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WP 05-WH1700

Revision 11

Horizontal Emplacement and Retrieval Equipment Assembly

Technical Procedure

EFFECTIVE DATE: 01/28/11

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APPROVED FOR USE

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CHANGE HISTORY SUMMARY

REVISION NUMBER	ISSUED DATE	DESCRIPTION OF CHANGES
8	07/12/10	Field Revision: moved Surveillance Data Sheet information from Section 4.0 and created new Section 22.0 for this information. Added "20-ton or" to Step 7.4.
9	09/10/10	<p>Added Bullet to Precautions and Limitations referencing ACO Key</p> <p>Added wording to Step 1.3 on location of AFA in proximity to counter bore</p> <p>Deleted Steps 7.3, 1st bullet of 7.5, 7.13, 7.14, 7.15, 7.16, 8.2, and 17.1</p> <p>Added wording to Step 8.6 to visually inspect hydraulic system</p> <p>Added wording to Step 9.1 to rotate Jack 4 to UP position</p> <p>Add Note above Steps 12.0, 17.18, and 21.4 referencing ACO Key</p> <p>Changed wording in Step 12.1 on who obtains ACO key and how it is logged</p> <p>Changed wording in Step 13.1 to turn from ensure.</p> <p>Added Steps 17.18 and 21.4</p>
10	10/27/10	<p>Added the associated JHA to the Precautions and Limitations section.</p> <p>Updated AJHA PROD number. New JHA developed for this procedure.</p> <p>Removed equipment and procedure numbers from bullets under Prerequisite Actions to make it easier for the operator to perform preop checks.</p> <p>Revised Step 13.4 to add a new requirement.</p> <p>Added Step 13.5 to contact WHE to evaluate clearance.</p>

11	01/28/11	<p>Deleted 3 Precautions and Limitation bullets made into steps in procedure.</p> <p>Added Note above 1.0 Prerequisite Actions that steps can be performed in parallel.</p> <p>Step 1.2 added clarifying information to beginning of sentence.</p> <p>Added Note above Section 2.0 for preoperational checks completion prior to start of RH Waste evolution.</p> <p>Added Note above Step 3.5 for lamp test.</p> <p>Changed Steps 4.2 and 4.3 to bullets and moved Step 4.6 to bullet under 4.1.</p> <p>Added alignment fixture pump in Step 6.2.</p> <p>Changed Steps 7.1 and 7.2 to bullets under new 7.1.</p> <p>Changed Steps 8.1 and 8.4 to bullets under new 8.1.</p> <p>Deleted 41-ton from Step 9.2 so any forklift could be used.</p> <p>Added Note above Step 16.2 for TM position and hydraulic pump pressure indicators.</p> <p>Moved Step 19.16 to first bullet under new 19.16.</p> <p>Added "by the end of the shift" to Step 22.2.</p>
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INTRODUCTION^{1,2}

This procedure provides the instructions for setting up the remote-handled (RH) transuranic (TRU) waste canister Horizontal Emplacement and Retrieval Equipment (HERE) in preparation for canister emplacement in a horizontal borehole

This procedure meets the **Surveillance Requirements (SR) 4.1.2.1** and **4.1.2.3** of **Limiting Conditions of Operations (LCO) 3.1.2**.

Performance of this procedure generates the following record(s), as applicable:

- Equipment Logbook

REFERENCES

BASELINE DOCUMENTS

- Title 40 *Code of Federal Regulations* (CFR) §264.15, "General Inspection Requirements"
- DOE Standard 1090-2007, *Hoisting and Rigging*
- DOE/WIPP-07-3372, *Waste Isolation Pilot Plant Documented Safety Analysis*
- DOE/WIPP-07-3373, *Waste Isolation Pilot Plant Technical Safety Requirements*
- WTSD - TME - 044 *Horizontal Emplacement and Retrieval Equipment Operation and Maintenance Manual*

REFERENCED DOCUMENTS

- WP 04-AD3001, Facility Mode Compliance
- WP 04-IM1000, Issues Management Processing of WIPP Forms
- EA04IM1000-1-0, WIPP Form
- WP 05-WH1601, 20-Ton Diesel Forklift 52-H-125
- WP 05-WH1602, 41-Ton Diesel Forklift 52-H-005A

EQUIPMENT

The following equipment is required to be on hand prior to setup of the HERE:

- Waste Transfer Machine Assembly (WTMA)

- Alignment Fixture Assembly (AFA)
- Control Console (CC)
- 41-Ton Diesel Forklift
- 20-Ton Diesel Forklift

PRECAUTIONS AND LIMITATIONS

The Technical Safety Requirements (TSRs) contain LCOs and Specific Administrative Controls (SACs) which provide specific preventative or mitigative limits and required actions for identified accident scenarios. Failure to comply with LCOs or SACs may constitute a violation and must be immediately reported to the Facility Shift Manager (FSM). The step affected by the LCO/SAC is followed by the LCO/SAC number in bold brackets (e.g. [LCO 3.X.X]). Applicable LCO/SAC Surveillance Data Sheets SHALL be completed as required by WP 04-AD3001.

- Only personnel qualified as an RH Waste Handling Technician/Engineer (WHT/WHE), or trainees operating under the direct supervision of a qualified RH WHT/WHE, are authorized to perform the RH Waste Handling activities specified in this procedure.
- Only personnel who are familiar with the current version of JHA PROD-42, HERE, may perform this procedure.
- The size, weight, and powered operation of the HERE dictate that special care be taken to prevent injury to personnel during its setup and operation.
- Spotters, using standard forklift hand signals, are required to assist the forklift drivers in maneuvering the AFA and WTMA into place.
- Once the CC is set up and power is available, the CC will not be left unattended with the POWER switch turned on.
- If this procedure cannot be performed as written or in sequence, WHE shall be contacted.
- Safety glasses and a long-sleeve 100% cotton shirt must be worn when opening and closing breakers.
- Electrical equipment associated with the HERE or the borehole machine must be at least 10 ft from the CH waste array face or a fire watch is posted.³
- Operating the RH 41-ton, 20-ton, or 6-ton waste handling forklifts within 75 ft of the CH disposal waste array face requires a spotter.

- Operating any diesel-powered equipment within 75 ft of the HERE/Facility Cask aligned on a borehole requires a spotter.
- Readjustment of the AFA jacks (1, 2, or 3) and the WTMA jack (4) or the POT BIAS 1 potentiometer may be adjusted as necessary to maintain level (GREEN LED only) indications on TILT STATUS ARRAYS.
- Administrative Controlled Override (ACO) Key will be controlled through the RH Waste Handling Manager/Waste Handling Engineer (WHM/WHE) and will be required to be checked out/in with each evolutionary need. WHT must receive approval from the RH WHM/WHE prior to checking out the key. Approval and checkout will be logged in the RH U/G narrative log annotating who checked out, time checked out, and who granted approval. If the WHM/WHE are on surface and grant approval, they shall annotate in the RH surface narrative log, who they gave approval to and time approval was given.

NOTE

Prerequisite actions must be performed, but may be performed in any order and in parallel as long as radiological control sign-offs are not bypassed.

PREREQUISITE ACTIONS

- 1.0 Ensure all required equipment is at the emplacement site.
- 2.0 Waste Handling (WH), ensure all preoperational checks have been completed on the following:
 - 20-ton forklift
 - 41-ton forklift
- 3.0 If a required inspection becomes delinquent, perform the following:
 - 3.1 Immediately notify Site Environmental Compliance (SEC) of the delinquent inspection.
 - 3.2 Schedule and complete the required inspection.
 - 3.3 Document the following in a letter to SEC within five working days:
 - Schedule of inspection
 - Reason(s) why the inspection was not performed
 - Any measures taken to offset negative impacts resulting from not performing the inspection

- Actions to prevent further delinquencies
- 3.4 WH, **GO TO** WP 04-IM1000 and determine if a WIPP Form (EA04IM1000-1-0) is required.
- 4.0 Review Equipment Logbook for outstanding deficiencies and Action Requests (ARs).
- 5.0 WHE, review Equipment Logbook on a weekly basis, generally the last day of the work week.

PERFORMANCE

1.0 ALIGNMENT FIXTURE ASSEMBLY SETUP

NOTE

The forks should not extend more than 4 in. beyond the back of the AFA base plate to avoid contacting the rib before the AFA is in place.

- 1.1 Ensure the following conditions have been met, prior to installing the AFA.
- 1.1.1 Using the borehole insert, ensure the diameter of the borehole is within tolerance to receive the waste package.
- [A] **IF** borehole is out of tolerance,
THEN move to the next borehole.
- [B] **IF** the borehole is **NOT** a minimum depth of 17 ft,
THEN move to the next borehole.
- 1.1.2 Using the transfer mechanism insert, ensure that the insert will engage into the borehole to a minimum depth of 80 in.
- [A] **IF** the insert will **NOT** engage to the required depth,
THEN move to the next borehole.
- 1.1.3 **IF** standing water is present in borehole,
THEN remove the standing water with absorbent and/or shop vac,
OR move to next borehole.
- 1.2 **IF** forklift is not supporting the weight of the AFA,
THEN engage the forklift pockets on the AFA with the 20-ton forklift until the forklift is supporting the weight of the AFA.

- 1.3 Move the AFA toward the borehole until the shield collar is within approximately 2" of the flat surface of the counter bore and the inside diameter of the shield collar and the diameter of the borehole match.

NOTE

Preoperational checks are to be completed prior to the start of a Waste Handling evolution.

2.0 AFA POWER CONNECTION

- 2.1 Transport the CC to an area approximately 20 ft from the AFA along the same rib as the emplacement borehole.

NOTE

The power jacks nearest to the side selected for the CC should be used.

WARNING

Proper Personal Protective Equipment (PPE), including long-sleeve 100% cotton shirt, must be worn when operating power supply breaker or disconnect.

- 2.2 Ensure the site power breaker is in the **OFF** position.
- 2.3 Perform the following:
 - Install the 480V site power cable to the connector on the AFA motor control center (MCC).
 - Ensure the power cable is connected to the site power supply outlet.
 - Install cable harnesses 1, 2, and Z between mating connectors on the AFA MCC or the auxiliary enclosure and the CC.

- 2.4 Place the site power supply breaker in the **ON** position.

- 2.5 Place the M-CB actuator on front of MCC to **ON**.

3.0 CONTROL CENTER POWER

- 3.1 Verify the PC FAILURE status LED on the CC is **ON**.
- 3.2 Place the Power key switch on the CC to **ON**.
- 3.3 Verify the PC FAILURE LED goes **OFF**.

3.4 Verify the POWER status LED is **ON**.

NOTE

Performing lamp test for more than 10 seconds will zero position indicator.

3.5 Momentarily press the LAMP TEST button.

3.6 Verify all indicating LEDs come ON.

4.0 AFA HYDRAULIC SYSTEM

4.1 Verify the following:

- Fire Suppression System control module system status lights are functioning properly. **[LCO 3.1.2]**
- No trouble lights are illuminated on the equipment. **[LCO 3.1.2]**
- The automatic/manual fire suppression system has not discharged. **[LCO 3.1.2]**
- The fluid level is appropriate on the sight gauge on AFA hydraulic reservoir.
- Visually inspect the hydraulic system for leaks.
- The hydraulic filter is in the green zone.

4.2 Turn the ALIGNMENT FIXTURE PUMP **ON**.

4.3 Verify the pump ON LED is **ON**.

4.4 Inspect for leaks on the system.

NOTE

The AFA is supported on the floor by three jacks. Jack 1 is on the rear left side (as seen facing the borehole); Jack 2 is in the front center; and Jack 3 is on the rear right side. Side-to-side leveling is accomplished by the coordinated operation of Jacks 1 and 3 in opposite directions. Front-to-back leveling is obtained by operating Jack 2 in one direction and Jacks 1 and 3 together in the opposite direction. The overall height above the floor is controlled by operating all three jacks in the same direction by approximately the same amount.

5.0 ALIGNMENT FIXTURE ASSEMBLY JACKS

- 5.1 Place MODE SELECT SWITCH 1 in the ASSY/DISASSY position.
- 5.2 Verify the ASSY/DISASSY LED is **ON**.
- 5.3 Rotate Jacks 1, 2, and 3 control switches to the **UP** position to lower the jack foot pads until the jacks have taken the weight.
- 5.4 Remove the 20-ton forklift from the AFA.
- 5.5 Use Jacks 1, 2, and 3 and the 20-ton forklift, as necessary, to align the inside diameter of the shield collar with the borehole.

6.0 LEVELING AND ALIGNING THE AFA

- 6.1 If needed, operate the Jacks 1, 2, and 3, and adjust POT BIAS 1 as necessary, to obtain a GREEN LED only indication on TILT SENSOR ARRAY 1.
- 6.2 Turn ALIGNMENT FIXTURE PUMP **OFF**.
 - Verify ALIGNMENT FIXTURE PUMP ON LED is **OFF**.
- 6.3 Place the MODE SELECT SW 1 in the **OFF** position.
 - Verify the ASSY/DISASSY LED is **OFF**.
- 6.4 Place power key switch on the CC to **OFF**.

WARNING

Proper PPE, including long-sleeve 100% cotton shirt, must be worn when operating power supply breaker or disconnect.

- 6.5 Place the M-CB on MCC panel to **OFF**.

6.6 Place the site power breaker in the **OFF** position.

7.0 MOUNTING WTMA ON THE AFA

7.1 Perform the following on the AFA:

- Clean the AFA base plate of all salt or debris where the WTMA rests on the AFA.
- Disconnect the 480V site power cable from the connector on the AFA MCC.

7.2 Using the 20-ton or 41-ton forklift, install the WTMA on the AFA.

7.3 Perform the following:

- Install the 480V site power cable to the connector on the AFA MCC.
- Install cable harnesses 3, 4, 12, and Y, to the WTMA and the AFA.

WARNING

Proper PPE, including long-sleeve 100% cotton shirt, voltage gloves, and leather gloves must be worn when operating power supply breaker or disconnect.

7.4 Place the site power breaker to the **ON** position.

7.5 Place the M-CB actuator on the MCC to the **ON** position.

7.6 Verify the PC FAILURE LED on the CC is **ON**.

7.7 Turn the power key switch on the CC to the **ON** position.

7.8 Verify the ON LED is **ON**.

7.9 Place MODE SELECT SWITCH 1 to the ASSY/DISASSY position.

7.10 Verify the ASSY/DISASSY POWER STATUS LED is **ON**.

8.0 HYDRAULIC SYSTEM (TRANSFER CARRIAGE)

8.1 Perform the following on the TRANSFER CARRIAGE (TC):

- Verify the fluid level is appropriate on the site gauge on the TC hydraulic reservoir.
- Verify the hydraulic filter is in the green zone.

8.2 Turn the TRANSFER CARRIAGE PUMP switch to the **ON** position.

8.3 Verify the TRANSFER CARRIAGE PUMP ON LED is **ON**.

8.4 Visually inspect hydraulic system for leaks.

9.0 LEVELING PLATFORM ALIGNMENT

9.1 Rotate Jack 4 control switch to UP position to lower the jack foot pad until the jack has taken the weight of the rear end of the WTMA from the forklift.

9.2 Remove the forklift from the WTMA.

9.3 Turn the ALIGNMENT FIXTURE PUMP switch to **ON**.

NOTE

Performance of the following step allows the operator to properly align the **HERE** on the borehole, and obtain proper indications on the CC.

9.4 Adjust Jacks and POT BIAS 1 to obtain a single GREEN LED indication on TILT SENSOR ARRAYS 1, 2, and 3.

9.5 Turn the ALIGNMENT FIXTURE PUMP switch to the **OFF** position.

9.6 Turn the TRANSFER CARRIAGE PUMP switch to **OFF**.

9.7 Place MODE SELECT SW1 to the **OFF** position.

10.0 STAGING PLATFORM AND TC

CAUTION

Failure to perform the following steps could result in damage to the staging platform (SP) or TC drive mechanisms.

10.1 Perform the following:

- Remove the bolts from the Leveling Platform (LP) to SP transportation hold down plates.
- Move the plates on the LP out approximately 1/4-in. and tighten bottom bolts to secure plates.
- Remove the TC to SP attachment clamps.
- Remove all dirt from the SP and LP linear bearing rails.

11.0 EXTENSION OF TC

11.1 Rotate MODE SELECT SW1 to the OPERATE position.

11.2 Verify the OPERATE LED is **ON**.

11.3 Rotate MODE SELECT SW2 to the EMPLACE position.

11.4 Verify the EMPLACE LED is **ON**.

11.5 Turn the TRANSFER CARRIAGE PUMP switch to the **ON** position.

CAUTION

TC should not be extended more than approximately 4 in. from the end of the rails or the bearings may be damaged.

11.6 Place the TC switch in the EXTEND position and verify the TC is moving towards the AFA.

11.7 Verify the TC ON LED is **ON**.

11.8 **WHEN** the TC is approximately within 4 in. on the end of the Thompson Rails,
THEN return the TC switch to the **OFF** position.

11.9 Turn the TRANSFER CARRIAGE PUMP switch to the **OFF** position.

NOTE

Since the facility cask has not been installed yet, the controller has interlocked out the operation of the TC and SP drive mechanisms. This requires the use of the ACO key switch. This key switch does not override the RETRACT LIMIT stop function on the SP drive mechanism.

12.0 EXTENSION OF THE SP

NOTE

ACO Key will be controlled through the WHM/WHE. Checkout of the ACO Key will be performed by the WHM/WHE or WHT. WHT must receive approval from WHM/WHE prior to checking out the key. Checkout will be logged in the RH U/G narrative log annotating who checked out, time checked out and who granted approval.

- 12.1 WHT/WHE, go to ACO key storage location, checkout ACO Key and annotate in RH U/G narrative log.
- 12.2 Insert the key in the ACO switch and turn the switch to obtain a flashing RED ACO LED.
- 12.3 Turn and hold the SP control switch to the EXTEND position and verify the SP is moving towards the AFA.
- 12.4 Verify the SP ON status LED comes **ON**.
- 12.5 **WHEN** the EXTEND LIMIT LED starts flashing, and the SP automatically stops,
THEN return the SP switch to **OFF**.
- 12.6 Verify the EXTEND LIMIT LED stops flashing and remains **ON**.

13.0 TC RETRACTION

- 13.1 Turn the transfer carriage pump switch to the **ON** position.
- 13.2 Place the TC switch in the RETRACT position and verify the TC is moving away from the AFA.
- 13.3 Verify the TC ON LED is **ON**.
- 13.4 **WHEN** the TC automatically stops at its travel limit or is within approximately 2" of the rib,
THEN return the TC switch to the **OFF** position.

13.5 **IF** TC was stopped prior to achieving TC automatic travel limit stop, **THEN** contact WHE to evaluate adequate clearance for shield plug installation.

13.6 Verify the TC ON LED is **OFF**.

14.0 TC CENTERING

14.1 Place the TC switch in the EXTEND position and verify TC ON LED is **ON**.

14.2 Verify the TC is moving towards the AFA.

14.3 **WHEN** the rear end of the TC is approximately even with the end of the SP,
THEN return the TC switch to the **OFF** position.

14.4 Verify the TC has stopped moving and TC ON led is **OFF**.

14.5 Turn the TRANSFER CARRIAGE PUMP switch to the **OFF** position.

15.0 STAGING PLATFORM RETRACTION

15.1 Turn the SP control switch to the RETRACT position and verify the SP is moving away from the AFA.

15.2 Verify the SP ON status LED is **ON**.

15.3 **WHEN** the RETRACT LIMIT LED starts flashing and the SP automatically stops,
THEN return the SP switch to **OFF**.

15.4 Verify the SP ON LED is **OFF**.

15.5 Verify the RETRACT LIMIT LED stops flashing and remains **ON**.

16.0 OPERATION OF TRANSFER MECHANISM

CAUTION

Stop the travel of the TM before the grapple wheels reach the front end of the TC to prevent damage to the TM.

16.1 Turn the TRANSFER CARRIAGE PUMP switch to the ON position.

NOTE

TM position and hydraulic pump pressure are indicated on digital display motors on the CC.

- 16.2 Place the TRANSFER MECHANISM control switch slowly toward the EXTEND direction.
 - 16.3 Verify the TM is moving forward out of the TC.
 - 16.4 Verify an increase in TRANSFER MECHANISM POSITION display reading on the CC.
 - 16.5 Move the TRANSFER MECHANISM control switch slowly toward the RETRACT direction.
 - 16.6 Verify the TM stops and starts moving back into the TC.
 - 16.7 Verify a decrease in the TRANSFER MECHANISM POSITION display reading.
 - 16.8 **WHEN** the TM travel has stopped,
THEN return the control switch to the NEUTRAL position.
 - 16.9 Verify the TRANSFER MECHANISM POSITION display has returned to (-1.0 to 1.0 inch).
 - 16.10 If the TM position is not within ± 1.0 then depress the LAMP TEST button for at least 10 seconds to reset the TM Position Indicator.
 - 16.11 Turn the TRANSFER CARRIAGE PUMP switch to the **OFF** position.
- 17.0 OPERATION OF THE GRAPPLE
- 17.1 Place the GRAPPLE control switch in the CLOSE position.
 - 17.2 Verify the GRAPPLE ON LED is **ON**.
 - 17.3 Verify the grapple jaws move together and stop.
 - 17.4 Verify the GRAPPLE ON LED is **OFF**.
 - 17.5 Verify the GRAPPLE CLOSED LED is flashing.
 - 17.6 Return the control switch to **OFF**.
 - 17.7 Verify the GRAPPLE CLOSED LED stops flashing and remains **ON**.
 - 17.8 Place the GRAPPLE control switch in the OPEN position.

- 17.9 Verify the GRAPPLE ON LED comes **ON**.
- 17.10 Verify the grapple jaws move apart and stop.
- 17.11 Verify the GRAPPLE ON LED goes **OFF**.
- 17.12 Verify the GRAPPLE OPEN LED is flashing.
- 17.13 Return the GRAPPLE control switch to **OFF**.
- 17.14 Verify the GRAPPLE OPEN LED stops flashing and remains **ON**.
- 17.15 Rotate the ACO switch counterclockwise to turn the ACO LED **OFF**.
- 17.16 Remove the key.

NOTE

ACO Key will be controlled through the WHM/WHE. Check in will be logged in the RH U/G narrative log annotating who checked in and time checked in.

- 17.17 WHT/WHE, return ACO Key to ACO key storage location and annotate in RH U/G narrative log ACO Key was returned.

18.0 OPERATION OF AIR SUPPLY SOLENOID VALVES

NOTE

If the air supply is not connected and the facility cask is not in place, the operation of the air supply solenoid valves can only be checked by sound and feel.

- 18.1 Place the CASK FORWARD SHIELD VALVE (FSV) control switch in the OPEN position.
- 18.2 Ensure SV301 is energized.
- 18.3 Return the CASK FSV control switch to **OFF**.
- 18.4 Place the CASK REAR SHIELD VALVE (RSV) control switch to OPEN.
- 18.5 Ensure SV302 is energized.
- 18.6 Return the CASK RSV control switch to **OFF**.

19.0 OPERATION OF THE AFA AND TC LOCKING MECHANISM

- 19.1 Rotate the MODE SELECT SW1 TO ASSAY/DISASSAY position.

- 19.2 Rotate the MODE SELECT SW 2 to the **OFF** position.
- 19.3 Place AFA pump switch to **ON**.
- 19.4 Verify ON LED is **ON**.
- 19.5 Place the ALIGNMENT FIXTURE switch to lock.
- 19.6 Visually verify locking mechanisms rotate to the LOCK position.
- 19.7 Place the ALIGNMENT FIXTURE switch to unlock.
- 19.8 Visually verify locking mechanisms rotate to the UNLOCK position.
- 19.9 Place AFA pump switch to **OFF**.
- 19.10 Place the TRANSFER CARRIAGE PUMP switch to **ON**.
- 19.11 Place the TRANSFER CARRIAGE locking mechanisms switch to lock.
- 19.12 Visually verify locking mechanisms rotate to the LOCK position.
- 19.13 Place the TRANSFER CARRIAGE locking mechanisms switch to unlock.
- 19.14 Visually verify locking mechanisms rotate to the UNLOCK position.
- 19.15 Place the TRANSFER CARRIAGE PUMP switch to **OFF**.
- 19.16 WH, perform the following:
 - Initiate ARs to address any deficiencies that CANNOT be corrected by waste handling operations.
 - Notify the WHE of any deficiencies discovered during the preoperational checks (e.g., deficiencies corrected, ARs generated).
 - Notify WHE and report status of preoperational checks.

20.0 EQUIPMENT LOGBOOK

- 20.1 Record the following in the Equipment Logbook:
 - "N/A" in the equipment run hours
 - Equipment number

- Deficiencies noted
- Addition of fluids and amount added
- Corrective action taken (outstanding/newly generated ARs, etc.)
- Time, date, and signature in the Equipment Logbook to document performance of the preoperational checks.

21.0 SECURE EQUIPMENT POWER

21.1 Place all switches on CC to **OFF**.

21.2 Place key power switch to **OFF**.

21.3 Verify PC FAILURE LED is **ON**.

NOTE

ACO Key will be controlled through WHM/WHE. Verification that ACO key is in the ACO key storage location will be performed by the WHM/WHE or WHT. Verification that the ACO Key is in the ACO key storage location will be logged in the RH U/G narrative log annotating who verified the ACO Key was in the ACO key storage location and time verified.

21.4 Verify ACO Key is with in the ACO key storage location and annotate in RH U/G narrative log.

22.0 SURVEILLANCE DATA SHEET(S)

22.1 Complete the **Surveillance Data Sheet(s)**, EA04AD3001-SR11, for **LCO 3.1.2, SR 4.1.2.1** and **4.1.2.3**, as found in WP 04-AD3001.

22.2 Forward the completed Surveillance Data Sheet(s) and all associated documentation to the Facility Shift Manager for review and approval by the end of the shift.