



TECHNICAL SUPPORT DOCUMENT

Amendments to — COMAR 26.11.09 Control of Fuel-Burning Equipment, Stationary Internal Combustion Engines and Fuel-Burning Installations

Purpose of Regulation

The purpose of these regulation amendments is to:

- (1) Limit the burning of used oil to fuel burning equipment that burns fuel oil.
- (2) Require a permit to construct or other authorization for fuel burning equipment that will burn on-specification used oil if it has a rated heat input capacity of 50 million Btu or more; and
- (3) Require a permit to construct application for installations that propose to burn waste combustible fluid (WCF) or off specification used oil and assure that the WCF is burned in an authorized installation.

Background

Current regulations allow on-specification used oil to be burned as fuel in any fuel burning equipment upon demonstrating that the used oil specifications are met.

Regulation Amendments

The amendments allow on-specification used oil to be burned only in fuel burning equipment with a rated heat input capacity less than 50 million Btu. Larger fuel burning equipment requires a permit to operate, as specified in COMAR 26.11.02.13A(2), and may be subject to public comment when proposing changes in the quantity or characteristics of emissions. Therefore, fuel burning equipment equal to or greater than 50 million Btu requires a permit or other approval before burning on-specification used oil.

Small fuel burning equipment burning gaseous fuels or No. 1 or No. 2 fuel oil with a capacity less than 1 million Btu per hour are exempt from Permit to Construct requirements. These small units, however, must apply for and obtain a permit or approval from the Department to burn used oil or WCF.

Persons who propose to burn off-specification used oil as fuel must submit an analysis of the material to be burned to assure that the waste material is not hazardous waste and is being burned in authorized equipment. Some waste materials, for example, used oil

containing detectable quantities of PCB, can be burned as fuel only in certain installations specified under federal rules. The Department performs a toxics analysis before issuing any approval to burn WCF.

Sources Affected

The amendments affect fuel burning equipment, asphalt batching plants, and other installations that currently burn or propose to burn used oil or WCF.

Technology and Standards

Oil chemistry and engine technology have changed significantly. As a result, oil usage in engines has been reduced due to less frequent oil changes. Approximately 8 million gallons of used oil are generated in Maryland. Under the Maryland Used Oil Recycling Act, 650,000-750,000 gallons of used oil are recovered annually. Used oil and WCF are valuable energy resources. A gallon of used oil for instance contains 140,000 Btu. This is approximately the amount of energy that can power a home for 24 hours. A gallon of gasoline has 115,000 Btu.

Through re-refining of used oil, 80 percent can be recovered. About 15 percent of used oil is solid residue that can be blended with asphalt. The re-refining process itself is energy intensive, more than 90% of the energy content is lost as the process requires raising the temperature of used oil to above 500 degrees F.

Economics of used oil or WCF utilization are compelling. A gallon of used oil costs \$0.50/gallon. Fuel oil is in the range of \$2.69- 3.00 gallon. Re-refined lubricating oil is sold at \$12/gallon. Natural gas equivalent costs \$2.17. Used oils and waste combustible fluids are burned in boilers, space heaters, cement plants, asphalt plants and compression ignition engines. Maryland has permitted the combustion of used oil and waste combustible fluids at major sources belonging to these categories.

The standards for used oil and WCF are based on analysis of large set of test data by EPA. The sulfur content limit being proposed is also based on test results of used oil. These amendments are to facilitate the application of standards through the permitting process for energy recovery from used oil and WCF.

Expected Emissions Reductions

There will be no emission reduction as a result of these amendments. The usual practice for burning used oil or WCF is to substitute a certain portion of the fuel oil being burned with used oil or WCF.

Health Effects and Ground-Level Ozone

The maximum benefit from these amendments will be provided during the ozone season when VOCs readily combine with NO_x to form the pollutant ground level ozone.

Economic Impact

There is no economic impact upon affected sources as the amendments only clarify applicability of existing standards. The impact on the Department is going to be minimal as the review of additional registrations and permits and compliance determinations can be made with existing staff.

Revision to Maryland's SIP

These amendments will not be submitted to the U.S. Environmental Protection Agency (EPA) for approval as part of Maryland's State Implementation Plan.

Other State or Federal Requirements

There are no other state or federal standards for this category..

Comparison to Federal Standards

There is a corresponding federal standard to this proposed action, but the proposed action is not more restrictive or stringent.

Reference

40 CFR 279.11 - Used oil specifications.