

Apprenticeship and Industry Training Act

Electric Motor Systems Technician Trade Regulation

Alberta Regulation 273/2000

Consolidated to January 31, 2011

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**Government
of Alberta** ■



ALBERTA REGULATION 273/2000

as amended by Alberta Regulation 162/2007, 25/2009, 2/2010 and
1/2011

Apprenticeship and Industry Training Act

ELECTRIC MOTOR SYSTEMS TECHNICIAN TRADE REGULATION

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Definitions

1 In this Regulation,

- (a) “apprentice” means a person who is an apprentice in the trade;
- (b) “certified journeyman” means a certified journeyman as defined in the *Apprenticeship Program Regulation*;
- (c) “electrical machines, systems and equipment” means
 - (i) electrical measuring devices;
 - (ii) electrical machine components;

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- (iii) all types of electro-mechanical equipment whether or not it is
 - (A) gear driven,
 - (B) belt driven, or
 - (C) direct coupled;
 - (iv) electrical switching circuits;
 - (v) electrical fans, blowers and pumps;
 - (vi) transformers;
 - (vii) single phase motors;
 - (viii) magnetic switches and control circuits;
 - (ix) phase converters;
 - (x) three phase motors, starters and controllers;
 - (xi) synchronous machines;
 - (xii) industrial electronics controls;
 - (xiii) electric welders;
 - (xiv) eddy current clutches, couplings and brakes;
 - (xv) inverter and vector drives;
 - (xvi) static and dynamic balancing;
 - (xvii) programmable controllers;
- (d) “technical training” means technical training as defined in the *Apprenticeship Program Regulation*;
 - (e) “trade” means the occupation of electric motor systems technician that is designated as an optional certification trade pursuant to the *Apprenticeship and Industry Training Act*;
 - (f) “uncertified journeyman” means an uncertified journeyman as defined in the *Apprenticeship Program Regulation*.

[Alta. Reg. 273/2000;270/2006;162/2007]

General Matters Respecting the Trade

Constitution of the trade

2 The following undertakings constitute the trade:

- (a) the installation of electrical machines, systems and equipment;
- (b) the repair, replacement, modification and testing of electrical machines, systems and equipment.

[Alta. Reg. 2/2010]

Tasks, activities and functions

3 When practising or otherwise carrying out work in the trade, the following tasks, activities and functions come within the trade:

- (a) testing, repairing and reconditioning electric motors and generators and AC and DC welders;
 - (a.1) modifying motors, including windings, electrical connections and bearings;

[Alta. Reg. 2/2010]

- (b) rigging and hoisting;
- (c) power measurement;
- (d) reconditioning and repairing motor-generator sets;
- (e) reconditioning and repairing transformers;
- (f) reconditioning and repairing electrical control components;
- (g) manufacturing, testing and repairing electrical control panels;
- (h) disconnecting, servicing and reconnecting electrical fans, blowers, pumps or electrical devices from existing consumer power supplies;
- (i) examining, testing and lubricating mechanical components of motors and generators;
- (j) examining, testing and checking the operation of electrical components of motors, generators, transformers and control equipment;
- (k) determining the need, extent and type of repairs required and preparing reports for time and costs estimations;

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- (l) examining, servicing and aligning or replacing couplings;
 - (l.1) performing predictive and preventative maintenance services;

[Alta. Reg. 2/2010]

- (m) examining, servicing or replacing bearings, seals and gaskets;
- (n) repairing or replacing stators and motor windings in AC and DC motors and generators and welders;
- (o) repairing, replacing or reconditioning commutators and slip ring assemblies;
- (p) assembling and testing motors and generators for correct operation;
- (q) examining and testing controls and indicating instruments to determine the nature and extent of repairs required;
- (r) repairing or replacing control components and indicating instruments;
- (s) minor tune-ups of gasoline engines used for generator and welder drives;
- (t) inspecting and testing to establish condition of transformers;
- (u) removing transformer cores and coils from transformer housings;
- (v) repairing damaged insulators and insulating material in respect of transformers;
- (w) repairing and replacing coil connections in respect of transformers;
- (x) removing and rewinding primary windings and installing primary windings;
- (y) removing and rewinding secondary windings and installing secondary windings;
- (z) repairing or replacing tap changing switches;
- (aa) checking and repairing transformer cores;
- (bb) repairing transformer housings;
- (cc) testing, removing and replacing transformer oil;

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- (dd) assembling transformers and placing in transformer housings;
 - (ee) inspecting and testing condition of control components including relays, solenoids, contactors and similar components;
 - (ff) dismantling, repairing and rewinding components and assembling and testing for correct operation;
 - (gg) interpreting and evaluating customers' requirements, drawings and specifications;
 - (hh) preparing and laying out materials for and manufacturing and assembling enclosures and panels;
 - (ii) determining locations of components and installing and wiring the components in enclosures and panels;
 - (jj) testing control panels for correct operation according to drawings and specifications;
 - (kk) inspecting control panels for damage and faulty components;
 - (ll) repairing and verifying certification of explosion proof electrical equipment and components;
 - (mm) painting and refinishing electrical apparatus.

Apprenticeship

Term of the apprenticeship program

4(1) Subject to credit for previous training or experience being granted pursuant to an order of the Board, the term of an apprenticeship program for the trade is 4 periods of not less than 12 months each.

(2) In the first period of the apprenticeship program an apprentice must acquire not less than 1500 hours of on the job training and successfully complete the technical training that is required or approved by the Board.

(3) In the 2nd period of the apprenticeship program an apprentice must acquire not less than 1500 hours of on the job training and successfully complete the technical training that is required or approved by the Board.

(4) In the 3rd period of the apprenticeship program an apprentice must acquire not less than 1500 hours of on the job training and

successfully complete the technical training that is required or approved by the Board.

(5) In the 4th period of the apprenticeship program an apprentice must acquire not less than 1500 hours of on the job training and successfully complete the technical training that is required or approved by the Board.

Employment of apprentices

5(1) Where a person employs an apprentice, that employment must be carried out in accordance with this section.

(2) Subject to subsection (3), a person who is a certified journeyman or an uncertified journeyman in the trade or employs a certified journeyman or an uncertified journeyman in the trade may employ 2 apprentices and 2 additional apprentices in the trade for each additional certified journeyman or uncertified journeyman in the trade that is employed by that person.

[Alta. Reg. 1/2011]

(3) Subsection (2) does not apply to an apprentice who is engaged in an apprenticeship program in the trade and has completed all the requirements required or approved by the Board for advancement into the 4th period of that apprenticeship program.

[Alta Reg. 273/2000;102/2006;270/2006]

Wages

6(1) Subject to the *Apprenticeship Program Regulation* a person shall not pay wages to an apprentice that are less than those provided for under subsection (2).

(2) Subject to the *Employment Standards Code*, a person employing an apprentice must pay wages to the apprentice that are at least equal to the following percentages of the wages paid to employees who are certified journeymen or uncertified journeymen in the trade:

- (a) 55% in the first period of the apprenticeship program;
- (b) 65% in the 2nd period of the apprenticeship program;
- (c) 75% in the 3rd period of the apprenticeship program;
- (d) 85% in the 4th period of the apprenticeship program.

[Alta. Reg. 273/2000;270/2006]

Transitional Provisions, Repeals, Expiry and Coming into Force

Apprenticeship continues

7 A person who immediately prior to January 1, 2001 was an apprentice in an apprenticeship program under the *Electrical Motor Systems Technician Trade Regulation* (AR 126/94) continues as an apprentice in that apprenticeship program under this Regulation.

Repeal

8 The *Electrical Motor Systems Technician Trade Regulation* (AR 126/94) is repealed.

Expiry

9 For the purpose of ensuring that this Regulation is reviewed for ongoing relevancy and necessity, with the option that it may be repassed in its present or an amended form following a review, this Regulation expires on August 31, 2018.

[Alta. Reg. 273/2000;278/2004,25/2009]

Coming into force

10 This Regulation comes into force on January 1, 2001.