Primary and Annulus Exhauster Fan Quarterly Inspection and Bearing Monitoring

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Figure 1 - VIBRATION PEN
1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides instructions for obtaining and recording fan shaft bearings vibration and enveloped acceleration readings, run speeds and operating temperatures, and performs a visual and mechanical run test in compliance with applicable ASME code requirements. This data will help monitor and track general fan unit and bearing conditions.

Performance of this procedure was determined to fall under the scope of General Hazards Analysis (GHA).

1.2 Scope

This procedure is applicable to all double-shell tank primary and annulus ventilation exhaust unit bearings, and the AZ-702 Building exhauster unit’s bearings.

2.0 INFORMATION

2.1 General Information

2.1.1 ASME N511-2007 requires a mechanical run test, visual fan inspection and vibration test at least once quarterly. Test instruments used in the conduct of these tests must be calibrated in accordance with an ASME NQA-1 calibration program.

2.1.2 This procedure will be used in conjunction with applicable appendices for each exhauster unit.

2.1.3 To ensure consistent readings, the Vibration Pen must be placed in the same location each time a reading is taken. When taking readings, ensure that the probe or “stinger” is used in the same location or spot shown on the data sheets of the associated appendices.
3.0 PRECAUTIONS AND LIMITATIONS

3.1 Personnel Safety

3.1.1 If hearing protection is required per postings in accordance with TFC-ESHQ-S_IH-C-53, don proper hearing protection PPE.

3.1.2 Failure to use protective equipment when working on or near energized systems could result in serious injury. Job specific protective equipment requirements should be addressed during the pre-job brief and be in accordance with TFC-ESHQ-S_IS-C-02.

3.2 Radiation and Contamination Control

Work in radiological areas will be performed using a RWP following review by Radiological Control per ALARA Work Planning procedure, TFC-ESHQ-RP_RWP-C-03.

3.3 Environmental Protection

3.3.1 HPT coverage will be performed as specified in the Radiological Work Permit and/or Radiological Monitoring Plan.

3.3.2 Equipment with removable contamination and/or work with removable contamination will be contained per the latest revision of the Containment Selection guide, Attachment A, in TFC-ESHQ-RP_RWP-C-02.

3.3.3 If system is breached to exposed tank atmosphere, pre- and post-job surveys (smears) shall be taken. (see TFC-ESHQ-STD-C-06)
4.0 PREREQUISITES

4.1 Special Tools, Equipment and Supplies

NOTE - To minimize radioactive waste and future decontamination, only required items are necessary in contaminated areas.

The following supplies may be needed to perform this procedure:

- SKF CMAS 100-SL Machine Condition Advisor (Vibration Pen) with external accelerometer probe (M&TE)
- Fluke 568 handheld infrared thermometer (M&TE)
- Monarch 6204-013 Nova-Strobe handheld strobe tach (M&TE)
- Grease gun
- Mobolith SHC100; Shell Gadus S3 V220C 2: MSDS-SDS: 071111; Shell Gadus S2 V220 2: (MSDS-SDS: 071770).
- Clean wiping rags
- Other tools, equipment and supplies as identified by Shift Manager/OE/FWS/User.
4.2 Performance Documents

The following documents may be needed to perform this procedure:

- The applicable operating procedure for the component being inspected
- DOE-0336, Hanford Site Lockout/Tagout Program
- TFC-ESHQ-STD-C-06, Environmental Requirements Standard.
- 4-VT-110-ANA Appendix AN, Annulus Exhauster Fan Inspection and Bearing Monitoring Data Functions
- 4-VT-110-ANP Appendix AN, Primary Exhauster Fan Inspection and Bearing Monitoring Data Sheets Functions
- 4-VT-110-APP Appendix AP, Primary Exhauster Fan Inspection and Bearing Monitoring Data Functions
- 4-VT-110-AWA Appendix AW, Annulus Exhauster Fan Inspection and Bearing Monitoring Data Sheets Functions
- 4-VT-110-AWP Appendix AW, Primary Exhauster Fan Inspection and Bearing Monitoring Data Sheets Functions
- 4-VT-110-AYA Appendix AY, Annulus Exhauster Fan Inspection and Bearing Monitoring Data Sheets Functions
- 4-VT-110-AZA Appendix AZ, Annulus Exhauster Fan Inspection and Bearing Monitoring Data Functions
- 4-VT-110-AZK1 Appendix AZ-K1-5, Primary Exhauster Fan Inspection and Bearing Monitoring Data Sheets Functions
- 4-VT-110-SYA Appendix SY, Annulus Exhauster Fan Inspection and Bearing Monitoring Data Sheets Functions
- 4-VT-110-SYP Appendix SY, Primary Exhauster Fan Inspection and Bearing Monitoring Data Sheets
4.3 Field Preparation

NOTE - Battery should display a minimum of 3 green lights (75% charge remaining) or more at time of use.

4.3.1 CHECK battery for SKF CMAS 100-SL vibration pen has 75% or more charge prior to start.

4.3.1.1 IF battery charge is less than 75%, RECHARGE battery.

4.3.2 RECORD results on Data Sheet 3 and/or Data Sheet 6 of the applicable Appendix.

4.3.3 INSPECT SKF CMAS 100-SL Vibration Pen or “stinger” for loose or damaged cable AND

ENSURE probe tip is clean, free of damage and properly connected.

4.3.4 IF Lockout/Tagout was applied or is required, ENSURE lockout/tagout and overlocking requirements have been satisfied per DOE-0336, Hanford Site Lockout/Tagout Procedure.
5.0 PROCEDURE

Special Instructions

The subsections within Section 5.0 can be worked independently, concurrently, or in parallel with other sections as directed by the FWS with those directions recorded on work record or Comments Section of Data Sheet.

5.1 Perform A-Train Exhauster Mechanical Run Test

NOTE - The following run test supports ASME N511-2007, Section 5.2.4.1.

5.1.1 ENSURE fan to be inspected is in operable condition and has been running for at least 30 minutes.

5.1.2 OBSERVE fan operation at design flow for a minimum of 15 minutes.

5.1.3 RECORD stable system operation (no surging) on Data Sheet 1 of the Appendix.

5.1.4 IF fan operation is not stable, RECORD condition in the comments section of the Data Sheet 1.
5.2 Perform A-Train Exhauster Visual Inspection

NOTE The following inspection supports ASME N511-2007, Mandatory Appendix I, Section 1.2.

5.2.1 INSPECT fan housing and duct interfaces for damage and degradation AND RECORD results on Data Sheet 2 of the Appendix.

5.2.2 INSPECT fan inlet and outlet connections for damage and degradation AND RECORD results on Data Sheet 2 of the Appendix.

5.2.3 INSPECT lubricant levels (Memo lube grease cartridge) AND

IF volume is less than 1/3 full, RECORD on Data Sheet 2 of the Appendix.

5.2.3.1 IF a Memo lube grease cartridge is not installed on fan, MARK N/A.

5.2.4 IF lubricant in grease cartridge is less than 1/3 full, REFILL or REPLACE grease cartridge with grease listed in General Information Section of the Appendix AND

RECORD action on Data Sheet 2 of the Appendix

5.2.5 INSPECT fan supports and attachments for damage and degradation AND RECORD results on Data Sheet 2 of the Appendix.

NOTE - Step 5.2.6 pertains to bolts and fasteners located outside of machine guard.

5.2.6 INSPECT fan bolting and fasteners for damage and degradation AND RECORD results on Data Sheet 2 of the Appendix

5.2.7 INSPECT fan instrumentation for damage and degradation AND RECORD results on Data Sheet 2 of the Appendix

5.2.8 INSPECT fan electrical connections for damage and degradation AND RECORD results on Data Sheet 2 of the Appendix.

5.2.9 INSPECT fan control system components for damage and degradation AND RECORD results on Data Sheet 2 of the Appendix.
5.3 **Perform A-Train Exhauster Bearing Vibration Monitoring**

NOTE - Section 5.3 is only performed on running fans. If fan is not running, it does not need to be included as part of work package.

- The following inspection supports ASME N511-2007, Section 4.3.

**Special Instructions**

To ensure accuracy and repeatability, the Vibration Pen Figure 1 must be placed at the locations shown on the data sheets for each measurement.

If the Machine Condition Advisor is turned off, pressing the “Select” button will cause the device to turn on in RUN mode and start to take readings. If the unit is on and in HOLD mode, pressing the “Select” button will cause the unit to switch to RUN mode and start to take readings.

Pressing the “Select” button while the Machine Condition Advisor is in RUN mode and displaying readings will cause it to switch to HOLD mode and display the last readings taken. While in this mode, the advisor will display “HOLD” along with the last readings.

Certain exhausters have only one train, including AZ241-VTA-EF-101 and SY241-VTA-EF-003. For purpose of this surveillance these exhausters will be considered as an A-Train exhauster inspection and recorded in accordance with this Section.

5.3.1 **ENSURE** fan to be inspected is in operable condition and has been running for at least 30 minutes.
5.3 Perform A-Train Exhauster Bearing Vibration Monitoring (Cont.)

**Axial Readings**

**NOTE** - Section 5.3.2 is optional and may be skipped as directed by the FWS, with Data Sheet 3 of the Appendix marked “N/A” for the axial reading.

- An enveloped acceleration reading in the axial plane has little value and will not be recorded when performing an axial reading.

- Not all of the exhauster units have access for Axial readings.

5.3.2 **IF** the exhauster has access for an axial reading **PERFORM** the following to obtain axial vibration readings:

5.3.2.1 **PLACE** Vibration Pen or stinger on the Axial Test Point position as shown in Figure 4 of the Appendix.

5.3.2.2 **CHECK** that “RUN” mode is displayed.

   a. **IF** “RUN” mode is not displayed, **PRESS** the Machine Condition Advisor’s “Select” button until “RUN” mode is displayed.

5.3.2.3 **WAIT** for the readings to stabilize.

5.3.2.4 **PRESS** the Machine Condition Advisor’s “Select” button to hold the displayed readings.

5.3.2.5 **RECORD** the axial velocity (ips) on Data Sheet 3 of the Appendix.
5.3 Perform A-Train Exhauster Bearing Vibration Monitoring (Cont.)

Bearing #3 Readings

5.3.3 PERFORM the following to obtain vibration readings for bearing #3:

5.3.3.1 PLACE Vibration Pen or stinger on bearing #3 at the Vertical Test Point position as shown in Figure 3 of the Appendix.

5.3.3.2 CHECK that “RUN” mode is displayed.

   a. IF “RUN” mode is not displayed, PRESS the Machine Condition Advisor’s “Select” button until “RUN” mode is displayed.

5.3.3.3 WAIT for the readings to stabilize.

5.3.3.4 PRESS the Machine Condition Advisor’s “Select” button to hold the displayed readings.

5.3.3.5 RECORD the vertical velocity (ips) and enveloped acceleration (gE) of fan shaft bearing #3 on Data Sheet 3 of the Appendix.

5.3.3.6 TAKE temperature reading (°F) from top (Vertical Test Point position) of bearing #3, AND RECORD results on Data Sheet 3 of the Appendix.

5.3.3.7 PLACE Vibration Pen or stinger on bearing #3 at the Horizontal Test Point position as shown in Figure 3 of the Appendix.

5.3.3.8 CHECK that “RUN” mode is displayed.

   a. IF “RUN” mode is not displayed, PRESS the Machine Condition Advisor’s “Select” button until “RUN” mode is displayed.

5.3.3.9 WAIT for the readings to stabilize.

5.3.3.10 PRESS the Machine Condition Advisor’s “Select” button to hold the displayed readings.

5.3.3.11 RECORD the horizontal velocity (ips) and enveloped acceleration (gE) of fan shaft bearing #3 on Data Sheet 3 of the Appendix.
5.3 Perform A-Train Exhauster Bearing Vibration Monitoring (Cont.)

**Bearing #4 Readings**

5.3.4 **PERFORM** the following to obtain vibration readings for bearing #4:

5.3.4.1 **PLACE** Vibration Pen or stinger on bearing #4 at the Vertical Test Point position as shown in Figure 3 of the Appendix.

5.3.4.2 **CHECK** that “RUN” mode is displayed.

   a. **IF** “RUN” mode is not displayed, **PRESS** the Machine Condition Advisor’s “Select” button until “RUN” mode is displayed.

5.3.4.3 **WAIT** for the readings to stabilize.

5.3.4.4 **PRESS** the Machine Condition Advisor’s “Select” button to hold the displayed readings.

5.3.4.5 **RECORD** the vertical velocity (ips) and enveloped acceleration (gE) of fan shaft bearing #4 on Data Sheet 3 of the Appendix.

5.3.4.6 **TAKE** temperature reading (°F) from top (Vertical Test Point position) of bearing #4, **AND** **RECORD** results on Data Sheet 3 of the Appendix.

5.3.4.7 **PLACE** Vibration Pen or stinger on bearing #4 at the Horizontal Test Point position as shown in Figure 3 of the Appendix.

5.3.4.8 **CHECK** that “RUN” mode is displayed.

   a. **IF** “RUN” mode is not displayed, **PRESS** the Machine Condition Advisor’s “Select” button until “RUN” mode is displayed.

5.3.4.9 **WAIT** for the readings to stabilize.

5.3.4.10 **PRESS** the Machine Condition Advisor’s “Select” button to hold the displayed readings.

5.3.4.11 **RECORD** the horizontal velocity (ips) and enveloped acceleration (gE) of fan shaft bearing #4 on Data Sheet 3 of the Appendix.

5.3.5 **RECORD** fan shaft speed on Data Sheet 3 of the Appendix.
5.3 Perform A-Train Exhauster Bearing Vibration Monitoring (Cont.)

5.3.6 **REQUEST** HVAC Engineer review Data Sheet 3 and determine if additional visual inspection is required

| Additional visual inspection required | ✓ Yes | ✓ No |

_________________________ / ___________________________ / __________
Signature Print (First and Last) Date HVAC Engineer

5.3.7 IF HVAC Engineer determines additional inspection is required, **PERFORM** step 5.3.8

**OR**

IF no additional inspection is required, **MARK** N/A as applicable on Data Sheet 2 and **GO-TO** Section 5.4

5.3.8 **PERFORM** additional visual inspection

5.3.8.1 **REQUEST** operations shut down fan per applicable operating procedure.

5.3.8.2 **REQUEST** installation of Lock and Tag or Authorized worker Lockout/Tagout in accordance with DOE 0336, Hanford Site Lockout/Tagout Procedure.

5.3.8.3 **ENSURE** fan is de-energized **AND**

**REMOVE** guards and/or shrouds.

5.3.8.4 **INSPECT** fan drive and guards/covers for damage and degradation **AND**

**RECORD** results on Data Sheet 2 of the Appendix.

5.3.8.5 **INSPECT** interferences with moving parts for damage and degradation **AND**

**RECORD** results on Data Sheet 2 of the Appendix.

5.3.8.6 **INSPECT** fan shaft seal for damage and degradation **AND**

**RECORD** results on Data Sheet 2 of the Appendix.
5.3 Perform A-Train Exhauster Bearing Vibration Monitoring (Cont.)

5.3.8.7 INSPECT fan drive adjustment and condition for damage and degradation AND

RECORD results on Data Sheet 2 of the Appendix.

5.3.8.8 INSPECT fan bearing fasteners for damage, looseness, and degradation.

5.3.8.9 WIPE excess grease from fan bearings
5.4 Perform B-Train Exhauster Mechanical Run Test

NOTE - The following run test supports ASME N511-2007, Section 5.2.4.1.

5.4.1 ENSURE fan to be inspected is in operable condition and has been running for at least 30 minutes.

5.4.2 OBSERVE fan operation at design flow for a minimum of 15 minutes.

5.4.3 RECORD stable system operation (no surging) on Data Sheet 4 of the Appendix.

5.4.4 IF fan operation is not stable, RECORD condition in the comments section of the Data Sheet 4.

5.5 Perform B-Train Exhauster Visual Inspection

NOTE - The following inspection supports ASME N511-2007, Mandatory Appendix I, Section 1.2.

5.5.1 INSPECT fan housing and duct interfaces for damage and degradation AND RECORD results on Data Sheet 5 of the Appendix.

5.5.2 INSPECT fan inlet and outlet connections for damage and degradation AND RECORD results on Data Sheet 5 of the Appendix.

5.5.3 INSPECT lubricant levels (Memo lube grease cartridge) AND IF volume is less than 1/3 full, RECORD on Data Sheet 5 of the Appendix.

5.5.3.1 IF a Memo lube grease cartridge is not installed on fan, MARK N/A.

5.5.4 IF lubricant in grease cartridge is less than 1/3 full, REFILL or REPLACE grease cartridge with grease listed in General Information Section of the Appendix AND RECORD action on Data Sheet 5 of the Appendix.

5.5.5 INSPECT fan supports and attachments for damage and degradation AND RECORD results on Data Sheet 5 of the Appendix.
5.5 Perform B-Train Exhauster Visual Inspection

NOTE - Step 5.5.6 pertains to bolts and fasteners located outside of machine guard.

5.5.6 INSPECT fan bolting and fasteners for damage and degradation AND RECORD results on Data Sheet 5 of the Appendix.

5.5.7 INSPECT fan instrumentation for damage and degradation AND RECORD results on Data Sheet 5 of the Appendix.

5.5.8 INSPECT fan electrical connections for damage and degradation AND RECORD results on Data Sheet 5 of the Appendix.

5.5.9 INSPECT fan control system components for damage and degradation AND RECORD results on Data Sheet 5 of the Appendix.
5.6 Perform B-Train Exhauster Bearing Vibration Monitoring

NOTE - Section 5.6 is only performed on running fans. If fan is not running, it does not need to be included as part of work package.

- The following inspection supports ASME N511-2007, Section 4.3.

Special Instructions

To ensure accuracy and repeatability, the Vibration Pen Figure 1 must be placed at the locations shown on the data sheets for each measurement.

If the Machine Condition Advisor is turned off, pressing the Select button will cause the device to turn on in RUN mode and start to take readings. If the unit is on and in HOLD mode, pressing the Select button will cause the unit to switch to RUN mode and start to take readings.

Pressing the Select button while the Machine Condition Advisor is in RUN mode and displaying readings will cause it to switch to HOLD mode and display the last readings taken. While in this mode, the advisor will display “HOLD” along with the last readings.

Certain exhausters have only one train, including AZ241-VTA-EF-101 and SY241-VTA-EF-003. For purpose of this surveillance these exhausters will be considered as an A-Train exhauster inspection. Section 5.6 does not apply to exhausters with only one train.

5.6.1 ENSURE fan to be inspected is in operable condition and has been running for at least 30 minutes.

5.6.1.1 PRESS the Machine Condition Advisor’s “Select” button to hold the displayed readings.
Perform B-Train Exhauster Bearing Vibration Monitoring (Cont.)

Axial Readings

NOTE - Section 5.5.2 is optional and may be skipped as directed by the FWS, with Data Sheet 6 of the Appendix marked “N/A” for the axial reading

- An enveloped acceleration reading in the axial plane has little value and will not be recorded when performing an axial reading.

- Not all of the exhauster units have access for Axial readings.

5.6.2 IF the exhauster has access for an axial reading PERFORM the following to obtain axial vibration readings:

5.6.2.1 PLACE Vibration Pen or stinger on the Axial Test Point position as shown in Figure 7 of the Appendix.

5.6.2.2 CHECK that “RUN” mode is displayed.

5.6.2.3 IF “RUN” mode is not displayed, PRESS the Machine Condition Advisor’s “Select” button until “RUN” mode is displayed.

5.6.2.4 WAIT for the readings to stabilize.

5.6.2.5 PRESS the Machine Condition Advisor’s “Select” button to hold the displayed readings.

5.6.2.6 RECORD the axial velocity (ips) on Data Sheet 6 of the Appendix.
5.6 Perform B-Train Exhauster Bearing Vibration Monitoring (Cont.)

**Bearing #3 Readings**

5.6.3 **PERFORM** the following to obtain vibration readings for bearing #3:

5.6.3.1 **PLACE** Vibration Pen or stinger on bearing #3 at the Vertical Test Point position as shown in Figure 6 of the Appendix.

5.6.3.2 **CHECK** that “RUN” mode is displayed

5.6.3.3 **IF** “RUN” mode is not displayed, **PRESS** the Machine Condition Advisor’s “Select” button until “RUN” mode is displayed.

5.6.3.4 **WAIT** for the readings to stabilize.

5.6.3.5 **PRESS** the Machine Condition Advisor’s “Select” button to hold the displayed readings.

5.6.3.6 **RECORD** the vertical velocity (ips) and enveloped acceleration (gE) of fan shaft bearing #3 on Data Sheet 6 of the Appendix.

5.6.3.7 **TAKE** temperature reading (°F) from top (Vertical Test Point position) of bearing #3, **AND**

**RECORD** results on Data Sheet 6 of the Appendix.

5.6.3.8 **PLACE** Vibration Pen or stinger on bearing #3 at the Horizontal Test Point position as shown in Figure 6 of the Appendix.

5.6.3.9 **CHECK** that “RUN” mode is displayed.

5.6.3.10 **IF** “RUN” mode is not displayed, **PRESS** the Machine Condition Advisor’s “Select” button until “RUN” mode is displayed.

5.6.3.11 **WAIT** for the readings to stabilize.

5.6.3.12 **PRESS** the Machine Condition Advisor’s “Select” button to hold the displayed readings.

5.6.3.13 **RECORD** the horizontal velocity (ips) and enveloped acceleration (gE) of fan shaft bearing #3 on Data Sheet 6 of the Appendix.
5.6 Perform B-Train Exhauster Bearing Vibration Monitoring (Cont.)

Bearing #4 Readings

5.6.4 PERFORM the following to obtain vibration readings for bearing #4:

5.6.4.1 PLACE Vibration Pen or stinger on bearing #4 at the Vertical Test Point position as shown in Figure 6 of the Appendix.

5.6.4.2 CHECK that “RUN” mode is displayed.

5.6.4.3 IF “RUN” mode is not displayed, PRESS the Machine Condition Advisor’s “Select” button until “RUN” mode is displayed.

5.6.4.4 WAIT for the readings to stabilize.

5.6.4.5 PRESS the Machine Condition Advisor’s “Select” button to hold the displayed readings.

5.6.4.6 RECORD the vertical velocity (ips) and enveloped acceleration (gE) of fan shaft bearing #4 on Data Sheet 6 of the Appendix.

5.6.4.7 TAKE temperature reading (°F) from top (Vertical Test Point position) of bearing #4, AND

RECORD results on Data Sheet 6 of the Appendix.

5.6.4.8 PLACE Vibration Pen or stinger on bearing #4 at the Horizontal Test Point position as shown in Figure 6 of the Appendix.

5.6.4.9 CHECK that “RUN” mode is displayed.

5.6.4.10 IF “RUN” mode is not displayed, PRESS the Machine Condition Advisor’s “Select” button until “RUN” mode is displayed.

5.6.4.11 WAIT for the readings to stabilize.

5.6.4.12 PRESS the Machine Condition Advisor’s “Select” button to hold the displayed readings.

5.6.4.13 RECORD the horizontal velocity (ips) and enveloped acceleration (gE) of fan shaft bearing #4 on Data Sheet 6 of the Appendix.

5.6.5 RECORD fan shaft speed on Data Sheet 6 of the Appendix.
5.6 Perform B-Train Exhauster Bearing Vibration Monitoring (Cont.)

5.6.6 REQUEST HVAC Engineer review Data Sheet 6 and determine if additional visual inspection is required

<table>
<thead>
<tr>
<th>Additional visual inspection required</th>
<th>☑ Yes</th>
<th>☑ No</th>
</tr>
</thead>
</table>

Signature / Print (First and Last) / Date

HVAC Engineer

5.6.7 IF HVAC Engineer determines additional inspection is required, PERFORM step 5.6.8

OR

IF no additional inspection is required, MARK N/A as applicable on Data Sheet 5 and GO-TO Section 5.7

5.6.8 PERFORM additional visual inspection

5.6.8.1 REQUEST operations shut down fan per applicable operating procedure.

5.6.8.2 REQUEST installation of Lock and Tag or Authorized worker Lockout/Tagout in accordance with DOE 0336, Hanford Site Lockout/Tagout Procedure.

5.6.8.3 ENSURE fan is de-energized AND REMOVE guards and/or shrouds.

5.6.8.4 INSPECT fan drive and guards/covers for damage and degradation AND RECORD results on Data Sheet 5 of the Appendix.

5.6.8.5 INSPECT interferences with moving parts for damage and degradation AND RECORD results on Data Sheet 5 of the Appendix.

5.6.8.6 INSPECT fan shaft seal for damage and degradation AND RECORD results on Data Sheet 5 of the Appendix.
5.6 Perform B-Train Exhauster Bearing Vibration Monitoring (Cont.)

5.6.8.7 **INSPECT** fan drive adjustment and condition for damage and degradation **AND**

**RECORD** results on Data Sheet 5 of the Appendix.

5.6.8.8 **INSPECT** fan bearing fasteners for damage, looseness, and degradation.

5.6.8.9 **WIPE** excess grease from fan bearings
5.7 Restoration

5.7.1 IF Lockout/Tagout was installed in Section 5.2 or Section 5.5, REMOVE Lockout/Tagout in accordance with DOE-0336; Hanford Site Lockout/Tagout Procedure.

5.7.2 COMPLETE AND SIGN Data Sheets.

5.7.3 REPORT any deficiencies and/or potential cause of early failure to the FWS for corrective action.

5.7.4 RETURN Data Sheets to FWS.

5.8 Review

5.8.1 INFORM FWS test is complete.

5.8.2 FWS REVIEW AND ENSURE the following:

- Completed Data Sheets meet the acceptance criteria.
- Comments sections are filled out appropriately.
- Work requests needed as a result of this procedure are identified and generated.
- Work request number(s) of any work documents generated as a result of this procedure, are recorded in the Comments/Remarks section of the Data Sheet (if applicable).

5.9 Records

This procedure is performed within a work package, as such, the procedure in its entirety will be maintained as a record per the Work Control process.

The record custodian identified in the Company Level Records Inventory and Disposition Schedule (RIDS) is responsible for record retention in accordance with TFC-BSM-IRM_DC-C-02.
Figure 1 - VIBRATION PEN