+) from terminal TB-13 and wire TE841(-) from terminal TB-14.
- \_\_\_\_\_ 10.7.2 Connect wires to a thermocouple simulator (T/C SIM) Type K.
- \_\_\_\_\_ 10.7.3 Set T/C SIM to ON and the output range to 35 °F.
- \_\_\_\_\_ 10.7.4 Verify at OIM that TI-841 reads  $35 \pm 2$  °F.
- \_\_\_\_\_ 10.7.5 Set T/C SIM output range to 100 °F.
- \_\_\_\_\_ 10.7.6 Verify at OIM that TI-841 reads  $100 \pm 2$  °F.
- \_\_\_\_\_ 10.7.7 Set T/C SIM output range to 200 °F.
- \_\_\_\_\_ 10.7.8 Verify at OIM that TI-841 reads  $200 \pm 2$  °F.

\_\_\_\_\_ 10.7.9 Disconnect T/C SIM.

\_\_\_\_\_ 10.7.10 Connect wire TE841(+) to terminal TB-13 and wire TE841(-) to terminal TB-14.

## 10.8 SLURRY TRANSFER LINE TEMPERATURE

NOTE: All steps are performed at the 244-A Lift Station unless otherwise noted (Reference Drawing H-2-822534, Sh 1 and 2).

\_\_\_\_\_ 10.8.1 Disconnect wire TE842(+) from terminal TB-19 and wire TE842(-) from terminal TB-20.

\_\_\_\_\_ 10.8.2 Connect wires to a thermocouple simulator (T/C SIM) Type K.

\_\_\_\_\_ 10.8.3 Set T/C SIM to ON and the output range to 35 °F.

\_\_\_\_\_ 10.8.4 Verify at OIM that TI-842 reads  $35 \pm 2$  °F.

\_\_\_\_\_ 10.8.5 Set T/C SIM output range to 100 °F.

\_\_\_\_\_ 10.8.6 Verify at OIM that TI-842 reads  $100 \pm 2$  °F.

\_\_\_\_\_ 10.8.7 Set T/C SIM output range to 200 °F.

\_\_\_\_\_ 10.8.8 Verify at OIM that TI-842 reads  $200 \pm 2$  °F.

\_\_\_\_\_ 10.8.9 Disconnect T/C SIM.

\_\_\_\_\_ 10.8.10 Connect wire TE842(+) to terminal TB-19 and wire TE842(-) to terminal TB-20.

## 10.9 RUPTURE DISKS PSE-841 AND PSE-842

NOTE: All steps are performed at the 244-A Lift Station unless otherwise noted (Reference Drawing H-2-822534, Sh 1).

\_\_\_\_\_ 10.9.1 At junction box JB-1, connect a jumper across terminals TB2-1 and 2.

\_\_\_\_\_ 10.9.2 Verify at OIM that alarm YA-841 is not activated.

\_\_\_\_\_ 10.9.3 Disconnect jumper from terminals TB2-1 and 2.

\_\_\_\_\_ 10.9.4 Verify at OIM that alarm YA-841 is activated.

\_\_\_\_\_ 10.9.5 Connect a jumper across terminals TB1-1 and 2.

\_\_\_\_\_ 10.9.6 Verify at OIM that alarm YA-842 is not activated.

\_\_\_\_\_ 10.9.7 Disconnect jumper from terminals TB1-1 and 2.

\_\_\_\_\_ 10.9.8 Verify at OIM that alarm YA-842 is activated.

## 10.10 MISCELLANEOUS DISCRETE SIGNALS

NOTE: All steps are performed at the 244-A Lift Station unless otherwise noted (Reference Drawings H-2-822534, Sh 1 and 2).

- \_\_\_\_\_ 10.10.1 At terminal box TBX-1, connect a shorting switch across wires P244A1-6 and P244A1-X2 and move to the ON or CLOSED position.
- \_\_\_\_\_ 10.10.2 Verify at OIM that pump WST-P-841 run status indicator YL-841 is activated.
- \_\_\_\_\_ 10.10.3 Move shorting switch to the OFF or OPEN position.
- \_\_\_\_\_ 10.10.4 Verify at OIM that indicator YL-841 is not activated.
- \_\_\_\_\_ 10.10.5 Disconnect shorting switch.
- \_\_\_\_\_ 10.10.6 Verify at OIM that sump leak detection alarm LDA-841 is not activated.
- \_\_\_\_\_ 10.10.7 At terminal box TBX-1, connect a shorting switch across wires LDK-PP-H and LDK-PP-N and move to the ON or CLOSED position.
- \_\_\_\_\_ 10.10.8 Verify at OIM that sump leak detection alarm LDA-841 is activated.
- \_\_\_\_\_ 10.10.9 Move shorting switch to the OFF or OPEN position.
- \_\_\_\_\_ 10.10.10 Verify at OIM that alarm LDA-841 is not activated.
- \_\_\_\_\_ 10.10.11 Disconnect shorting switch.
- \_\_\_\_\_ 10.10.12 Verify at OIM that the 296-A-25 stack monitor radiation device failure alarm RXA-852 is not activated.
- \_\_\_\_\_ 10.10.13 At terminal box TBX-1, connect a shorting switch across wires RXA-852-H and RXA-852-N and move to the ON or CLOSED position.
- \_\_\_\_\_ 10.10.14 Verify at OIM that the 296-A-25 stack monitor radiation device failure alarm RXA-852 is activated.
- \_\_\_\_\_ 10.10.15 Move shorting switch to the OFF or OPEN position.
- \_\_\_\_\_ 10.10.16 Verify at OIM that alarm RXA-852 is not activated.
- \_\_\_\_\_ 10.10.17 Disconnect shorting switch.

## 10.11 242-A ANALOG SIGNALS

NOTE: All steps are performed at the 244-A Lift Station unless otherwise noted (Reference Drawings H-2-822534, Sh 1 and 2).

- \_\_\_\_\_ 10.11.1 At terminal box TBX-1, disconnect wire E/I-EXH-2I from terminal TB1-1 and connect to positive terminal of PIC.
- \_\_\_\_\_ 10.11.2 Disconnect wire E/I-EXH-1I from terminal TB1-2 and connect to negative terminal of PIC.

- \_\_\_\_\_ 10.11.3 Set PIC output to 4 mA.
- \_\_\_\_\_ 10.11.4 Verify at OIM that RI-851 reads  $0 \pm 30$  CPM.
- \_\_\_\_\_ 10.11.5 Set PIC output to 12 mA.
- \_\_\_\_\_ 10.11.6 Verify at OIM that RI-851 reads  $1500 \pm 30$  CPM.
- \_\_\_\_\_ 10.11.7 Set PIC output to 20 mA.
- \_\_\_\_\_ 10.11.8 Verify at OIM that RI-851 reads  $3000 \pm 30$  CPM.
- \_\_\_\_\_ 10.11.9 Disconnect wire E/I-EXH-2I from PIC and connect to terminal TB1-1.
- \_\_\_\_\_ 10.11.10 Disconnect wire E/I-EXH-1I from PIC and connect to terminal TB1-2.
- \_\_\_\_\_ 10.11.11 At terminal box TBX-1, disconnect wire CVT-EXH-1I from terminal TB1-7 and connect to positive terminal of PIC.
- \_\_\_\_\_ 10.11.12 Disconnect wire CVT-EXH-2I from terminal TB1-8 and connect to negative terminal of PIC.
- \_\_\_\_\_ 10.11.13 Set PIC output to 4 mA.
- \_\_\_\_\_ 10.11.14 Verify at OIM that FI-851 reads  $0 \pm 10$  CFM.
- \_\_\_\_\_ 10.11.15 Set PIC output to 12 mA.
- \_\_\_\_\_ 10.11.16 Verify at OIM that FI-851 reads  $150 \pm 10$  CFM.
- \_\_\_\_\_ 10.11.17 Set PIC output to 20 mA.
- \_\_\_\_\_ 10.11.18 Verify at OIM that FI-851 reads  $300 \pm 10$  CFM.
- \_\_\_\_\_ 10.11.19 Disconnect wire CVT-EXH-1I from PIC and connect to terminal TB1-7.
- \_\_\_\_\_ 10.11.20 Disconnect wire CVT-EXH-2I from PIC and connect to terminal TB1-8.
- \_\_\_\_\_ 10.11.21 At terminal box TBX-1, disconnect wire SGT-TK-1I from terminal TB1-13 and connect to positive terminal of PIC.
- \_\_\_\_\_ 10.11.22 Disconnect wire SGT-TK-2I from terminal TB1-14 and connect to negative terminal of PIC.
- \_\_\_\_\_ 10.11.23 Set PIC output to 4 mA.
- \_\_\_\_\_ 10.11.24 Verify at OIM that DI-853 reads  $0 \pm 0.5$  lb/ft<sup>3</sup>.
- \_\_\_\_\_ 10.11.25 Set PIC output to 12 mA.
- \_\_\_\_\_ 10.11.26 Verify at OIM that DI-853 reads  $1.0 \pm 0.5$  lb/ft<sup>3</sup>.
- \_\_\_\_\_ 10.11.27 Set PIC output to 20 mA.
- \_\_\_\_\_ 10.11.28 Verify at OIM that DI-853 reads  $2.0 \pm 0.5$  lb/ft<sup>3</sup>.

- \_\_\_\_\_ 10.11.29 Disconnect wire SGT-TK-1I from PIC and connect to terminal TB1-13.
- \_\_\_\_\_ 10.11.30 Disconnect wire SGT-TK-2I from PIC and connect to terminal TB1-14.
- \_\_\_\_\_ 10.11.31 At terminal box TBX-1, disconnect wire WFT-TK-1I from terminal TB1-19 and connect to positive terminal of PIC.
- \_\_\_\_\_ 10.11.32 Disconnect wire WFT-TK-2I from terminal TB1-20 and connect to negative terminal of PIC.
- \_\_\_\_\_ 10.11.33 Set PIC output to 4 mA.
- \_\_\_\_\_ 10.11.34 Verify at OIM that LI-853 reads  $0 \pm 5$  ft.
- \_\_\_\_\_ 10.11.35 Set PIC output to 12 mA.
- \_\_\_\_\_ 10.11.36 Verify at OIM that LI-853 reads  $6,500 \pm 10$  ft.
- \_\_\_\_\_ 10.11.37 Set PIC output to 20 mA.
- \_\_\_\_\_ 10.11.38 Verify at OIM that LI-853 reads  $13,000 \pm 20$  ft.
- \_\_\_\_\_ 10.11.39 Disconnect wire WFT-TK-1I from PIC and connect to terminal TB1-19.
- \_\_\_\_\_ 10.11.40 Disconnect wire WFT-TK-2I from PIC and connect to terminal TB1-20.
- \_\_\_\_\_ 10.11.41 At terminal box TBX-1, disconnect wire SGT-A-2I from terminal TB1-25 and connect to positive terminal of PIC.
- \_\_\_\_\_ 10.11.42 Disconnect wire SGT-A-1I from terminal TB1-26 and connect to negative terminal of PIC.
- \_\_\_\_\_ 10.11.43 Set PIC output to 4 mA.
- \_\_\_\_\_ 10.11.44 Verify at OIM that DI-850 reads  $0 \pm 0.5$  lb/ft<sup>3</sup>.
- \_\_\_\_\_ 10.11.45 Set PIC output to 12 mA.
- \_\_\_\_\_ 10.11.46 Verify at OIM that DI-850 reads  $1 \pm 0.5$  lb/ft<sup>3</sup>.
- \_\_\_\_\_ 10.11.47 Set PIC output to 20 mA.
- \_\_\_\_\_ 10.11.48 Verify at OIM that DI-850 reads  $2 \pm 0.5$  lb/ft<sup>3</sup>.
- \_\_\_\_\_ 10.11.49 Disconnect wire SGT-A-2I from PIC and connect to terminal TB1-25.
- \_\_\_\_\_ 10.11.50 Disconnect wire SGT-A-1I from PIC and connect to terminal TB1-26.
- \_\_\_\_\_ 10.11.51 At terminal box TBX-1, disconnect wire WFT-A-2I from terminal TB1-31 and connect to positive terminal of PIC.
- \_\_\_\_\_ 10.11.52 Disconnect wire WFT-A-1I from terminal TB1-32 and connect to negative terminal of PIC.
- \_\_\_\_\_ 10.11.53 Set PIC output to 4 mA.

- \_\_\_\_\_ 10.11.54 Verify at OIM that LI-850 reads  $0 \pm 1$  ft.
- \_\_\_\_\_ 10.11.55 Set PIC output to 12 mA.
- \_\_\_\_\_ 10.11.56 Verify at OIM that LI-850 reads  $50 \pm 1$  ft.
- \_\_\_\_\_ 10.11.57 Set PIC output to 20 mA.
- \_\_\_\_\_ 10.11.58 Verify at OIM that LI-850 reads  $100 \pm 1$  ft.
- \_\_\_\_\_ 10.11.59 Disconnect wire WFT-A-2I from PIC and connect to terminal TB1-31.
- \_\_\_\_\_ 10.11.60 Disconnect wire WFT-A-1I from PIC and connect to terminal TB1-32.

10.12 TRANSFER LINE LEAK DETECTOR LDK-3162

NOTE: All steps are performed at Instrument Cabinet 6241 unless otherwise noted (Reference Drawing H-2-822533, Sh 1).

- \_\_\_\_\_ 10.12.1 Verify at OIM that leak detection alarm LDA-3162 is not activated.
- \_\_\_\_\_ 10.12.2 Disconnect wire LDK-3162-1.
- \_\_\_\_\_ 10.12.3 Verify at OIM that leak detection alarm LDA-3162 is activated.
- \_\_\_\_\_ 10.12.4 Reconnect wire LDK-3162-1.
- \_\_\_\_\_ 10.12.5 Verify at OIM that LDA-3162 is not activated.

END OF SECTION 10

EXCEPTION NO.		Project No.		ATP No.		Rev.	
Recorded by			Organization		Date Recorded		ATP Page No.
Step No.	Requirement						
Description of Problem							
Objector 1 (Name/Organization)				Objector 2 (Name/Organization)			
Planned Action							
Action Taken							
<b>RETEST EXECUTION AND ACCEPTANCE</b>							
Retest Installation Contractor		Date		Recorder		Date	
Witness 1 (Name/Organization)		Date		Witness 2 (Name/Organization)		Date	
Field Engineering		Date		Test Director (Name/Organization)		Date	
Design Engineering (Author of ATP)		Date		A-E Project Engineer		Date	
<b>APPROVAL AND ACCEPTANCE -- OPERATING CONTRACTOR</b>							
<input type="checkbox"/> Retest Approved and Accepted <input type="checkbox"/> Exception Accepted-as-is* <input type="checkbox"/> Other*							
* Explanation							
Approver 1		Date		Approver 2		Date	
Approver 3		Date		Approver 4		Date	

KEH-428 (6-85)

TEST EXCEPTION LOG

Date	Description	Disposition

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Name	MSIN	Text With All Attach.	Text Only	Attach./Appendix Only	EDT/ECN Only
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