Human Equipment Interaction Planning Tool

This form is to be used by supervision during work plan development to ensure HEI risk recognition and corresponding safeguards are considered during operation planning. FLS shall also verify the plan at the start of the operation and any updates needed on Day 1. General/Job Superintendents sign off is required for increased risk and associated safeguards.
Project Managers are responsible to identify high risk HEI operations and evaluate if additional safeguards are required. For example, multiple risk factors, especially if combined, may warrant the use of additional safeguard mitigations, such as technologies (i.e. proximity detection, swing lock/guard, etc.).

(1) Required Safeguards

All must be checked:

- ☐ FLS will verify that the equipment selection and operator qualifications are fit for the task/operation.
- ☐ FLS will verify Daily Visuals performed --- life-saving systems are operable and in use (seatbelts, roll-over-protection, back-up alarms, etc.)
- ☐ FLS to verify that direct contact with operator, stop/ground implements, hands in the air required prior to personnel entry into equipment work zone.
- ☐ FLS to verify that a loading and unloading exclusion zone IE trailer flags/ exclusion zone will be used.

Primary Safeguards

(2) *If any of the following are left unchecked, view corresponding Increased Risk Safeguards:*

- ☐ Equipment operation and human foot traffic are PHYSICALLY separated (fencing, barrier, relocate operations, gates, etc.) with separate access routes for equipment and personnel.
  Describe method: _____
- ☐ Access roads are at grade throughout the operation and manned equipment is not operating adjacent to leading edge.
- ☐ Area is fully illuminated (or daylight)
- ☐ Major obstructions/structures are marked or otherwise visible to operator (with poles, flagging, cones, blocks, etc.)

(3) Increased Risk Safeguards

→ If human foot traffic is integral to operation and cannot reasonably be PHYSICALLY separated (example - pipe laying, grade checking, potholing, MSE set, vaults/MH set...)

- ☐ *1. Designate a competent signal person in the crew and means to communicate (verbal/radio or visual). Operator does not move w/o direction from signal person.*
- ☐ *2. Operator will ground attachments away from crew members and lock out controls at every opportunity.*
- ☐ *3. If other personnel come into swing radius operator must "All Stop" and lock out controls.*

→ If access roads include grade separation…

- ☐ *Implement berm/barrier of sufficient size for rubber-tired equipment, or*
- ☐ *Other (i.e. equipment setback, etc.) - Explain plan on reverse side of form.*

→ If Operation includes night work or low-visibility conditions…

- ☐ *Implement adequate lighting in addition to blind spot cameras, or*
- ☐ *Other - Explain plan on reverse side of form.*

→ If Operation includes high blind spot potential or frequent backing up of equipment…

- ☐ *Are trained spotters needed in addition to blind spot cameras? Yes / No? If no, explain on reverse side of form.*

I am the front line supervisor and I have verified that the HEI safeguards are in place for this operation.

FLS Sign (required on or before Day 1) _____ **Date** _____

I am the General/Job Superintendent and I have reviewed and approve of the above increased risk safeguards.

GS/JS Sign (required with work plan approval) _____ **Date** _____

Additional Project Information:

OPERATION DESCRIPTION

NOTES

OTHER CONSIDERATIONS

Have parking areas been designated?

Have trucking and/or delivery routes been established and communicated?

Are signs needed to support the operation?

Additional Project Information:

SKETCH AREA

ADDITIONAL REFERENCES

Visual

Berm

Barriers

Delineate

This Training/Policy contains guidelines and expectations for safety practices within Kiewit Corporation. The Kiewit Corporation safety team provides support and resources to subsidiary companies and personnel working on individual Projects. With subsidiaries conducting business in different construction and engineering markets across North America, every Project has different risks. It is ultimately the responsibility of the individual subsidiaries at the Project level to implement safety policies consistent with applicable conditions, codes, standards, rules, regulations, and industry best practices.