



## 2<sup>nd</sup> ANNUAL BEAUFORT DELTA REGIONAL SKILLS COMPETITION – SCOPE DOCUMENT

### ELECTRICAL WIRING Secondary Level

#### PURPOSE OF THE CHALLENGE

**DURATION: 6 HOURS**

Participants will apply electrical principles and residential electrical code requirements during residential electrical systems installation.

#### Project Drawings

Project drawings will be provided at the commencement of the competition.

#### SKILLS AND KNOWLEDGE TO BE TESTED

Both theoretical and practical applications will be tested (e.g. safety procedures, alternating and direct current principles, installing circuits with receptacles, etc.).

Competition evaluation will be based on knowledge of: electrical safety, electrical theory, and electrical systems installation. Attention will be given to installation safety, quality, accuracy, and compliance to the electrical code.

#### PRACTICAL SKILLS AND KNOWLEDGE:

Contestants can expect to be evaluated in the following areas:

- Reading an electrical floor plan/electrical diagram
- Drilling wall studs and running wire
- Installing single pole and three-way switches
- Installing non-split and split receptacles
- Installing various fixtures/equipment (e.g. light fixture, dimmer switch, motion sensor, etc.)
- Connecting circuits to the electrical panel
- Assembling electrical components
- Proper finishing techniques (e.g. cover plates)

#### EQUIPMENT, TOOLS, SUPPLIES, AND CLOTHING

##### Tools/equipment Requirements:

*(These will be provided to the competitors)*

- Electric Drill (3/8" cordless)
- Variety of screwdrivers
- Hammer
- Variety of Pliers
- Wire strippers
- Wire rippers
- Utility knife

- Variety of Pliers
- Wire strippers
- Wire rippers
- Measuring tape
- Multi meter
- Pencil

**Note: Competitors will not be allowed to use their own tools or equipment.**

**The following items will be supplied and must be worn by the contestants for the competition:**

- CSA approved safety glasses and safety boots or shoes
- Shop coat or equivalent. (optional)
- Hearing protection (supplied)
- CSA approved hard hat

**Contestants may bring the following optional items:**

- A non-programmable scientific calculator.

**Project Materials:**

Includes, (but is not limited to), the following:

- Switches (with cover plates)
- Receptacles (with cover plates)
- Electrical Panel
- Wire (14/2 and 14/3)
- Electrical Fixtures
- Screws
- Connectors
- Wire (14/2 and 14/3)
- Electrical Boxes

Note: Each contestant will be supplied with materials necessary to complete the competition.

**Safety Orientation:**

Prior to starting the competition contestants and coaches will be provided with a comprehensive safety orientation which will cover personal safety precautions during electrical systems installation. This orientation could take up to one hour.

## **POINT BREAKDOWN / 700 TOTAL**

Compliance with Occupational Health and Safety Regulations	100
Knowledge of electrical theory	100
Interpreting and following electrical floor plan/electrical diagram	100
Compliance with the Canadian Electrical Code during electrical systems installation	100
Measuring and accurately placing of outlets, switches, etc. according to the floor plan/electrical diagram	100

Tying circuit(s) to the electrical panel According to the Canadian Electrical Code Specifications	100
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Neatness of work and work area during and upon completion of the competition	100
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**Total 700**

## **JUDGING**

In the event of a tie the contestant who completes the project in the shortest period of time will be awarded first place.

**Note: 50** points will be removed from the total 700 points total possible, for every secondary work piece required due to damage or loss.

## **TECHNICAL COMMITTEE MEMBERS - JUDGES**

JP Langlois, Technical Co-Chair – BDEC  
Austin Abbott, Technical Co-Chair – BDEC