

Idaho National Laboratory

HEAVY INDUSTRIAL EQUIPMENT	Identifier: RD-2020	
	Revision: 2	
	Effective Date: 12/19/2012	Page: 1 of 6

Subcontractors	Program Requirements Document	eCR Number: 609356
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Manual: INL Subcontractor Requirements

Entire Document Changed

1. PURPOSE

This document provides safety controls and requirements for the use of heavy industrial equipment by subcontractors at the Idaho National Laboratory (INL) to minimize hazards to subcontractor personnel and property. This document highlights requirements referenced in the Source Requirements section, as well as contractor requirements. Any applicable regulatory or contractor requirements must be followed, with the most stringent requirement being met.

NOTE 1: *Heavy industrial self-propelled equipment operated on roadways that are outside of the job site or are not public access restricted may be subject to Department of Transportation (DOT) laws, rules, and regulations pertinent to commercial motor vehicles.*

NOTE 2: *All equipment must be used and maintained only as intended by the manufacturer and in accordance with the manufacturer's instructions and limitations.*

2. APPLICABILITY

This document applies to all subcontractors who operate heavy industrial equipment at INL as specified in their contract with contractor. Stricter requirements may be imposed by subcontractors upon their employees or subtier contractors. The requirements of this document must be followed by subcontractors; however, the means of implementation may vary as determined by the subcontractor.

3. REQUIREMENTS

3.1 Heavy Industrial Equipment shall meet the requirements of the manufacturer and the requirements of 29 CFR 1926 Subpart O "Motor Vehicles and Mechanized Equipment." Additional requirements specific to heavy industrial equipment are specified below.

3.2 Heavy Industrial Equipment Pre-Use Checks

3.2.1 Heavy industrial equipment shall be inspected before their initial use at the INL. This inspection, which must be witnessed by the contractor, shall include as a minimum the following items:

- A. fluid leaks
- B. worn or deteriorating hoses, connections, etc.
- C. adequate guarding
- D. fire extinguisher (dated and currently inspected)

HEAVY INDUSTRIAL EQUIPMENT	Identifier: RD-2020	
	Revision: 2	
	Effective Date: 12/19/2012	Page: 2 of 6

- E. operators manual
 - F. load chart (for cranes, forklifts, etc.)
 - G. annual inspection record (for cranes, etc.)
 - H. proper set-up equipment (level and adequate outrigger pads)
 - I. proper operating condition (equipment is free of functional defects)
 - J. equipment is identified with subcontractors or sub-tier contractors name.
- 3.2.2 Unsafe equipment shall be reported immediately to subcontractor management.
- 3.2.3 Unsafe equipment shall be placed out of service using “Construction Equipment” (Not Acceptable For Use) tag, 432.A41 and not used or operated until it has been returned to a safe, operable condition.
- 3.2.4 Equipment that has been inspected and approved for use shall have “Construction Equipment” (Acceptable For Use) tag, 432.A40 provided to the subcontractor to be displayed on the equipment for verification of inspection.

3.3 Equipment Pre-Operation

- 3.3.1 Supervisors shall perform a walk-down of the work area that includes the following activities:
- A. All adjacent systems, structures, and components (SSC) or obstructions above and in the proximity of the proposed route, such as power or communication lines and poles, guy wires and cables, buildings, gates, ditches, and other ground conditions, shall be identified.
 - B. The following shall be considered prior to operating or transit of heavy industrial equipment:
 1. Has pre-job planning and hazard analysis restricted heavy industrial equipment travel and activities in any areas with overhead lines or other hazards?
 2. Have overhead obstructions including power or communications lines and their respective heights been identified for the planned travel routes and activities?
 3. Is the width clearance and turn-radius clearance adequate along the proposed pathway?

HEAVY INDUSTRIAL EQUIPMENT	Identifier: RD-2020	
	Revision: 2	
	Effective Date: 12/19/2012	Page: 3 of 6

4. Will any operation of heavy industrial equipment place it or its load within 10 ft of overhead lines, utility poles, or supporting guy wires?
- 3.3.2 A determination shall be made whether or not a spotter will be required for the job based on the following criteria:
- A. A lift plan or formal work procedure requires use of a spotter.
 - B. The load is not visible to the heavy industrial equipment operator.
 - C. The working area of a bucket or blade is within close proximity to an overhead or adjacent SSC or obstructions.
 - D. The operator of heavy industrial equipment requests a spotter.
 - E. The operational area is congested so that a full rotation arc or reach of the heavy industrial equipment could contact overhead or adjacent SSC or obstructions.
- 3.3.3 If it is determined that a spotter is required for the job then:
- A. Spotters shall obtain or have documentation of having completed appropriate formal training for the assigned work.
 - B. Spotters shall be cognizant of standard crane-related hand signals.
 - C. Spotters shall attend pre-job briefing and daily briefings for the assigned work.
- 3.3.4 A determination shall be made whether or not an escort will be required for the job based on whether job activities meet the following criteria:
- A. Heavy industrial equipment, oversize equipment, or equipment with movable appendages could make it oversize during transit, unless equipment has interlocks or positive devices to prevent inadvertent equipment extension during transit.
 - B. Heavy industrial equipment operator requests an escort.
- 3.3.5 If an escort is required “just-in-time” (JIT) training shall be provided that includes the following information and instructions:
- A. Specified route.
 - B. Methods to determine adequate height and width clearances to safely maneuver heavy industrial equipment through a congested area or gate.

HEAVY INDUSTRIAL EQUIPMENT	Identifier:	RD-2020	
	Revision:	2	
	Effective Date:	12/19/2012	Page: 4 of 6

- C. To be in constant communication with the operator.
- D. To stay a safe distance immediately in front of the equipment being escorted.
- 3.3.5.1 Additional escorts shall be assigned, if necessary, for clearance observance and safety, such as making a tight cornering maneuver around any interference to observe the maneuvering of the applicable equipment from more than just the path ahead.
- 3.3.5.2 Escorts shall obtain JIT training from the supervisor/pre-job briefer for the assigned work.

3.4 Equipment Operation

- 3.4.1 Spotters, when assigned, shall maintain 100% visual contact of the entire load line operational area while the specific lifting, digging, or demolition evolution is in progress within a congested work area because of proximity of an overhead or adjacent SSC that could be contacted during operation.
 - 3.4.1.1 Spotters shall be proficient with standard crane-related hand signals and radio communications to communicate with operator. When equipment background noise is high, hand signals only shall be used.
 - 3.4.1.1.1 When hand signals are required, spotters shall remain within the visual line of sight of the operator.
 - 3.4.1.2 Spotters shall provide operational signals to the operator when the actual load is restricted from the visual line of sight of the operator.
 - 3.4.1.2.1 If the blade area of a bulldozer or bucket of a trackhoe or loader equipment is being operated within close proximity of an overhead or adjacent SSC or obstruction, spotters shall provide operational signals to the operator.
 - 3.4.1.3 Spotters shall provide safety oversight by keeping personnel clear of the direct load line area.
 - 3.4.1.4 Spotters shall provide assistance to the operator to safely reposition equipment within the operational area.

HEAVY INDUSTRIAL EQUIPMENT	Identifier: RD-2020	
	Revision: 2	
	Effective Date: 12/19/2012	Page: 5 of 6

- 3.4.2 Escorts, when assigned, shall lead the heavy industrial equipment on a previously established route.
- 3.4.2.1 Escorts shall maintain visual contact from a position in front of the direction of travel of heavy industrial equipment and behind the equipment when it is being reversed, especially when a trailer is being hauled.
- 3.4.2.2 Escorts shall maintain communications with the equipment operator.
- 3.4.2.3 Escorts shall use a previously established method to ascertain adequate height and width clearance to safely maneuver heavy industrial equipment through a congested area or gate.
- 3.4.3 Operators shall be acutely aware of surroundings, especially when operating heavy industrial equipment such as cranes and bulldozers.
- 3.4.3.1 Operation of equipment in the vicinity of power lines or energized transmitters, shall comply with the requirements of RD-2011, Electrical Safety.

NOTE: *Do NOT use hoisting and rigging slings that have failed their inspections for any purpose, including use as tow straps. Remove from service and destroy.*

3.5 Heavy Equipment Left Running

- 3.5.1 Before leaving heavy equipment, excluding powered industrial trucks (forklifts), running and unattended for short durations such as for lunch breaks, breaks, or other tasks, operators shall do the following and any other appropriate actions to ensure that the equipment is left in a safe manner and WILL NOT move:
- 3.5.1.1 Lower ground-engaging equipment.
- 3.5.1.2 Put transmission in neutral or park.
- 3.5.1.3 Set the emergency brake or similar equipment.
- 3.5.2 Before leaving heavy equipment, excluding powered industrial trucks (forklifts), running and unattended for longer periods (such as overnight) to accommodate ongoing activities and ease of remobilization, operators shall follow Steps 3.5.1.1 through 3.5.1.3, and do the following:
- 3.5.2.1 Move equipment away from sensitive areas.

HEAVY INDUSTRIAL EQUIPMENT	Identifier: RD-2020	
	Revision: 2	
	Effective Date: 12/19/2012	Page: 6 of 6

3.5.2.2 Notify the job supervisor.

3.5.2.3 Notify the Contract Field Representative (CFR).

3.5.3 Before leaving heavy equipment running for longer periods (such as overnight) in sensitive areas the CFR shall:

3.5.3.1 Notify the plant shift manager, or facility manager and security.

3.5.3.2 Evaluate any sensitive area to determine whether it is necessary and safe to leave heavy equipment in operation there.

3.5.3.3 If approved, the job supervisor shall be notified it has been approved to leave the equipment running in the sensitive area.

3.5.3.4 Operators shall remain in attendance of equipment left in sensitive areas at all times UNLESS determined otherwise by the Contractor.

3.5.3.5 The CFR, and JSS shall document in daily logs and work control documents (e.g., job safety analysis or safe work permit) the actions taken to leave equipment running in a safe manner.

4. DEFINITIONS

For definitions of terms used throughout the INL Subcontractor Requirements manual, refer to LST-359.

5. REFERENCES

5.1 Source Documents

29 CFR 1926.600, Equipment

29 CFR 1926.601, Motor Vehicles

29 CFR 1926.602, Material Handling Equipment

29 CFR 1926.1000, Rollover Protective Structures

Form 434.14, Pre-Job Briefing Checklist