

WP 05-WH1407

Revision 7

6-Ton Bridge Cranes 41-T-151 (A,B,C,D)

Technical Procedure

EFFECTIVE DATE: 12/28/05

John Guy
APPROVED FOR USE

TABLE OF CONTENTS

INTRODUCTION 3

REFERENCES 3

PRECAUTIONS AND LIMITATIONS 3

PREREQUISITE ACTIONS 4

PERFORMANCE 4

1.0 PREOPERATIONAL CHECKS 4

2.0 CRANE OPERATIONS 8

INTRODUCTION^{1,2}

This procedure provides the steps necessary for inspecting and operating the 6-Ton Bridge Cranes, 41-T-151 (A,B,C,D) at the Waste Isolation Pilot Plant (WIPP). This procedure generates records in the Equipment Logbook.

REFERENCES

BASELINE DOCUMENTS

- DOE Standard 1090-2004, *Hoisting and Rigging*
- 40 CFR §264.15, "General Inspection Requirements"
- Hazardous Waste Facility Permit, Waste Isolation Pilot Plant, Permit No. NM4890139088-TSDF, issued by the New Mexico Environment Department
- *Pittsburgh Crane & Hoist Instruction and Parts Manual*
- *Ederer 6 Ton Underhung Crane Operations and Maintenance Manual*, Volumes 1 and 2
- WP 04-AD3011, Equipment Lockout/Tagout

REFERENCED DOCUMENTS

- WP 04-IM1000, Issues Management Program Processing of WIPP Forms
- EA04IM1000-1-0, WIPP Form
- WP 05-WH1101, Surface Transuranic Mixed Waste Handling Area Inspections

PRECAUTIONS AND LIMITATIONS

- Preoperational Checks must be completed prior to the first crane operation each shift.
- Only personnel qualified as a Waste Handling Technician/Engineer (WHT/WHE), or trainees operating under the direct supervision of a qualified WHT/WHE, are authorized to perform the waste handling activities specified in this procedure.
- Crane must be moved slowly when operating in close proximity to limit switches to avoid overrunning them.
- During load movements that impair the crane operator's view, a Spotter shall be used.

PREREQUISITE ACTIONS

- 1.0 Review Equipment Logbook for outstanding deficiencies and Action Requests (ARs).
- 2.0 Notify WHE immediately if any concerns of the safe condition of crane exist.
- 3.0 If a required inspection goes delinquent, perform the following:
 - 3.1 Immediately notify Site Environmental Compliance (SEC) of the delinquent inspection.
 - 3.2 Schedule and complete the inspection.
 - 3.3 Document the following in a letter to SEC within five working days:
 - The schedule for inspection
 - The 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
- 4.0 SEC, **GO TO** WP 04-IM1000 and determine if a WIPP Form (EA04IM1000-1-0) is required.

PERFORMANCE

1.0 PREOPERATIONAL CHECKS

- 1.1 Prior to energizing crane, perform the following:
 - 1.1.1 Inspect the following items for obvious wear and damage:
 - Sheaves
 - Wire Ropes
 - Hook
 - Power/Control Cables, if applicable
 - 1.1.2 Verify wire ropes are wound properly on drum.
 - 1.1.3 Verify bridge path is clear of any obstructions.

1.1.4 Verify trolley path is clear of any obstructions.

1.1.5 Verify **NO** leakage of oil/grease from crane mechanisms.

NOTE

Deficiencies that are corrected when discovered may be considered a satisfactory check.

1.2 Transmitter (Bellybox)

1.2.1 Verify joy sticks operate freely and do **NOT** stick.

1.2.2 Turn OFF-ON toggle switch (located on pendant) to ON position.

1.2.3 Verify Emergency Stop push button is OUT (energized state).

1.2.4 Turn key to ON.

1.2.5 Press START push button to energize.

1.2.6 If crane does not have power, notify WHE.

1.2.7 Verify that horn works.

1.2.8 Verify crane scoreboard display and overhead crane light is ON.

1.2.9 Perform the following:

- Press right hand joy stick DOWN and verify hoist travels up.
- Verify limit switch stops UP travel.
- Press right hand joy stick UP and verify hoist travels DOWN.
- Press left hand joy stick UP and verify hoist travels NORTH.
- Press left hand joy stick DOWN and verify bridge travels SOUTH.
- Press left hand joy stick RIGHT and verify trolley travels EAST.
- Press left hand joy stick LEFT and verify trolley travels WEST.

1.3 Backup Pendant (Units C and D)

1.3.1 If the backup pendant (units C and D) is **NOT** in use, **GO TO** Section 1.4.

- 1.3.2 Verify joy sticks operate freely and do **NOT** stick.
- 1.3.3 Verify Emergency Stop push button is OUT (energized state).
- 1.3.4 Press START push button to energize.
- 1.3.5 If crane does not have power, notify WHE.
- 1.3.6 Verify that horn works.
- 1.3.7 Verify crane scoreboard display and overhead crane light is ON.
- 1.3.8 Perform the following:
 - Press right hand joy stick UP and verify hoist travels UP.
 - Verify limit switch stops UP travel.
 - Press right hand joy stick DOWN and verify hoist travels DOWN.
 - Press left hand joy stick UP and verify bridge travels NORTH.
 - Press left hand joy stick DOWN and verify bridge travels SOUTH.
 - Press left hand joy stick RIGHT and verify trolley travels EAST.
 - Press left hand joy stick LEFT and verify trolley travels WEST.

1.4 Pendant Backup (Units A and B)

- 1.4.1 If the backup pendant (units A and B) is **NOT** in use, **GO TO** Section 1.5.
- 1.4.2 Turn OFF-ON toggle switch (located on pendant) to ON position.
- 1.4.3 If crane does not have power, notify WHE.
- 1.4.4 Verify the following:
 - Main Screen displays
 - DRIVE FAULT message is **NOT** indicated
- 1.4.5 **IF** DRIVE FAULT message displays, **THEN** notify WHE before continuing.

1.4.6 Press F1 to turn ON.

1.4.7 Verify that the overhead crane light comes ON.

1.4.8 Press F4 to select Run (Manual Mode) Screen.

1.4.9 Perform the following:

- Press left hand joy stick UP and verify hoist travels UP.
- Verify limit switch stops UP travel.
- Press left hand joy stick DOWN and verify hoist travels DOWN.
- Press right hand joy stick UP and verify bridge travels NORTH.
- Press right hand joy stick DOWN and verify bridge travels SOUTH.
- Press right hand joy stick RIGHT and verify trolley travels EAST.
- Press right hand joy stick LEFT and verify trolley travels WEST.

1.5 Initiate ARs to address any deficiencies that **CANNOT** be corrected by Waste Operations.

1.6 Notify WHE of the operational status of the crane and of any deficiencies discovered during Preoperational Checks and the status of each (i.e., deficiencies corrected and/or ARs generated).

1.7 Record the following information in Equipment Logbook:

- Equipment number
- Deficiencies noted
- Corrective actions taken (outstanding/newly generated ARs, oil added, etc.)

1.8 Enter time, date, and signature in Equipment Logbook to document performance of Preoperational Checks.

1.9 If applicable, complete appropriate sections of the Preoperational Waste Handling Mode Checklist, WP 05-WH1101, Attachment 5.

- 1.10 WHE, review Equipment Logbook on a weekly basis, generally the last day of the workweek.

2.0 CRANE OPERATIONS

NOTE

Crane operators must operate at slow speeds when cranes are in close proximity.

NOTE

The Transmitter (Bellybox) will turn itself off if crane is idle for 15 minutes and will have to be restarted if this occurs.

2.1 Manual Mode

- 2.1.1 Spot hoist over the load to be moved using left and/or right hand joy sticks.
- 2.1.2 Lower hoist to engage load.
- 2.1.3 Verify load is properly attached.
- 2.1.4 Verify travel area is clear.
- 2.1.5 Raise hoist slowly to remove slack.
- 2.1.6 While observing load cell, check load is within acceptable limits.
- 2.1.7 Lift load high enough to clear obstacles.
- 2.1.8 Move load to desired location.
- 2.1.9 Lower load until hoist cables become slack.

2.2 Crane Shutdown

- 2.2.1 **IF** adjustable center of gravity lift fixture (ACGLF) was used in the last cycle of crane operation,
THEN lower ACGLF to floor until hoist cables become slack, and **GO TO** Step 2.2.3.
- 2.2.2 **IF** ACGLF was **NOT** used,
THEN disconnect any other load that may be attached, and raise hoist hook to a height that will **NOT** endanger personnel.
- 2.2.3 Press F5 to return to Main Screen (if applicable).
- 2.2.4 Press F2 to turn drive motors OFF (if applicable).

- 2.2.5 Move OFF-ON toggle switch (located on pendant) to OFF position (if applicable).
- 2.2.6 Turn key to OFF (if applicable).
- 2.2.7 Engage the emergency stop (if applicable).