PROPOSED RULEMAKING
TITLE 25. ENVIRONMENTAL PROTECTION
ENVIRONMENTAL QUALITY BOARD
[25 PA. CODE CH. 123]
Revision of the Maximum Allowable Sulfur Content Limit for No. 2 and Lighter Commercial Fuel Oil

The Environmental Quality Board (Board) proposes to amend Chapter 123 (relating to standards for contaminants) to reduce the maximum allowable sulfur content limit for No. 2 and lighter commercial fuel oil, generally sold for and used in residential and commercial furnaces and oil heat burners for home or space heating, water heating, or both, from the current limit of 500 parts per million (ppm) of sulfur to 15 ppm. This reduction will address regional haze and visibility impairment impacting Federal Class I areas and will also improve visibility impairment in urban and rural areas of the Commonwealth. The proposed compliance date of this rulemaking is 60 days after publication of the rulemaking in its final form.

This proposed rulemaking will be submitted to the United States Environmental Protection Agency (EPA) for approval as a revision to the Commonwealth's State Implementation Plan (SIP) following publication of the final-form rulemaking in the *Pennsylvania Bulletin*.

This proposed rulemaking is given under Board order at its meeting of _____, 2019.

A. *Effective Date*

This proposed rulemaking will be effective upon publication as a final-form rulemaking in the *Pennsylvania Bulletin*.

B. *Contact Persons*

For further information, contact Kirit Dalal, Chief, Division of Air Resource Management, Bureau of Air Quality, Rachel Carson State Office Building, P.O. Box 8468, Harrisburg, PA 17105-8468, (717) 772-3436; or Jesse C. Walker, Assistant Counsel, Bureau of Regulatory Counsel, Rachel Carson State Office Building, P.O. Box 8464, Harrisburg, PA 17105-8464, (717) 787-7060. Information regarding submitting comments on this proposed rulemaking appears in Section J of this preamble. Persons with a disability may use the Pennsylvania AT&T Relay Service, (800) 654-5984 (TDD users) or (800) 654-5988 (voice users). This proposed rulemaking is available on the Department of Environmental Protection's (Department) website at www.dep.pa.gov (select "Public Participation," then "Environmental Quality Board (EQB)").

C. *Statutory Authority*

This proposed rulemaking is authorized under section 5(a)(1) of the Air Pollution Control Act (APCA) (35 P.S. § 4005(a)(1)), which grants the Board the authority to adopt rules and regulations for the prevention, control, reduction and abatement of air pollution in this Commonwealth. This proposed rulemaking is also authorized under section 5(a)(8) of the APCA (35 P.S. § 4005(a)(8)), which grants the Board the authority to adopt rules and regulations

designed to implement the provisions of the Clean Air Act (CAA) (42 U.S.C.A. §§ 7401—7671q).

D. *Background and Purpose*

Among other things, this proposed rulemaking would allow the Department to address regional haze and visibility impairment. Haze is one of the most basic forms of air pollution. It degrades visibility in many American cities and scenic areas. Haze is caused when sunlight encounters tiny pollution particles in the air, which reduce the clarity and color of what we see, especially during humid conditions. Most haze is not natural. It is air pollution carried by the wind often many hundreds of miles from where it originated. Regional haze is visibility impairment produced by a multitude of combustion sources and activities emitting sulfur dioxide (SO_2), nitrogen oxides (NO_x), fine particulate matter or particle matter 2.5 micrometers or less ($PM_{2.5}$), and $PM_{2.5}$ precursors. The combustion sources and activities are located across a broad geographic area. Visibility impairment is humanly perceptible change in visibility (such as light extinction, visual range, contrast, and coloration) from the visibility that would have existed under natural conditions.

The SO_2 emissions released by combustion of sulfur-containing No. 2 or lighter commercial fuel oil contribute to the formation of regional haze and $PM_{2.5}$, both of which are serious public health and welfare threats and affect visibility. Numerous scientific studies have linked $PM_{2.5}$ particle pollution exposure to a variety of problems, including: premature death in people with heart or lung disease; nonfatal heart attacks; irregular heartbeat; aggravated asthma; decreased lung function; and increased respiratory symptoms, such as irritation of the airways, coughing or difficulty breathing. People with heart or lung disease, children, and older adults are the most likely to be affected by fine particle pollution exposure.

Fine particles are similar in size to the wavelength of light, and are most efficient, per unit of mass, at reducing visibility. Particles affect visibility through the scattering and absorption of light. SO_2 emissions oxidize in the atmosphere to form sulfate particles. Visibility impairment, including regional haze, in rural areas of eastern North America is primarily due to sulfate particles. The CAA and its implementing regulations codified in 40 CFR Part 51, Subpart P (relating to protection of visibility) mandate actions to protect visibility, especially in Federal Class I areas, which include National parks, forests and wilderness areas.

In 1977, Congress added section 169A of the CAA (42 U.S.C.A. § 7491), regarding visibility protection for Federal Class I areas. Section 169A(a)(1) of the CAA (42 U.S.C.A. § 7491(a)(1)), sets a National goal for the "prevention of any future, and the remedying of any existing, impairment of visibility in mandatory class I Federal areas which impairment results from manmade air pollution." The Federal visibility regulations require restoration of natural levels of visibility in the mandatory Federal Class I areas by 2064. See 40 CFR 51.308(d)(1). The Federal regulations further require that states consider the implementation, in their regional haze SIPs, of the emission reduction measures identified by Class I states as being necessary to make reasonable progress in any Class I area. See 40 CFR 51.308(d)(3). In 1990, Congress added section 169B of the CAA (42 U.S.C.A. § 7492), regarding visibility, to authorize further research and regular assessments of the progress made so far toward the National visibility goals. Section

169B(c)(1) of the CAA (42 U.S.C.A. § 7492(c)(1)), authorizes the EPA Administrator to establish a transport region for visibility impairment when there is reason to believe that pollutants from one or more states contribute to visibility impairment in Federal Class I areas.

In 1999, the EPA and the affected states and tribes agreed to create five Regional Planning Organizations (RPO) to facilitate interstate coordination with regional haze SIPs. The Commonwealth is a member of the Mid-Atlantic/Northeast Visibility Union (MANE-VU) RPO, established in 2001, to assist the Mid-Atlantic and Northeast states in planning and developing their regional haze SIP revisions. The other MANE-VU states are Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont. The District of Columbia, Native American tribes in the region, the EPA, the United States Fish and Wildlife Service and the United States Forest Service are also members of MANE-VU. There are 156 mandatory Federal Class I areas established under the CAA, including seven in the MANE-VU states. Although this Commonwealth does not have a mandatory Federal Class I area in it, emissions from this Commonwealth are considered to impact several Federal Class I areas in MANE-VU states, as well as the Dolly Sods Wilderness Area in West Virginia and Shenandoah National Park in Virginia. This proposed rulemaking would address, in part, those impacts.

MANE-VU evaluated the residential and commercial furnace and oil heat burner categories for their contribution to the MANE-VU SO_2 emission inventory from the burning of sulfur-containing distillate oil (a general classification for one of the petroleum fractions produced in conventional distillation operations). The Northeast States for Coordinated Air Use Management (NESCAUM) performed this evaluation for MANE-VU in 2005 using 2002 data, which was the most current information available at the time of the study (2005 NESCAUM evaluation). The 2005 NESCAUM evaluation found that the combined SO_2 emissions from all MANE-VU regional residential and commercial furnaces and oil heat burners contributed about 7% to the MANE-VU total SO_2 emission inventory. In the Commonwealth, commercial fuel oil combustion in residential and commercial furnaces and oil heat burners contributed between 2% and 3% of the SO_2 emissions in the MANE-VU region, depending on the season.

To address the impact of regional haze on mandatory Federal Class I areas within the MANE-VU region, the members adopted a course of action on June 20, 2007, in the *Statement of the Mid-Atlantic and Northeast Visibility Union (MANE-VU)* (2007 MANE-VU "Ask"). The 2007 MANE-VU "Ask" established that the member states would pursue a coordinated course of action, including pursuing the adoption and implementation of the following strategy to reduce the maximum allowable sulfur content of distillate oil in the "inner zone" MANE-VU states (New Jersey, New York, Delaware and this Commonwealth, or portions thereof), as follows—to 500 ppm (0.05% sulfur by weight) by 2012 and to 15 ppm (0.0015% by weight) by 2016. The 2005 NESCAUM evaluation indicated that the anticipated annual SO_2 emission reduction benefits in this Commonwealth would be approximately 25,000 tons per year (tpy) when the maximum allowable sulfur content limit of 15 ppm for No. 2 and lighter commercial fuel oil was fully implemented.

The Department reviewed the 2005 NESCAUM evaluation and the 2007 MANE-VU "Ask" recommendations and determined that the recommended lower maximum allowable sulfur

content limit for No. 2 and lighter commercial fuel oil was an appropriate measure to be pursued as part of the regional strategy to improve visibility. Lowering the maximum allowable sulfur content limit for No. 2 and lighter commercial fuel oil sold for and used in residential and commercial furnaces and oil heat burners in this Commonwealth would contribute to the MANE-VU goals of improving visibility in the region's mandatory Federal Class I areas. Actions taken by the Department to reduce haze on a regional level would also improve visibility in this Commonwealth's recreational and urban areas.

On February 9, 2013, the Board amended its regulations at 25 Pa. Code § 123.22 to reduce SO_2 emissions from home heating and commercial fuel oils beginning July 1, 2016. See 43 Pa.B. 806 (February 9, 2013). The Board reduced the maximum allowable sulfur content limit for No. 2 and lighter commercial fuel oil beginning July 1, 2016, to 500 ppm, rather than to 15 ppm, due to concerns at the time regarding the available supply of low sulfur content distillate oil in various regions of the Commonwealth. The EPA approved a SIP revision incorporating the amended maximum allowable sulfur content limits for No. 2 and lighter, as well as heavier commercial fuel oil provisions into the Commonwealth's SIP at 79 FR 39330 (July 10, 2014).

The City of Philadelphia, Department of Public Health, Philadelphia Air Management Services (AMS) adopted a low-sulfur content commercial fuel oil requirement, enacted into law by the City of Philadelphia on July 15, 2014, as an amendment to Philadelphia Code, Title 3- Air Management Code, Chapter 3-200, § 3-207 (relating to sale of fuel oil) and to Philadelphia Air Management Regulation III (relating to the control of emissions of oxides and sulfur compounds), Section I. Since there was not a low-sulfur fuel supply concern within the Philadelphia region, the amendments reduced the maximum allowable sulfur content limit for No. 2 and lighter commercial fuel oil to 15 ppm in the City of Philadelphia, effective July 1, 2015. The Department, on behalf of AMS, submitted these amendments to the EPA as a revision to the Commonwealth's SIP on June 27, 2018.

On August 25, 2017, MANE-VU issued the *Statement of the MANE-VU States Concerning a Course of Action Within MANE-VU Toward Assuring Reasonable Progress For the Second Regional Haze Implementation Period (2018-2028*) (2017 MANE-VU "Ask"). The 2017 MANE-VU "Ask" specified that member states are to expeditiously pursue adoption of the low-sulfur content maximum allowable limit of 15 ppm for No. 2 and lighter commercial fuel oil if they have not done so already. The Department has determined that the availability of distillate oil within various regions of the Commonwealth and Nationwide, with a maximum allowable limit of 15 ppm of sulfur or less, is no longer of concern. The supply of No. 2 and lighter commercial fuel oil with a maximum sulfur content of 15 ppm has increased over the last several years, and fuel with a sulfur content between 15 ppm and 500 ppm has decreased to less than 1% of the overall supply of distillate oil distributed on the east coast. This proposed rulemaking is designed to implement the 2017 MANE-VU "Ask" course of action to pursue adoption of a maximum allowable sulfur content limit of 15 ppm for No. 2 and lighter commercial fuel oil Statewide for purposes of reducing regional haze and visibility impairment in the Commonwealth and affected Federal Class I areas.

The EPA's regional haze regulations require all states, even those that do not contain a Federal Class I area, to submit a SIP revision containing emission reduction strategies to improve

visibility in Class I areas affected by emissions from within the state. See 40 CFR 51.308(d)(3). States are required to evaluate advancement toward reasonable progress goals every 5 years to assure that emission controls are on track with emission reduction forecasts in the SIP. The first progress report is due 5 years from the submittal of the initial regional haze implementation plan. See 40 CFR 51.308(g). If emission controls are not on track to meet SIP forecasts, then a state would need to take action to assure that emission controls by 2018 would be consistent with the SIP or to revise the SIP to be consistent with the revised emission forecast. The Commonwealth submitted its first regional haze SIP revision to the EPA in December 2010. To track visibility improvement, the Commonwealth must submit its second regional haze SIP revision to the EPA by July 31, 2021. The third regional haze SIP revision is due July 31, 2028, and then additional SIP revisions every 10 years thereafter.

In addition to improving public health and the environment, decreased emissions of SO_2 will also contribute to the attainment or maintenance, or both, of the 2012 annual $PM_{2.5}$ NAAQS within this Commonwealth. On April 7, 2015, the EPA designated the Allegheny, Delaware, and Lebanon County areas as nonattainment with the 2012 annual $PM_{2.5}$ NAAQS. See 80 FR 18535, 18549 (April 7, 2015). The EPA subsequently determined that the Delaware and Lebanon County areas attained that NAAQS. See 81 FR 89868 (December 13, 2016) and 83 FR 9435 (March 6, 2018) respectively. The proposed maintenance plans for these areas has identified lowering the fuel oil standard to 15 ppm as a contingency measure to ensure that these areas will continue to be classified as attainment for the 2012 annual $PM_{2.5}$ NAAQS.

The Department presented the draft proposed Annex A to the Small Business Compliance Advisory Committee (SBCAC) on January 24, 2018, and the Air Quality Technical Advisory Committee (AQTAC) on February 8, 2018. During the AQTAC meeting, one member asked if the Department could propose a compliance date sooner than July 1, 2019, for the proposed rulemaking. The Department explained that the compliance date is dictated by the time needed to proceed through the rulemaking process. The Department has revised the proposed compliance date from July 1, 2019, to 60 days after publication of this rulemaking in its final-form, as this proposed rulemaking would not be promulgated by July 1, 2019. Another AQTAC member noted a concern that the sulfur content in the heavier fuel oils remains unchanged. The Department cannot address this concern here because it is beyond the intended purpose of this proposed rulemaking, which is to reduce the maximum allowable sulfur content limit of No. 2 and lighter commercial fuel oil to 15 ppm consistent with the 2017 MANE-VU "Ask." Both committees voted unanimously to concur with the Department's recommendation to present this proposed rulemaking to the Board for consideration for publication as a proposed rulemaking.

The Department presented the draft proposed Annex A to the Citizens Advisory Council's (CAC) Policy and Regulatory Oversight Committee on February 9, 2018. On the recommendation of the Policy and Regulatory Oversight Committee, on February 20, 2018, the CAC concurred with the Department's recommendation to present this proposed rulemaking to the Board for consideration.

E. *Summary of Regulatory Requirements*

This proposed rulemaking would amend 25 Pa. Code § 123.22(a)—(g). Subsection (a) applies to nonair basins, and subsections (b)—(e) apply to specified air basin areas. The air basin areas are defined in section 121.1 (relating to definitions). A nonair basin is, by exclusion, an area of this Commonwealth not included in the definitions of the air basins in section 121.1.

The proposed amendments to subsection (a)(2)(i) would delete the two existing tables of maximum allowable sulfur content limits and add one table with two columns of maximum allowable sulfur content limits expressed as ppm by weight and percentage by weight for three groups of commercial fuel oil. The three groups of commercial fuel oil are grades No. 2 and lighter oil, No. 4 oil, and No. 5, No. 6 and heavier oil. The first column of limits would apply prior to the proposed compliance date and the second column of limits would apply on and after the proposed compliance date. The maximum allowable sulfur content limits prior to the proposed compliance date, for each grade of commercial fuel oil, would not change from current limits. This proposed rulemaking would revise the maximum allowable sulfur content limit for No. 2 and lighter commercial fuel oil to 15 ppm (0.0015%) beginning 60 days after publication of this rulemaking in its final-form; it would not revise the maximum allowable sulfur content limits for the No. 4 oil and No. 5, No. 6 and heavier oils. The existing limits for these grades of commercial fuel oil will continue to apply.

This proposed rulemaking would amend subsection (a)(2)(ii) to allow commercial fuel oil to be used in this Commonwealth by the ultimate consumer on and after the proposed compliance date, if it was stored in this Commonwealth by the ultimate consumer prior to the proposed compliance date and met the applicable maximum allowable sulfur content limit through the day prior to the proposed compliance date. The only proposed amendment to subsection (a)(2)(ii) is replacement of the compliance date of July 1, 2016, with the proposed compliance date of 60 days after publication of this rulemaking in its final form.

The proposed amendment to subsection (a)(2)(iii) would delete the applicability date. Subsection (a)(2)(iii) authorizes the Department to temporarily suspend or increase the applicable maximum allowable sulfur content limit for a commercial fuel oil if the Department determines that an insufficient quantity of compliant commercial fuel oil is reasonably available in a nonair basin area.

This proposed rulemaking would amend subsections (b), (c) and (e), which apply to certain air basins, as described in subsection (a). Subsection (b) applies to the following air basins: Erie; Harrisburg; York; Lancaster; and Scranton, Wilkes-Barre. Subsection (c) applies to the following air basins: Allentown, Bethlehem, Easton; Reading; Upper Beaver Valley; and Johnstown. Subsection (e) applies to the Southeast Pennsylvania air basin.

Subsection (d), which is presented slightly differently, applies to the Allegheny County; Lower Beaver Valley; and Monongahela Valley air basins. Subsection (d)(2)(i) would be amended to delete the words “on or after July 1, 2016” and the existing table of maximum allowable sulfur content limits. This proposed rulemaking would add one table of maximum allowable sulfur content limits to subsection (d)(2)(i) as described for subsection (a)(2)(i). Subsection (d)(2)(ii) is

proposed to be amended to replace the prior applicability date of July 1, 2016, with the proposed compliance date. Subsection (d)(2)(ii) would also be amended to allow commercial fuel oil to be used in this Commonwealth by the ultimate consumer on and after the proposed compliance date if it was stored in this Commonwealth by the ultimate consumer prior to the proposed compliance date and met the applicable maximum allowable sulfur content limit through the day prior to the proposed compliance date. The Allegheny County; Lower Beaver Valley; and Monongahela Valley air basins did not have a prior applicable store by date in subsection (d)(2)(ii) because these air basins did not regulate the sulfur content of commercial fuel oil grades of No. 2 and lighter oil, No. 4 oil, and No. 5, No. 6 and heavier oil prior to July 1, 2016. The sulfur content limit of 500 ppm for No. 2 and lighter oil for these basins was implemented with the final-form rulemaking published at 43 Pa.B. 806. See 43 Pa.B. pages 809, 826. This proposed amendment to subsection (d)(2)(ii) to include the store by date was made to the proposed rulemaking Annex A after the presentations to the SBCAC and AQTAC committees and to the CAC Policy and Regulatory Oversight Committee. Subsection (d)(2)(iii) would be amended as described for subsection (a)(2)(iii).

This proposed rulemaking would amend the sampling and testing provisions of subsection (f)(2) and (3) to delete the applicability date of July 1, 2016.

This proposed rulemaking would amend the recordkeeping and reporting provisions of subsection (g)(1) to delete the applicability date of July 1, 2016, and subsection (g)(1)(v)(A) to delete the words "The sulfur content of this shipment is 500 ppm or below" from the prescribed statement. This proposed rulemaking would specify wording for the prescribed statement for shipments prior to the proposed compliance date and for shipments on or after that date. Specifically, this proposed rulemaking would add subsection (g)(1)(v)(A)(I) to revise the specified statement to indicate that prior to the proposed compliance date, the sulfur content of the shipment is 500 ppm or below. Subsection (g)(1)(v)(A)(II) would be added to revise the specified statement to indicate that on and after the proposed compliance date, the sulfur content of this shipment is 15 ppm or below.

F. *Benefits, Costs and Compliance*

Benefits

Lowering the maximum allowable sulfur content of No. 2 and lighter commercial fuel oil from 500 ppm of sulfur to 15 ppm would benefit the Commonwealth's 12.8 million residents, numerous animals, crops, vegetation and natural areas, as well as the residents and environments of downwind states, through reduced regional haze, and reduced SO_2, $PM_{2.5}$ and ground-level ozone pollution. SO_2 is the most significant pollutant involved in the formation of regional haze. Visibility impairment, including regional haze, in rural areas of eastern North America occurs primarily due to sulfate particles. Sulfate particles are formed in the atmosphere when SO_2 emissions oxidize.

SO_2 emissions also contribute to the formation of acid rain, which makes lakes, rivers and streams unsuitable for many fish and other aquatic life, and erodes stone buildings, historical monuments, and paint on cars. Acid rain and $PM_{2.5}$ contribute to agricultural crop and vegetation

damage and to degradation of the Chesapeake Bay. The reductions in SO_2 emissions would reduce air pollution threats to public health and welfare and the environment and would contribute to improving visibility. Decreased emissions of SO_2 would also contribute to the attainment and maintenance, or both, of the SO_2, $PM_{2.5}$, and ground-level ozone NAAQS in this Commonwealth and the MANE-VU region.

NO_x emissions would also decrease due to furnace and oil heat burner efficiency improvements. Emissions of NO_x contribute to public health and environmental problems in the Mid-Atlantic and Northeast states, including the formation of $PM_{2.5}$ and ground-level ozone.

The existence of $PM_{2.5}$ in the atmosphere not only produces regional haze but also causes significant adverse health effects. Epidemiological studies have shown a significant correlation between elevated $PM_{2.5}$ levels and premature mortality. Other important health effects associated with $PM_{2.5}$ exposure include aggravation of respiratory and cardiovascular disease (as indicated by increased hospital admissions, emergency room visits, absences from school or work and restricted activity days), lung disease, decreased lung function, asthma attacks and certain cardiovascular problems. Individuals particularly sensitive to $PM_{2.5}$ exposure include older adults, people with heart and lung disease and children. High levels of $PM_{2.5}$ affect animals in ways similar to humans. Ground-level ozone is a serious human and animal health and welfare threat, causing or contributing to respiratory illnesses and decreased lung function, agricultural crop loss, visible foliar injury to sensitive plant species, and damage to forests, ecosystems and infrastructure.

Emissions of carbon dioxide, a greenhouse gas, should also be reduced because the overall consumption of No. 2 and lighter commercial fuel oil should decrease with improved combustion efficiency resulting from the use of No. 2 and lighter commercial fuel oil with a lowered sulfur content of 15 ppm.

Implementation of the maximum allowable sulfur content limit of 500 ppm for No. 2 and lighter commercial fuel oil beginning July 1, 2016, was expected to achieve reductions of SO_2 emissions of at least 21,000 tpy in this Commonwealth. See 43 Pa.B. 811. The Department expects that the Commonwealth would realize an additional 4,000 tpy of SO_2 emission reductions from implementation of the proposed lower maximum allowable sulfur content limit of 15 ppm for No. 2 and lighter commercial fuel oil. See 43 Pa. B. 807 and 811. While many of these anticipated emission reductions have already been achieved as a result of the marketplace and nearby state and local limits already in place, this proposed rulemaking, if promulgated as a final-form rulemaking and approved by the EPA as a revision to the Commonwealth's SIP, would ensure that the full amount of emission reductions is realized.

Commercial fuel oil users and consumers would benefit financially through lower combustion equipment maintenance costs. According to the United States Energy Information Administration's (EIA) State Energy Profiles, approximately 18% of the households in this Commonwealth consume No. 2 and lighter commercial fuel oil for space heat. Low-sulfur content commercial fuel oil has the potential to improve furnace and oil heat burner combustion efficiency by reducing fouling rates of furnace and oil heat burner heat exchangers and other components. Reduced furnace and oil heat burner fouling rates translate directly into lower

vacuum-cleaning costs for fuel oil companies and homeowners by extending the service intervals. Further, the availability of low-sulfur content No. 2 and lighter commercial fuel oil would enable the introduction of highly efficient advanced technology condensing furnaces.

The commercial fuel oil industry would also benefit from having consistent maximum allowable sulfur content limits in both No. 2 and lighter commercial fuel oil and transportation diesel fuel including nonroad, locomotive and marine (NRLM), and highway transportation diesel fuel. Consistent maximum allowable sulfur content limits would help refinery owners and operators, distributors, carriers and owners and operators of commercial fuel oil and transportation diesel fuel terminals minimize the number of tanks and trucks needed. The maximum allowable sulfur content level required in NRLM and highway transportation diesel fuels is already 15 ppm. No. 2 and lighter commercial fuel oil could be combined with NRLM and highway transportation diesel fuel in the same tanks and trucks, thus minimizing the number of vehicles needed. Since the maximum allowable sulfur content limit for No. 2 and lighter commercial fuel oil would now be consistent Statewide, compliance and recordkeeping would also be simplified for the petroleum refining and distribution companies.

Costs and Compliance

This proposed rulemaking would apply to the owner and operator of a refinery, pipeline, terminal, distributor, carrier or retail outlet fuel storage facility that produces, conveys, stores or sells No. 2 and lighter commercial fuel oil. The proposed requirements focus on persons or entities that "offer for sale, deliver for use, exchange in trade or permit the use of commercial fuel oil." These are the suppliers and operators selling to the ultimate consumer.

There are four refineries in the Commonwealth, owned by four different companies. Philadelphia Energy Solutions (PES), United Refining Company and Monroe Energy, LLC refineries currently produce No. 2 and lighter commercial fuel oil with a sulfur content of 15 ppm or less. The American Refining Group, Inc. (ARG) produces No. 2 and lighter commercial fuel oil with a sulfur content of 15 ppm to be sold to New York, and No. 2 and lighter commercial fuel oil with a sulfur content of less than 500 ppm for north and northwestern counties in this Commonwealth. PES has the ability to produce No. 2 and lighter commercial fuel oil with a maximum sulfur content of 15 ppm and currently produces most of the No. 2 and lighter commercial fuel oil distributed along the east coast. Owners and operators of refineries outside of the Commonwealth would be indirectly affected if they supply distributors that sell No. 2 and lighter commercial fuel oil in this Commonwealth. However, maximum allowable sulfur content limits have been established in motor fuels for 30 years, so the industry has the technical capacity to implement the new requirements.

There are 128 fuel oil terminal operations and 684 distributors of petroleum products in this Commonwealth; not all operations handle No. 2 and lighter commercial fuel oil. The terminal operators include those with familiar names from the petroleum industry, including Sunoco and Gulf Oil. Several major distributors also operate terminals, including Buckeye Energy. While the size of distributor operations ranges from large to small, members of the petroleum distribution industry, as a whole, have been regulated for many years. Existing systems to track

the quantity and composition of fuel are long standing for purposes of compliance with environmental and tax regulations.

End-users of No. 2 and lighter commercial fuel oil are generally homeowners and those living in rental units. The EIA State Energy Profile estimates that 18% of households in this Commonwealth use No. 2 and lighter commercial fuel oil for home or space heating, water heating, or both.

Market forces and regulations for transportation-related diesel fuels in the United States and internationally will be factors affecting this industry, since the use of No. 2 and lighter commercial fuel oil for residential heating is a very small portion of diesel fuel consumption. If this proposed rulemaking is promulgated as a final-form rulemaking, No. 2 and lighter commercial fuel oil sold or distributed for use in this Commonwealth would have the same maximum allowable sulfur content limit as NRLM and highway transportation diesel fuel.

The 2008 National Oilheat Research Alliance's "Northeast Heating Oil Assessment," by Hart Energy Consulting, estimated that there would be a 6.3-to-6.8 cent-per-gallon (cpg) incremental production cost for 500 ppm versus 2500 ppm sulfur content home heating oil (No. 2 commercial fuel oil), including capital costs. Incremental production costs were estimated to be as much as 8.9 cpg for 15 ppm sulfur content versus 2500 ppm. However, where refiners have desulfurization capabilities, the incremental cost of producing 15 ppm sulfur versus 2500 ppm sulfur content home heating oil was estimated to be 4.6 cpg. Data showing the cost difference between 500 ppm and 15 ppm sulfur content home heating oil was not found. However, by subtracting the 500 ppm and 15 ppm sulfur content home heating oil costs, the estimated costs would likely be no more than 2.6 cpg (8.9 cpg – 6.3 cpg = 2.6 cpg). Note that these are costs to the producers; prices to the ultimate consumer would be influenced by factors additional to the cost of reducing the sulfur content in the No. 2 and lighter commercial fuel oil.

Furnace and oil heat burner maintenance costs for consumers would be lower for those that do not already use 15 ppm low-sulfur content No. 2 and lighter commercial fuel oil due to less fouling of their heat exchangers. Decreased fouling improves efficiency of the furnace or oil heat burner, which results in lower fuel usage and longer time periods between cleanings. Although 15 ppm low-sulfur content No. 2 and lighter commercial fuel oil may cost a few cents per gallon more, savings on maintenance costs would help to defray that impact.

Compliance assistance plan

The Department plans to educate and assist the public and regulated community in understanding the proposed requirements and how to comply with them. This would be accomplished through the Department's ongoing compliance assistance program. The Department would also work with the Small Business Assistance Program to aid the owners and operators of facilities less able to handle matters with in-house staff.

Paperwork requirements

There are no additional paperwork requirements associated with this proposed rulemaking with which industry would need to comply. As in the existing regulation, this proposed rulemaking would require that, beginning with the refinery owner or operator who sells or transfers No. 2 and lighter commercial fuel oil and ending with the ultimate consumer, each time the physical custody of or title to a shipment of No. 2 and lighter commercial fuel oil changes hands, the transferor would be required to provide the transferee with an electronic or paper record of the transaction. Each affected person would be required to keep the records in electronic or paper format for 2 years. No recordkeeping or reporting would be required of ultimate consumers at private residences or apartment complexes and condominiums.

G. *Pollution Prevention*

The Pollution Prevention Act of 1990 (42 U.S.C.A. §§ 13101—13109) established a National policy that promotes pollution prevention as the preferred means for achieving state environmental protection goals. The Department encourages pollution prevention, which is the reduction or elimination of pollution at its source, through the substitution of environmentally friendly materials, more efficient use of raw materials and the incorporation of energy efficiency strategies. Pollution prevention practices can provide greater environmental protection with greater efficiency because they can result in significant cost savings to facility owners and operators that permanently achieve or move beyond compliance.

This proposed rulemaking would prevent emissions of SO_2 and NO_x air pollutants by requiring a lower maximum allowable amount of sulfur in No. 2 and lighter commercial fuel oil used in this Commonwealth, thereby reducing regional haze and ambient levels of $PM_{2.5}$ in this Commonwealth and throughout the Mid-Atlantic and Northeast states. This proposed rulemaking would not require add-on controls, although existing provisions allow the use of controlled noncompliant fuel if the controlled emissions are equivalent to those obtained with compliant No. 2 and lighter commercial fuel oil.

H. *Sunset Review*

The Board is not establishing a sunset date for this proposed regulation, since it is needed for the Department to carry out its statutory authority. The Department will closely monitor this proposed rulemaking after publication as a final-form rulemaking in the *Pennsylvania Bulletin* for its effectiveness and recommend updates to the Board as necessary.

I. *Regulatory Review*

Under section 5(a) of the Regulatory Review Act (71 P.S. § 745.5(a)), on _____, the Department submitted a copy of this proposed rulemaking and a copy of a Regulatory Analysis Form to the Independent Regulatory Review Commission (IRRC) and to the Chairpersons of the House and Senate Environmental Resources and Energy Committees. A copy of this material is available to the public upon request.

Under section 5(g) of the Regulatory Review Act, IRRC may convey comments, recommendations or objections to this proposed rulemaking within 30 days of the close of the public comment period. The comments, recommendations or objections must specify the regulatory review criteria in section 5.2 of the Regulatory Review Act (71 P.S. § 745.5b) which have not been met. The Regulatory Review Act specifies detailed procedures for review prior to final publication of the rulemaking by the Department, the General Assembly and the Governor.

J. *Public Comments*

Interested persons are invited to submit written comments, suggestions, support or objections regarding this proposed rulemaking to the Board. Comments, suggestions, support or objections must be received by the Board by DATE.

Comments may be submitted to the Board online, by e-mail, by mail or express mail as follows. Comments submitted by facsimile will not be accepted.

Comments may be submitted to the Board by accessing eComment at http://www.ahs.dep.pa.gov/eComment.

Comments may be submitted to the Board by e-mail at RegComments@pa.gov. A subject heading of this proposed rulemaking and a return name and address must be included in each transmission.

If an acknowledgement of comments submitted online or by e-mail is not received by the sender within 2 working days, the comments should be retransmitted to the Board to ensure receipt.

Written comments should be mailed to the Environmental Quality Board**,** P.O. Box 8477, Harrisburg, PA 17105-8477. Express mail should be sent to the Environmental Quality Board, Rachel Carson State Office Building, 16th Floor, 400 Market Street, Harrisburg, PA 17101-2301.

K. *Public Hearings*

The Board will hold three public hearings for the purpose of accepting comments on this proposed rulemaking. The hearings will be held at ___ p.m. on the following dates:

_____(blank)_____

_____(blank)_____

_____(blank)_____

Persons wishing to present testimony at a hearing are requested to contact the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477, (717) 787-4526 at least 1 week in advance of a hearing to reserve a time to present testimony. Oral testimony is limited to 5 minutes for each witness. Witnesses are requested to submit three written copies of their oral

testimony to the hearing chairperson at the hearing. Organizations are limited to designating one witness to present testimony on their behalf at each hearing.

Persons in need of accommodations as provided for in the Americans with Disabilities Act of 1990 should contact the Board at (717) 787-4526 or through the Pennsylvania AT&T Relay Service at (800) 654-5984 (TDD) or (800) 654-5988 (voice users) to discuss how the Board may accommodate their needs.

Patrick McDonnell,
Chairperson