

WP 05-WH1407

Revision 8

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

Technical Procedure

EFFECTIVE DATE: 09/08/09

Randy Britain
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 5

| Attachment 1 - 6-Ton Bridge Cranes 41-T-151 (A.B.C,D) Preoperational Checks and
| Verification 7

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).

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

- Equipment Logbook.

REFERENCES

BASELINE DOCUMENTS

- DOE Standard 1090-2007, *Hoisting and Rigging*
- Title 40 Code of Federal Regulations (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 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 Notify WHE immediately if any concerns of the safe condition of crane exist.
- 2.0 If a required inspection goes delinquent, perform the following:
 - 2.1 Immediately notify Site Environmental Compliance (SEC) of the delinquent inspection.
 - 2.2 Schedule and complete the inspection.
 - 2.3 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
- 3.0 SEC, **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 PREOPERATIONAL CHECKS
 - 1.1 Prior to energizing crane, complete Attachment 1, 6-Ton Bridge Cranes 41-T151 (A, B, C, D) Preoperational Checks.

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 Ensure load is properly attached.
- 2.1.4 Ensure 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).

Attachment 1 - 6-Ton Bridge Cranes 41-T-151 (A.B.C,D) Preoperational Checks and Verification

NOTE

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

	INSPECTION	CRITERIA	SAT	N/A	UNSAT
1.	Prior to Energizing the Crane	Review Equipment Logbook, for outstanding deficiencies and Action Requests (ARs).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Sheaves have NO obvious wear and damage.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Wire ropes have NO obvious wear or damage.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Hook has NO obvious wear or damage.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Power/control cables have NO obvious wear or damage, if applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Wire ropes properly wound on drum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Bridge path is clear of any obstructions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Trolley path is clear of any obstructions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		NO oil/grease leaks from crane mechanisms.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	Transmitter (Belly Box) Checks	Joy stick operates freely and does NOT stick.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Turn OFF-ON toggle switch (located on pendant) to ON position.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Ensure emergency stop push button is OUT (energized state).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Turn key to ON .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Press START push button to energize.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		If crane does not have power, notify WHE.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Ensure that horn works.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Ensure crane scoreboard display and over head crane light is ON .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Press right hand joy stick DOWN and ensure hoist travels UP.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Ensure limit switch stops UP travel.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Press right hand joy stick UP and ensure hoist travels DOWN.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Press left hand joy stick UP and ensure hoist travels NORTH.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Attachment 1 - 6-Ton Bridge Cranes 41-T-151 (A.B.C,D) Preoperational Checks and Verification

	INSPECTION	CRITERIA	SAT	N/A	UNSAT
		Press left hand joy stick DOWN and ensure bridge travels SOUTH.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Press left hand joy stick RIGHT and ensure trolley travels EAST.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Press left hand joy stick LEFT and ensure trolley travels WEST.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	Backup Pendant (Units C and D) Checks	If the back up pendant (units C and D) is NOT in use, GO TO section 4.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Ensure joy sticks operate freely and do NOT stick.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Ensure emergency stop push button is OUT (energized state).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Press START push button to energize.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		If crane does not have power, notify WHE.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Ensure that horn works.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Ensure crane scoreboard display and overhead crane light is ON .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Press right hand joy stick UP and ensure hoist travels UP.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Ensure limit switch stop UP travel.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Press right hand joystick DOWN and ensure hoist travels DOWN.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Press left hand joy stick UP and ensure bridge travels NORTH.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Press left hand joy stick DOWN and ensure bridge travels SOUTH.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Press left hand joy stick RIGHT and ensure trolley travels EAST.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Press left hand joy stick LEFT and ensure trolley travels WEST.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Attachment 1 - 6-Ton Bridge Cranes 41-T-151 (A,B,C,D) Preoperational Checks and Verification

	INSPECTION	CRITERIA	SAT	N/A	UNSAT
4.	Backup Pendant (Units A and B) Checks	If the backup pendant (units A and B) is NOT in use, GO TO Section 5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Turn OFF-ON toggle switch (located on pendant) to ON position.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		If crane does NOT have power, notify WHE.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Ensure main screen displays.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Verify DRIVE FAULT message is NOT indicated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		IF drive fault message displays, THEN notify WHE before continuing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Press F1 to turn ON .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Ensure that the overhead crane light comes ON .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Press F4 to select Run (manual mode) screen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Press left hand joy stick UP and ensure hoist travels UP.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Ensure limit switch stops UP travel.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Press left hand joy stick DOWN and ensure hoist travels DOWN.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Press right hand joy stick UP and ensure bridge travels NORTH.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Press right hand joy stick DOWN and ensure bridge travels SOUTH.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Press right hand joy stick RIGHT and ensure trolley travels EAST.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Press right hand joy stick LEFT and ensure trolley travels WEST.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
5.	Communicate/ Document Crane Status	Initiate ARs to address any deficiencies that cannot be corrected by Waste Handling Operations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Notify WHE of the crane preoperational status and any deficiencies and status of each. (e.g., deficiencies corrected & ARs generated.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Attachment 1 - 6-Ton Bridge Cranes 41-T-151 (A.B.C,D) Preoperational Checks and Verification

	INSPECTION	CRITERIA	SAT	N/A	UNSAT
6.	Record in the Deficiency/ Comments Section:	Deficiencies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Corrective Actions taken (i.e., outstanding/newly generated ARs).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Record equipment number.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Enter date, time, and signature to document performance of Preoperational Checks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		If applicable, complete appropriate sections of WP 05-WH1101, Attachment 5, Preoperational Waste Handling Mode Checklist.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>