

# Position Paper

## Telehandler Use: Lifting Suspended Loads

The following paper reflects the considered opinion on the Crane Association of New Zealand (Inc.)

This document has been prepared by the Technical Committee of the Crane Association of New Zealand (Inc.) for Crane Association of New Zealand (Inc.) Members.

### Legal Note

This paper should serve only as a reference and overview: it is meant to provide guidance in the assessment of risks related to the use of Telehandlers for the lifting of suspended loads. It neither addresses each and every imaginable scenario, nor is it a binding interpretation of the existing legal framework. It does not and cannot replace the study of the relevant directives, laws and regulations. In addition, the specific features of different products and their various applications have to be taken into account. This is why the assessments and procedures referred to in this paper may be impacted by a large variety of circumstances. Accordingly, a number of other interpretations are also possible.

### Disclaimer

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## Introduction

The Crane Association of New Zealand (Inc.) has reviewed the use of Telehandlers in New Zealand for the lifting of suspended loads.

The following information is based on the New Zealand environment and current legislation. This information has been gathered to provide guidance to our members and the users of Telehandlers in New Zealand.

## Crane Association of New Zealand Position

It is the position of the Crane Association of New Zealand (Inc.) that:

1. The PECPR Exemption for Mobile Plant applies to Telehandlers whose primary configuration is not as a crane but does not exempt a Telehandler owner/user from the guidance provided in the ACOP for Cranes.
2. If the primary function of the Telehandler is as a crane, the full PECPR applies.
3. The ACOP for Cranes applies to Telehandlers when used as a Crane to Lift Suspended Loads. Specific attention should be applied to:
  - a. Part 4 of the ACOP for Cranes. Specifically the requirements for the Slings of Regular Loads.
  - b. Part 16.2 Other cranes or equipment used as cranes
4. The Crane Safety Manual as referred to by the ACOP for Cranes has a specific section on Telehandlers when used for Lifting Suspended Loads, this section along with other relevant sections should be applied to this activity.

Telehandler users should also be aware of:

- Using quick hitches safely (Fact sheet) by WorkSafe NZ
- Keeping safe around moving plant (Fact sheet) by WorkSafe NZ
- Approved Code of Practice for Training Operators and Instructors of Powered Industrial Lift Trucks (Forklifts)
- Best practice guidelines for Working at Height in New Zealand
- Best practice guidelines for Mobile Elevating Work Platforms
- Inspectors Toolkit for Construction Sites
  - Cranes
  - Mobile Elevated Work Platforms
  - Excavators

## Background Information

### PECPR Exemption

Health and safety in Employment (Pressure Equipment, Cranes and Passenger Ropeways) Regulations 1999

Notice of Exemption for Equipment under the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways)

Regulations 1999

Pursuant to Regulation 6 of the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999, I, Richard Steel, Manager Technical Support Services, Ministry of Business, Innovation and Employment, in exercise of the powers delegated to me by the Secretary of Labour, give notice of exemption from the requirements of these Regulations for the following equipment:

**Items of mobile plant** (including earth-moving equipment), **not originally designed as a crane**, and **used for load lifting incidental to their principal function** are entirely exempt from the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999 subject to the following conditions as applicable:

1. **Lifting points and equipment used for rigging loads are to be certified by a Chartered Professional Engineer;** and
2. in the case of new and used hydraulic excavators with an operating weight of 7 tonne or more, the following additional conditions apply:
  - a. the equipment is not to be modified to make it operate as a crane other than the provision of a lifting point; and
  - b. hose burst protection valves are required after 1 January 2016; and
  - c. operators and ground support personnel are to be adequately trained; and
  - d. operations are to be carried out in accordance with the Approved Code of Practice for Load-Lifting - Rigging; and
  - e. the equipment is to have a loading chart available to operators.

Dated at Wellington this 12th day of December 2013. Richard Steel, Manager Technical Support Services, Ministry of Business, Innovation and Employment

## Pressure Equipment, Cranes and Passenger Ropeways Regulation

The PECPR defines a crane as:

crane—

1. means a powered device—
  - a. that is equipped with mechanical means for raising or lowering loads suspended by means of a hook or other load-handling device; and
  - b. that can, by the movement of the whole device or of its boom, jib, trolley or other such part, reposition or move suspended loads both vertically and horizontally; and
2. includes all parts of the crane down to and including the hook or load-handling device, and all chains, rails, ropes, wires, or other devices used to move the hook or load-handling device; but
3. does not include lifting gear that is not an integral part of the crane

In the event that the PECPR Exemption does not apply the complete PECPR should be read in full.

## Approved Code of Practice for Cranes

The Approved Code of Practice for Cranes has the following scope:

This code covers, but is not limited to, the following types of crane:

- Dockside/container
- Overhead travelling/gantry/monorail
- Pillar/column
- Truck (vehicle) loader type
- Derrick/post/jib
- Mobile (including crawler and rail)
- Tower (including self-erecting)

### **It also covers the following equipment when being used as a crane:**

- Forklift trucks
- Material handlers
- **Telehandlers**
- Earthmoving and forestry equipment.

The ACOP for Cranes defines a Crane as:

1. means a powered device-
  - a. that is equipped with mechanical means for raising or lowering loads suspended by means of a hook or other load-handling device; and
  - b. that can, by the movement of the whole device or of its boom, jib, trolley or other such part, re-position or move suspended loads both vertically and horizontally; and
2. includes all parts of the crane down to and including the hook or load handling device, and all chains, rails, ropes, wires, or other devices used to move the hook or load-handling device;
3. includes the attachments, fittings, foundations, mountings and supports; but
4. does not include lifting gear that is not an integral part of the crane.

The ACOP for Cranes defines a Competent Person as:

Competent person: means a person who has acquired, through a combination of training and qualification or experience, the knowledge and skills to perform the task required.

Part 16 of the Approved Code of Practice for Cranes applies to Mobile plant configured for lifting or carrying suspended loads such as a Telehandler pictured below. The following excerpts are considered to apply to Telehandlers.



The Approved Code of Practice for Cranes Part 16.1 states:

1. All crane lifting gear shall be certified by a CPEng.
2. These cranes (both new and second-hand) require design verification by an inspection body in accordance with the PECPR Regulations and Parts 2, 3 and 6 of this code, prior to certification for use within New Zealand.
  - a. Part 2 covers Application of the PECPR Regulations.
  - b. Part 3 covers Operational Requirements for Controllers
  - c. Part 6 covers Requirements for Design Verifiers
3. Parts 4, 7, 8 and 9 also apply.
  - a. Part 4 covers Requirements of Persons working with Cranes
  - b. Part 7 covers Requirements of Manufacturers
  - c. Part 8 covers Requirements of Suppliers and Importers
4. For minimum load safety device requirements required on the various crane types, refer to Appendix A: Load Safety Devices/Safe Load Indicators.
  - a. Appendix A identifies Mobile Plant as any item of plant configured to lift suspended loads and used for purposes other than duties directly associated with the primary function of the machine.
  - b. Requiring Rating Charts
  - c. Requiring a Radius or angle indicator or where it is impracticable to fit a radius indicator to a mobile plant (e.g. excavators) it will be acceptable for the controller to demonstrate that his operator(s) is or are fully trained and assessed in the use of this plant as a crane.



The Approved Code of Practice for Cranes Part 16.2 has further requirements in addition to the requirements in Part 16.1 and the relevant sections in ACOP Parts 3 (Operational Requirements for Controllers), and states:

1. Telehandlers used as cranes have potential stability issues when travelling over sloping or undulating ground carrying a suspended load. Owners of telehandlers and those responsible for their use should ensure they have all applicable information from the supplier of the machine, including the maximum operational slope and other limitations. They should also ensure the machines they have responsibility for have been designed to accommodate the required attachments and are suitable for the tasks they are to perform and the location they are intended to be used in. Where a telehandler is intended to lift freely suspended loads by a jib attachment or other means and is capable of slewing its boom through more than 5° then written confirmation that the machine complies with AS 1418.5 (Cranes, Hoists and Winches – Mobile Cranes) (or an equivalent standard) should be available onsite. BS EN 1459: Safety of Industrial Trucks –Self- Propelled Variable Reach Trucks is not an equivalent standard for the use of telehandlers as mobile cranes; the stability requirements of BS EN 1459 do not cover this configuration.
2. When mobile plant, for example a tractor, configured for lifting or carrying suspended loads is being used in a manner associated with its primary function, the plant is not regarded as a crane. For example, if a tractor is being used to dig a trench, then carry or lift drainage pipes into a hole, the tractor is NOT regarded as a crane. However, mobile plant configured for lifting or carrying suspended loads performing lifting duties not directly associated with their primary function is regarded as a crane and must have:
  - a. Hose burst protection valves supplied or recommended by the equipment manufacturer fitted to all hydraulic lines supplying cylinders which support the load
  - b. Lifting hooks or eyes rated equal to or greater than the maximum lifting capacity of the machine. These lifting hooks or eyes must be installed to the specification of a CPEng and tested by an equipment inspector before first use. In the case of excavators and similar machines it is recommended that hooks are of the fully enclosed type.

The ACOP for Cranes also states:

Operational matters such as site conditions, minimum distances from electrical conductors, operation of tower cranes and load-lifting gear are in the *Crane Safety Manual*, obtainable from the Crane Association of New Zealand (Inc).

#### ACOP References

The ACOP for cranes also has reference section in Appendix C. This reference section connects the ACOP for Cranes to international standard and best practice such as AS 1418.19.

#### Approved Code of Practice for Load Lifting Rigging

The ACOP for load lifting rigging states in its introduction:

This Approved Code of Practice provides recommendations and procedures for safe practice while carrying out lifting and rigging work in industry. In an industry with inherent dangers involving lifting, this Code will assist to increase the focus on safety. 1.1

The ACOP for load lifting rigging has the following scope:



This Approved Code of Practice applies to all places of work at which persons such as an employer, employee, self-employed person, contractor or subcontractor has to use lifting and rigging practices in the course of their duties.

### Crane Safety Manual

The Crane Safety Manual version 3.0 has a section dedicated to the use of Telehandlers for Lifting Suspended Loads. The Crane Safety Manual is referenced in Appendix C of the ACOP for Cranes.

### Further Information

This Position Paper contains summary information only, further information is available by contacting the Crane Association of New Zealand (Inc.)

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