

Low-Sulfur Commercial Fuel Oil Regional Initiative and Pennsylvania Proposed Regulation

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Proposed Rulemaking on Low Sulfur Commercial Fuel Oil

- Purpose of rulemaking is to limit sulfur content in commercial fuel oil used in commercial/industrial and residential boilers, furnaces and other heaters.
- The environmental and health benefits of lowering sulfur content in fuel are reduced sulfur dioxide (SO₂) and fine particulate (PM_{2.5}) emissions which:
 - decreases regional haze and increases visibility, and
 - decreases health effects of PM_{2.5} exposure such as: respiratory and cardiovascular disease, lung disease, decreased lung function, asthma attacks and certain cardiovascular problems.



BACKGROUND: Regional Haze

- The 1977 Clean Air Act Amendments declared a national goal to prevent future visibility impairment and remedy existing impairment in the national parks, wilderness areas, and wildlife refuges (“Class I” areas).
- The goal is to reach natural visibility conditions by 2064– the first milestone is 2018.
- Sulfur is the primary chemical pollutant contributing to visibility impairment, especially on the 20% worst days.

BACKGROUND: Regional Haze

- The Mid-Atlantic/Northeast Visibility Union (MANE-VU) was established in 2000 to help the Northeast states plan for meeting regional haze requirements.
- MANE-VU evaluated 4 source categories (electric generating units, cement and lime kilns, industrial/commercial/institutional boilers, and heating oil) for potential sulfur reductions.

Mid-Atlantic/Northeast Visibility Union

MANE-VU



MANE-VU Low-Sulfur Fuel Initiative

- In 2007, MANE-VU states adopted a formal statement agreeing to pursue a regional low-sulfur oil strategy.
- As much as 75% of the total sulfur reductions achieved by this strategy assumed to come from using the low-sulfur #2 distillate for space heating in the residential and commercial sectors.

Mid-Atlantic/Northeast Visibility Union

MANE-VU



Annual SO₂ Emission Benefits in the MANE-VU Region in 2018

Area	15 ppm #2 (from 2000+ ppm baseline)	5,000 ppm #4 & #6 (from 10,000 ppm baseline)	Total Reductions from Low Sulfur Oil Strategy
MANE-VU	167,000 tons	19,000 tons	186,000 tons
Pennsylvania	25,000 tons	4,000 tons	29,000 tons

MANE-VU totals from MANE-VU Modeling for Reasonable Progress Goals, NESCAUM, February 7, 2008. Pennsylvania-specific benefits used in this modeling conveyed by e-mail from John Graham, NESCAUM, October 2009.



Consumer Benefits

- Sulfur reductions can save consumers money because low sulfur heating oil reduces the rate of fouling of heating equipment & therefore reduces maintenance.
- Cleaner furnaces or boilers burn less commercial fuel oil which saves consumers money on quantity of fuel purchased.
- Distributors of oil are supportive because they can now compete on “greenness” with natural gas.

Supply Issues

- Highway diesel and most off-road diesel requirements are all moving towards ultra low sulfur diesel at 15 ppm sulfur. Tank space limits number of products.
- National Oilheat Research Alliance (NORA) study suggests that supplies of low and ultra-low sulfur distillate should be available to meet the demands of the MANE-VU program in the general timeframes laid out.
- Concerns have been voiced by some refiners about the supply of 15 ppm heating oil (commercial fuel oil) for the entire MANE-VU region.



Cost and Price

- As the oil market moves toward nearly all 15ppm, the incremental cost of high, low and ultra-low product should normalize.
- NORA estimates cost of refining 15 ppm distillate at between 5 and 9 cents per gallon more than producing 2500 ppm oil, depending on existing refining equipment.
- Forces other than production costs will also play role in determining the price differential that consumers will pay for cleaner commercial fuel oil.



Pennsylvania's Proposed Regulation

- Proposed regulation to lower the sulfur limit of fuel oil is anticipated to be considered by the EQB in June of 2010 with a 60-day public comment period anticipated to start in August 2010.
- Proposal changes commercial fuel oil sulfur limits for combustion units in 25 Pa Code 123.22.



Proposed 25 Pa Code 123.22 revisions

- Proposal lowers the allowable sulfur content of Nos. 2, 4, 5 and 6 commercial fuel oils to be consistent across the state, not dependent on air basin.
- The proposed regulation would be applicable to anyone who offers for sale, delivers for use, exchanges in trade or permits the use of commercial fuel oil in this Commonwealth.

Proposed 25 Pa Code 123.22 revisions

Effective Date	May 1, 2011	July 1, 2012
Commercial Fuel oil		
No. 2 and lighter	15 ppm	
No. 4 oil		0.25% sulfur
No. 5, No. 6 & heavier oil		0.5% sulfur

Proposed 25 Pa Code 123.22 revisions

- More detailed sampling, testing, recordkeeping and reporting requirements were added to allow for checks of the sulfur content of the fuel oil and aid enforcement efforts.
- Provisions ensure ultimate consumers have information that they are buying compliant fuel.
- Contact was made with some stakeholders so that the requirements would be in line with current industry practice.



Proposed 25 Pa Code 123.22 revisions

- The primary indication of compliance will be the bill of sale or lading that proceeds through the chain of custody from the refiner to the ultimate consumer containing the commercial fuel oil sulfur content.
- The recordkeeping requirements do not apply to ultimate consumers at a private residence or to owners of apartment buildings, or condominiums, or both, housing private residents.



Other proposals on low Sulfur

- PA may consider legislation this spring that requires oilheat fuel (No. 2 commercial fuel oil) to meet 15 ppm by May 2011 as well as requiring a biofuel content of oilheat and nonroad diesel fuel.
- DEP's proposed rulemaking reflects support of this potential legislation and timeline.
- The MANE-VU agreement expects member states to take action. Some have begun the process: NY, NJ, ME and MD

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