

**New RCSA Section 22a-174-19b
Fuel Sulfur Content Limitations for Stationary Sources**

The Department of Energy and Environmental Protection (DEEP) adopted [section 22a-174-19b](#) of the Regulations of Connecticut State Agencies (RCSA) on April 15, 2014 to limit the sulfur content of distillate, residual, kerosene and aviation fuels combusted in stationary sources. A stationary source is a building with a smoke stack that emits air pollution. Typical fuel-burning stationary sources are boilers, turbines and engines. The new fuel sulfur content limitations mainly impact fuel suppliers, who must obtain compliant fuels, maintain records of the sulfur content of fuel sold and provide a certification to purchasers concerning the sulfur content of fuel purchased.

DEEP reduced the fuel sulfur content limits of these fuel oils to reduce emissions of sulfur dioxide (SO₂), an air pollutant and a contributor to the formation of the pollutant fine particulate matter (PM_{2.5}). Exposure to either SO₂ or PM_{2.5} is associated with health risks. Sulfur oxide emissions also cause environmental damage when combined with water vapor and deposited as sulfuric acid.

Fuel sulfur requirements

Only fuels that meet the sulfur limits in the table below can be combusted, or sold for combustion, in a stationary source within Connecticut.

Fuel Type	Maximum Fuel Sulfur Content	
	Effective July 1, 2014 through June 30, 2018	Effective on and after July 1, 2018
Distillate fuel oil/distillate fuel oil- biodiesel blend	500 ppm; (0.05%) by weight	15 ppm; (0.0015%) by weight
Residual oil/residual oil- biodiesel blend	10,000 ppm; (1.0 %) by weight	3000 ppm; (0.3%) by weight
Aviation fuel	3000 ppm; (0.3%) by weight	3000 ppm; (0.3%) by weight
Kerosene	400 ppm; (0.04%) by weight	15 ppm; (0.0015%) by weight

Because DEEP's requirements center on fuel ultimately combusted in a stationary source, storage, sales and deliveries of fuels for other purposes are not subject to the fuel sulfur content limits.

Exemptions and exceptions

The following fuels are either not regulated by RCSA section 22a-174-19b or are specifically exempt from regulation:

- Home heating oil. The sulfur content limits of home heating oil are specified in Connecticut General Statutes (CGS) section 16a-21a and are the same as distillate fuel oil combusted in a stationary source. Home owners and sellers of home heating oil to home owners have no obligations under RCSA section 22a-174-19b.
- Fuel combusted in mobile sources.
- Fuel combusted in large electric generating units and industrial boilers subject to RCSA section 22a-174-19a.
- Fuel combusted in fuel-burning equipment undergoing testing as part of a research and development operation.
- Fuel in equipment that is leased or rented from outside of the state may be combusted in Connecticut regardless of the sulfur content. However, such equipment must be refueled only with compliant fuel while located in Connecticut.

Storage

There are a number of circumstances under which fuel that exceeds the sulfur content limits of RCSA section 22a-174-19b may be stored in Connecticut:

- Fuel that exceeds the applicable sulfur content limit may be stored in Connecticut provided that it is shipped, sold and used outside of Connecticut.
- Fuel that meets the applicable sulfur content limit at the time it was stored in Connecticut may be sold, delivered and combusted in the state even if the sulfur content limit applicable at the time of storage has changed and the fuel does not meet the current limit.
- Fuel that exceeds the applicable sulfur content limit may be stored for the purpose of blending to create a fuel that complies with the applicable limit.

Fuel shortage emergencies

Fuel with a sulfur content that exceeds the applicable limits may be sold and combusted in stationary sources in Connecticut when:

- The Governor declares that an energy or fuel supply emergency exists; or
- The DEEP Commissioner has determined that a fuel shortage emergency exists after approving a written request for such a determination.

Record keeping

Fuel suppliers. Maintain records of the sulfur content of fuels sold, the heating value of such fuels and the quantities of fuels sold. Fuel suppliers must also provide a certification of the fuel sulfur content to each purchaser.

Fuel users. Maintain records of the sulfur content of the fuel combusted and the quantity purchased for combustion. A written certification or a written contract with a fuel supplier may be sufficient to satisfy the recordkeeping requirement provided the certification or contract identifies:

- The name of the fuel seller;
- The type of fuel purchased;
- The sulfur content of the fuel purchased; and
- The method used to determine the sulfur content of the fuel purchased.

Sales of fuel with a higher sulfur content that met the sulfur content standard at the time of storage are subject to the certification requirement. The combined storage and sales records should demonstrate that the fuel was compliant at the time of storage.

Testing requirements

Use the following methods, or the current active version thereof, for testing the sulfur content of fuel:

- American Society for Testing and Material (ASTM) test method D4294-10, *Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy Dispersive X-ray Fluorescence Spectrometry*.
- D7039-07, *Standard Test Method for Sulfur in Gasoline and Diesel Fuel by Monochromatic Wavelength Dispersive X-ray Fluorescence Spectrometry*.
- Another method approved by a voluntary standards body such as ASTM or the International Standards Organization, with the approval of DEEP and EPA.
- When using automatic sampling: ASTM test method D4177-95(2010), *Standard Practice for Automatic Sampling of Petroleum and Petroleum Products*.

Questions?

Call Mark Potash, Department of Energy and Environmental Protection, Bureau of Air Management, Engineering and Enforcement Division at (860) 424-4152.