

The Use of Electricity In Mines Regulations

Repealed
by Chapter E-6.3 Reg 4 (effective February 28, 1996).

Formerly
Chapter E-7.1 Reg 5.

Table of Contents

- 1 Title
- 2 CSA Standard adopted with amendment
- 3 Application

Appendix

NOTE:

This consolidation is not official. Amendments have been incorporated for convenience of reference and the original statutes and regulations should be consulted for all purposes of interpretation and application of the law. In order to preserve the integrity of the original statutes and regulations, errors that may have appeared are reproduced in this consolidation.

CHAPTER E-7.1 REG 5

The Electrical Inspection and Licensing Act, 1981

Title

- 1 These regulations may be cited as *The Use of Electricity in Mines Regulations*.

CSA Standard adopted with amendment

- 2 Subject to *The Electrical Inspection and Licensing Act, 1981* and these regulations, the Canadian Standards Association Standard CAN3-M421-M85 Use of Electricity in Mines is:

- (a) adopted, and compliance with that code is required as though the provisions of that code had been made pursuant to the Act; and
- (b) amended in the manner set forth in the Appendix.

7 Aug 87 cE-7.1 Reg 5 s2.

Application

- 3 The Canadian Standards Association Standard CAN3-M421-M85 Use of Electricity in Mines, as amended in accordance with these regulations, shall govern the workmanship and all other matters whatever pertaining to electrical equipment and the installation of electrical equipment that is operating or intended to operate in mines and quarries.

7 Aug 87 cE-7.1 Reg 5 s3.

Appendix

Amendments to The Canadian Standards Association Standard

CAN3-M421-M85, Use of Electricity in Mines

Section 2 Definitions

The following definition is added to section 2.1:

“Voltage means voltage as defined in The Canadian Electrical Code, Part 1, CSA C22.1-1986”.

Section 3.2.4 Equipment

Section 3.2.4 is amended:

- (a) by renumbering as subsection 3.2.4.1; and
- (b) by adding the following subsections after subsection 3.2.4.1:

“**3.2.4.2.** Inspection and cover plates for electrical equipment shall be kept in place at all times, except during testing or repairs of that equipment. If electrical equipment without inspection and cover plates in place is left unattended, notices and barricades shall be put in place.

“3.2.4.3. When working on cables or equipment with voltages in excess of 2000 volts, an adequate grounding means shall be attached to cables or equipment before they are ready for use”.

Section 3.2.5 Workmanship and Supervision

Sections 3.2.5.1 to 3.2.5.3 are deleted and the following substituted:

“The provisions of *The Electrical Inspection and Licensing Act, 1981* govern”.

Section 3.2.9 Locking and Tagging of Switches

Section 3.2.9.1 is deleted and the following substituted:

“3.2.9.1 For each circuit over 150 volts to ground, there shall be provision for locking and tagging of the means of disconnection”.

Section 3.2.11 Notices to Workmen

Section 3.2.11 is amended by striking out “The” in the first line and substituting “Where, in the opinion of an inspector, it is necessary, the”.

Section 3.3.2 Portable (Trailing) Power Cables

Section 3.3.2.1 is amended by adding “and to Canadian Standards Association Standard CAN3-C68.4-M86 Power Portable Cables, except where the Chief Inspector has granted an exemption from that standard after “Clauses 3.3.2.2 to 3.3.2.14”.

Section 3.3.2.15 is amended by adding the following:

“Wiring of submersible pumps shall comply with section 26 rule 956 of The Canadian Electrical Code, Part I, C22.1-1986”.

The following section is added after section 3.3.2.15:

“3.3.2.16 Notwithstanding clause 3.3.2.1, cables not meeting Canadian Standards Association Standard CAN3-C68.4-M86 Power Portable Cables in design and construction may be used as portable (trailing) cable with permission from the Chief Inspector”.

Section 3.3.3 Grounding Conductor Monitoring

Section 3.3.3 is amended by adding the following:

“Under voltage tripping devices shall be used in lieu of the shunt trip type”.

Section 3.3.7 AC Supply System for Mobile Equipment

Section 3.3.7 is amended:

- (a) by renumbering it as subsection 3.3.7.1; and
- (b) by adding the following subsection after subsection 3.3.7.1:

“3.3.7.2 Circuit breakers and their auxiliary devices that protect circuits to mobile equipment shall be tested semi-annually and the tests shall include:

- (a) breaking continuity of a ground check circuit where ground monitoring is used; and
- (b) actuating all of the auxiliary protective relays or similar devices;

and records shall be kept and made available to the inspection authority and maintenance personnel”.

Section 3.3.10.2 Isolation and Guarding

Section 3.3.10.2 is amended by deleting clause (b).

Section 3.4.3 Visible Break Disconnecting Means

Section 3.4.3 is amended by adding the following:

“Compliance with this section is not mandatory if moulded case circuit breakers are used”.

Section 3.4.10 Cable Couplers

Section 3.4.10 is amended:

- (a) by renumbering it as subsection 3.4.10.1; and
- (b) by adding the following subsection after subsection 3.4.10.1:

“3.4.10.2 Cable coupler connections shall be broken only under no load conditions”.

Section 3.4.11 Conveyor System

Section 3.4.11.1 is deleted and the following substituted:

“3.4.11.1 Emergency stopping means for electrically driven conveyors shall be designed and located as prescribed in “The Mines Regulations”, being Saskatchewan Regulations 284/78”.

Section 3.4.13 Capacitors

Section 3.4.13.4 is deleted.

Section 3.6.12 Resistance Grounding

Clause (b) of section 3.6.12.2 is amended by adding “which will trip the circuit off” after “protection device”.

Section 4.5.2 Movement of Equipment and Minimum Distance From Overhead Power Lines

Section 4.5.2 is amended:

- (a) by renumbering it as subsection 4.5.2.1; and
- (b) by adding the following subsection after subsection 4.5.2.1:

“4.5.2.2 Mining equipment, when expanded to its maximum working range, shall comply with clearances as specified in Table 3 of this Standard”.

Section 4.5.4 Work on Overhead Power Lines

The following section is added after section 4.5.4.2:

“4.5.4.3 On overhead lines that supply power to surface coal mines and quarries, guy wires shall be securely connected to the system ground or be provided with insulators installed near the pole end”.

Section 4.7.2 Moveable Substations

Section 4.7.2 is amended:

(a) by striking out “The entrance to the enclosure shall be locked at all times and shall be accessible only to authorized persons” in subclause (c)(i) and substituting “Transformer enclosures shall be kept locked against unauthorized access, unless that access does not constitute a hazard from exposure to live parts”; and

(b) by adding the following clause after clause (d):

“(e) Portable substations and transformers shall be de-energized before they are moved from one location to another”.

Section 4.7.3 Trailing Power Cables (Usage)

Section 4.7.3.5.1 is amended by adding the following:

“Cable couplers shall be suitable for environmental conditions that may be encountered”.

Section 4.7.3.6 is deleted and the following substituted:

“Every cable assembly which exceeds 300 volts shall be provided with a visible means of identifying the equipment to which it is connected or other means established by each mine in accordance with its safety standard procedures”.

Section 4.7.4 Primary Cable Connectors to Switch Houses and Moveable Substations

Section 4.7.4.1 is deleted and the following substituted:

“4.7.4.1 Cable connections to overhead power lines shall be connected only to overhead power lines having a lockable disconnecting device at the source”.

Section 4.8.2 Testing, Examination, and Maintenance

Section 4.8.2 is amended by striking out “All components” in the third sentence and substituting “All external components”.

Section 4.8.5 Attachment of Ground Conductors and Ground Check Wires to Equipment Frames —

Use of Separate Connections

The following is added to section 4.8.5:

“Note — The intent of this section is to ensure continuity of the ground wire to equipment frames or ground bus by using separate attachment devices for the ground and ground check conductors”.

Section 4.8.6 Disconnecting Devices

Section 4.8.6 is amended by adding the following:

“Compliance with this section is not mandatory if moulded case circuit breakers are used”.

Section 5.2.1 Conductors

The following sections are added after section 5.2.1.2:

“5.2.1.3 All new cables purchased for installation in mine shafts for the supply of power to underground workings shall be accompanied by a manufacturer’s certified report of tests, including a description of the cable, and those reports shall be filed with the Chief Inspector.

“5.2.1.4 The requirements of section 5.2.1.1 and 5.2.1.2 do not apply to underground workings in potash mines provided that conductors have flame-retardant or non-metallic jackets and are so placed and secured as to not be subject to mechanical damage”.

Table 3

Table 3 is repealed and the following substituted:

“Table 3

Minimum Clearance Between Equipment and Power Lines

<i>Nominal Voltage-to-Ground Volts</i>	<i>Minimum Clearance Metres</i>
0 - 750	1.0
751 - 2500	1.2
2501 - 9000	1.5
9001 - 25000	1.9
25001 - 46000	2.5
46001 - 69000	3.0
over 69000	3.7”.

7 Aug 87 cE-7.1 Reg 5.

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