

Waste Oil Burning Equipment Guideline



Objective

This guideline is intended to assist in the installation, construction and operation of waste oil burning equipment.

Application

This guideline applies to the users of waste oil burning equipment for space heating in Saskatchewan.

Definitions

- **Oil** - means any petroleum or synthetic oil that is recoverable for other uses and is used for the purposes of insulation, lubrication, hydraulics or heat transfer and includes vegetable oil used for lubricating purposes.
- **Permit** - means a permit issued pursuant to Sections 5, 7 and 9 of the Clean Air Act.
- **Waste oil** - means oil that through use, storage and handling can no longer be used for its original purpose.

Sask Spills

1-800-667-7525

Policy

The *Waste Oil Burning Equipment Guideline* updates and replaces the *Interim Waste Oil Furnace & Heater Policy* to reflect the development of waste oil burning equipment standards by the Canadian Standards Association (CSA).

The *Waste Oil Burning Equipment Guideline* aims to streamline or eliminate the regulatory requirements for permitting individual waste oil burning equipment in Saskatchewan for facilities that operate within Saskatchewan Ministry of Environment requirements.

When necessary, the Ministry of Environment may issue a permit for specific waste oil burning equipment to ensure that ambient air quality standards are not exceeded or environmental impacts are not occurring at specific locations. In addition, all applicable regulations associated with waste oil storage, transport and collection must be adhered to. The user of the waste oil burning equipment carries the responsibility for operating and maintaining the unit as well as being responsible for the consequences of the "pollution potential" associated with the operation of these units.

Requirements

The design, construction, installation and operation of waste oil burning equipment must meet current Canadian Standards Association or Underwriters Laboratory standards; national and provincial building and fire codes and all other applicable laws, regulations and bylaws. Storing waste oil shall comply with The Hazardous Substances and Waste Dangerous Goods Regulations. A spill under The Environmental Spill Control Regulations criteria must be reported. Spills may be verbally reported to the Spill Report Centre at 1-800-667-7525. A written report must be submitted within seven days.

Those using waste oil burning equipment for space heating shall also ensure:

- the installation of waste oil burning equipment or combination of burners shall not exceed a heating capacity of more than 500,000 BTU/hr;
- waste oil burning equipment shall not be used in or within 100 metres of residences, including cottages or other secondary residences. Pre-existing units (in place prior to July 1, 1998), may continue to be located and operated within the context of this guideline;
- waste oil burning equipment should only burn waste oil that the owner or operator generates or receives from individuals who generate waste oil through the maintenance of personal vehicles; and
- the waste oil burning equipment shall be operated and maintained according to the manufacturer's specifications.

Ash from the waste oil burning equipment may be defined as a waste dangerous good under The Hazardous Substances and Waste Dangerous Goods Regulations. A hazardous waste characterization should be completed on the ash. Ash determined to be a waste dangerous good must be managed under The Hazardous Substances and Waste Dangerous Goods Regulations. Non-hazardous ash may be disposed of at a Ministry of Environment permitted waste disposal ground. Waste disposal ground operators may, at their discretion, apply restrictions, conditions or testing requirements for ash disposal.

Standards and Regulations

A list of standards and regulations is included for reference.

Underwriters Laboratory Standard UL296A (www.csa.ca)

This standard covers air-heating appliances of the central furnace and unit heater types intended for burning waste oil fuels.

CSA Standard B139-04: Installation Code for Oil-Burning Equipment (www.csa.ca)

Applies to the installation of and alterations to all stationary and portable appliances, equipment, components and accessories where oil is used for fuel purposes.

CSA Standard B140.0-03—Oil Burning Equipment: General Requirements (www.csa.ca)

This standard covers construction, general requirements, test methods, marking and instructions that are common to some or all of the CSA B140 series of Standards. This is not a complete Standard in itself and must be used in conjunction with one of the other Standards in the CSA B140 series to form a complete Standard.

CSA Standard B140.1-1966 (R2006): Vapourizing-Type Oil Burners (www.csa.ca)

Applies to oil burning assemblies comprising of a vapourizing burner and such devices as may be required to control the supply of fuel to the burner.

CSA Standard B140.2.1-M90 (R2005): Oil Burners, Atomizing-Type (www.csa.ca)

Applies to oil burners of the atomizing-type, irrespective of size, firing rate or grade of fuel oil, that are designed primarily for installation in warm-air, hot-water and steam-heating equipment.

Saskatchewan Acts and Regulations, including those mentioned in this fact sheet, may be obtained from The Office of the Queen's Printer at www.qp.gov.sk.ca.

Background

Large quantities of lubricating products are used in our automobiles, farm machinery and industrial processes; creating the need to address the issue of what to do with them when their useful life is over. Recycling waste oil products allows this non-renewable resource to be used many times, reducing energy requirements and potential environmental problems associated with producing and refining new crude oil.

Saskatchewan Ministry of Environment promotes recycling as the preferred option for dealing with waste oil. However, the ministry is aware of the isolation of northern communities and distance to markets of some communities, which may make recycling and transport a non-viable option for disposing of waste oil products. Therefore, the ministry will allow the use of waste oil burning equipment, without obtaining a permit pursuant to The Clean Air Act, where the user:

- meets the design, construction, installation and operation requirements contained herein;
- carries the responsibility for operation and maintenance of the unit as well as being responsible for the consequences of the "pollution potential" associated with the operation of these units; and
- is aware that the practice of burning waste oil is not approved as an "acceptable end use" for the purposes of obtaining a Return Incentive from the Saskatchewan Association for Resource Recovery Corporation (SARRC).

Burning waste oil products destroys a non-renewable resource and promotes the refining of new stocks of crude oil. Burning waste oil may damage the environment through the release of concentrated pollutants captured in the oil during engine operation. These pollutants may lead to health concerns associated with particulates and heavy metals and contribute to greenhouse gas emissions, smog and acid rain.

The Ministry of Environment regulates waste oil burning equipment to ensure ambient air quality standards are not compromised and to minimize any potential, long-term, environmental impacts associated with burning waste lubricating products such as motor oil, transmission fluid, hydraulic oil or any other refined or synthetic petroleum-based oil. The concerns identified with waste oil burning equipment can be found in the August 1989 report, *Used Oil Management in Canada: Existing Practices and Alternatives*, issued by the Canadian Council of Ministers of the Environment. This report states, in part:

"The emissions of most concern when space heaters are fueled with used oil are metals, halide acids and organics (solvents and chlorinated organics). Several toxic or carcinogenic metals have been found in the flue gas from air atomization burners and vaporizing pot residues. Lead emissions and residues are the primary concern although concentrations of arsenic, barium, cadmium, chromium and zinc may also be significant. Potentially harmful organics in space heater flue gas and burner pot residues include polycyclic aromatic hydrocarbons (PAH's) and polycyclic organic matter (POM)."