



SAFETY ORDER

MCE UN-INTENDED MOTION (UIM) PROTECTION – SOFTWARE ALTERATION REQUIRED ON iCONTROL AND MOTION 4000 SERIES CONTROLLERS

Date of Issue: June 19, 2017

No: SO-ED 2017-02

This safety order is issued pursuant to section 31 of the Safety Standards Act. A person affected by this safety order may appeal this order in writing to the Safety Standards Appeal Board within 30 days. The appeal process is set out on the Safety Standards Appeal Board's website at <http://www.housing.gov.bc.ca/ssab/>.

Failure to comply with a safety order is an offence under section 72 of the Safety Standards Act.

Part 1: Details of Regulated Work or Regulated Product

The safety order is being issued in relation to a specific regulated product – specifically all iControl and Motion 4000 Series Controllers identified in the Motion Control Engineering [technical bulletin](#) issued April 4, 2016.

The technical bulletin issued by Motion Control Engineering has identified the following issue that resulted in the bulletin identified above:

“In the scenario where the elevator arrives at a floor and the driving machine brake of the machine fails to drop/hold the elevator, the emergency brake (rope/sheave brake) is supposed to engage in order to avoid an un-intended car movement situation. MCE’s earlier software logic used to engage the emergency brake detection circuits after the doors were fully open at the floor. In order to make the emergency brake more responsive, MCE released the new software which reduces the time, and engages the emergency brake detection circuits as soon as the car arrives in the door zone.”

The following models of controllers are affected according to the technical bulletin:

iControl-SCR (Geared and Gearless)
iControl-AC (Geared and Gearless w/Rope or Sheave Brake*)
Motion 4000 (Geared and Gearless w/Rope or Sheave Brake*)

* Denotes a product name used by Thyssenkrupp Northern Elevator Sheave brake or Sheave Jammer. (Gearless machine’s dual emergency brake does not fall under this category).

BCSA has been made aware of an incident where the system that activates the emergency brake failed. The backup system did not activate the rope gripper (emergency brake) when a driving machine brake failed to hold an elevator car as it stopped at a landing. The elevator moved in an uncontrolled manner through the floor with the doors open. A passenger who was in the car as it was arriving at their floor stepped out as the car continued to accelerate with open doors up the hoistway. The passenger was completely unaware of what had happened. The empty elevator continued to accelerate up the hoistway and struck the overhead, causing property and equipment damage. There was a high probability for serious injury or death to the passengers.

Part 2: Requirement(s) of this safety order

All elevating devices contractors currently responsible for maintenance of elevator units affected by the technical bulletin 155 issued by Motion Control Engineering on April 4, 2016 are hereby ordered to confirm that all requirements identified in the MCE technical bulletin have been addressed within the timelines identified by BCSA. The technical requirements are identified below:

1. MCE recommends that all brakes be inspected. Proper maintenance and servicing guidelines should be followed. BCSA reminds all affected contractors that this work is already required by code and specifically by [Safety Order NO: SO-L1 110225 4](#) where brakes must be inspected, serviced and tested annually. If

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elevators affected by this safety order have not had the braking system maintenance performed within the preceding 12 months, the braking system must first be maintained.

2. Following completion of the software upgrade described by MCE, the units shall be tested as required by section 8.10.2.2.2 (jj) (2) for confirmation that the unintended motion detection system is functioning correctly in the up direction;
 - Elevator car placed inside the door zone with both the car and hall door open. The door/s must be open but shall not be in the fully open position.
3. **Reporting criteria** – By August 1, 2017 all licensed elevating devices contractors shall have performed a full survey of their maintenance portfolio and identify ALL units affected by this order. Schedule A spreadsheet must be submitted to BCSA by this date. (If contractor does not have any affected units, report as such).
4. By December 31, 2017 all licensed elevating devices contractors that identified affected units on schedule A as required in Part 2.3 must notify BCSA that the updates are completed by submitting an updated final copy of Schedule A for the applicable units under their portfolio.
5. All correspondence regarding this safety order should be sent to: MCESafetyOrder@safetyauthority.ca

Failure to comply with the requirements of this safety order may result in enforcement action.

Part 4: Details of Ordering Safety Manager or Safety Officer – Please read following page

I certify that I am authorized to issue this safety order in accordance with section 15 (d) of the Safety Standards Act or that I have been delegated this power under section 15 (g) of the Safety Standards Act.

A handwritten signature in black ink, appearing to read "Nav Chahal".

Nav Chahal, Provincial Safety Manager, (Acting) Elevating, Ropeways, and Amusements

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Safety Standards Act:

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- (1) To prevent, avoid or reduce risk of personal injury or damage to property, a provincial safety manager may, in writing, issue a safety order.
 - (2) A safety order may be issued to any person in relation to any of the following:
 - (a) regulated work or regulated products generally;
 - (b) a specific class of regulated product or regulated work;
 - (c) a specific regulated product or regulated work.
 - (3) For certainty, a safety order issued under this section may apply to
 - (a) regulated work that meets the requirements under this Act,
 - (b) regulated work that previously met the requirements under this Act or a former Act but does not meet the current requirements under this Act,
 - (c) regulated products that meet the requirements under this Act, or
 - (d) regulated products that previously met the requirements under this Act or a former Act but do not meet the current requirements under this Act, including a regulated product that bears a certification mark.
 - (4) A safety order may specify any requirement that is intended to prevent, avoid or reduce the risk of personal injury or damage to property and may include any of the following orders:
 - (a) that an existing regulated work or regulated product must be made safe in compliance with the safety order;
 - (b) that a regulated product must be
 - (i) disconnected from a power source,
 - (ii) uninstalled, or
 - (iii) modified before continued use;
 - (c) that a regulated product must be operated, installed, manufactured or disposed of only as specified or that a regulated product must not be moved;
 - (d) that current or future regulated work or a regulated product must conform to the terms or conditions of the order;
 - (e) that a person take or refrain from taking any action that a safety manager considers necessary to prevent, avoid or reduce a risk of personal injury to persons or damage to property;
 - (f) that the manufacturer make reasonable efforts to recall the regulated product.
 - (5) The provincial safety manager must give written notice of the safety order to the following persons:
 - (a) the manufacturer of the regulated product;
 - (b) an owner of the regulated product if the identity of the owner is known to the provincial safety manager;
 - (c) the person in charge of the regulated work.
 - (6) The notice must state the reasons for the decision and that the person has the right to appeal the decision to the appeal board.
 - (7) Despite section 54, a safety order may not be stayed during an appeal.

References:

Safety Standards Act

For more information about the British Columbia Safety Authority, please visit our website at:

www.safetyauthority.ca