IN THE MATTER OF:

THE TECHNICAL STANDARDS AND SAFETY ACT, 2000,
S.O. 2000, c. 16

- and -

ONTARIO REGULATION 209/01 (Elevating Devices) made under the
Technical Standards and Safety Act 2000

Subject: Amendment to the Elevating Devices Code Adoption Document
Oil Loss Monitoring of Hydraulic Elevating Devices with buried cylinders or buried piping (excluding B355 devices)

Sent to: Elevator Contractors, Consultants and Elevating Device Mechanics

The Director of Ontario Regulation 209/01 (Elevating Devices) pursuant to section 4 of Ontario Regulation 223/01 (Codes and Standards Adopted by Reference) hereby provides notice that Appendix “A” attached to the Elevating Devices Code Adoption Document dated June 1, 2001, as amended, published by the Technical Standards & Safety Authority is revoked and replaced by the following:

Appendix A

HYDRAULIC ELEVATING DEVICES - OIL LOSS MONITORING PROGRAM

A. Oil Loss Monitoring Program

Definitions

“hydraulic elevating device” means a non-portable device for hoisting and lowering or moving persons or freight and includes an elevator, dumbwaiter, manlift, incline lift, construction hoist, stage lift, platform lift and special elevating device that incorporates one or more hydraulic cylinders.

A.1 Application

A.1.01 Every contractor who maintains a hydraulic elevating device with buried cylinders or buried piping shall ensure there is a written oil loss monitoring program.
A.2  Purpose

A.2.01 The purpose of the oil loss monitoring program is to identify any loss of oil which cannot be accounted for in the hydraulic system.

A.3  Requirements for Compliance

A.3.01 If a contractor performs maintenance on a hydraulic elevating device with buried cylinders or buried piping, the contractor shall ensure that a written oil loss monitoring program is developed and maintained before the contractor performs work on the hydraulic elevating device. The oil loss monitoring program shall include:

(a) the requirement to provide an oil loss monitoring log (“OLM log”) for each hydraulic elevating device with buried cylinders or buried piping;

(b) the requirement for the OLM log to reference the elevating device installation number;

(c) the requirement to establish a fixed reference level for the oil and the requirement to mark the reference level on the tank, dip stick or other suitable location via permanent means;

Note: “permanent” implies affixed in such a manner so as to not be easily removed or repositioned.

(d) the requirement to document in the OLM log the location of the mark for the fixed reference level;

(e) the requirement to check that the oil level is at the established reference point when the device is level with the lowest landing during each scheduled maintenance visit;

(f) if the fixed reference level needs to be intentionally adjusted, the requirement to document and record the changes to the established reference level and reason for establishing the new reference level

(g) the requirement to record in the OLM log any quantity of oil added or removed from the hydraulic system;

(h) that during each maintenance visit, even if no oil is added, the requirement to record in the OLM log the oil level and the date of the scheduled maintenance visit;

(i) if oil is added or removed, the requirement to record in the OLM log the dates oil was added or removed from the hydraulic system;

(j) the requirement to record in the OLM log the reason oil was added to or removed from the hydraulic system;

(k) the requirement to record in the OLM log the mechanic’s printed and legible name, signature and certification number for every entry made;
the requirement to keep the OLM log in the elevator machine room, in a readily identifiable location;

the requirement that the OLM log be kept in the elevator machine room for a period of at least five years from the date of the last entry in the OLM log;

the requirement to never allow oil levels to exceed the fixed reference level for the oil level;

the requirement to record in the OLM log the frequency of oil monitoring activities;

the requirement that, despite A.3.01(o), hydraulic elevating devices with buried single bottom cylinders be monitored on a monthly basis;

installations registered by MCCR prior to September 4, 1978 with an installation number below 31909 shall be monitored monthly, unless a notification* (in the form provided by the TSSA) is sent to the Director, advising why the monthly requirements should not apply, and the registered notification is posted along with the OLM log;

if there is any oil loss which cannot be accounted for, the requirement to immediately remove a hydraulic elevating device from service until the cause for the oil loss is determined and the cause and associated remedy noted in the OLM log;

the requirement to report in writing any oil loss attributed to leaks in buried cylinders or buried piping to the TSSA Elevating Devices Director within 7 days;

the requirement to provide maintenance personnel adequate training related to the contractor’s oil loss monitoring program;

the requirement to maintain up-to-date written records showing who provided and who received the training referred to in A.3.01(t), the nature of the training and the date when it was provided. A record of training shall be available to the TSSA upon request.

the requirement that the contractor’s oil loss monitoring program be posted or otherwise available in the machine room, and

the requirement that the collection containers shall not exceed 19 L (5 gal) per cylinder.

A.3.02 Oil that is returned to the hydraulic system from recovery containers, either by manual means or automatically via scavenger pumps, need not be recorded.

Note: if oil from recovery containers is not suitable for return to the tank, it must be measured and an equivalent amount must be added to the system when recovery containers are emptied. If additional oil is needed to reach the fixed reference level it must be recorded as new oil.
A.4 Effective Date

A.4.01 This amendment is effective immediately.

A.5 *Notification

A.5.01 A Notification form can obtained from the TSSA web site at, www.tssa.org.
- The “Subject” entry (box 5.0) should state: Non Single Bottom Cylinder
- The “TSSA Reference No.” entry (box 7.0) should state: 212/07-r1

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BACKGROUND

In-ground hydraulic elevator cylinders (as well as piping) may corrode and develop an oil leak. If an oil leak develops in the hydraulic elevator cylinders (as well as piping) and insufficient steps are taken to correct the problem, the total failure of the cylinder may occur causing the car to overspeed in the down direction or free-fall.

The risk of corrosion affecting cylinders is greatest on cylinders installed without protective plastic casing. In April 1992 the code changed to require corrosion protection by means of a protective plastic casing. Clause 4.18.3.8 Corrosion Protection, was introduced with the release of B44-M90 Supplement 1 – 1992, which was adopted through Director’s Ruling #94/92.

The risk of corrosion and catastrophic cylinder failure is even greater on cylinders installed before September 1978, when the new requirement for a safety bulkhead (double cylinder head) was introduced. Clause 4.18.3.7 Safety Bulkhead, was introduced with the release of B44-1975 Supplement 1 – 1977.

Oil loss which cannot be accounted for, is an indication that corrosion may have developed and should be viewed as a critical warning indicator before further corrosion causes a catastrophic failure.

This Code Adoption Document amendment is to require contractors to implement an effective oil loss-monitoring program to remove the risk of catastrophic failure due to corrosion.

This amendment to the Code Adoption Document replaces Safety Alert Bulletin 143/99.