



2012 Nova Scotia Skills Competition
Official Competition Name: **HVAC/R (Refrigeration)**
Competition Level: **Post Secondary**
Competition Location: **NSCC Waterfront Campus Room 3640**
Competition Date: **April 05, 2012**

Timeline

8:00 am - 8:30 am Orientation
8:30am-12:00 noon Competition
12:00 noon-12:30 pm Lunch
12:30 pm-3:00 pm Competition
3:00pm- 3:30 pm Marking (Competitors not present)

Purpose of Challenge

To access the Competitor's skills relating to the installation, operation, maintenance, and repair of mechanical and/or electrical components and equipment of a Refrigeration and/or Air Conditioning System

Duration

6 Hours

Skills and Knowledge to be Tested

The goal of the contest is for competitors to showcase their skills learned and to experience more about Refrigeration & Air Conditioning Systems

Refrigerant handling is an important component and competitors must be aware of current regulations

Contest Description

List of Documents- All documents and manuals will be provided on the day of the Competition

Tasks that may be performed during the contest:

- Applying basic and advanced control circuit concepts (electrical and, or electronic).

- From a written functional description prepare an electrical schematic/ladder diagram and wire a control circuit and its components.
- Troubleshoot refrigeration system component(s) electrical and mechanical if required.
- Diagnose electrical and mechanical fault(s) in an operating system if required.
- Perform brazing procedures.
- Project: Install refrigeration tubing, mechanical components and indicated accessories, on a split refrigeration or air conditioning system. Test, evacuate, charge and commission the system.
- Comply with all Provincial and Federal codes and regulations.
- Applying health and safety regulations.
- Pre-requisites :
 - I. Thorough knowledge of the refrigeration cycle.
 - II. The ability to use refrigeration tools and specialized equipment.
 - III. The ability to use tools required for working with copper tubing.
 - IV. Knowledge of and compliance with current industry codes and safety regulations.
 - V. The ability to use precision electrical test equipment.
 - VI. The ability to develop and draw electrical diagrams.
 - VII. A good operating knowledge of typical controls used in refrigeration and air-conditioning systems. (To include: mechanical, electrical and electronic)

Equipment, Material, and Clothing

Equipment and material provided by NSCC

Equipment/Tools supplied by Competitor:

1. Set of screwdrivers
2. Set of Nut Drivers
3. 6", one 10" adjustable wrench
4. Linesman pliers
5. Side cutter pliers
6. One needle nose pliers
7. One wire crimper pliers
8. Ratchet valve wrench

9. Tubing cutter
10. Reaming Tool
11. Inspection Mirror
12. Clamp on Ampmeter
13. Tape Measure
14. Pens, pencils, notepad

Required Clothing by Competitor:

- Contestants must wear appropriate clothing and standard safety/PPE gear as listed below:
 1. Clear Safety Glasses
 2. Mechanic Style Gloves
 3. CSA approved Safety Shoes

Assessment

POINT BREAKDOWN	/1000
Install and commissioning	700
Brazing	150
Troubleshooting	150

Tie (No ties are allowed)

In case of a tie, the competitor with the highest score in the troubleshooting will win

Competition Rules

Please refer to Skills Canada/Nova Scotia Competition Rules

Number of Competitors

Competition is limited to a maximum of Six (6) Competitors from the following:

NSCC Waterfront – 2- Year 1 & Year 2

NSCC Marconi - 1

NSCC Lunenburg - 1

NSCC Cumberland – 1

Registered Apprentices in Nova Scotia – 2

If above spots are not filled by March 1, 2012, the seats will be filled from a draw to be conducted by Skills NS Staff from a waitlist

Competitors will be allowed to view the competition site the evening of April 4th, 2012. Time TBA

Provincial Technical Committee:

Brian Nicholl- Chairman-NSCC Waterfront -491-4662 brian.nicholl@nsc.ca

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