



Safeguarding of Seismic Drills

CAGC INFORMATION ALERT

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On May 1, 2012, an official from WorkSafeBC met with industry representatives in Calgary to clarify compliance issues surrounding various seismic projects encountered this past winter. It has been noted that seismic drill equipment continue to be unguarded, despite BC OHS regulation sections 12.2a-c (what needs to be guarded), 12.3 (must meet requirements of CSA Standard Z432-94), and also 12.16, (rotating hazards):

12.2 Safeguarding requirement

Unless elsewhere provided for in this Occupational Health and Safety Regulation, the employer must ensure that machinery and equipment is fitted with adequate safeguards which

- (a) protect a worker from contact with hazardous power transmission parts,
- (b) ensure that a worker cannot access a hazardous point of operation, and
- (c) safely contain any material ejected by the work process which could be hazardous to a worker.

12.3 Standards

The application, design, construction and use of safeguards, including an opening in a guard and the reach distance to a hazardous part, must meet the requirements of *CSA Standard Z432-94, Safeguarding of Machinery*.

CSA Standard Z432-04, Safeguarding of Machinery (definitions)

"Two-hand Control Device" - a device that requires the concurrent use of both the operator's hands to both initiate and continue the machine cycle during the hazardous portion of the machine cycle.

CSA Standard Z432-04, Sect 9.1, General Performance Requirements for Safeguarding Devices

Safeguarding devices shall be designed and constructed with the goal of preventing any part of the body from reaching a danger point or area. Machine guards should take into account the physical characteristics of the people involved and, in particular, their abilities to reach through openings and over or around barriers and guards.

CAGC Recommended Controls

There is no grandfathering of existing equipment, so any equipment used must meet the regulation. Several employers believed that administrative controls such as training, procedures and rules were adequate, but WorkSafeBC clarifies that engineering controls must be added as a minimum. Three types of engineered controls were discussed: adding a mechanical guard, moving the control box so that the drill is out of reach of the driller at the controls, and adding an interlock circuit to the control box or slips.

Adding a metal fence or mesh to block operators from the drill auger is an easy addition as it needs only block the driller from accessing the drill. It does not have to block any debris coming from the auger. A stamp from a professional engineer does not have to be added to the design of such a guard. In Alberta, mesh must stop a 40mm diameter metal ball from passing through and the wire must be 1.6mm thick.

Adding CSA compliant engineering controls may take several forms. One approach is moving the control box beyond the reach from the driller standing at the controls. Another is to put an interlock linked to the slips or the drill storage rack that engages to slow the drill speed and reduce the torque for when the helper is involved in changing drill steel. With this process, the potential for injury is reduced.

The regulation equivalents in other provinces essentially say the same thing. The CAGC strongly recommends safeguarding seismic drills as required in the regulations listed below as examples:

- CSA Standard Z432-04, Safeguarding of Machinery
- BC OHS Reg 312/2010, P12 S.12.2, S12.3,
- AB OHS Code 2009, P22 S.310(2a) and P22 S.322
- SK OHS Regulations, 4 Oct 96, cO-1.1 Reg, Part X, S.137(1a)
- MB OHS Reg 217/2006, S.16.5(1a) and S.16.5(2)