Alberta Government

AUTHORIZATION #48
REQUEST #673

Granted under section 13 of the *Designated Trades and Restricted Activities Regulation*, AR 161/2022

AUTHORIZATION

I, Jackie Hammond, Deputy Administrator for Designated Trades, pursuant to section 13 of the *Designated Trades and Restricted Activities Regulation* (Regulation) hereby authorize **individuals** who are not otherwise permitted to perform restricted activities in the designated trade of **electrician**, to perform only the following restricted activities of the designated trade, subject also to the restrictions and terms and conditions outlined below:

- carry out the assembly, installation and maintenance of neon and light emitting diode (LED) signs, outline lighting and prefabricated electrical signs beyond the disconnecting means integral with the sign or outline lighting.

This authorization is subject to the following restrictions:

power connections 1 (1) The performance of the restricted activities under this authorization related to the connection of the permanent power supply is restricted to the disconnection and connection of existing signs or outline lighting for maintenance purposes.

no new installations (2) This authorization does not include work before the disconnecting means for the sign.

who can perform restricted activities? (3) The performance of the restricted activities under this authorization is restricted to individuals who:

(a) hold an Alberta Sign Service / Installation Technician Certificate issued by the Alberta Sign Association (1992), or

(b) have successfully completed a minimum standard of training as outlined in Appendix "A", delivered by a person who holds a trade certificate or an endorsement in the designated trade of electrician recognized under the *Skilled Trades and Apprenticeship Education Act*, or

(c) are completing the minimum standard of training as outlined in Appendix "A", for up to a maximum period of six months from the date the individual commenced performing the restricted activities in the designated trade of electrician.

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supervision during training period

(4) An individual who is in the process of completing the minimum standard of training outlined in Appendix "A" must work under the direct supervision of a person who holds an Alberta Sign Service / Installation Technician Certificate issued by the Alberta Sign Association (1992), or a person who holds a trade certificate or an endorsement in the designated trade of electrician recognized under the *Skilled Trades and Apprenticeship Education Act.*

This authorization is subject to the following terms and conditions:

Terms of authorization

effective date of authorization

2 (1) This authorization is effective from June 1, 2023 to and including May 31, 2026.

right to withdraw

(2) Notwithstanding subsection (1), this authorization may be revoked or the terms and conditions may be altered any time pursuant to s. 13(3) of the Regulation.

Registry of employees

maintain registry

3 Each person employing individuals working under this authorization must maintain a registry of employees working under this authorization and provide it, on request, in accordance with the *Skilled Trades and Apprenticeship Education Act (Alberta)*, the *Freedom of Information and Protection of Privacy Act* (Alberta) or the *Personal Information Protection Act* (Alberta).

Legislative requirements

all laws apply

4 Except as provided by this authorization, all other requirements of any municipal, provincial or federal legislation continue to apply.

Authorized by:

Jackie Hammond
Deputy Administrator for Designated Trade
Skilled Trades and Professions
on April 28, 2023

Training Required for Authorization

A. Electrical Safety ..... 2 hours

Outcome: Apply safe work practices for electrical work.

1. Identify the safe work practices to protect from arc flash hazards.
2. Identify and describe lockout procedures.
3. Identify the safe work practices to prevent electrical shock.

B. Regulating Bodies ..... 2 hours

Outcome: Understand the roles of the regulating bodies that administer the Sign Service Installation Technician (SSIT) Certificate.

1. Explain the Alberta Skilled Trades and Apprenticeship Education Act in regards to SSIT.
2. Explain the Authorization under the Designated Trades and Restricted Activities Regulation in regards to SSIT.
3. Explain the Canadian Electrical Code Part 1 in regards to SSIT.
4. Explain the Canadian Standards Association and related CSA Standards in regards to SSIT.
5. Explain the Occupational Health and Safety Act in regards to SSIT.
6. Explain the Safety Codes Act in regards to SSIT.

C. Principles of Electricity ..... 4 hours

Outcome: Understand the principles of electricity.

1. Explain the basic concepts of electricity.
2. Identify quantities of electric circuits.
3. Compare the properties of electrical devices.
4. Explain the characteristics of conductors and insulators.

D. Characteristics of Electric Circuits ..... 6 hours

Outcome: Understand the characteristics of electricity.

1. Describe the characteristics of a closed, open, short, series, parallel, and grounded, circuit.
2. Explain the components of a branch circuits.
3. Identify the characteristics of single-phase circuits.
4. Identify the characteristics of three-phase circuits.
5. Identify the characteristics of single-phase rectified circuits.
6. Identify the characteristics of three-phase rectified circuits.

E. Measuring Instruments ..... 2 hours

Outcome: Use electrical meters to measure circuit properties.

1. State the application of the various meters.
2. List the safety precautions that must be observed when using meters.
3. Interpret the readings on digital meters.
4. Recognize the correct connections for various meters.
5. Demonstrate correct connections for various meters.
6. Demonstrate proper range settings on various meters.

F. Splicing and Terminating .....2 hours

Outcome: Splice and terminate conductors.

1. Describe the different types of techniques used for terminating conductors.
2. List the basic techniques for soldering components.
3. State the proper methods for splicing and terminating mechanical connections.
4. Describe the concerns and proper methods for splicing aluminum and copper.
5. State the proper methods of splicing high voltage cable.
6. Describe the proper methods for connecting neon sockets to neon tubes.
7. Installation of Gas Tube and Oil (GTO) cable.

G. Sign Related Electrical Components ..... 4 hours

Outcome: Apply electrical theory to the sign related components.

1. Explain the general theory of operation of transformers.
2. Describe the method of operation for light sources used in the sign industry.
3. Describe the installation of special; application transformers used in the sign industry.

H. General Wiring Methods and Canadian Electrical Code (CEC) Rules..... 4 hours

Outcome: Understand the general wiring methods to sign related components and apply the CEC.

1. State the proper lock-out procedures before working on a circuit.
2. Identify the correct equipment bonding methods.
3. Describe the installation methods for sign related electrical equipment.
4. Describe the installations methods that apply specifically to signs.
5. List the safe limit of approach distances from power lines.
6. Describe conductor stress.

I. Wiring Methods for Signs ..... 4 hours

Outcome: Apply general wiring methods to sign related components and apply the CEC.

1. List the types of sign installations and the types of light sources that are covered in section 34 of the CEC.
2. Explain the general requirements for installing electrical equipment that is used specifically for signs.

3. Explain the requirements for installing electrical equipment used with high-voltage luminous discharge tubes and LED.

J. Lab applications ..... 4 hours

Outcome: Apply electrical theory in a lab setting.

1. Demonstrate proper lockout procedures.
2. Apply Ohm's law to various circuits utilizing various types of meters.
3. Demonstrate the operation of single-phase circuits.
4. Demonstrate the operation of three-phase circuits.
5. Demonstrate the operation of rectified circuits.
6. Demonstrate neon transformer loading.
7. Troubleshoot various circuit faults.

K. Final Exam ..... 2 hours

TOTAL .....36 hours