Roofing Equipment Operator
RE-O
Record of Training Curriculum Document

Introduction:

This TSSA document defines the required training curriculum content for RE-O Record of Training programs under Ontario Regulation 215/01(Fuel Industry Certificates). Ontario Training Providers who wish to have their RE-O training programs accredited by TSSA must submit training programs that meet with the requirements of this curriculum.

There is no requirement to follow the order of this curriculum unless otherwise noted, provided all of the content and objectives are met.

Ontario Regulation 215/01

RE-O certificate
51. A person who is the holder of an RE-O certificate or the holder of a record of training for the purpose may activate and operate a propane-fired tar pot heater with an input of any Btuh and connect it to or disconnect it from piping, tubing or a container. O. Reg. 215/01, s. 51.

NOTE:

An REO Training Program and the resulting ROT certificate do not certify certificate holders for the use of propane torches which are also often used in the roofing and road construction industries.

An REO Training Program may be combined with a CH-02-T (Construction Heat; Torch Only) Training Program for candidates to achieve ROT certification for both tar pot heaters and torches.

ROT certificates issued from Training Providers for such **a combined course must list both ROT designations** (i.e. REO and CH-02-T) on the ROT wallet card.

Please see the TSSA CH-02 curriculum for the requirements of a CH-02 ROT training program.

Theory testing may be done by module or at the completion of the course.

Estimated minimum total number of hours for program delivery: 6 hours

MODULE 1
Estimated hours: .5
Module Title: Propane; Properties of the Fuel and Related Hazards

MODULE – 01	ENABLING OBJECTIVES *The student will be able to:*	THEORY | CONTENT
01.01	Identify the properties of propane as a vapour and as a liquid as well as the hazards associated with the fuel.	Identify the properties of propane as a liquid and as a vapour in terms of: · chemical composition (MSDS Information) · calorific value · boiling and freezing points · relative density · physical and identifiable characteristics of both liquid and vapour propane · uses in industry, home heating and transportation for both liquid and vapour propane · expansion between the liquid and vapour states · working pressures for appliances Identify the hazardous potential of propane as a liquid and as a vapour · frostbite and blinding potential · required Personal Protective Equipment for working with propane · first aid measures · sources of ignition and extinguishing fires · carbon monoxide · range of flammability · explosive potential · provide examples of propane related incidents or accidents
01.02	**THEORY TESTING**	**Candidates shall perform a written theory test with core elements of each learning objective represented in the test.** **The testing may be separated into modules**

MODULE 2

Estimated hours: .5
Module Title: Legislation and Codes

MODULE – 02	ENABLING OBJECTIVES *The student will be able to:*	THEORY | CONTENT
02.01	Identify the applicable sections of the TSS Act.	The TSS Act · Identify the role of TSSA in the Fuels Industry and its jurisdictional authority as per the Act
02.02	Identify the applicable requirements of Ontario Regulation 215/01.	Identify the scope of the RE-O Certificate as per Ontario Regulation 215/01.
02.03	Identify the applicable requirements of Ontario Regulation 211/01.	· identify requirement for approval of appliances and equipment ***(note: currently tar pot kettles are not approved by standard testing agencies; and are exempt from the requirement for approval under Ontario Regulation 212/01; 4.(2)4)*** · identify the requirements for regulated activities involving propane · identify the duties of an employer · identify the certificate required for the handling of propane and the certificates required for various activities involving propane
02.04	Identify the applicable requirements of Ontario Regulation 212/01.	· identify requirement for compliance · identify requirement for approval · identify the duties of an employer · identify the reporting requirements for an accident or occurrence · identify the requirements for immediate and non-immediate hazards · identify the duty to maintain equipment in a safe operating condition
02.05	Identify the applicable requirements of WHMIS and TDG with regard to propane. Identify the safety and first aid requirements related to working with propane.	· identify WHMIS and MSDS information regarding propane gas · identify the TDG requirements for the transportation of propane cylinders · identify preventative safety measures including Personal Protective Equipment; accident prevention, sources of ignition, leak detection and emergency procedures · identify first aid procedures for propane related injuries, freeze burns, inhalation exposure...etc.
02.06	**THEORY TESTING**	**Candidates shall perform a written theory test with core elements of each learning objective represented in the test.** **The testing may be separated into modules**

MODULE 3

Estimated hours: .5
Module Title: Storage and Handling of Propane Cylinders

MODULE – 03	ENABLING OBJECTIVES *The student will be able to:*	THEORY | CONTENT
03.01	Identify various types of cylinders, their components, markings etc.	· identify various cylinder types and sizes used for construction purposes · identify and describe the construction and component parts of cylinders including valve types, relief valves, fixed liquid level gauge, dip tube · identify the required Transport Canada date code and markings on cylinders and the requirement for 10 year recertification · identify the requirements for cylinder inspection
03.02	Identify the requirements for safe handling of propane cylinders.	Identify acceptable and unacceptable methods of transporting and moving cylinders
03.03	Identify the B149.2 code items for the storage of cylinders.	Identify the Code requirements for the location of cylinders on construction sites Including: maximum number of cylinders in a manifold, clearances, storage of empty and full cylinders when not in use
03.05	**THEORY TESTING**	**Candidates shall perform a written theory test with core elements of each learning objective represented in the test.** **The testing may be separated into modules**

MODULE 4

Estimated hours: 1.5
Module Title: Appliance and Cylinder Connections

MODULE – 04	ENABLING OBJECTIVES *The student will be able to:*	THEORY | CONTENT
04.01	Demonstrate procedures for connecting cylinders and appliances.	· identify a variety of common, approved fittings, regulators, hoses and pig tails used to connect propane cylinders in the construction industry · demonstrate connection methods for manifolding cylinders, connecting to construction heaters, connecting to torches · demonstrate leak testing methods
04.02	**Practical testing**	**Candidates shall be tested on:** · their ability to make connections using propane cylinders and tar pot heaters using a variety of fittings · the use of adjustable regulators commonly used with propane tar pot heaters · leak testing after connection and what to do if a leak is found **The practical testing may be done by module, or comprehensively at the end of the course.**

MODULE 5

Estimated hours: 2-3
Module Title: Propane-fired Tar Pot Heaters

MODULE – 05	ENABLING OBJECTIVES *The student will be able to:*	THEORY | CONTENT

05.01	Identify common examples propane of tar pot heaters/kettles/road tankers and components.	· identify commonly used examples of tar pot heaters/kettles/road tankers
		· identify and demonstrate operational characteristics, components and construction of typical heaters including:
		  · burners, flame safeguards(if applicable), gas valves
		
		NOTE: Tar pot heaters typically fire on liquid propane and do not have flame safeguards. Training providers must stress:
		  · **requirement for constant attendance of operating units**
		  · **potential hazards of working with propane liquid**
		  · **hazards associated with flame failure**
		  ·

05.02	Identify and demonstrate lighting, operating and flame failure instructions for tar pot heaters/kettles/road tankers.	Identify and demonstrate: · the requirement to have a minimum ULC 4A40BC fire extinguisher available on site before lighting the heater · pre-use inspection of heater and connections · container service valve opening · the requirement of having a source of ignition at the burner before opening the burner valve · opening of burner valve Identify and demonstrate procedures to follow in case of flame failure: · shutting off fuel supply at container · checking for presence of escaped fuel · testing of low lying and confined areas for leaked fuel with a leak detection device · requirements to ventilate an area of actual or suspected leak before re-ignition of heating unit
05.03	Identify shut down instructions for tar pot heaters/kettles/road tankers.	Identify and demonstrate the procedure to close container service valve first and allow the fuel in the hose to be burned. Wait until flame failure due to lack of fuel, before closing burner valve.
05.04	**Practical testing**	Candidates shall perform a practical test in which they must be able to demonstrate each of the skills identified and demonstrated within the course. Candidates must be able to demonstrate safe operation of equipment, leak testing, competent execution of procedures and emergency preparedness in order to attain a passing grade for this course.