Skills Nova Scotia
Electrical Wiring Scope 2012
Memorial Composite High School
Sydney Mines

PURPOSE OF THE CHALLENGE

Assess the contestant's skills and abilities performing various installation tasks in the field of residential, commercial and industrial electrical wiring.

SKILLS AND KNOWLEDGE TO BE TESTED

Throughout the final contest, contestants can expect to be evaluated in one, two, three or all of the following areas:

- Installing residential, commercial wiring and control systems
- Installing branch circuit components
- Installing heating equipment and components
- Installing motor control systems
- Installing warning devices and various types of detectors

PRE-REQUISITES

Contestants must provide a document proving:

- Completion of provincially recognized Safety Orientation and WHMIS courses.
- Journeyperson or Instructor consent for use of power and hand-tools**.**

Contestants must demonstrate mastery of the following technical skills:

- Measuring and marking dimensions on a work surface using scale plans and drawings based on both metric and imperial measuring systems
- Measuring and accurately taping holes in control panels
- Installing electrical equipment, cables, conduit, tubing and raceways
- Measuring, sawing, drilling and deburring metals and plastics
- Assembling components using screws, staples and bolts
- Linking lines and equipment to control panels and their components
- Wiring and connecting electrical components
- Identifying and marking conductors according to plans and drawings

Contestants must demonstrate mastery of the following theoretical skills:

- Reading, interpreting and executing plans, drawings, diagrams and schematics in compliance with standards
- Knowledge of electrical materials and construction work methods
- Knowledge of basic electrical circuits along with devices and equipment
- Knowledge of OH&S standards and regulations
- Knowledge and application of electrical code requirements in Canada and installation to comply with CEC 2009 edition

EQUIPMENT, TOOLS, SUPPLIES, CLOTHING

The equipment and materials used during the contest are standard items commonly used in the electrical trade in Canada.

Contestants must have the following tools in/with their toolkits:

- Supplies for writing and drawing, i.e. pencil, eraser
- Metric/Imperial measuring tape
- Set of screwdrivers (Robertson, Flat and Phillips)
- Pliers (Linesman, Needle nose and Side cutting)
- Tri-Square
- Electrician's knife
- Wire Strippers
- Torpedo Level
- Multi Purpose Pliers (Channel-Locks)
- Hammer
- Adjustable wrench (Crescent)
- Set of Hex wrenches
- Wood Bits (1/2 – 5/8 – 3/4)
- Fish Tape
- Metal Unibit
- Manual Hole Punches (1/2 – 3/4 – 1")
- Tapping Screwdriver (6/32 – 8/32 – 10/32 – 10/24 – 1/4X20)
- 0-9 Wire Number Markers
- Metal Hand Saw (Hack-Saw)
- Set of Metal Drill Bits
- Canadian Electrical Code Book (2006 Edition)

Tools and Equipment

Contestants may bring other hand tools than listed above. These tools will have to meet CSA standard, be thoroughly inspected and approved by the judges. A ladder, ½" EMT Bender and all power tools (cordless drill, corded ½" drill and heat gun) will be provided for each competitor. At each work station the contestant will have access to a 120-volt 15A (5-20RA) receptacle.

Safety Equipment

Contestants must bring CSA-approved safety gear (hard-hat, boots, goggles and leather gloves). Safety equipment must be worn at all times on the competition site while complying with occupational health and safety regulations. Rings, chains, metal watches etc. will not be permitted while the competition is in progress. Contestants clothing must be neat and clean in appearance (torn, lose or ripped clothing will not be permitted).

PROJECT COMPETITION

Project Competition and Material List

The Provincial Technical Committee (PTC) will be responsible for developing a project for the competition that adheres to the specifications that are laid out in the scope. They will also be responsible for setting the judging criteria along with implementing a material list that complies with the CEC Part 1 2009 Edition.

POINT BREAKDOWN / TOTAL 100

i.	Operation	35
ii.	Equipment/Component installation	10
iii.	Use of supplies	5
iv.	Measurement	10
v.	Cable installation	10
vi.	Conduit installation	10
vii.	Connection of conductors	10
viii.	OH&S compliance	10

TIE-BREK PROCEDURES

A) Project time completion
B) Operation score
C) OH&S compliance