

June 2017

To: owners and operators of excavators

Re: Stakeholder Guidance for the Use of Excavators and Other Powered Mobile Equipment Without Rollover Protective Structures

A recent investigation of a workplace fatality identified a legislative gap that makes enforcement of rollover protective structures (ROPS) on excavators challenging. Subsequent consultation with industry and equipment suppliers indicates that many excavators currently in use in the province do not have ROPS to protect the operators. Until the late 2000s, most manufacturers did not include ROPS on excavators.

General Regulation 91-191 includes a definition of powered mobile equipment (the definition includes excavators) as well as the requirement for the equipment to have ROPS.

*“powered mobile equipment” means self-propelled off-highway equipment used for construction, mining, agriculture, forestry and other purposes and includes front-end loaders, dozers, backhoes, **excavators**, skidders, forwarders, tree-harvesters, scrapers, compactors, rollers, graders, agricultural tractors and industrial tractors, but does not include industrial lift trucks or mobile cranes.*

The regulation cites *CSA B352-M1980 Rollover Protective Structures (ROPS) for Agricultural, Construction, Earthmoving, Forestry, Industrial and Mining Machines* as the minimum safety requirement for excavators manufactured after January 1, 1974. However, the cited CSA standard does not include excavators. Newer versions of the CSA standard do include excavators but do not provide testing criteria for ROPS.

Design and certification criteria for excavators manufactured before January 1, 1974 is provided in section 220(2) of the regulation.

220(2) *An employer shall ensure that powered mobile equipment manufactured before January 1, 1974 is equipped with a rollover protective structure that meets the requirements of subsection (1) or the following criteria:*

- (a) the rollover protective structure and supporting attachments are designed, fabricated and installed in such a manner to support not less than twice the weight of the equipment, based on the ultimate strength of the metal and integrated loading of supporting members with the resultant load applied at the point of impact;*
- (b) there is a vertical clearance of 1320 mm between the deck and the rollover protective structure at the access openings; and*
- (c) the rollover protective structure and supporting attachments referred to in paragraph (a) are certified as meeting the requirements of paragraph (a) by the manufacturer of the rollover protective structure, the installing agency or an engineer.*

The risk of rollovers or tip-overs of powered mobile equipment varies from loading the equipment onto floats for transporting, to movement from one end of the worksite to the other, to working on steep slopes. Each site varies from simple to complex, and employers must recognize the specific purposes and limitations to every piece of mobile equipment.

WorkSafeNB is beginning consultation on a regulatory amendment to address the compliance issue. However, until the regulation can be amended, please consider the following three options to ensure the safe operation of excavators (and other powered mobile equipment) that do not have certified/approved ROPS.

Option One: Discontinue use of the excavator.

Take the equipment out of service until it can be fitted with ROPS that meet the regulatory requirement of sections 220(1) or 220(2).

220(1) An employer shall ensure that powered mobile equipment manufactured on or after January 1, 1974 is equipped with a rollover protective structure that meets the minimum safety requirements of CSA standard B352-M1980, "Rollover Protective Structures (ROPS) for Agricultural, Construction, Earthmoving, Forestry, Industrial, and Mining Machines".

Option Two: Restrict use of the excavator.

Where an employer cannot demonstrate that certified/approved ROPS are installed, the equipment must only be used where there is minimal risk of rollover. The employer must complete a risk assessment of the work site, the work to be done and the operator's competency. The assessment can be completed on a **simple** template. The completed document must be kept in the cab of the excavator and made available for review by affected staff and a health and safety officer, if requested. The assessment should include tasks such as the loading and unloading of excavators from transport floats and the work to be carried out. Consider:

1. The type of excavator to be used.
2. The excavator's limitations and restrictions.
3. The work location's ground profile and condition.
4. Proximity hazards at the work location.
5. Work requirements.
6. The operator's competence.

A competent individual who has a good working knowledge of the equipment and workplace must conduct the assessment. This is usually the owner, operator or a senior supervisor. In all cases, any operator associated with the hazards must be involved. Competent operators can provide useful information about how the work is done, which will make the risk assessment more effective. If site conditions change the risk assessment must be re-done (for example, when heavy rain weakens the ground).

Option Three: Apply to the Chief Compliance Officer (CCO) for a deviation each time an excavator will be used.

Section 220(3) allows employers to apply for deviations for the operation of excavators (or other powered mobile equipment) not equipped with ROPS. For the CCO to consider a deviation, the employer must demonstrate that there is no significant chance of the equipment upsetting and that the:

- Equipment has a frame that is not capable of supporting the stresses introduced by the ROPS during upset.
- Equipment has a low centre of gravity.
- Installation of a ROPS creates an operating hazard.

The CCO may require additional information to assess the request. The information included in the **simple template** from Option Two will also be required.

1. The type of excavator to be used.
2. The excavator's limitations and restrictions.
3. The work location's ground profile and condition.
4. Proximity hazards at the work location.
5. Work requirements.
6. The operator's competence

This information will form the basis for the decision to grant or deny the application.

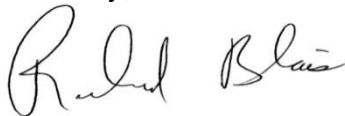
The Chief Compliance Office can be contacted in writing at:

*1 Portland Street
P.O. Box 160
Saint John N.B., E2L 3X9*

You can also contact by sending a fax to 506 738-4099 or by emailing the Chief Compliance Officer at compliance.conformite@ws-ts.nb.ca.

If you have any questions, please email your question to Compliance and Regulatory Review compliance.conformite@ws-ts.nb.ca or contact me at (506) 738-4107.

Sincerely,



Richard Blais, Director Compliance and Regulatory Review