

HEALTH AND SAFETY ADVISORY

FOR BUILDING OWNERS AND FACILITY MANAGERS

Providing Safe Access to IHSC Cooling Towers/Evaporative Condensers

If a hazard to a worker is present, it is the responsibility of the employer and supervisor to take reasonable precautions to protect the worker.

Building owners and facility managers can be employers under the *Occupational Health and Safety Act*.

“Employer” means a person who employs one or more workers or contracts for the services of one or more workers and includes a contractor or subcontractor who performs work or supplies services and a contractor or subcontractor who undertakes with an owner, constructor, contractor or subcontractor to perform work or supply services. (R.S.O. 1990, c.O.1, s.1 (1))

Fall Hazards

Falls are a leading cause of workplace injury, and employers bear responsibility to prevent these falls. In-house maintenance personnel and outside contractors require safe access to cooling towers and evaporative condensers.

To reduce the risk of falls, manufacturers offer permanent ladders and platforms for safe access. Building owners and facility managers can be held responsible when safety equipment is missing.



Installation

Cooling towers and evaporative condensers must be installed in accordance with the Canadian Standard CSA B52-13 “Mechanical Refrigeration Code”, which states:

The safe inspection and maintenance of refrigeration system equipment shall be provided in at least one of the following ways:

- (a) *Floor-mounted equipment shall be installed in a manner that allows sufficient clearance around the equipment for safe maintenance and service.*
- (b) *Equipment that is not accessible from floor level shall be installed so that it can be safely reached*
 - i. *by a permanently installed staircase(s) or ladder(s) with a platform(s) and railings meeting the workplace safety requirements of the jurisdiction where the equipment is installed; or*
 - ii. *by a mobile device(s) for lifting personnel to the equipment. The use of such a device, as an alternative to the fixed means of access specified in Item (b)(i), shall be permitted only if it is*

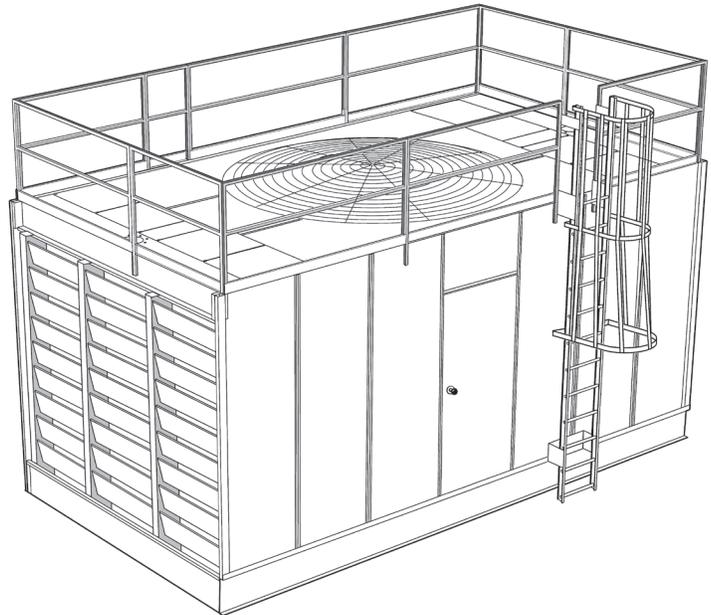
normally on the premises at all times, is acceptable under the workplace safety requirements of the jurisdiction, and if the nature of the refrigeration equipment is such that it can be safely serviced in this way.

- (c) *Roof- and mezzanine-mounted equipment shall be set back 3 m (10 ft) from any edge where a fall hazard exists, except under the conditions specified in Item (d). If the workplace safety requirements of the jurisdiction of installation impose a greater setback, those requirements shall apply.*
- (d) *Where roof- and mezzanine-mounted equipment cannot be set back as specified in Item (c), railings and fall-arrest system attachment points shall be provided in accordance with the workplace safety requirements of the jurisdiction of installation.**

When replacing a cooling tower or evaporative condenser, ask for the OEM accessory kit to be included in quotations, or consider purchasing appropriate mobile lifting devices such as articulating booms for access.

When existing HVAC equipment lacks staircases, ladders, and platforms with railings, consider the following options:

- Determine if the original equipment manufacturer can supply an access kit for the existing equipment.
- Build engineered field-fabricated access and work platforms.
- Purchase an appropriate mobile lifting device such as an articulating boom.



Maintenance

Cooling towers and evaporative condensers require regular maintenance. Performing that maintenance requires access to areas of the equipment that may pose a fall hazard. Providing for safe access to conduct regular maintenance activities such as cleaning, motor maintenance, belt inspections, lubrication, and other service work will facilitate faster service calls and increase the likelihood of service being conducted regularly. Regular service will improve the performance of the unit and reduce the potential for serious health hazards such as *legionellosis*. In addition to improving the efficiency of the unit’s operation, these measures will ensure compliance with the CSA B52-13, protect the worker, and protect building owners and facility managers from violations of the *Occupational Health and Safety Act*.

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