



Province of Alberta

## APPRENTICESHIP AND INDUSTRY TRAINING ACT

# NATURAL GAS COMPRESSION TECHNICIAN TRADE REGULATION

### **Alberta Regulation 168/2011**

With amendments up to and including Alberta Regulation 116/2016

### Office Consolidation

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(Consolidated up to 116/2016)

**ALBERTA REGULATION 168/2011**

**Apprenticeship and Industry Training Act**

**NATURAL GAS COMPRESSION 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* (AR 258/2000);
- (c) “compression” means the act of decreasing the volume and increasing the pressure of gas by mechanical means;
- (d) “compressor” means a mechanical device used in the natural gas industry that increases the pressure of gas;
- (e) “natural gas compression” refers to the means and methods used to facilitate the delivery of natural gas from the well head to the end user via a series of specific separation, treatment, injection, disposal and compression processes;

- (f) “natural gas compression equipment” means any type of fixed or stationary equipment used to gather, store and transmit natural gas and, without limiting the generality of the foregoing, includes
- (i) stationary and reciprocating internal combustion engines;
  - (ii) motors;
  - (iii) compressors;
  - (iv) pumps;
  - (v) power generators;
  - (vi) mixers and agitators;
  - (vii) coolers, chillers and heat exchangers;
  - (viii) separator systems;
  - (ix) dehydration systems;
  - (x) air and gas dryers;
  - (xi) processing systems including sweetening, treating and fractionation;
  - (xii) artificial lift systems including pump jacks and submersible pumps;
  - (xiii) valves and valve controls;
  - (xiv) equipment protection and monitoring systems;
  - (xv) local panel controls;
  - (xvi) low voltage electrical control loops;
  - (xvii) electronic processor and control loops;
  - (xviii) instrumentation control loops;
  - (xix) gearboxes;
  - (xx) clutches;
  - (xxi) drive systems;
  - (xxii) turbines;

- (g) “optimizing” means adjusting systems affecting the performance and efficiency of natural gas compression equipment;
- (h) “technical training” means technical training as defined in the *Apprenticeship Program Regulation* (AR 258/2000);
- (i) “trade” means the occupation of natural gas compression technician that is designated as an optional certification trade pursuant to the *Apprenticeship and Industry Training Act*;
- (j) “uncertified journeyman” means an uncertified journeyman as defined in the *Apprenticeship Program Regulation* (AR 258/2000).

### **General Matters Respecting the Trade**

#### **Constitution of the trade**

**2** The undertakings that constitute the trade are the installation, commissioning, maintenance and repair of natural gas compression equipment.

#### **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) reading and interpreting drawings, schematics, related technical information and materials lists;
- (b) performing the assembly, installation, inspection, maintenance, repair and overhaul of natural gas compression equipment, including the following:
  - (i) complete ignition analysis, fuel, air, exhaust and engine management systems testing, fault diagnoses and repair;
  - (ii) complete reciprocating and rotating machinery analysis to determine equipment condition, prediction of failure, corrective and preventive measures, and equipment performance to design intent;
  - (iii) performing visual walk-around inspections to determine the external conditions and obvious operational or safety issues that need to be addressed;

- (c) using a variety of electrical, mechanical and specialty diagnostic test equipment to diagnose problems and adjust engine systems;
- (d) providing preventive and corrective field mechanical services on gas compression, processing and production equipment on site at client locations;
- (e) troubleshooting and diagnosing mechanical and general electronic control problems and all levels of compressor system failure;
- (f) repairing and rebuilding natural gas equipment;
- (g) inspecting malfunctioning or damaged equipment to determine the nature and scope of the problem using applied failure analysis principles;
- (h) performing combusted gas emissions measurement and extrapolating findings to correction requirement;
- (i) assessing technical reports to determine operation problems, future design improvements and production improvements, and providing recommendations for improved service and operation procedures;
- (j) rigging and hoisting using correct lifting procedures;
- (k) heating and cutting with oxy-acetylene equipment;
- (l) tack welding with electric arc welding equipment;
- (m) evaluating and optimizing the performance of natural gas compression equipment in respect of how the equipment is used and the conditions under which it operates;
- (n) performing reliability analysis;
- (o) performing risk assessments and applying learnings;
- (p) identifying and developing maintenance strategies based on reliability centred maintenance, condition based maintenance, and preventive maintenance concepts;
- (q) adhering to regulations and standards related to natural gas compression systems to ensure the safety of all workers, the environment and equipment.

## 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 for each additional certified journeyman or uncertified journeyman in the trade that is employed by that person.
- (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.

### Wages

- 6(1)** Subject to the *Apprenticeship Program Regulation* (AR 258/2000), 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 journeypersons or uncertified journeypersons in the trade:

- (a) 60% in the first period of the apprenticeship program;
- (b) 70% in the 2nd period of the apprenticeship program;
- (c) 80% in the 3rd period of the apprenticeship program;
- (d) 90% in the 4th period of the apprenticeship program.

### **Coming into Force**

**7** Repealed AR 116/2016 s5.

### **Coming into force**

**8** This Regulation comes into force on September 1, 2011.









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