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Title/Desc:

OPERATIONAL TEST PROCEDURE FOR SY TANK FARM  
REPLACEMENT EXHAUSTER UNIT

SEP 26 1995

ENGINEERING DATA TRANSMITTAL

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8. Originator Remarks: <b>N/A</b>		9. Equip./Component No.: <b>VTP-EF-3102 EXHAUSTER</b>
		10. System/Bldg./Facility: <b>241-SY</b>
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1	2	Cog. Eng. & Ops Rep.	T.D. KAISER	<i>9/25/95</i>							
1	2	Cog. Mgr.	S.H. RIFAAY	<i>9/25/95</i>							
1	2	QA	T.J. VOLKMAN	<i>9/25/95</i>							
1	1	Safety	L.S. KROGSrud	<i>9/25/95</i>							
		Env.	N/A								

18. <i>J. McClell</i> Signature of EDT Originator Date: <i>9/25/95</i>	19. N/A Authorized Representative Date for Receiving Organization	20. <i>R.W. REED</i> Cognizant Manager Date: <i>25 8/95</i>	21. DOE APPROVAL (if required) Ctrl. No. <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/comments <input type="checkbox"/> Disapproved w/comments
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JM  
9/26/95

## 7. Abstract

THIS OPERATIONAL TEST PROCEDURE WILL VERIFY THAT THE REMAINING FUNCTIONS NOT TESTED PER WHC-SD-WM-ATP-080, OR COMPONENTS DISTURBED DURING FINAL INSTALLATION, AS WELL AS INTERFACES WITH OTHER TANK FARM EQUIPMENT AND REMOTE MONITORING STATIONS ARE OPERATING CORRECTLY.

## 8. RELEASE STAMP

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## RELEASE AUTHORIZATION

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Replacement Exhauster Unit

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**This document was reviewed following the  
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**APPROVED FOR PUBLIC RELEASE**

**WHC Information Release Administration Specialist:**

  
Kara Broz

  
9/26/95

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**TANK FARM  
PLANT OPERATING PROCEDURE**

**SYSTEM  
241-SY**

**OTP FOR SY TANK FARM REPLACEMENT EXHAUSTER UNIT**

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# TANK FARM PLANT OPERATIONS PROCEDURE

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## 1.0 PURPOSE

1.1 This OTP will test and verify the operability of various systems and their general equipment for the 241-SY-101 EF 3102 Modular Exhauster. Systems/checks that will be tested/performed include the following:

- Power System
- Vacuum Sample Pump and Fan Rotation
- High Radiation Shutdown
- Stack Sampler (Beta Monitor) Shutdown
- Vacuum Sampling System
- Interlock Check
- Heater Check
- Flow Rate Check

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# TANK FARM PLANT OPERATIONS PROCEDURE

## 2.0 INFORMATION

### 2.1 SCOPE

#### 2.1.1 POWER SYSTEM CHECK

The POWER SYSTEM CHECK will verify that there is power to the 241-SY EF 3102 Exhauster skid.

#### 2.1.2 VACUUM SAMPLE PUMP AND FAN ROTATION CHECK

The VACUUM SAMPLE PUMP AND FAN ROTATION CHECK will verify that the 241-SY EF 3102 Exhauster fan and vacuum pumps rotate in the correct direction.

#### 2.1.3 HI RADIATION SHUTDOWN

The HI RADIATION SHUTDOWN will shut down the 241-SY EF 3102 Exhauster fan when a high radiation condition occurs. A high radiation alarm condition will be annunciated on the 241-SY EF 3102 Exhauster alarm cabinet VTP-PNL-3103, Stack Monitoring cabinet VTP-PNL-3104 and; also, the alarm panels in the 242-S Evaporator Bldg. and 241-SY-271 Instrument Bldg.

#### 2.1.4 STACK SAMPLER (BETA MONITOR) SHUTDOWN

The STACK SAMPLER SHUTDOWN will shut down the 241-SY EF 3102 Exhauster for any type of "common" failure that occurs with the Beta Monitor. A stack sampler shutdown alarm condition will be annunciated on the 241-SY EF 3102 Exhauster alarm cabinet VTP-PNL-3103, Stack Monitoring cabinet VTP-PNL-3104 and; also, the alarm panels in the 242-S Evaporator Bldg. and 241-SY-271 Instrument Bldg.

#### 2.1.5 SAMPLING VACUUM SYSTEM CHECK

The SAMPLING VACUUM SYSTEM CHECK will be performed to verify that the vacuum pumps and associated equipment operate correctly. The vacuum system is utilized to obtain samples from the 241-SY EF 3102 Exhauster's stack.

#### 2.1.6 INTERLOCK CHECK

The INTERLOCK CHECK will be performed to verify that the HEPA 1, HEPA 2, inlet vacuum and system differential interlocks perform as required.

# TANK FARM PLANT OPERATIONS PROCEDURE

## 2.3 RESPONSIBILITIES

- 2.3.1 The Maintenance craft personnel are responsible for:
- Providing assistance during the test.
- 2.3.2 Quality Control (QC) is responsible for:
- Verifying that the procedure sections were performed correctly by witnessing procedure steps as they occur.
- 2.3.3 HPT personnel are responsible for:
- Conducting surveys of all equipment used during this OTP.
  - Conducting surveys of all affected areas
- 2.3.4 Test Director
- Provides concurrence that OTP may commence.
  - Ensures the equipment found in step 4.1 of this procedure is available.
  - Records equipment status and data per this procedure
  - Conducts a pre-job planning meeting.
  - Conducts a 241-SY-101 Facility and 241-SY EF 3102 Exhauster walkdown.
  - Verifying cessation of all 241-SY Tank Farm transfer and/or mixer pump activities before commencing the OTP.
  - Notifying the TFO Shift Manager of on going 241-SY Tank Farm transfer and/or mixer pump activities before commencing the OTP.

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# TANK FARM PLANT OPERATIONS PROCEDURE

## 2.1.7 HEATER CHECK

The HEATER CHECK will be performed to verify that the heater functions properly.

## 2.1.8 FLOW RATE CHECK

The FLOW RATE CHECK examines the 241-SY EF 3102 Exhauster stack and HEPA filters for leaks and obstructed components by testing for appropriate differential pressures and volumetric flow rates. Maintenance procedures 6-TF-155 and 6-TF-156 will be utilized to perform the flow rate checks on the 241-SY EF 3102 Exhauster stack and HEPA filters respectively. Data will be recorded in 6-TF-155-M and 6-TF-156-TQ for the stack and HEPA filters respectively.

## 2.2 TERMS AND DEFINITIONS

2.2.1 CASS - Computer Automated SurveillanCe System

2.2.2 HEPA - High Efficiency Particulate Air

2.2.3 HPT - Health Physics Technician

2.2.4 JCS PM/S - Job Control System Preventative  
Maintenance/SurveillanCe

2.2.5 JHA - Job Hazards Analysis

2.2.6 MCC - Motor Control Center

2.2.7 NC - Normally Closed

2.2.8 NO - Normally Open

2.2.9 OTP - Operational Test Procedure

2.2.10 OTR - Operational Test Report

2.2.11 PS - Pressure Switch

2.2.12 QC - Quality Control

2.2.13 RWP - Radiation Work Permit

2.2.14 SST - Single Shell Tanks

2.2.15 TFO - Tank Farm Operations

2.2.16 WG - Water Gauge

# TANK FARM PLANT OPERATIONS PROCEDURE

## 2.4 REFERENCES

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

- WHC-CM-4-3, INDUSTRIAL SAFETY MANUAL, STANDARD A-3, "PRE-JOB SAFETY PLANNING/JOB SAFETY ANALYSIS," STANDARD E-2, "ELECTRICAL SAFETY PRACTICES"
- WHC-CM-6-1 EP 4.2., STANDARD ENGINEERING PRACTICE "TESTING PRACTICES"
- WHC-CM-6-1 APPX L, STANDARD ENGINEERING PRACTICES "OPERABILITY TEST PROCEDURES AND REPORTS".
- TO-060-230, "OPERATE PRIMARY VENTILATION SYSTEM FOR 241-SY TANK FARMS".
- 6-TF-155, MAINTENANCE PROCEDURE "AIR FLOW TEST FOR TANK FARM STACKS AND DUCTS", REV. 1, CHG 0.
- 6-TF-155-M, MAINTENANCE PROCEDURE "241-SY TANK EXHAUSTER STACK 296-S-25 AIR FLOW TEST DATA SHEETS", REV. 1, CHG 0.
- 6-TF-156, MAINTENANCE PROCEDURE "HEPA FILTER IN-PLACE LEAK TEST (AEROSOL TEST)", REV. 0, CHG 0.
- 6-TF-156-TQ, MAINTENANCE PROCEDURE "241-SY TANK EXHAUSTER 296-S-25 HEPA FILTER AEROSOL TEST DATA SHEETS", REV. 0, CHG A.
- 6-TF-160, MAINTENANCE PROCEDURE "ELECTRICAL BONDING FOR VENT AND BALANCE TESTS", REV. 0, CHG A.
- H-2-85591, K1A EXHAUSTER
- H-2-85593, GENERAL ARRANGEMENT TANK FARM EXHAUSTER
- H-2-85595, STACK SAMPLING AND FLOW MONITORING GENERAL ARRANGEMENT
- H-2-85596, INSTRUMENT AND CONTROL CABINET
- H-2-85597, INSTRUMENT AND CONTROL CABINET ARRANGEMENT
- H-2-85598, SAMPLE & FLOW PROBE ENCLOSURE ASSEMBLY
- H-2-85600, PROCESS & INST DIAG TANK FARM EXHAUSTER
- H-2-85314, PANELBOARD SCHEDULES
- H-2-46424, ELECTRICAL SINGLE LINE DIAGRAM
- H-14-020131, SHEETS 3 & 4, VENTILATION TK PRIMARY SYSTEM EXHAUSTER (VTP) P & ID
- WORK PACKAGE 2W-95-00591/I
- WORK PACKAGE 2W-94-01004/M
- WORK PACKAGE 2W-94-01005/M

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# TANK FARM PLANT OPERATIONS PROCEDURE

## 2.5 SAFETY

Warning - Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

2.5.1 The following administrative procedures control work performed in this procedure:

- Industrial Safety Manual, WHC-CM-4-3, Vols 1-4
- Building Emergency Plan, WHC-IP-0263-TF
- Industrial Hygiene Manual, WHC-CM-4-40
- Safety Manual, WHC-CM-1-10
- Tank Farm Health and Safety Plan (HASP), WHC-SD-WM-HSP-002

2.5.2 The test shall be STOPPED and the TFO Shift Manager immediately notified, if radiation levels significantly increase as determined by a Radiation Monitor.

## 2.6 RADIATION AND CONTAMINATION CONTROL

2.6.1 HPT assistance is required in accordance with RWP.

2.6.2 The following administrative procedures control work performed in this procedure:

- Hanford Site Radiological Control Manual (HSRCM), Rev. 2
- Safety Manual, WHC-CM-1-10
- Industrial Safety Manual, WHC-CM-4-3, Vols 1-4

## 2.7 QUALITY ASSURANCE

2.7.1 Ensure that the test(s) are performed per procedure. The QC Inspector shall sign and date each procedure section authenticating the validity of the data (if any) obtained and verifying that the procedure section has been performed correctly.

## 2.8 GENERAL INFORMATION

2.8.1 Complete each procedure step in the given order, unless otherwise noted or as directed by the Test Director.

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# TANK FARM PLANT OPERATIONS PROCEDURE

## 2.8 GENERAL INFORMATION (Continued)

- 2.8.2 Editorial changes required to this OTP may be made per the red line method by the Test Director and Cognizant Engineer as long as they do not impact operational facility safety function, or performance and will not compromise or influence the test data. Any changes affecting the above stated criteria shall be made in accordance with WHC-CM-6-1, *Standard Engineering Practices*, EP-2.2 Change Control.
- 2.8.3 All entries recorded in this procedure shall be made in black ink except for those noted using the redline method.
- 2.8.4 Any non-conformance of the instrumentation or unexpected results during testing shall be logged and recorded in OTP EXCEPTION LOG.
- 2.8.5 Do not perform any part of this procedure on faulty equipment. If faulty equipment is discovered, STOP the execution of this procedure and resolve the problem (i.e. repair equipment or write up faulty equipment as an exception and continue).
- 2.8.6 If the performance of this procedure is suspended for any reason, ensure the requirements of the Lock and Tag System are met before leaving the test site.
- 2.8.7 At the completion of daily OTP testing, ensure that the 241-SY EF 3102 Exhauster is shutdown, in a safe condition and either 241-SY exhauster K-1-4-1 or P-28 is operating.
- 2.8.8 Restore the 241-SY EF 3102 Exhauster to operating status to continue the OTP.
- 2.8.9 Initial (cold) aerosol (DOP) testing can be performed out of sequence.
- 2.8.10 This procedure DOES NOT contain any separate data/verification sheets. Verification of procedural steps and validity of the data is incorporated into the specific section.
- 2.8.11 The following interface area(s) exist:
- CASS
- 2.8.12 A JHA form will be used instead of the pre-job safety meeting form when any unusual hazards are identified. The PRE-JOB SAFETY MEETING FORM will be used with the JHA to document all attendees.

# TANK FARM PLANT OPERATIONS PROCEDURE

## 3.0 RECORDS

- 3.1 The completed working copy of this OTP, maintenance procedure data sheets and all exception logs and exception records generated by this OTP, will be kept as permanent records and released in an OTR.

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# TANK FARM PLANT OPERATIONS PROCEDURE

## 4.0 PREREQUISITES

4.1 The following supplies shall be available at the workplace:

- Pressure Source: minimum range 0 - 6 in wg  
Calibration No. \_\_\_\_\_ Expiration Date \_\_\_\_\_
- Radioactive Source: minimum of 300 cpm
- 5V Power Source
- Type J Thermocouple Simulator: connection wire, four (4) feet long
- Shorting Jumper: #12 insulated wire, two (2) feet long.

4.2 The following documents are required to be at the test site, before and during the performance of this procedure:

- WHC-IP-0842, Vol II Section 4.9.1, LOCKOUT/TAGOUT
- TO-060-230, OPERATE PRIMARY VENTILATION SYSTEM FOR 241-SY TANK FARMS
- 6-TF-155, MAINTENANCE PROCEDURE "AIR FLOW TEST FOR TANK FARM STACKS AND DUCTS", REV. 1, CHG 0.
- 6-TF-155-M, MAINTENANCE PROCEDURE "241-SY TANK EXHAUSTER STACK 296-S-25 AIR FLOW TEST DATA SHEETS", REV. 1, CHG 0.
- 6-TF-156, MAINTENANCE PROCEDURE "HEPA FILTER IN-PLACE LEAK TEST (AEROSOL TEST)", REV. 0, CHG 0.
- 6-TF-156-TQ, MAINTENANCE PROCEDURE "241-SY TANK EXHAUSTER 296-S-25 HEPA FILTER AEROSOL TEST DATA SHEETS", REV. 0, CHG A.
- 6-TF-160, MAINTENANCE PROCEDURE "ELECTRICAL BONDING FOR VENT AND BALANCE TESTS", REV. 0, CHG A.
- WORK PACKAGE, 2W-94-01004/M.
- WORK PACKAGE, 2W-94-01005/M.

4.3 The following conditions must be met before this test may commence:

- 4.3.1 A pre-job safety meeting has been held before performing this procedure in accordance with WHC-IP-0842, Vol V Section 4.1, PRE-JOB SAFETY MEETING FORM.

\_\_\_\_\_  
Test Director

\_\_\_\_\_  
Date

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# TANK FARM PLANT OPERATIONS PROCEDURE

## 4.0 PREREQUISITES (Continued)

- 4.3.2 Notify CASS that the OTP is to be performed.
- 4.3.3 Ensure that the Lock and Tag has been removed from Circuit Breaker KIA EXHAUSTER PANEL EDS-DP-3107 (located on compartment 7FE of MCC-HMT in 241-SY-272).
- 4.3.4 Verify that there is access to the Stack Monitoring Station.
- 4.3.5 Verify that all 241-SY Tank Farm transfer and/or mixer pump activities have ceased and notify the TFO Shift Manager if these activities have not.

\_\_\_\_\_  
Test Director Signature

\_\_\_\_\_  
Date

- 4.3.6 Verify that the Inlet Test Assembly has been installed per work package 2W-94-01005/M, Figure 1 and, the concurrence of the Test Director.

\_\_\_\_\_  
Test Director

\_\_\_\_\_  
Date

\_\_\_\_\_  
QC Inspector Signature

\_\_\_\_\_  
Date

# TANK FARM PLANT OPERATIONS PROCEDURE

## 4.0 PREREQUISITES (Continued)

NOTE - QC Inspector shall verify current calibration by inspecting calibration stickers on instruments in the field. In the event a sticker is missing or shows a device to be out of calibration, consult the JCS PM/S system and work package 2W-95-591/I for calibration verification.

4.3.7 QC Inspector shall verify the current calibration and, record the calibration date and calibration due date on the table below.

INSTRUMENT	CALIBRATION DATE	CALIBRATION DUE DATE
DMST D/P XMIT VTP-PDT-3111		
FLT TRN TOTAL D/P XMIT VTP-PDT-3110		
FLT INLET PRESS XMIT VTP-PDT-3112		
VTP-FLT-3102 D/P XMIT VTP-PDT-3102		
VTP-FLT-3104 D/P XMIT VTP-PDT-3104		
VTP-FLT-3106 D/P XMIT VTP-PDT-3106		
MASS FLO CNTRL VTP-FIC-3101		
RECORD SAMP FLOW CNTRL VTP-FIC-3102		
BETA SAMPLER FLOW CNTRL VTP-FIC-3103		
SAMP SYS PRESS XMIT VTP-PIT-3101		

# TANK FARM PLANT OPERATIONS PROCEDURE

## 4.0 PREREQUISITES (Continued)

**NOTE** - QC Inspector shall verify current calibration by inspecting calibration stickers on instruments in the field. In the event a sticker is missing or shows a device to be out of calibration, consult the JCS PM/S system and work package 2W-95-591/I for calibration verification.

4.3.8 QC Inspector shall verify the current calibration and, record the calibration date and calibration due date on the table below.

INSTRUMENT	CALIBRATION DATE	CALIBRATION DUE DATE
MIST ELIMINATOR $\Delta P$ VTP-PDIS-3111		
PREFILTER $\Delta P$ VTP-PDIS-3102		
HEPA 1 $\Delta P$ VTP-PDIS-3104		
HEPA 2 $\Delta P$ VTP-PDIS-3106		
SYSTEM $\Delta P$ VTP-PDIS-3110		
SYSTEM INLET VAC                      VTP-PIS-3112		
TC3 DUCT HEAT $\Delta T$ VTP-TDIC-3103		

4.3.9 QC Inspector **SHALL VERIFY** that steps 4.3.8 and 4.3.9 are **COMPLETE** by **SIGNING** below.

\_\_\_\_\_  
QC Inspector Signature

\_\_\_\_\_  
Date

4.3.10 QC Inspector **SHALL VERIFY** that section 4.0 has been **COMPLETED** by **SIGNING** below.

\_\_\_\_\_  
QC Inspector Signature

\_\_\_\_\_  
Date

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.0 PROCEDURE

### 5.1 POWER SYSTEM CHECK

- 5.1.1 ENSURE that Circuit Breaker K1A EXHAUSTER PANEL EDS-DP-3107, located on compartment 7FE of MCC-HMT in 241-SY-272 is OPEN.
- 5.1.2 ENSURE the following 480V circuit breakers (located at 241-SY EF 3102 EXHAUSTER on panelboard EDS-DP-3107) are OFF:
- 5.1.2.1 Circuit Breaker # 14 (TRANSFORMER T-3108, 7.5KVA)
- 5.1.2.2 Circuit Breaker # 7 (K1A EXHAUSTER FAN, 2HP)
- 5.1.2.3 Circuit Breaker # 13 (K1A DUCT HEATER)
- 5.1.2.4 Circuit Breaker # 26 (K1A STACK MONITOR PUMPS 3HP)
- 5.1.3 ENSURE the following 120V circuit breakers (located at 241-SY EF 3102 EXHAUSTER on panelboard EDS-DP-3108) are OFF:
- 5.1.3.1 Circuit Breaker # 4 (Alarm Cabinet Instruments)
- 5.1.3.2 Circuit Breaker # 5 (Receptacle [GFCI])
- 5.1.3.3 Circuit Breaker # 6 (Alarm Cabinet Heater and Lights)
- 5.1.3.4 Circuit Breaker # 7 (Heat Tracing)
- 5.1.3.5 Circuit Breaker # 8 (Duct Heater Cont Cab Heater)

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.1 POWER SYSTEM CHECK (Continued)

- 5.1.3.6 Circuit Breaker # 9 (Press/Flow XMTR & Cont)
- 5.1.3.7 Circuit Breaker # 10 (Stack Sample Cab HTR and AC-1)
- 5.1.3.8 Circuit Breaker # 11 (Stack Monitor Instruments, Horn)
- 5.1.3.9 Circuit Breaker # 12 (Stack Sample Cab HTR and AC-2)
- 5.1.4 **VERIFY** VTP-HS-3146 FAN START switch (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is in the **OFF** position.
- 5.1.5 **VERIFY** Exhauster VTP-YL-3149 FAN NOT RUNNING red indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is **NOT ILLUMINATED**.
- 5.1.6 **VERIFY** that the VTP-YL-3145 POWER ON blue indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is **NOT ILLUMINATED**.
- 5.1.7 **CLOSE** Circuit Breaker K1A EXHAUSTER PANEL EDS-DP-3107 (located on compartment 7FE of MCC-HMT in 241-SY-272).

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.1 POWER SYSTEM CHECK (Continued)

### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

5.1.8 **POSITION** the following 480 volt circuit breakers (located at 241-SY EF 3102 EXHAUSTER on panelboard EDS-DP-3107) to ON:

5.1.8.1 Circuit Breaker # 14 (TRANSFORMER T-3108, 7.5KVA)

5.1.8.2 Circuit Breaker # 7 (K1A EXHAUSTER FAN, 2HP)

5.1.8.3 Circuit Breaker # 13 (K1A DUCT HEATER)

5.1.8.4 Circuit Breaker # 26 (K1A STACK MONITOR PUMPS 3HP)

### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

5.1.9 **POSITION** the following 120 volt circuit breakers (located at 241-SY EF 3102 EXHAUSTER on panelboard EDS-DP-3108) to ON:

5.1.9.1 Circuit Breaker # 4 (Alarm Cabinet Instruments)

5.1.9.2 Circuit Breaker # 5 (Receptacle [GFCI])

5.1.9.3 Circuit Breaker # 6 (Alarm Cabinet Heater and Lights)

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.1 POWER SYSTEM CHECK (Continued)

- 5.1.9.4 Circuit Breaker # 7 (Heat Tracing)
- 5.1.9.5 Circuit Breaker # 8 (Duct Heater Cont Cab Heater)
- 5.1.9.6 Circuit Breaker # 9 (Press/Flow XMTR & Cont)
- 5.1.9.7 Circuit Breaker # 10 (Stack Sample Cab HTR and AC-1)
- 5.1.9.8 Circuit Breaker # 11 (Instruments, Horn)
- 5.1.9.9 Circuit Breaker # 12 (Stack Sample Cab HTR and AC-2)
- 5.1.10 IF alarms are ANNUNCIATING, ACKNOWLEDGE as necessary.
- 5.1.11 VERIFY that the following (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) are ILLUMINATED:
- 5.1.11.1 VTP-YL-3145 POWER ON blue indicating light.
- 5.1.11.2 VTP-XA-3147 SYSTEM SHUTDOWN yellow indicating light.
- 5.1.11.3 VTP-YL-3149 FAN NOT RUNNING red indicating light.
- 5.1.12 Test Director SHALL VERIFY that section 5.1 is COMPLETE by SIGNING below.

\_\_\_\_\_  
Test Director Signature

\_\_\_\_\_  
Date

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.1 POWER SYSTEM CHECK (Continued)

5.1.13 QC Inspector SHALL VERIFY that section 5.1 is COMPLETE by SIGNING below.

\_\_\_\_\_  
QC Inspector Signature

\_\_\_\_\_  
Date

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.2 VACUUM SAMPLE PUMP AND FAN ROTATION CHECK

- 5.2.1 REMOVE the plug located at the end of the 241-SY EF 3102 fan motor housing (this will facilitate the determination of the fan rotation).
- 5.2.2 POSITION the VTP-HS-3146 FAN START switch (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) to ON AND THEN QUICKLY REPOSITION the VTP-HS-3146 FAN START switch to OFF (i.e. bump the fan).
- 5.2.3 VERIFY that the direction of rotation of the 241-SY EF 3102 Exhauster fan is in the DIRECTION of the arrow on the fan housing.
- 5.2.4 IF the direction of rotation of the 241-SY EF 3102 Exhauster fan is in the incorrect DIRECTION then PERFORM the following:
- 5.2.4.1 DO NOT EXECUTE any further part of this OTP UNTIL steps 5.2.4.2 through 5.2.4.5 are COMPLETED.

### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

- 5.2.4.2 POSITION 480V circuit breaker #7 K1A EXHAUSTER FAN, 2HP (located at 241-SY EF 3102 EXHAUSTER on panelboard EDS-DP-3107) to OFF.
- 5.2.4.3 CORRECT the Exhauster fan rotation.

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.2 VACUUM SAMPLE PUMP AND FAN ROTATION CHECK

(Continued)

### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

- 5.2.4.4 **POSITION** 480V circuit breaker #7 K1A EXHAUSTER FAN, 2HP (located at 241-SY EF 3102 EXHAUSTER on panelboard EDS-DP-3107) to **ON**.
- 5.2.4.5 **REPERFORM** steps 5.2.2 and 5.2.3 of this OTP.
- 5.2.4.6 **GO TO** step 5.2.5.
- 5.2.5 **REINSTALL** fan motor housing plug.
- 5.2.6 **POSITION** VTP-HS-3146 FAN START (located on the door of the 241-SY EF 3102 EXHAUSTER Alarm cabinet VTP-PNL-3103) to **ON**.
- 5.2.7 **ENSURE** the red VTP-HS-3101 PUMP START/STOP button (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is **NOT DEPRESSED**.
- 5.2.8 **IF** VTP-YL-3150 P-3101 **ON LEAD** green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is **NOT ILLUMINATED (ON)**, **THEN PRESS** VTP-PB-3102 PUMP SWAP yellow button (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.2 VACUUM SAMPLE PUMP AND FAN ROTATION CHECK

(Continued)

- 5.2.9 VERIFY VTP-MOV-3101 SAMP SYS PMP INLET ISO and VTP-MOV-3102 SAMP SYS PMP OUTLET ISO valve indicators are **DIRECTED** towards vacuum sample pump VTP-P-3101 SAMP PMP.
- 5.2.10 IF VTP-MOV-3101 SAMP SYS PMP INLET ISO valve indicator and/or VTP-MOV-3102 SAMP SYS PMP OUTLET ISO valve indicator are not **DIRECTED** towards vacuum sample pump VTP-P-3101 SAMP PMP, THEN **HALT** the OTP and repair the valve(s).
- 5.2.11 **BUMP** vacuum sample pump VTP-P-3101 SAMP PMP by **PRESSING** the red VTP-PB-3101 PUMP START/STOP button (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).
- 5.2.12 **VERIFY** vacuum sample pump VTP-P-3101 SAMP PMP is **ROTATING** in the direction **INDICATED** on the pump housing.
- 5.2.13 IF the direction of rotation of the vacuum sample pump, VTP-P-3101 SAMP PMP, is in the incorrect **DIRECTION** then **PERFORM** the following:
- 5.2.13.1 **DO NOT EXECUTE** any further part of this OTP UNTIL steps 5.2.13.2 through 5.2.13.5 are **COMPLETED**.

### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

- 5.2.13.2 **POSITION** 480V circuit breaker #26 KIA STACK MONITOR PUMPS 3HP (located at 241-SY EF 3102 EXHAUSTER on panelboard EDS-DP-3107) to **OFF**.

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# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.2 VACUUM SAMPLE PUMP AND FAN ROTATION CHECK

(Continued)

5.2.13.3 CORRECT the vacuum sample pump, VTP-P-3101 SAMP PMP, rotation.

### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

5.2.13.4 POSITION 480V circuit breaker #26 K1A STACK MONITOR PUMPS 3HP (located at 241-SY EF 3102 EXHAUSTER on panelboard EDS-DP-3107) to ON.

5.2.13.5 REPERFORM steps 5.2.11 and 5.2.12 of this OTP.

5.2.13.6 GO TO step 5.2.14.

5.2.14 VERIFY the following:

5.2.14.1 VTP-YL-3145 POWER ON green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is ILLUMINATED (ON).

5.2.14.2 VTP-YL-3151 P-3101 ON green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is ILLUMINATED (ON).

5.2.14.3 VTP-YL-3150 P-3101 ON LEAD green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is ILLUMINATED (ON).

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.2 VACUUM SAMPLE PUMP AND FAN ROTATION CHECK

(Continued)

- 5.2.14.4 VTP-YL-3152 P-3102 ON green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is **NOT ILLUMINATED (OFF)**.
- 5.2.14.5 VTP-YL-3116 COMMON FAULT red indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is **NOT ILLUMINATED (OFF)**.
- 5.2.15 **PRESS** the red VTP-PB-3101 PUMP START/STOP button (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).
- 5.2.16 **VERIFY** that Vacuum Sample pump, VTP-P-3101 SAMP PMP, continues to **OPERATE** by **ALLOWING** the pump to run for two minutes.
- 5.2.17 **DEPRESS** the red VTP-PB-3101 PUMP START/STOP button (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).
- 5.2.18 **OBSERVE** vacuum sample pump, VTP-P-3101 SAMP PMP, **AND VERIFY** it is **NOT OPERATING (OFF)**.
- 5.2.19 **PRESS** VTP-PB-3102 PUMP SWAP yellow button (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).
- 5.2.20 **VERIFY** VTP-MOV-3101 SAMP SYS PMP INLET ISO and VTP-MOV-3102 SAMP SYS PMP OUTLET ISO valve indicators are **DIRECTED** towards vacuum sample pump VTP-P-3102 SAMP PMP.

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.2 VACUUM SAMPLE PUMP AND FAN ROTATION CHECK

(Continued)

5.2.21 IF VTP-MOV-3101 SAMP SYS PMP INLET ISO valve indicator and/or VTP-MOV-3102 SAMP SYS PMP OUTLET ISO valve indicator are not **DIRECTED** towards vacuum sample pump VTP-P-3102 SAMP PMP, THEN **HALT** the OTP and **REPAIR** the valve(s).

5.2.22 **BUMP** vacuum sample pump VTP-P-3102 SAMP PMP by **PRESSING** the red VTP-PB-3101 PUMP START/STOP button (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).

5.2.23 **VERIFY** vacuum sample pump VTP-P-3102 SAMP PMP is **ROTATING** in the direction **INDICATED** on the pump housing.

5.2.24 IF the direction of rotation of the vacuum sample pump, VTP-P-3102 SAMP PMP, is in the incorrect **DIRECTION** then **PERFORM** the following:

5.2.24.1 **DO NOT EXECUTE** any further part of this OTP **UNTIL** steps 5.2.24.2 through 5.2.24.6 are **COMPLETED**.

### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

5.2.24.2 **POSITION** 480V circuit breaker #26 K1A STACK MONITOR PUMPS 3HP (located at 241-SY EF 3102 EXHAUSTER on panelboard EDS-DP-3107) to **OFF**.

5.2.24.3 **CORRECT** the Vacuum Sample pump, VTP-P-3102 SAMP PMP, rotation.

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.2 VACUUM SAMPLE PUMP AND FAN ROTATION CHECK (Continued)

### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

5.2.24.4 POSITION 480V circuit breaker #26 KIA STACK MONITOR PUMPS 3HP (located at 241-SY EF 3102 EXHAUSTER on panelboard EDS-DP-3107) to ON.

5.2.24.5 REPERFORM steps 5.2.22 and 5.2.23 of this OTP.

5.2.24.6 GO TO step 5.2.25.

5.2.25 VERIFY the following:

5.2.25.1 VTP-YL-3145 POWER ON green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is ILLUMINATED (ON).

5.2.25.2 VTP-YL-3152 P-3102 ON green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is ILLUMINATED (ON).

5.2.25.3 VTP-YL-3151 P-3101 ON green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is NOT ILLUMINATED (OFF).

5.2.25.4 VTP-YL-3150 P-3101 ON LEAD green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is NOT ILLUMINATED (OFF).

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# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.2 VACUUM SAMPLE PUMP AND FAN ROTATION CHECK

(Continued)

- 5.2.25.5 COMMON FAULT red indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is NOT ILLUMINATED (OFF).
- 5.2.26 PRESS the red VTP-PB-3101 PUMP START/STOP button (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).
- 5.2.27 VERIFY that vacuum sample pump, VTP-P-3102 SAMP PMP, continues to OPERATE by ALLOWING the pump to run for two minutes.
- 5.2.28 DEPRESS the red VTP-PB-3101 PUMP START/STOP button (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).
- 5.2.29 OBSERVE vacuum sample pump, VTP-P-3102 SAMP PMP, AND VERIFY it is NOT OPERATING (OFF).
- 5.2.30 POSITION VTP-HS-3146 FAN START switch (located on the door of the 241-SY EF 3102 EXHAUSTER Alarm cabinet VTP-PNL-3103) to OFF.
- 5.2.31 Test Director SHALL VERIFY that section 5.2 is COMPLETE by SIGNING below.

\_\_\_\_\_  
Test Director Signature

\_\_\_\_\_  
Date

- 5.2.32 QC Inspector SHALL VERIFY that section 5.2 is COMPLETE by SIGNING below.

\_\_\_\_\_  
QC Inspector Signature

\_\_\_\_\_  
Date

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.3 HI RADIATION SHUTDOWN CHECK

- 5.3.1 START the 241-SY-EF 3102 Exhauster fan by **POSITIONING** the VTP-HS-3146 FAN START switch to **ON** (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103).
- 5.3.2 **VERIFY** VTP-YL-3148 FAN RUNNING green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is **ILLUMINATED**.
- 5.3.3 **PRESS** the VTP-PB-3141 ALARM RESET red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103).
- 5.3.4 **VERIFY** that either VTP-YL-3151 P-3101 ON green indicating light or VTP-YL-3152 P-3102 ON green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is **ILLUMINATED (ON)**.
- 5.3.5 **ENSURE** that the yellow VTP-HS-3118 HORN ALARM BYPASS button is **NOT DEPRESSED**.
- 5.3.6 **ENSURE** that the yellow VTP-HS-3117 BELL ALARM BYPASS button is **NOT DEPRESSED**.
- 5.3.7 **PLACE** the BETA FAILURE BYPASS SWITCH in the BYPASS position (located in the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) .

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.3 HI RADIATION SHUTDOWN CHECK (Continued)

### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

5.3.8 **SIMULATE** a high radiation condition by **POSITIONING** a radioactive source in the Beta Remote Head (located in the Stack Monitoring Station).

5.3.9 **VERIFY** the following:

5.3.9.1 Horn on top of the alarm cabinet, VTP-PNL-3103, is **SOUNDING (ON)**.

5.3.9.2 **PRESS** the VTP-PB-3142 ALARM SILENCE red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) and **SILENCE** the alarm cabinet horn.

5.3.9.3 Bell on the Stack Monitoring cabinet, VTP-PNL-3104, is **SOUNDING (ON)**.

5.3.9.4 **PRESS** the yellow VTP-HS-3117 BELL ALARM BYPASS button (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).

5.3.9.5 Red beacon located on top of the Stack Monitoring cabinet, VTP-PNL-3104, is **ILLUMINATED (ON)**.

5.3.9.6 241-SY PRIMARY EXHAUST SYSTEM HIGH RADIATION RA-EXH-K1-1-1 red annunciator window #4-4, located on panel F in 242-S, is **ILLUMINATED**.

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.3 HI RADIATION SHUTDOWN CHECK (Continued)

- 5.3.9.7 PRESS the ACKNOWLEDGE pushbutton on panel F in 242-S Instrument Bldg.
- 5.3.9.8 PRIMARY EXHAUST SYSTEM HIGH RADIATION RA-EXH-K1-1-1 red annunciator window, located on annunciator panel ANN-101 in Instrument Bldg. 241-SY-271, is ILLUMINATED.
- 5.3.9.9 PRESS the ACKNOWLEDGE pushbutton on panel ANN-102 in 241-SY-271.
- 5.3.10 VERIFY the following:
- 5.3.10.1 241-SY EF 3102 EXHAUSTER fan has STOPPED.
- 5.3.10.2 VTP-YL-3149 FAN NOT RUNNING red indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is ILLUMINATED (ON).
- 5.3.10.3 VTP-YL-3114 BETA RADIATION OK green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is NOT ILLUMINATED (OFF).
- 5.3.10.4 VTP-XA-3113 SHUTDOWN yellow indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103 directly under the BETA RADIATION OK green indicating light) is ILLUMINATED (ON).
- 5.3.10.5 VTP-XA-3147 SYSTEM SHUTDOWN yellow indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is ILLUMINATED (ON).

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.3 HI RADIATION SHUTDOWN CHECK (Continued)

- 5.3.10.6 VTP-YL-3144 ALARM ON red indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is ILLUMINATED (ON).
- 5.3.10.7 Red Beacon (located at the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is ILLUMINATED (ON).
- 5.3.11 PRESS the VTP-MON-3102 BETA MONITOR "ACK" button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is ILLUMINATED (ON).
- 5.3.12 VERIFY the following:
- 5.3.12.1 Vacuum sample pump has STOPPED.
- 5.3.12.2 VTP-YL-3151 P-3101 ON and VTP-YL-3152 P-3102 ON green indicating lights (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) are NOT ILLUMINATED (OFF).
- 5.3.12.3 COMMON FAULT ALARM red indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is ILLUMINATED (ON).

### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

- 5.3.13 REMOVE the radioactive source from the Beta Remote Head (located in the Stack Monitoring Station).

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.3 HI RADIATION SHUTDOWN CHECK (Continued)

5.3.14 **DEPRESS** the yellow BELL ALARM BYPASS button (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).

**NOTE** - Other alarms may have annunciated and indicated by the VTP-R-3101 SAMP SYS PROCESS RECORDER. Disregard the alarms at this time.

5.3.15 **ACKNOWLEDGE** the Stack Monitor alarms by **PERFORMING** the following:

5.3.15.1 **PRESS** the HOME ( $\Delta$ ) key on the VTP-R-3101 SAMP SYS PROCESS RECORDER keypad several times until the bottom of the display presents the top level menu, as shown:

[Operator: Select a category]				
DISPLAY	CHART	ALARM	CHANNEL	MORE

5.3.15.2 **PRESS** the softkey under the displayed word "ALARM" (this will change the display).

5.3.15.3 **VERIFY** that the top line of the display indicates a 09 (underlined in red) as shown.

I/P CHANS <u>09</u> ,				
OLDEST	NEWEST	ACK	CHANNEL	MORE

5.3.15.4 **PRESS** the softkey under the displayed word "ACK".

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.3 HI RADIATION SHUTDOWN CHECK (Continued)

5.3.15.5 **VERIFY** that the alarm has been **ACKNOWLEDGED AND CLEARED** by **EXAMINING** the top line of the display for a 09 (not underlined) as shown.

I/P CHANS 09,				
OLDEST	NEWEST	ACK	CHANNEL	MORE

5.3.16 **PRESS** VTP-PB-3141 ALARM RESET red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103).

5.3.17 **PLACE** the BETA FAILURE BYPASS SWITCH in the NORMAL position.

5.3.18 **VERIFY** that the 241-SY EF 3102 EXHAUSTER Fan is **OPERATING (ON)**.

5.3.19 **PRESS** VTP-PB-3141 ALARM RESET red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103).

5.3.20 **VERIFY** the following:

5.3.20.1 Vacuum sample pump VTP-P-3101 SAMP PMP or VTP-P-3102 SAMP PMP is **OPERATING (ON)**.

5.3.20.2 VTP-YL-3151 P-3101 ON green indicating light or VTP-YL-3152 P-3102 ON green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is **ILLUMINATED (ON)**.

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.3 HI RADIATION SHUTDOWN CHECK (Continued)

5.3.20.3 VTP-YL-3114 BETA RADIATION OK green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is **ILLUMINATED (ON)**.

5.3.20.4 VTP-XA-3113 SHUTDOWN yellow indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103 directly under the BETA RADIATION OK green indicating light) is **NOT ILLUMINATED (OFF)**.

5.3.20.5 VTP-XA-3147 SYSTEM SHUTDOWN yellow indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is **NOT ILLUMINATED (OFF)**.

5.3.20.6 VTP-YL-3144 ALARM ON red indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is **NOT ILLUMINATED (OFF)**.

5.3.21 Test Director **SHALL VERIFY** that section 5.3 is **COMPLETE** by **SIGNING** below.

\_\_\_\_\_  
Test Director Signature

\_\_\_\_\_  
Date

5.3.22 QC Inspector **SHALL VERIFY** that section 5.3 is **COMPLETE** by **SIGNING** below.

\_\_\_\_\_  
QC Inspector Signature

\_\_\_\_\_  
Date

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.4 STACK SAMPLER (BETA MONITOR) FAILURE SHUTDOWN CHECK

5.4.1 IF the 241-SY EF 3102 Exhauster fan is OFF, THEN START the 241-SY EF 3102 Exhauster fan by POSITIONING the VTP-HS-3146 FAN START switch to ON (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103).

5.4.2 VERIFY VTP-YL-3148 FAN RUNNING green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is ILLUMINATED.

5.4.3 VERIFY that either VTP-YL-3151 P-3101 ON green indicating light or VTP-YL-3152 P-3102 ON green indicating light (both are located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is ILLUMINATED (ON).

5.4.4 CLOSE valve V-3191 (located in the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).

5.4.5 WHEN VTP-FIC-3103 BETA SAMP FLO CNTRL (one of the MASSTRON instruments) INDICATES zero (no flow) THEN VERIFY the following:

5.4.5.1 Alarm cabinet (VTP-PNL-3103) Horn is SOUNDING.

5.4.5.2 PRESS the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PB-3142 ALARM SILENCE red button and SILENCE the alarm cabinet horn.

5.4.5.3 Stack Monitoring cabinet (VTP-PNL-3104) Horn is SOUNDING.

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.4 STACK SAMPLER (BETA MONITOR) FAILURE SHUTDOWN CHECK (Continued)

5.4.5.4 PRESS the yellow HORN ALARM BYPASS button (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).

5.4.5.5 Stack Monitoring cabinet VTP-PNL-3104 amber beacon (located on the top of the cabinet) is ILLUMINATED.

5.4.5.6 VTP-MON-3102 BETA MONITOR (located in the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is DEENERGIZED (OFF).

5.4.6 VERIFY the following:

5.4.6.1 241-SY EF 3102 EXHAUSTER fan has STOPPED.

5.4.6.2 VTP-YL-3113A STACK SAMPLER OK green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is NOT ILLUMINATED (OFF).

5.4.6.3 VTP-YL-3113B STACK SAMPLER - OK green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is NOT ILLUMINATED (OFF).

5.4.6.4 VTP-XA-3113 SHUTDOWN yellow indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103 directly under VTP-YL-3113A STACK SAMPLER OK green indicating light) is ILLUMINATED (ON).

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.4 STACK SAMPLER (BETA MONITOR) FAILURE SHUTDOWN CHECK (Continued)

- 5.4.6.5 VTP-XA-3147 SYSTEM SHUTDOWN yellow indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is ILLUMINATED (ON).
- 5.4.6.6 VTP-YL-3144 ALARM ON red indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is ILLUMINATED (ON).
- 5.4.6.7 Audible horn (located at the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) has been SILENCED.
- 5.4.6.8 Vacuum sample pump has STOPPED.
- 5.4.6.9 COMMON FAULT ALARM red indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is ILLUMINATED (ON).
- 5.4.7 OPEN valve V-3191 (located at 241-SY EF 3102 EXHAUSTER, in Stack Monitoring cabinet VTP-PNL-3104).
- 5.4.8 PUSH the BETA FAILURE SHUTDOWN RELAY button (located at 241-SY EF 3102 EXHAUSTER, in Stack Monitoring cabinet VTP-PNL-3104).

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.4 STACK SAMPLER (BETA MONITOR) FAILURE SHUTDOWN CHECK (Continued)

**NOTE** - Other alarms may have annunciated and indicated by the VTP-R-3101 SAMP SYS PROCESS RECORDER. Disregard the alarms at this time.

5.4.9 **ACKNOWLEDGE** the Stack Monitor alarms by **PERFORMING** the following:

5.4.9.1 **PRESS** the HOME ( $\Delta$ ) key on the VTP-R-3101 SAMP SYS PROCESS RECORDER keypad several times until the bottom of the display presents the top level menu, as shown:

[Operator: Select a category]				
DISPLAY	CHART	ALARM	CHANNEL	MORE

5.4.9.2 **PRESS** the softkey under the displayed word "ALARM" (this will change the display).

5.4.9.3 **VERIFY** that the top line of the display indicates a 10 (underlined in red) as shown.

I/P CHANS <u>10</u> ,				
OLDEST	NEWEST	ACK	CHANNEL	MORE

5.4.9.4 **PRESS** the softkey under the displayed word "ACK".

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.4 STACK SAMPLER (BETA MONITOR) FAILURE SHUTDOWN CHECK (Continued)

5.4.9.5 **VERIFY** that the top line of the display indicates a 10 (underlined in green) as shown.

I/P CHANS <u>10</u> ,				
OLDEST	NEWEST	ACK	CHANNEL	MORE

5.4.10 **DEPRESS** the yellow HORN ALARM BYPASS button (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).

5.4.11 **PRESS** the VTP-PB-3141 ALARM RESET red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103).

5.4.12 **VERIFY** 241-SY EF 3102 EXHAUSTER Fan is **OPERATING (ON)**.

5.4.13 **PRESS** the VTP-PB-3141 ALARM RESET red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103).

5.4.14 **VERIFY** the following:

5.4.14.1 VTP-YL-3151 P-3101 ON green indicating light or VTP-YL-3152 P-3102 ON green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is **ILLUMINATED (ON)**.

5.4.14.2 VTP-YL-3113A STACK SAMPLER OK green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is **ILLUMINATED (ON)**.

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.4 STACK SAMPLER (BETA MONITOR) FAILURE SHUTDOWN CHECK (Continued)

- 5.4.14.3 VTP-YL-3113B STACK SAMPLER - OK green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is **ILLUMINATED (ON)**.
- 5.4.14.4 VTP-XA-3113 SHUTDOWN yellow indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103 directly under VTP-YL-3113A STACK SAMPLER OK green indicating light) is **NOT ILLUMINATED (OFF)**.
- 5.4.14.5 VTP-XA-3147 SYSTEM SHUTDOWN yellow indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is **NOT ILLUMINATED (OFF)**.
- 5.4.14.6 VTP-YL-3144 ALARM ON red indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is **NOT ILLUMINATED (OFF)**.
- 5.4.15 **OPEN** the BETA REMOTE HEAD door (located in the 241-SY EF 3102 EXHAUSTER Stack Monitoring Station).
- 5.4.16 **WHEN** VTP-FIC-3103 BETA SAMP FLO CNTRL (one of the MASSTRON instruments) **INDICATES** zero (no flow) **THEN VERIFY** the following:
- 5.4.16.1 Alarm cabinet (VTP-PNL-3103) Horn is **SOUNDING**.
- 5.4.16.2 **PRESS** the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PB-3142 ALARM SILENCE red button and **SILENCE** the alarm cabinet horn.
- 5.4.16.3 Stack Monitoring cabinet (VTP-PNL-3104) Horn is **SOUNDING**.

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.4 STACK SAMPLER (BETA MONITOR) FAILURE SHUTDOWN CHECK (Continued)

5.4.16.4 PRESS the yellow HORN ALARM BYPASS button (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).

5.4.16.5 Stack Monitoring cabinet VTP-PNL-3104 amber beacon (located on the top of the cabinet) is ILLUMINATED.

5.4.16.6 VTP-MON-3102 BETA MONITOR (located in the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is DEENERGIZED (OFF).

5.4.17 VERIFY the following:

5.4.17.1 241-SY EF 3102 EXHAUSTER fan has STOPPED.

5.4.17.2 VTP-YL-3113A STACK SAMPLER OK green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is NOT ILLUMINATED (OFF).

5.4.17.3 VTP-YL-3113B STACK SAMPLER - OK green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is NOT ILLUMINATED (OFF).

5.4.17.4 VTP-XA-3113 SHUTDOWN yellow indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103 directly under VTP-YL-3113A STACK SAMPLER OK green indicating light) is ILLUMINATED (ON).

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.4 STACK SAMPLER (BETA MONITOR) FAILURE SHUTDOWN CHECK (Continued)

- 5.4.17.5 VTP-XA-3147 SYSTEM SHUTDOWN yellow indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is **ILLUMINATED (ON)**.
- 5.4.17.6 VTP-YL-3144 ALARM ON red indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is **ILLUMINATED (ON)**.
- 5.4.17.7 Audible horn (located at the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) has been **SILENCED**.
- 5.4.17.8 Vacuum sample pump has **STOPPED**.
- 5.4.17.9 COMMON FAULT ALARM red indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is **ILLUMINATED (ON)**.
- 5.4.18 **CLOSE** the BETA REMOTE HEAD door (located at 241-SY EF 3102 EXHAUSTER, in Stack Monitoring Station).
- 5.4.19 **PUSH** the BETA FAILURE SHUTDOWN RELAY button (located at 241-SY EF 3102 EXHAUSTER, in Stack Monitoring cabinet VTP-PNL-3104).

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.4 STACK SAMPLER (BETA MONITOR) FAILURE SHUTDOWN CHECK (Continued)

**NOTE** - Other alarms may have annunciated and indicated by the VTP-R-3101 SAMP SYS PROCESS RECORDER. Disregard the alarms at this time.

5.4.20 **ACKNOWLEDGE** the Stack Monitor alarms by **PERFORMING** the following:

5.4.20.1 **PRESS** the HOME ( $\Delta$ ) key on the VTP-R-3101 SAMP SYS PROCESS RECORDER keypad several times until the bottom of the display presents the top level menu, as shown:

[Operator: Select a category]				
DISPLAY	CHART	ALARM	CHANNEL	MORE



5.4.20.2 **PRESS** the softkey under the displayed word "ALARM" (this will change the display).



5.4.20.3 **VERIFY** that the top line of the display indicates a 10 (underlined in red) as shown.

I/P CHANS <u>10</u> ,				
OLDEST	NEWEST	ACK	CHANNEL	MORE



5.4.20.4 **PRESS** the softkey under the displayed word "ACK".



# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.4 STACK SAMPLER (BETA MONITOR) FAILURE SHUTDOWN CHECK (Continued)

5.4.20.5 **VERIFY** that the top line of the display indicates a 10 (underlined in green) as shown.

I/P CHANS <u>10</u> ,				
OLDEST	NEWEST	ACK	CHANNEL	MORE

5.4.21 **DEPRESS** the yellow HORN ALARM BYPASS button (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).

5.4.22 **PRESS** the VTP-PB-3141 ALARM RESET red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103).

5.4.23 **VERIFY** 241-SY EF 3102 EXHAUSTER Fan is **OPERATING (ON)**.

5.4.24 **PRESS** the VTP-PB-3141 ALARM RESET red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103).

5.4.25 **VERIFY** the following:

5.4.25.1 VTP-YL-3151 P-3101 ON green indicating light or VTP-YL-3152 P-3102 ON green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is **ILLUMINATED (ON)**.

5.4.25.2 VTP-YL-3113A STACK SAMPLER OK green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is **ILLUMINATED (ON)**.

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.4 STACK SAMPLER (BETA MONITOR) FAILURE SHUTDOWN CHECK (Continued)

5.4.25.3 VTP-YL-3113B STACK SAMPLER - OK green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is **ILLUMINATED (ON)**.

5.4.25.4 VTP-XA-3113 SHUTDOWN yellow indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103 directly under VTP-YL-3113A STACK SAMPLER OK green indicating light) is **NOT ILLUMINATED (OFF)**.

5.4.25.5 VTP-XA-3147 SYSTEM SHUTDOWN yellow indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is **NOT ILLUMINATED (OFF)**.

5.4.25.6 VTP-YL-3144 ALARM ON red indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is **NOT ILLUMINATED (OFF)**.

5.4.26 Test Director **SHALL VERIFY** that section 5.4 is **COMPLETE** by **SIGNING** below.

\_\_\_\_\_  
Test Director Signature

\_\_\_\_\_  
Date

5.4.27 QC Inspector **SHALL VERIFY** that section 5.4 is **COMPLETE** by **SIGNING** below.

\_\_\_\_\_  
QC Inspector Signature

\_\_\_\_\_  
Date

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.5 VACUUM SAMPLING SYSTEM CHECK

- 5.5.1 **VERIFY** VTP-YL-3151 P-3101 ON green light is **ILLUMINATED** (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).
- 5.5.2 **IF** VTP-YL-3151 P-3101 ON green light is **NOT ILLUMINATED THEN PRESS** VTP-PB-3102 PUMP SWAP yellow button (both are located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).
- 5.5.3 **ENSURE** that vacuum sample pump, VTP-P-3102 SAMP PMP, has **STOPPED BY VERIFYING** that the green PUMP 2 ON indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is **NOT ILLUMINATED (OFF)**.
- NOTE** - The switch over from vacuum sample pump VTP-P-3102 SAMP PMP to vacuum sample pump VTP-P-3101 SAMP PMP should occur automatically.
- 5.5.4 **ENSURE** that vacuum sample pump, VTP-P-3101 SAMP PMP, has **STARTED BY VERIFYING** that the green VTP-YL-3151 P-3101 ON indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is **ILLUMINATED (ON)**.
- 5.5.5 **VERIFY** the following:
- 5.5.5.1 241-SY EF 3102 Exhauster fan has **NOT SHUTDOWN**.
- 5.5.5.2 VTP-YL-3150 P-3101 ON LEAD green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is **ILLUMINATED (ON)**.
- 5.5.5.3 **COMMON FAULT** red indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is **NOT ILLUMINATED (OFF)**.

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.5 VACUUM SAMPLING SYSTEM CHECK (Continued)

**NOTE** - The switch over from vacuum sample pump VTP-P-3101 SAMP PMP to vacuum sample pump VTP-P-3102 SAMP PMP should occur automatically.

5.5.6 **PRESS** VTP-PB-3102 PUMP SWAP yellow button (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).

5.5.7 **VERIFY** VTP-YL-3152 P-3102 ON green light is **ILLUMINATED** (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).

5.5.8 **ENSURE** that vacuum sample pump, VTP-P-3101 SAMP PMP, has **STOPPED BY VERIFYING** that the green VTP-YL-3151 P-3101 ON indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is **NOT ILLUMINATED (OFF)**.

**NOTE** - The switch over from vacuum sample pump VTP-P-3102 SAMP PMP to vacuum sample pump VTP-P-3101 SAMP PMP should occur automatically.

5.5.9 **PRESS** VTP-PB-3102 PUMP SWAP yellow button (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).

5.5.10 **VERIFY** VTP-YL-3151 P-3101 ON green light is **ILLUMINATED** (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).

5.5.11 **ENSURE** that vacuum sample pump, VTP-P-3102 SAMP PMP, has **STOPPED BY VERIFYING** that the green VTP-YL-3152 P-3102 ON indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is **NOT ILLUMINATED (OFF)**.

5.5.12 **CLOSE** valve V-3101T (located in 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.5 VACUUM SAMPLING SYSTEM CHECK (Continued)

5.5.13 REMOVE cap on calibration port located next to valve V-3101T (located in 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).

**NOTE** - The switch over from vacuum sampling pump VTP-P-3101 SAMP PMP to vacuum sampling pump VTP-P-3102 SAMP PMP should occur automatically.

5.5.14 ENSURE that vacuum sampling pump VTP-P-3102 SAMP PMP has **STARTED BY VERIFYING** that the green VTP-YL-3152 P-3102 ON indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is **ILLUMINATED**.

5.5.15 VERIFY 241-SY EF 3102 EXHAUSTER fan is still OPERATING.

5.5.16 REPLACE the cap on the calibration port next to valve V-3101T (located in 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).

5.5.17 OPEN valve V-3101T (located in 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).

5.5.18 PRESS VTP-PB-3102 PUMP SWAP yellow button (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).

5.5.19 VERIFY VTP-YL-3151 P-3101 LEAD ON green light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is **NOT ILLUMINATED**.

5.5.20 CLOSE valve V-3102T (located in 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.5 VACUUM SAMPLING SYSTEM CHECK (Continued)

5.5.21 REMOVE cap on calibration port next to valve V-3102T (located in 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).

**NOTE** - The switch over from vacuum sample pump VTP-P-3102 SAMP PMP to vacuum sample pump VTP-P-3101 SAMP PMP will occur automatically.

5.5.22 VERIFY that vacuum sample pump VTP-P-3101 SAMP PMP has **STARTED BY VERIFYING** that VTP-YL-3151 P-3101 ON green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is **ILLUMINATED**.

5.5.23 VERIFY 241-SY EF 3102 EXHAUSTER fan is still **OPERATING**.

5.5.24 CLOSE valve V-3101T (located in 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).

5.5.25 REMOVE cap on calibration port located next to valve V-3101T (located in 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).

5.5.26 VERIFY 241-SY EF 3102 EXHAUSTER fan **SHUTS DOWN** within thirty (30) seconds.

5.5.27 **ACKNOWLEDGE** all alarms.

5.5.28 REPLACE caps on calibration ports next to valves V-3101T and V-3102T (located in 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.5 VACUUM SAMPLING SYSTEM CHECK (Continued)

- 5.5.29 OPEN valve V-3102T (located in 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).
- 5.5.30 OPEN valve V-3101T (located in 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).
- 5.5.31 PRESS VTP-HS-3101 PUMP START/STOP red button (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).
- 5.5.32 VERIFY VTP-YL-3150 P-3101 LEAD ON green light (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is ILLUMINATED.
- 5.5.33 IF VTP-YL-3151 P-3101 ON green light is NOT ILLUMINATED THEN PRESS VTP-PB-3102 PUMP SWAP yellow button (both are located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104).
- 5.5.34 Test Director SHALL VERIFY that section 5.5 is COMPLETE by SIGNING below.

\_\_\_\_\_  
Test Director Signature

\_\_\_\_\_  
Date

- 5.5.35 QC Inspector SHALL VERIFY that section 5.5 is COMPLETE by SIGNING below.

\_\_\_\_\_  
QC Inspector Signature

\_\_\_\_\_  
Date

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.6 INTERLOCK CHECK

- 5.6.1 POSITION BETA FAILURE BYPASS SWITCH to BYPASS (located in the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) .
- 5.6.2 CLOSE HEPA 1 valves V-3180A and V-3180B.
- 5.6.3 PRESS VTP-HS-3118 HORN ALARM BYPASS button (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is ILLUMINATED.
- 5.6.4 PRESS VTP-HS-3117 BELL ALARM BYPASS button (located on the door of the 241-SY EF 3102 EXHAUSTER Stack Monitoring cabinet VTP-PNL-3104) is ILLUMINATED.
- 5.6.5 REMOVE cap from the high calibration port (located next to valve V-3180A).
- 5.6.6 REMOVE cap from the low calibration port (located next to valve V-3180B).
- 5.6.7 CONNECT pressure source to the high calibration port (located next to valve V-3180A).
- 5.6.8 SET pressure source pressure to  $2.5 \pm 0.5$  in wg.
- 5.6.9 PRESS the VTP-PB-3141 ALARM RESET red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103).
- 5.6.10 WAIT for the 241-SY EF 3102 EXHAUSTER fan to come up to speed.

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.6 INTERLOCK CHECK (Continued)

- 5.6.11 PRESS the VTP-PB-3141 ALARM RESET red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103).
- 5.6.12 SET pressure source pressure to approximately 4.0 in wg.
- 5.6.13 VERIFY that the Alarm Cabinet Horn (located on top of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) ANNUNCIATES.
- 5.6.14 PRESS the VTP-PB-3142 ALARM SILENCE red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) and SILENCE the alarm cabinet horn.
- 5.6.15 SET pressure source pressure to approximately 4.5 in wg.
- 5.6.16 VERIFY that 241-SY EF 3102 EXHAUSTER fan has SHUTDOWN.
- 5.6.17 VERIFY VTP-PDAHH-3104C HEPA 1 SHUTDOWN yellow indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is ILLUMINATED.
- 5.6.18 DISCONNECT pressure source from the high calibration port (located next to valve V-3180A).
- 5.6.19 REPLACE cap on the high calibration port (located next to valve V-3180A).
- 5.6.20 REPLACE cap on the low calibration port (located next to valve V-3180B).
- 5.6.21 OPEN HEPA 1 valves V-3180A and V-3180B.

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.6 INTERLOCK CHECK (Continued)

- 5.6.22 CLOSE HEPA 2 valves V-3181A and V-3181B.
- 5.6.23 REMOVE cap on the high calibration port (located next to valve V-3181A).
- 5.6.24 REMOVE cap on the low calibration port (located next to valve V-3181B).
- 5.6.25 CONNECT pressure source to the high calibration port (located next to valve V-3181A).
- 5.6.26 SET pressure source pressure to approximately 2.0 in wg.
- 5.6.27 PRESS the VTP-PB-3141 ALARM RESET red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103).
- 5.6.28 WAIT for the 241-SY EF 3102 EXHAUSTER fan to come up to speed.
- 5.6.29 PRESS the VTP-PB-3141 ALARM RESET red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103).
- 5.6.30 VERIFY that 241-SY EF 3102 EXHAUSTER fan has RESTARTED.
- 5.6.31 SET pressure source pressure to approximately 4.0 in wg.
- 5.6.32 VERIFY that the Alarm Cabinet Horn (located on top of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) ANNUNCIATES.

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.6 INTERLOCK CHECK (Continued)

- 5.6.33 PRESS the VTP-PB-3142 ALARM SILENCE red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) and SILENCE the alarm cabinet horn.
- 5.6.34 SET pressure source pressure to approximately 4.5 in wg.
- 5.6.35 VERIFY that 241-SY EF 3102 EXHAUSTER fan has SHUTDOWN.
- 5.6.36 VERIFY VTP-PDAH-3106C HEPA 2 SHUTDOWN yellow indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is ILLUMINATED.
- 5.6.37 DISCONNECT pressure source from the high calibration port (located next to valve V-3181A).
- 5.6.38 REPLACE cap from the high calibration port (located next to valve V-3180A).
- 5.6.39 REPLACE cap from the low calibration port (located next to valve V-3180B).
- 5.6.40 OPEN valves HEPA 2 V-3181A and V-3181B.
- 5.6.41 CLOSE valves V-3106A and V-3176.
- 5.6.42 REMOVE cap from the high calibration port (located next to valve V-3106A).
- 5.6.43 REMOVE cap from the low calibration port (located next to valve V-3176).

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.6 INTERLOCK CHECK (Continued)

- 5.6.44 CONNECT pressure source to the high calibration port (located next to valve V-3106A).
- 5.6.45 SET pressure source pressure to approximately 2.0 in wg.
- 5.6.46 PRESS the VTP-PB-3141 ALARM RESET red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103).
- 5.6.47 WAIT for the 241-SY EF 3102 EXHAUSTER fan to come up to speed.
- 5.6.48 PRESS the VTP-PB-3141 ALARM RESET red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103).
- 5.6.49 VERIFY that 241-SY EF 3102 EXHAUSTER fan has RESTARTED.
- 5.6.50 SET pressure source pressure to approximately 4.5 in wg.
- 5.6.51 VERIFY that the Alarm Cabinet Horn (located on top of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) ANNUNCIATES.
- 5.6.52 PRESS the VTP-PB-3142 ALARM SILENCE red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) and SILENCE the alarm cabinet horn.
- 5.6.53 SET pressure source pressure to approximately 5.9 in wg.
- 5.6.54 VERIFY that 241-SY EF 3102 EXHAUSTER fan has SHUTDOWN.

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.6 INTERLOCK CHECK (Continued)

- 5.6.55 **VERIFY** VTP-PAHH-3112C SYSTEM INLET SHUTDOWN yellow indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is **ILLUMINATED**.
- 5.6.56 **DISCONNECT** pressure source from the high calibration port (located next to valve V-3106A).
- 5.6.57 **REPLACE** cap from the high calibration port (located next to valve V-3106A).
- 5.6.58 **REPLACE** cap from the low calibration port (located next to valve V-3176).
- 5.6.59 **OPEN** valves V-3176 and V-3106A.
- 5.6.60 **CLOSE** valves V-3178A and V-3178B.
- 5.6.61 **REMOVE** cap from the high calibration port (located next to valve V-3178A).
- 5.6.62 **REMOVE** cap from the low calibration port (located next to valve V-3178B).
- 5.6.63 **CONNECT** pressure source to the high calibration port (located next to valve V-3178A).
- 5.6.64 **SET** pressure source pressure to approximately 2.0 in wg.
- 5.6.65 **PRESS** the VTP-PB-3141 ALARM RESET red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103).

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.6 INTERLOCK CHECK (Continued)

- 5.6.66 WAIT for the 241-SY EF 3102 EXHAUSTER fan to come up to speed.
- 5.6.67 PRESS the VTP-PB-3141 ALARM RESET red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103).
- 5.6.68 VERIFY that 241-SY EF 3102 EXHAUSTER fan has RESTARTED.
- 5.6.69 SET pressure source pressure to approximately 4.5 in wg.
- 5.6.70 VERIFY that the Alarm Cabinet Horn (located on top of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) ANNUNCIATES.
- 5.6.71 PRESS the VTP-PB-3142 ALARM SILENCE red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) and SILENCE the alarm cabinet horn.
- 5.6.72 SET pressure source pressure to approximately 5.9 in wg.
- 5.6.73 VERIFY that 241-SY EF 3102 EXHAUSTER fan has SHUTDOWN.
- 5.6.74 VERIFY VTP-PDAH-3110B SYSTEM SHUTDOWN yellow indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is ILLUMINATED.
- 5.6.75 DISCONNECT pressure source from the high calibration port (located next to valve V-3178A).

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.6 INTERLOCK CHECK (Continued)

- 5.6.76 REPLACE cap from the high calibration port (located next to valve V-3178A).
- 5.6.77 REPLACE cap from the low calibration port (located next to valve V-3178B).
- 5.6.78 OPEN valves V-3178A and V-3178B.
- 5.6.79 PRESS the VTP-PB-3141 ALARM RESET red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103).
- 5.6.80 WAIT for the 241-SY EF 3102 EXHAUSTER fan to come up to speed.
- 5.6.81 PRESS the VTP-PB-3141 ALARM RESET red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103).
- 5.6.82 PRESS VTP-HS-3145 EMERGENCY STOP red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103).
- 5.6.83 VERIFY the 241-SY EF 3102 EXHAUSTER fan has STOPPED.
- 5.6.84 PULL VTP-HS-3145 EMERGENCY STOP red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) BACK OUT.
- 5.6.85 Test Director SHALL VERIFY that section 5.6 is COMPLETE by SIGNING below.

\_\_\_\_\_  
Test Director Signature

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Date

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# TANK FARM PLANT OPERATIONS PROCEDURE

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## 5.6 INTERLOCK CHECK (Continued)

5.6.86 QC Inspector SHALL VERIFY that section 5.6 is COMPLETE by SIGNING below.

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QC Inspector Signature

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Date

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.7 HEATER CHECK

### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

5.7.1 **POSITION** 480V circuit breaker #13 K1A DUCT HEATER (located at 241-SY EF 3102 EXHAUSTER on panelboard EDS-DP-3107) to **OFF**.

5.7.2 **OPEN** cabinet VTP-PNL-3102 DUCT HEATER CONTROL PANEL.

5.7.3 **CONNECT** a voltmeter to terminals H1 and H2 (located in cabinet VTP-PNL-3102 DUCT HEATER CONTROL PANEL of the 241-SY EF 3102 EXHAUSTER).

**NOTE** - If necessary, use pliers to close DISCONNECT switch DS-1.

5.7.4 **CLOSE** DISCONNECT switch DS-1 (located on the door of cabinet VTP-PNL-3102 DUCT HEATER CONTROL PANEL of the 241-SY EF 3102 EXHAUSTER).

### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

5.7.5 **POSITION** 480V circuit breaker #13 K1A DUCT HEATER (located at 241-SY EF 3102 EXHAUSTER on panelboard EDS-DP-3107) to **ON**.

**NOTE** - The period of one cycle is four (4) seconds.

5.7.6 **OBSERVE** voltmeter for the **CYCLING** of voltage from 0V to 480V.

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# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.7 HEATER CHECK (Continued)

5.7.7 POSITION VTP-HS-3146 FAN START switch (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) to OFF.

5.7.8 PRESS the VTP-PB-3142 ALARM SILENCE red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) and SILENCE the alarm cabinet horn.

5.7.9 VERIFY voltmeter continuously INDICATES 0V.

5.7.10 POSITION VTP-HS-3146 FAN START switch (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) to ON.

NOTE - The period of one cycle is four (4) seconds.

5.7.11 OBSERVE voltmeter for the CYCLING of voltage from 0V to 480V.

### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

5.7.12 POSITION 480V circuit breaker #13 K1A DUCT HEATER (located at 241-SY EF 3102 EXHAUSTER on panelboard EDS-DP-3107) to OFF.

5.7.13 DISCONNECT field wiring from terminals B3 and B4 for thermocouple VTP-TE-3102 VTP-TC-3102 TEMP ELEM (located in cabinet VTP-PNL-3102 DUCT HEATER CONTROL PANEL of the 241-SY EF 3102 EXHAUSTER).

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.7 HEATER CHECK (Continued)

5.7.14 **CONNECT** Thermocouple Simulator to terminals B3 and B4 (located in cabinet VTP-PNL-3102 DUCT HEATER CONTROL PANEL of the 241-SY EF 3102 EXHAUSTER).

5.7.15 **SET** Thermocouple Simulator to 120°F.

### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

5.7.16 **POSITION** 480V circuit breaker #13 K1A DUCT HEATER (located at 241-SY EF 3102 EXHAUSTER on panelboard EDS-DP-3107) to **ON**.

5.7.17 **VERIFY** heater **OPERATES** by **OBSERVING** the voltmeter for the **CYCLING** of voltage from 0V to 480V.

5.7.18 **SET** Thermocouple Simulator to 165°F.

5.7.19 **VERIFY** heater **PRODUCES** a continuous reading of 0V.

5.7.20 **SET** Thermocouple Simulator to 120°F.

5.7.21 **VERIFY** heater **OPERATES** by **OBSERVING** the voltmeter for the **CYCLING** of voltage from 0V to 480V.

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.7 HEATER CHECK (Continued)

### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

- 5.7.22 **POSITION** 480V circuit breaker #13 K1A DUCT HEATER (located at 241-SY EF 3102 EXHAUSTER on panelboard EDS-DP-3107) to **OFF**.
- 5.7.23 **DISCONNECT** Thermocouple Simulator from terminals B3 and B4 (located in cabinet VTP-PNL-3102 DUCT HEATER CONTROL PANEL of the 241-SY EF 3102 EXHAUSTER).
- 5.7.24 **RECONNECT** field wiring to terminals B3 and B4 for thermocouple VTP-TE-3102 VTP-TC-3102 TEMP ELEM (located in cabinet VTP-PNL-3102 DUCT HEATER CONTROL PANEL of the 241-SY EF 3102 EXHAUSTER).
- 5.7.25 **DISCONNECT** field wiring from terminals B1 and B2 for thermocouple VTP-TE-3101 VTP-TC-3101 TEMP ELEM (located in cabinet VTP-PNL-3102 DUCT HEATER CONTROL PANEL of the 241-SY EF 3102 EXHAUSTER).
- 5.7.26 **CONNECT** Thermocouple Simulator to terminals B1 and B2 (located in cabinet VTP-PNL-3102 DUCT HEATER CONTROL PANEL of the 241-SY EF 3102 EXHAUSTER).
- 5.7.27 **SET** Thermocouple Simulator to 120°F.

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.7 HEATER CHECK (Continued)

### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

- 5.7.28 POSITION 480V circuit breaker #13 KIA DUCT HEATER (located at 241-SY EF 3102 EXHAUSTER on panelboard EDS-DP-3107) to ON.
- 5.7.29 VERIFY heater OPERATES by OBSERVING the voltmeter for the CYCLING of voltage from 0V to 480V.
- 5.7.30 SET Thermocouple Simulator to 200°F.
- 5.7.31 VERIFY heater PRODUCES a continuous reading of 0V.
- 5.7.32 SET Thermocouple Simulator to 120°F.
- 5.7.33 VERIFY heater PRODUCES a continuous reading of 0V.

### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

- 5.7.34 PRESS the reset button on VTP-TC-3101 HTR-3101 TEMP CNTRL (located in cabinet VTP-PNL-3102 DUCT HEATER CONTROL PANEL of the 241-SY EF 3102 EXHAUSTER).
- 5.7.35 VERIFY heater OPERATES by OBSERVING the voltmeter for the CYCLING of voltage from 0V to 480V.

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# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.7 HEATER CHECK (Continued)

### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

- 5.7.36 **POSITION** 480V circuit breaker #13 K1A DUCT HEATER (located at 241-SY EF 3102 EXHAUSTER on panelboard EDS-DP-3107) to **OFF**.
- 5.7.37 **DISCONNECT** Thermocouple Simulator from terminals B1 and B2 (located in cabinet VTP-PNL-3102 DUCT HEATER CONTROL PANEL of the 241-SY EF 3102 EXHAUSTER).
- 5.7.38 **RECONNECT** field wiring to terminals B1 and B2 for thermocouple VTP-TE-3102 VTP-TC-3102 TEMP ELEM (located in cabinet VTP-PNL-3102 DUCT HEATER CONTROL PANEL of the 241-SY EF 3102 EXHAUSTER).

### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

- 5.7.39 **POSITION** 120V circuit breaker #9 Press/Flow XMTR & Cont (located at 241-SY EF 3102 EXHAUSTER on panelboard EDS-DP-3108) to **OFF**.
- 5.7.40 **PRESS** the VTP-PB-3142 ALARM SILENCE red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) and **SILENCE** the alarm cabinet horn.

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.7 HEATER CHECK (Continued)

5.7.41 DISCONNECT VTP-FIC-3101 MASS FLO CNTRL wires, 91 and 92, from terminals 1A and 2A respectively (located in cabinet VTP-PNL-3102 DUCT HEATER CONTROL PANEL of the 241-SY EF 3102 EXHAUSTER).

5.7.42 CONNECT a 5V power source to VTP-FIC-3101 MASS FLO CNTRL wires 91 and 92 (located in cabinet VTP-PNL-3102 DUCT HEATER CONTROL PANEL of the 241-SY EF 3102 EXHAUSTER).

5.7.43 SET the 5V power source to four (4) volts.

### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

5.7.44 POSITION 120V circuit breaker #9 Press/Flow XMTR & Cont (located at 241-SY EF 3102 EXHAUSTER on panelboard EDS-DP-3108) to ON.

### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS:

5.7.45 POSITION 480V circuit breaker #13 K1A DUCT HEATER (located at 241-SY EF 3102 EXHAUSTER on panelboard EDS-DP-3107) to ON.

5.7.46 PRESS the VTP-PB-3141 ALARM RESET red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103).

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.7 HEATER CHECK (Continued)

- 5.7.47 **VERIFY** 241-SY EF 3102 EXHAUSTER fan **STARTS AND ALLOW** it to come up to speed.
- 5.7.48 **PRESS** the VTP-PB-3141 ALARM RESET red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103).
- 5.7.49 **SET** the 5V power source to three (3) volts.
- 5.7.50 **VERIFY** that the alarm cabinet Horn **ANNUNCIATES** (located on top of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103).
- 5.7.51 **PRESS** the VTP-PB-3142 ALARM SILENCE red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) and **SILENCE** the alarm cabinet horn.
- 5.7.52 **VERIFY** that VTP-FAL-3103 LOW STACK FLOW red indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is **ILLUMINATED**.
- 5.7.53 **VERIFY** that VTP-YL-3103C STACK FLOW OK green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is **NOT ILLUMINATED**.
- 5.7.54 **VERIFY** heater **PRODUCES** a continuous reading of 0V.
- 5.7.55 **SET** the 5V power source to four (4) volts.
- 5.7.56 **VERIFY** that VTP-FAL-3103 LOW STACK FLOW red indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is **NOT ILLUMINATED**.

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.7 HEATER CHECK (Continued)

- 5.7.57 **VERIFY** that VTP-YL-3103C STACK FLOW OK green indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is **ILLUMINATED**.
- 5.7.58 **PRESS** the VTP-PB-3141 ALARM RESET red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103).
- 5.7.59 **VERIFY** that VTP-YL-3144 ALARM ON red indicating light (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) is **NOT ILLUMINATED**.
- 5.7.60 **VERIFY** heater **OPERATES** by **OBSERVING** the voltmeter for the **CYCLING** of voltage from 0V to 480V.

### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

- 5.7.61 **POSITION** 120V circuit breaker #9 Press/Flow XMTR & Cont (located at 241-SY EF 3102 EXHAUSTER on panelboard EDS-DP-3108) to **OFF**.
- 5.7.62 **DISCONNECT** the 5V power source from VTP-FIC-3101 MASS FLO CNTRL wires 91 and 92 (located in cabinet VTP-PNL-3102 DUCT HEATER CONTROL PANEL of the 241-SY EF 3102 EXHAUSTER).
- 5.7.63 **RECONNECT** VTP-FIC-3101 MASS FLO CNTRL wires, 91 and 92, to terminals 1A and 2A respectively (located in cabinet VTP-PNL-3102 DUCT HEATER CONTROL PANEL of the 241-SY EF 3102 EXHAUSTER).

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.7 HEATER CHECK (Continued)

### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

- 5.7.64 **POSITION** 120V circuit breaker #9 Press/Flow XMTR & Cont (located at 241-SY EF 3102 EXHAUSTER on panelboard EDS-DP-3108) to **ON**.



### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

- 5.7.65 **POSITION** 480V circuit breaker #13 K1A DUCT HEATER (located at 241-SY EF 3102 EXHAUSTER on panelboard EDS-DP-3107) to **OFF**.



- 5.7.66 **DISCONNECT** the voltmeter from terminals H1 and H2 (located in cabinet VTP-PNL-3102 DUCT HEATER CONTROL PANEL of the 241-SY EF 3102 EXHAUSTER).



**NOTE** - If necessary, use pliers to open **DISCONNECT** switch DS-1.

- 5.7.67 **OPEN** **DISCONNECT** switch DS-1 (located on the door of cabinet VTP-PNL-3102 DUCT HEATER CONTROL PANEL of the 241-SY EF 3102 EXHAUSTER).



- 5.7.68 **CLOSE** the door of cabinet VTP-PNL-3102 DUCT HEATER CONTROL PANEL.



# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.7 HEATER CHECK (Continued)

### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

- 5.7.69 POSITION 480V circuit breaker #13 K1A DUCT HEATER (located at 241-SY EF 3102 EXHAUSTER on panelboard EDS-DP-3107) to ON.

NOTE - If necessary, use pliers to close DISCONNECT switch DS-1.

- 5.7.70 CLOSE DISCONNECT switch DS-1 (located on the door of cabinet VTP-PNL-3102 DUCT HEATER CONTROL PANEL of the 241-SY EF 3102 EXHAUSTER).

- 5.7.71 DEPRESS the yellow VTP-HS-3118 HORN ALARM BYPASS button.

- 5.7.72 DEPRESS the yellow VTP-HS-3117 BELL ALARM BYPASS button.

### WARNING

Energized circuits and leads are contained inside the cabinet. Observe appropriate electrical precautions. Comply with WHC-CM-4-3, Vol I Section E-2, ELECTRICAL HAZARDS.

- 5.7.73 PLACE the BETA FAILURE BYPASS SWITCH in the NORMAL position.

- 5.7.74 POSITION 480V circuit breaker #13 K1A DUCT HEATER (located at 241-SY EF 3102 EXHAUSTER on panelboard EDS-DP-3107) to ON.

- 5.7.75 Test Director SHALL VERIFY that section 5.7 is COMPLETE by SIGNING below.

\_\_\_\_\_  
Test Director Signature

\_\_\_\_\_  
Date

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# TANK FARM PLANT OPERATIONS PROCEDURE

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## 5.7 HEATER CHECK (Continued)

5.7.76 QC Inspector SHALL VERIFY that section 5.7 is COMPLETE by SIGNING below.

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QC Inspector Signature

\_\_\_\_\_  
Date

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.8 FLOW RATE CHECK

- 5.8.1 **BEFORE** beginning flow rate check or aerosol (DOP) test, **BOND** all applicable equipment per Maintenance Procedure 6-TF-160, "ELECTRICAL BONDING FOR VENT AND BALANCE TESTS", REV. 0, CHG A.
- 5.8.2 **CONDUCT** an in-place aerosol (DOP) test on the 241-SY EF 3102 HEPA filters by **PERFORMING** Maintenance Procedure 6-TF-156, "HEPA FILTER IN-PLACE LEAK TEST (AEROSOL TEST)", REV. 0, CHG 0.
- 5.8.3 **RECORD** data on Maintenance Procedure 6-TF-156-TQ, "241-SY 296-S-25 TANK EXHAUSTER HEPA FILTER AEROSOL TEST DATA SHEETS", REV. 0, CHG A.
- 5.8.4 **POSITION** the VTP-HS-3146 FAN START switch to **OFF**.
- 5.8.5 **OPEN** Circuit Breaker K1A EXHAUSTER PANEL EDS-DP-3107 located on compartment 7FE of MCC-HMT in 241-SY-272.
- 5.8.6 **LOCK AND TAG** Circuit Breaker K1A EXHAUSTER PANEL EDS-DP-3107 located on compartment 7FE of MCC-HMT in 241-SY-272.
- 5.8.7 **DISCONNECT** the Inlet Test Assembly, from then 241-SY EF 3102 EXHAUSTER, per work package 2W-94-01005/M.
- 5.8.8 **CONNECT** the 241-SY EF 3102 EXHAUSTER to the 241-SY Tank Farm Exhauster System, per work package 2W-94-01005/M.
- 5.8.9 **VERIFY** that work packages 2W-94-01004/M and 2W-94-01005/M, for the installation of the 241-SY EF3102 EXHAUSTER, have been **COMPLETED**.

QC Inspector Signature \_\_\_\_\_

Date \_\_\_\_\_

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# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.8 FLOW RATE CHECK (Continued)

- 5.8.10 REMOVE LOCK AND TAG from Circuit Breaker K1A EXHAUSTER PANEL EDS-DP-3107 located on compartment 7FE of MCC-HMT in 241-SY-272.
- 5.8.11 CLOSE Circuit Breaker K1A EXHAUSTER PANEL EDS-DP-3107 located on compartment 7FE of MCC-HMT in 241-SY-272.
- 5.8.12 STARTUP 241-SY EF 3102 EXHAUSTER per procedure TO-060-230, OPERATE PRIMARY VENTILATION SYSTEM FOR 241-SY TANK FARM, REV. E-0.
- 5.8.13 CONDUCT an in-place aerosol test on the 241-SY EF 3102 HEPA filters by PERFORMING Maintenance Procedure 6-TF-156, "HEPA FILTER IN-PLACE LEAK TEST (AEROSOL TEST)", REV. 0, CHG 0.
- 5.8.14 RECORD data on Maintenance Procedure 6-TF-156-TQ, "241-SY 296-S-25 TANK EXHAUSTER HEPA FILTER AEROSOL TEST DATA SHEETS", REV. 0, CHG A.
- 5.8.15 CONDUCT a flow rate check on the 241-SY EF 3102 Stack by PERFORMING Maintenance Procedure 6-TF-155, "AIR FLOW TEST FOR TANK FARM STACKS AND DUCTS", REV. 1, CHG 0.
- 5.8.16 RECORD data on Maintenance Procedure 6-TF-155-M, "241-SY TANK EXHAUSTER STACK 296-S-25 AIR FLOW TEST DATA SHEETS", REV. 1, CHG 0.
- 5.8.17 IF flow rate is GREATER THAN 1000 SCFM THEN PERFORM the following:
- 5.8.17.1 SHUTDOWN 241-SY EF 3102 EXHAUSTER per procedure TO-060-230, OPERATE PRIMARY VENTILATION SYSTEM FOR 241-SY TANK FARM, REV. E-0.
- 5.8.17.2 RESIZE 241-SY EF 3102 EXHAUSTER sheaves.

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.8 FLOW RATE CHECK (Continued)

- 5.8.17.3 **STARTUP** 241-SY EF 3102 EXHAUSTER per procedure TO-060-230, OPERATE PRIMARY VENTILATION SYSTEM FOR 241-SY TANK FARMS.
- 5.8.17.4 **REPERFORM** 241-SY EF 3102 EXHAUSTER flow rate check on the 241-SY EF 3102 Stack by **PERFORMING** Maintenance Procedure 6-TF-155, "AIR FLOW TEST FOR TANK FARM STACKS AND DUCTS", REV. 1, CHG 0.
- 5.8.17.5 **RECORD** data on Maintenance Procedure 6-TF-155-M, "241-SY TANK EXHAUSTER STACK 296-S-25 AIR FLOW TEST DATA SHEETS", REV. 1, CHG 0.
- 5.8.18 **IF** flow rate is still **GREATER THAN** 1000 SCFM THEN **REPERFORM** steps 5.8.16.1 through 5.8.16.5.
- 5.8.19 **PRESS** VTP-HS-3145 EMERGENCY STOP red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103).
- 5.8.20 **VERIFY** 241-SY PRIMARY EXHAUST SYSTEM MON FAILURE XA-EXH-K1-1 amber annunciator window #4-6, located on panel F in 242-S, is **ILLUMINATED**.
- 5.8.21 **PRESS** the **ACKNOWLEDGE** pushbutton on panel F in 242-S Instrument Bldg.
- 5.8.22 **VERIFY** 241-SY PRIMARY EXHAUST SYSTEM MON FAIL XA-EXH-K1-1 amber annunciator window, located on annunciator panel ANN-102 in Instrument Bldg. 241-SY-271, is **ILLUMINATED**.
- 5.8.23 **PRESS** the **ACKNOWLEDGE** pushbutton on panel ANN-102 in 241-SY-271.

# TANK FARM PLANT OPERATIONS PROCEDURE

## 5.8 FLOW RATE CHECK (Continued)

5.8.24 PULL VTP-HS-3145 EMERGENCY STOP red button (located on the door of the 241-SY EF 3102 EXHAUSTER alarm cabinet VTP-PNL-3103) BACK OUT.

5.8.25 SHUTDOWN 241-SY EF 3102 EXHAUSTER per procedure TO-060-230, OPERATE PRIMARY VENTILATION SYSTEM FOR 241-SY TANK FARM, REV. E-0.

5.8.26 STARTUP 241-SY EXHAUSTER K-1-4-1 or P-28 per procedure TO-060-230, OPERATE PRIMARY VENTILATION SYSTEM FOR 241-SY TANK FARMS.

5.8.27 Test Director SHALL VERIFY that section 5.8 is COMPLETE by SIGNING below.

\_\_\_\_\_  
Test Director Signature

\_\_\_\_\_  
Date

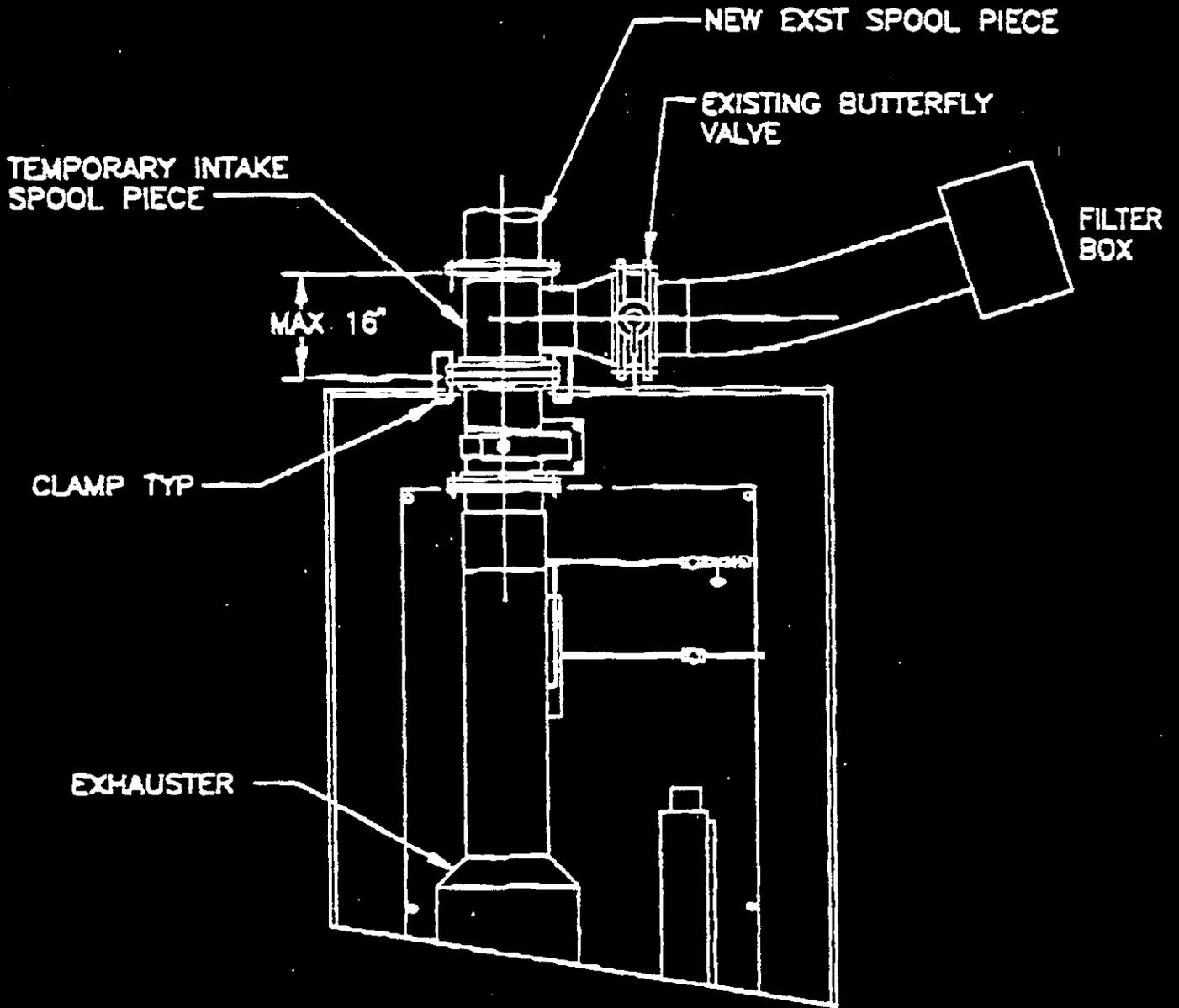
5.8.28 QC Inspector SHALL VERIFY that section 5.8 is COMPLETE by SIGNING below.

\_\_\_\_\_  
QC Inspector Signature

\_\_\_\_\_  
Date

# TANK FARM PLANT OPERATIONS PROCEDURE

FIGURE 1 - INLET TEST ASSEMBLY





# TANK FARM PLANT OPERATIONS PROCEDURE

## OTP EXCEPTION RECORD

This page may be reproduced as necessary.

OTP step number:	OTP Exception Log Number:
Description of Exception:	
Resolution of Exception:	
Date of Resolution:	
Test Director signature:	
Cognizant Engineer signature:	
Quality Assurance signature:	
Tank Farm Operations signature:	

# TANK FARM PLANT OPERATIONS PROCEDURE

## OTP ACCEPTANCE RECORD

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

---

Cognizant Engineer

Date

---

West Tank Farm Operations

Date

---

Safety

Date

---

Quality Control

Date

---

Test Director

Date

# TANK FARM PLANT OPERATIONS PROCEDURE

## PROCEDURE HISTORY SIGNATURE DATA

Procedure Signatures for WHC-SD-WM-OTP-189			TYPE OF CHANGE	IMPACT LEVEL
POSITION/ORG	DELEGATE	DATE	NEW	SQE
Cog Engineer				
Engineer				
Manager Stab/WTP0				
Manager FS/WTP0				
Engineer/TWRSQA				
Engineer/WTSS				
Engineer/WTSA				
Engineer/ALARA				
Engineering Writer				
Acceptance Review				
Approval Authority				