



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of Environment and Conservation
Pollution Prevention Division

GUIDANCE DOCUMENT

Title: Implementation Guide for Reviewing and Approving Used Oil
Combustion Equipment Installation and Operation Proposals

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**IMPLEMENTATION GUIDE
FOR USED OIL COMBUSTION
GD-PPD-037.1**

1.0 SUBJECT:

The implementation of Subsection 6(2) of the Used Oil Control Regulations and Section 13 of the Air Pollution Control Regulations, 2004.

2.0 OBJECTIVE:

To set out a procedure for the Department of Environment and Conservation to follow when a person, who owns or operates, or proposes to install and operate any used oil combustion equipment, seeks the necessary approval.

The owner or operator of such used oil combustion equipment, under Subsection 6(2) of the Used Oil Control Regulations, is only permitted to combust used oil as a fuel or heat source in a system which complies with the Air Pollution Control Regulations, 2004. Compliance with Section 13 of these regulations is primarily what would be required.

3.0 DEFINITIONS:

Combustion equipment includes, but is not limited to, furnaces, boilers, burners, heaters or other combustors, utilizing used oil, either in whole or as part of a mixture, as a fuel. Combustor, combustion process equipment, combustion equipment and equipment have similar meanings.

Combustion equipment is broken into four categories as follows:

Category 1

- individual or multiple unit combustion equipment, available as off-the-shelf units, whose maximum cumulative energy input from used oil is 300,000 BTUs per hour and the used oil is internally sourced only.

Category 1A

- individual or multiple unit combustion equipment, available as off-the-shelf units, whose maximum cumulative energy input from used oil is 300,000 BTUs per hour and the used oil is partially or wholly obtained from outside sources.

Category 2

- individual or multiple unit combustion equipment, available as off-the-shelf units, whose maximum cumulative energy input from used oil is greater than 300,000 BTUs per hour. The used oil may be internally and/or externally sourced.

Category 3

- Individual unit combustion equipment, other than off-the-shelf units, whose maximum energy input from used oil is greater than 500,000 BTUs per hour. The used oil may be internally and/or externally sourced.

The following table provides a concise guide to the Categories.

Off The Shelf Combustion Equipment	Maximum Energy Input (BTUs/hr)		Used Oil Source	Category
	Individual	Cumulative		
Yes		≤300,000	Internal	1
Yes		≤300,000	External	1A
Yes		>300,000	Internal	2
Yes		>300,000	External	2
No	≤500,000		Internal	Not Permitted*
No	≤500,000		External	Not Permitted*
No	>500,000		Internal	3
No	>500,000		External	3

* Combustion equipment units which are not “Off The Shelf” are not permitted to be used under this firing rate.

4.0 BACKGROUND:

For many years the Department’s official position on the combustion of used oil has been that it was not permitted. In the case of certain industrial users authorization to combust used oil has been given subject to them meeting specified conditions of an Approval. It is understood that there are others who have been burning used oil without any authorization from the Department.

With the advent of the Used Oil Control Regulations and the Air Pollution Control Regulations, 2004, the Department will, more generally, be allowing the combustion of used oil subject to compliance with the regulations and, more specifically, with this guideline.

The Used Oil Control Regulations contain, under Subsection 6(2), a requirement that used oil combustion can only take place using combustion equipment which can comply with the applicable requirements of the Air Pollution Control Regulations, 2004. The issue of used oil combustion is addressed in Section 13 of those regulations.

5.0 LEGISLATION:

The Used Oil Control Regulations, Subsection 6(2), and the Air Pollution Control Regulations, 2004, Section 13.

Used Oil Control Regulations:

- 6(2) A person shall not use used oil or used grease as a fuel or otherwise combust used oil or used grease in a furnace, boiler, burner or other combustor unless the furnace, boiler, burner or other combustor complies with the Air Pollution Control Regulations.

Air Pollution Control Regulations, 2004:

13. Notwithstanding Section 12, a person shall not burn or permit the burning of used oil, waste products or other materials in combustion process equipment except
- (a) where the design and the intended use of the equipment according to the manufacturer's manual permits the burning of the specific material;
 - (b) where the equipment has the combustion and emission control devices that may be required by the minister;
 - (c) where the rate does not exceed the equipment design; and
 - (d) where the written approval of the minister has been obtained.

6.0 GENERAL:

All persons who combust, or wish to combust, used oil are required to have an Approval to install and/or operate such combustion equipment.

The Approval will ensure that:

- only the appropriate class of used oil is combusted at the particular facility,
- suitable equipment is used to combust such used oil,
- an appropriate stack is used to convey the emissions to atmosphere,
- appropriate maintenance is carried out on an applicable schedule, and
- necessary records are kept on the operation and maintenance of the equipment.

Section 7.0, Procedural Outline, should be used to guide officials in their processing of requests for approval to install and operate used oil combustion equipment. If an Approval is issued, it will be issued pursuant to Section 78 of the Environmental Protection Act.

7.0 PROCEDURAL OUTLINE:

For the purpose of streamlining the procedures involved in handling requests for Approval for the combustion of used oil, the Department has decided to split the issue into four categories as defined in Section 3.0, Definitions. In situations where there are more than one combustion equipment unit at a site or facility the energy input to all combustion equipment at the site or facility will be used to determine into which category the systems fall. Energy input will be based upon the combustion equipment manufacturer's name plate rating.

Persons whose combustion equipment falls into Category 1 or 1A will usually be issued a standard Approval with conditions generally applicable to all such systems. Persons whose combustion equipment falls into Category 2 or 3 will go through a more specific, thorough process to determine the potential level of concerns and to determine any necessary additional conditions which must be placed into the required Approval. Emissions testing and ambient monitoring requirements may also be applied to particular situations involving combustion equipment in Category 2 or 3. If compliance can be proven under the requirements placed upon such combustion equipment under Category 2 or 3 then the person may be issued an Approval allowing them to operate their combustion equipment.

7.1 Category 1:

Requirements which will be addressed in the Approval for such combustion equipment will include:

- A. Storage tank systems for their used oil, and/or other oil, fuel source(s) will have to comply with the Storage and Handling of Gasoline and Associated Products Regulations, 2003, the Heating Oil Storage Tank System Regulations, 2003 or the Used Oil Control Regulations, as applicable.
- B. The discharge point of a stack used to discharge emissions from each combustion equipment unit must be vertically oriented, a minimum of 6 metres above grade, at least 1 metre above the roof at the point of contact with the roof and at least 0.6 metre above the highest elevation of the roof of, or any object on, the building within 3 metres of the stack.
- C. The combustion of used oil, either in whole or as part of a mixture, is prohibited at, or within 60 metres (as measured from the centreline of the stack) of, sites where children, the elderly or people with illness may be present. These locations include, but are not limited to, single and multi-family residences, day care facilities, schools, hospitals, a residence for the elderly or a nursing home. Where a person has, or wishes to install,

combustion equipment where the stack will be located less than 60 metres from a prohibited area such a person may choose to have their combustion equipment evaluated under Category 2.

- D. Only Class 1 or Class 2 used oil, or a blend of that with kerosene, stove oil, furnace oil or such other fuels as the combustion equipment manufacturer states, in writing, are suitable for use in the equipment, can be combusted.
- E. Class 3 and Class 4 used oil is prohibited from being combusted.
- F. Substances such as paint, paint thinner, ethylene glycol, chemical solvents, gasoline and grease shall not be mixed with used oil.
- G. Only used oil generated on site or returned to an on site return facility may be combusted.
- H. The combustion equipment used shall be certified for that purpose under the applicable CSA standard or equivalent acceptable to the Department.
- I. An annual inspection and tuneup shall be conducted on each combustion system. A carbon monoxide combustion efficiency test, acceptable to the Department, shall be done at the same time.
- J. Records of all inspections, tests, tuneups, maintenance activities, etcetera shall be kept for a minimum of 3 years and shall be produced, upon request, for inspection by government inspectors.
- K. Access to the combustion equipment including associated used oil storage systems shall be provided to government inspectors for purposes including, but not limited to, random sampling of the used oil for verification of Class type.
- L. Complaints by the public and out-of-compliance conditions which may give rise to complaints by the public shall be reported to the Department.
- M. The sulphur content of used oil, either in whole or as part of a mixture, shall be no greater than 0.5%.
- N. The ash content of used oil, either in whole or as part of a mixture, shall be no greater than 0.9%.

- O. Heater ash must be cleaned out on a routine basis. The frequency will be, at a minimum, as set out in the following table:

Maximum Rated Energy Input	Frequency of Ash Cleaning
≤100,000 BTUs/hr	Every 1000 Litres of Fuel Combusted
100,001 - 150,000 BTUs/hr	Every 1500 Litres ”
150,001 - 200,000 BTUs/hr	Every 2000 Litres ”
200,001 - 250,000 BTUs/hr	Every 2500 Litres ”
250,001 - 300,000 BTUs/hr	Every 3000 Litres ”
>300,000 BTUs/hr	Every X000 Litres where X = energy Input in 100,000 BTUs/hr*

* (eg. 700,000 BTUs/hr - X=7, Ash Cleaning every 7000 Litres)

7.2 Category 1A:

Requirements which will be addressed in the Approval for such combustion equipment will include those described for Category 1 combustion equipment.

Where the owner or operator of Category 1 combustion equipment wishes to combust used oil from an outside supplier of used oil they may do so by becoming a Category 1A facility. The owner or operator of such a facility must obtain a report of the chemical analysis for each load of used oil obtained from an outside source. A copy of all such reports must be retained by the owner or operator of the facility for a minimum of three years and must be provided to government inspectors for review upon request.

7.3 Category 2 or 3:

Requirements which will be addressed in the Approval for such combustion equipment may include those described for Category 1 combustion equipment.

Such combustion equipment will be more specifically evaluated by the Department and a specific Approval for such systems may be issued. Emissions testing and ambient air monitoring may also be required. Category 2 or 3 combustion equipment may be permitted to burn any or all Classes of used oil subject to specific conditions relating to the combustion and/or emissions control equipment. Limitations may be placed upon such an operation including, but not limited to, the total amount or percentage of a particular Class of used oil that may be combusted and when a particular Class of used oil can be combusted.

As of the date this document was written/amended, all known manufacturers of used oil furnaces sell off-the-shelf units of a maximum firing rate of 500,000 BTU's per hour. Systems that fall into Category 3 are not considered as off-the-shelf units and will have a maximum cumulative energy input from used oil well in excess of 500,000 BTUs per hour.

8.0 Fees and Approval Duration:

The fee for Approvals shall be as set out in Policy PPD2000-02.

Approvals will be issued for a maximum time period of 5 years.

NOTE:Fees for Approvals are established in Policy PPD2000-02. Fees applied to the combustion of used oil are in addition to any fees applied to the combustion equipment being used.

The fees for the combustion of used oil are as follows:

Category 1 - \$200

Category 1A - \$300

Category 2 - \$750

Category 3 - in accordance with applicable industrial Approval rates or a minimum of \$750.