

Information Bulletin

Demolition Activities Near Miss

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Tracking No: 566

Summary: Demolition activities create unique and sometimes unanticipated hazards. When personnel and heavy equipment are co-located during demolition the hazardous conditions are increased. Work planning activities must be of sufficient rigor to define all potential hazards and appropriate controls must be implemented.

Discussion of Activities: On May 8, 2007, a near miss occurred when a crane operator, manipulating an excavator with a shear attachment, was loading demolition debris from a large debris pile near a demolished building into containers. The crane operator moved the shear attachment away from the containers to allow access for a front-end loader. In doing so, the shear head came into contact with the demolished building rubble pile. The shear head moved a bracing bracket that was bolted to the former building frame on the north side, but was loose on the south side. The south section moved to within a foot of two D&D workers.

Analysis: During a critique; managers, safety support personnel and workers agreed they did not recognize the potential hazard of performing parallel work activities with ground personnel and heavy equipment on opposite sides of the demolished building rubble pile.

Building demolition planning must recognize all potential hazards, especially during simultaneous heavy equipment and ground worker activities. During such co-located work tasks, appropriate boundary controls must be established to protect ground workers. Clearly defined zones must be established and enforced during all heavy equipment work; e.g., 75 feet from excavator shearing work or a zone equal to the extension of the boom.

Multi-tasking work evolutions should be evaluated for potential interactions or conflicting conditions in regard to safety, compliance, conflicting requirements, spacing or distance, timing, supporting resource requirements and priority.

If heavy equipment operations are in close proximity to a structure or demolished building, then conservatively assume the equipment will contact the structure.

Workers need to recognize that I-beams, cross braces and brackets, and sheet metal siding laid down or folded down to demolish a structure may create hazards involving potential energy stored within the flexed, bent, or stretched metal material and the slightest disturbance or movement may instantaneously release the potential energy or transfer it throughout or across the demolished structure for an extended distance.

Recommended Actions:

- Perform a hazard analysis for all work planning activities of sufficient rigor to define all potential hazards and appropriate controls.
- Evaluate co-located work activities for the hazards each job may introduce to the other job.
- Establish a buffer zone around heavy equipment operations to protect personnel.

Cost Savings/Avoidance: Not evaluated

Work Function: Construction, D&D

Hazards: Multiple

ISM Core Functions: Analyze Hazards, Develop/Implement Controls

Keywords: D&D, Work Planning, Hazard Analysis

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References: EM-RL--PHMC-PFP-2007-0009, Near Miss When an Excavator Contacted the 241-Z Building Rubble Pile During Waste Loading