# WP 05-WH1602

Revision 8

# 41-Ton Diesel Forklift 52-H-005A

Technical Procedure

EFFECTIVE DATE: 07/12/10

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APPROVED FOR USE

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## CHANGE HISTORY SUMMARY

| REVISION NUMBER | DATE ISSUED | DESCRIPTION OF CHANGES |
|---|---|---|
| 8 | 07/12/10 | Field revision to correct SR number. |

## INTRODUCTION [1, 3, 6]

This procedure provides guidance for operating the 41-Ton Diesel Forklift, 52-H-005A, at the Waste Isolation Pilot Plant (WIPP).

This procedure meets the **Surveillance Requirements (SR) 4.1.2.1** and **4.1.2.3** and **Specific Administrative Controls (SACs) 5.1.1.2** 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 & Rigging*
- Hazardous Waste Facility Permit, Waste Isolation Pilot Plant, Permit No. NM4890139088-TSDF, Issued by the New Mexico Environment Department
- DOE/WIPP-07-3372, *Waste Isolation Pilot Plant Documented Safety Analysis*
- DOE/WIPP-07-3373, *Waste Isolation Pilot Plant Technical Safety Requirements*
- Equipment No. 52-H-005A, Taylor Operator's Guide, TYN-820L
- 00CD-0001, WIPP Mine Ventilation Plan
- WP 13-1, Washington TRU Solutions LLC Quality Assurance Program Description

REFERENCED DOCUMENTS

- WP 04-AD3001, Facility Mode Compliance
- WP 04-IM1000, Issues Management Processing of WIPP Forms
- EA04IM1000-1-0, WIPP Form

## PRECAUTIONS AND LIMITATIONS [4, 5, 7]

The Technical Safety Requirements (TSRs) contains LCOs and 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 per WP 04-AD3001 prior to utilizing equipment selected for use.

The specific safety requirements that apply during performance of this procedure are as follows:

- Detection circuit in-service. **[LCO 3.1.2]**
- Earplugs are required for the operator.
- The 41-Ton Forklift **SHALL NOT** be operated in an active disposal room **UNLESS** there is a minimum of 42,000 cfm air flow in the room. There must be a minimum of 20,000 cfm to operate the forklift in any other area of the underground.
- Only qualified Waste Handling Technician/Engineer (WHT/WHE) or Trainees operating under direct supervision of a qualified WHT/WHE are authorized to perform the waste handling activities specified in this procedure.
- A spotter is required when operating the 41-ton forklift loaded with a facility cask, and when the operator's view is impaired.
- Whenever lifting loads, spotters **SHALL** stand clear of the side of the front tires.
- When adding hydraulic fluid to the 41-ton forklift, only fire retardant type ISO Grade 100 FR hydraulic fluid shall be used.
- No non-waste handling vehicles are allowed in the active disposal room during waste handling operations.
- A spotter is required when diesel-powered vehicles are operating within 100 feet of the Contact Handled (CH) waste face.
- A spotter is required when any diesel-powered vehicles are operating within 100 feet of the Horizontal Emplacement and Retrieval Equipment (HERE) with the facility cask aligned on a borehole.
- Airlock doors must be in the OPEN position prior to entering/exiting with mobile equipment.

- Mobile equipment must be in the center of an airlock prior to opening/closing airlock doors for exiting.
- Equipment horn must be sounded whenever:
  - Starting or moving equipment
  - Approaching intersections
  - Encountering an area of limited visibility
  - Approaching pedestrian(s)
- The rated load carrying capacity (82,000 lb at 48-inch load center) **SHALL NOT** be exceeded.
- Operators must be aware of overhead obstacles at all times when operating forklift.
- Hands, feet and other body parts must be kept inside forklift operator's designated area at all times to prevent personnel injury.
- Carrying passengers is prohibited.
- Battery charging shall only be done in a cross-cut **OR** in an unused room in the disposal circuit.
- Battery charging shall not be done within 100 feet of the CH waste face.
- Battery charging shall not be done in the disposal path during CH waste transport in the disposal path.
- Equipment Logbook must be reviewed by WHE on a weekly basis, generally the last day of the work week.
- When inflating tires the operator must stand clear of forklift tires.

**PREREQUISITE ACTIONS**

1.0 Ensure underground (U/G) ventilation is aligned to allow forklift operation.

2.0 Preoperational checks are required prior to operating forklift on each shift. **[LCO 3.1.2] [SAC 5.1.1.2]**

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 Waste Handling Operations, **GO TO** WP 04-IM1000 and issue a WIPP Form (EA04IM1000-1-0) for the delinquent inspection.

4.0 Review Equipment Logbook for outstanding deficiencies and Action Requests (ARs).

5.0 Record hour meter reading and equipment number in the Equipment Logbook.

6.0 Inspect the cab floor and steps leading to the cab for clutter, oil, etc.

**PERFORMANCE**

1.0 PREOPERATIONAL CHECKS [2, 4, 5]

1.1 Prior to forklift operation, at the beginning of each shift, inspect the following:

- Engine oil level is in normal range. **[SAC 5.1.1.2]**
- Transmission oil level is above the full mark. **[SAC 5.1.1.2]**
- Battery compartment is free from acid spills and has **NO** loose or missing caps or cables.
- Air cleaner indicator is Green.
- Belts are **NOT** obviously loose, worn, or cracked.
- Forks **DO NOT** have any noticeable cracks, breaks, bending, twisting, and/or wear.
- Upright **DOES NOT** have any signs of obvious wear **OR** damaged or missing parts.

- No excessive leaks (i.e., battery compartment, hydraulic lines, fuel lines) as indicated by visible flow of fluid under pressure, puddles beneath the equipment, or abnormal loss of hydraulic fluid. **[SAC 5.1.1.2]**
- Hydraulic oil level is in proper range on dipstick. **[SAC 5.1.1.2]**
- Seat belts are in good condition.
- Tires are **NOT** excessively worn or cracked **AND** all wheel lugs are present, tight and/or torque-paint present.
- Using tire gauge check all tires for proper air pressure
- Pedals/control levers are **NOT** loose or sticking.
- Fire suppression system is intact. **[LCO 3.1.2]**
- Fire suppression system control module system status lights are functioning properly and that no trouble lights are illuminated on the equipment. **[LCO 3.1.2]**
- Battery trickle charger is unplugged.

1.2 Visually verify the automatic/manual fire suppression system has not discharged. **[LCO 3.1.2]**

1.3 Remove the wheel chocks.

1.4 Sit in the seat and fasten seat belt.

1.5 Adjust seat to provide easy access to all controls.

1.6 Ensure seat locking mechanism locks.

**NOTE**

The engine will **NOT** start unless the transmission is in the NEUTRAL position.

1.7 Ensure the following controls are in NEUTRAL:

- Transmission
- Hoist control lever
- Tilt control lever
- Right fork position lever

- Left fork position lever
- Fork side shift lever

1.8 Ensure the parking brake is engaged.

1.9 Turn the battery disconnect switch to ON.

1.10 Push the PULL TO STOP control all the way in.

1.11 Start the engine by turning the ignition key to START.

1.12 **IF** the engine **FAILS** to start within 20 seconds,
**THEN** perform the following:

1.12.1 Release the ignition key.

1.12.2 Allow the starter to cool for 3 to 5 minutes before trying another start.

1.12.3 Attempt to start the engine.

1.12.4 If the engine **FAILS** to start in four attempts, notify WHE and proceed as directed.

1.13 Investigate immediately any unusual noises.

1.14 **IF** engine oil pressure gauge **DOES NOT** indicate oil pressure within 15 seconds,
**THEN** immediately stop the engine and contact WHE.

1.15 Inspect for the following:

- Sufficient fuel for intended operations
- Engine oil pressure gauge is working
- Transmission oil pressure gauge is working
- Transmission oil temperature gauge is working
- Hydraulic oil filter indicator is Green
- Hydraulic system has **NO** visible leakage from the hoses, couplings, or fittings **[SAC 5.1.1.2]**
- Hydraulic tank level is within the normal range on the dipstick **[SAC 5.1.1.2]**
- Head temperature within gauge is working

- Ammeter indicates a positive charge
- Voltage reading 26 to 28 volts
- Air pressure reading 90 to 120 pounds per square inch (psi)
- Horn sounds when activated **[SAC 5.1.1.2]**
- Front and rear lights illuminate when turned on **[SAC 5.1.1.2]**
- Hoist control raises and lowers forks
- Tilt control tilts mast forward and backwards
- Right fork position lever moves the fork inward and outward
- Left fork position lever moves the fork inward and outward
- Fork side shift control moves forks left and right

1.16 Raise the forks 6 to 10 inches above the floor.

1.17 Release the spotting brake.

1.18 Release the emergency brake control.

1.19 Perform the following with the parking brake applied:

1.19.1 Shift the transmission into DRIVE gear.

1.19.2 Verify the forklift **DOES NOT** move.

1.19.3 Shift the transmission into NEUTRAL gear.

1.19.4 Release the parking brake.

1.20 Apply the spotting brake and perform the following:

1.20.1 Shift the transmission into DRIVE gear.

1.20.2 Verify the forklift **DOES NOT** move.

1.20.3 Shift the transmission into NEUTRAL gear.

1.21 Release the spotting brake and shift the transmission into desired direction of travel.

1.22 Verify the following while the forklift is moving:

- Steering operates smoothly and **DOES NOT** pull in either direction.
- Back-up alarm operates while moving in the reverse direction.
- Brakes respond properly and **DO NOT** drag.

1.23 Perform the following to test de-clutch pedal:

1.23.1 Press the de-clutch pedal.

1.23.2 Verify de-clutch disengages the transmission.

1.23.3 Verify the de-clutch sets the brake.

1.24 Stop the forklift.

1.25 Apply the parking brake.

1.26 Apply the spotting brake.

1.27 Fully lower the forks to the floor.

1.28 Place the transmission in NEUTRAL.

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

1.30 Notify the WHE of any deficiencies discovered during the preoperational checks and the status of each (e.g., deficiencies corrected, ARs generated).

1.31 Complete the Surveillance Data Sheet(s), EA04AD3001-SR11, for **LCO 3.1.2**, **Surveillance Requirements 4.1.2.1** and **4.1.2.3** and **SAC 5.1.1.2** as found in WP 04-AD3001.

1.32 Forward the completed Surveillance Data Sheet(s) and all associated documentation to the Facility Shift Manager for review and approval.

1.33 Record the following in the Equipment Logbook:

- Deficiencies noted
- Addition of fluids and amount added, if any
- Corrective Action taken (outstanding/newly generated ARs, etc.)
- Time, date, and sign to document performance of the preoperational checks

## 2.0 FORKLIFT OPERATION

2.1 Remove wheel chocks.

2.2 Sit in seat and fasten seat belt.

2.3 Adjust seat to provide easy access to all controls.

2.4 Ensure seat locking mechanism locks.

2.5 Ensure the following controls are in NEUTRAL:

- Transmission
- Hoist Control Lever
- Tilt Control Lever
- Right fork position Lever
- Left fork Control Lever
- Fork side Shift Lever

2.6 Ensure parking brake is engaged.

2.7 Turn the battery disconnect switch to **ON**.

2.8 Push the PULL TO STOP control all the way in.

2.9 Start the engine by turning the ignition to START.

2.10 Turn lights **ON**.

2.11 Raise the forks 6 to 10 inches above the floor.

2.12 Release the spotting brake.

2.13 Release the emergency brake control, if engaged.

2.14 Select the direction of travel.

2.15 Release the parking brake.

2.16 Press accelerator to move forklift.

2.17 Operate the appropriate controls for moving and stacking loads.

3.0 FORKLIFT TIRE PRESSURE

3.1 If tires need to be inflated then preform one of the following:

- Position the forklift approximately 2 feet from the rib.
- Position the 6 ton forklift mast around the tire to be inflated.

3.2 Ensure air compressor is operating properly.

3.3 Plug in the long air chuck.

3.4 Attach chuck to valve stem.

3.5 Inflate tire to proper air pressure, per forklift data plate.

4.0 FORKLIFT SHUTDOWN

4.1 Ensure the forklift is clear of the following:

- Exits
- Access to stairways
- Emergency equipment and eye wash stations

4.2 Apply the parking brake.

4.3 Apply the spotting brake.

4.4 Place the forks on the floor.

4.5 Place the transmission in NEUTRAL.

4.6 Allow the engine to idle for 1 to 2 minutes.

4.7 Turn the ignition key to the **OFF** position.

4.8 Pull the PULL TO STOP control all the way out.

4.9 Place the battery disconnect switch in the **OFF** position.

4.10 Place chocks under the wheels.