VERMONT

Vermont Department of Environmental Conservation *Agency of Natural Resources*

RESPONSIVENESS SUMMARY

PROPOSED AMENDMENTS TO AIR POLLUTION CONTROL REGULATION § 5-221(1): SULFUR LIMITATIONS IN FUEL; AND REVISIONS TO VERMONT'S STATE IMPLEMENTATION PLAN (SIP)

August 8, 2011

List of Commenters:

1. Anne Arnold, Manager, Air Quality Planning Unit, U.S. Environmental Protection Agency, Region 1

2. Marla Benyshek, Director, Fuels Regulatory Issues, ConocoPhillips

Summary of Comments and Responses:
[The commenter is identified by the number in the bracket following the comment.]

1. **Comment:** The effective dates of the new sulfur limits should be July 1, as set forth in recent legislation, and not January 1, as set forth in the proposed rule. [2]

   Response: The Agency agrees with the commenter. On May 25, 2011, the State of Vermont adopted a new law that establishes limits on the sulfur content of No. 2 distillate heating oil. See Act No. 47, sec. 19 (to be codified at 10 V.S.A. § 585). While the sulfur limits mandated by the new law are consistent with those in the proposed rule, the compliance dates differ. The proposed rule provided that No. 2 distillate oil shall have a sulfur content of 500 parts per million (ppm) or less on or before January 1, 2014, and a sulfur content of 15 ppm or less by January 1, 2018. However, Act 47 requires that No. 2 distillate heating oil shall have a sulfur content of 500 ppm or less on or before July 1, 2014, and a sulfur content of 15 ppm or less by July 1, 2018. Therefore, in accordance with Act 47, the Agency is changing the January 1 compliance dates for No. 2 distillate oil to July 1 in the final proposed rule. For consistency purposes, the Agency is also changing the compliance dates for residual oils from January 1, 2018 to July 1, 2018 in the final proposed rule.

2. **Comment:** The proposed sulfur limit of 5000 ppm for No. 5 and No. 6 residual oils is too stringent to meet by 2014. Sulfur removal from residual fuels is technologically difficult and extremely costly and dilution is not a viable solution. The sulfur limit for

No. 5 and No. 6 residual oils should be removed from the proposal, or, if sulfur reduction is deemed necessary, a more modest reduction to 7000 ppm should be considered for No. 5 and No. 6 residual oils. [2]

Response: The commenter mistakenly identified the effective date of the proposed sulfur limit for No. 5 and No. 6 residual oils as 2014. The proposed rule provided that No. 5 and No. 6 residual oils shall have a sulfur content limit of 0.5% by weight (5000 ppm) on or before January 1, 2018. In addition, as discussed above, the effective dates for all of the proposed sulfur content limits are being revised from January 1 to July 1 in the final proposed rule. Thus, the final proposed rule provides that No. 5 and No. 6 residual oils shall have a sulfur content of 0.5% by weight (5000 ppm) or less by July 1, 2018. In other words, the date for complying with the proposed sulfur content limit for No. 5 and No. 6 residual oils is nearly seven years from now.

The commenter requests that the sulfur limits for No. 5 and No. 6 residual oils be removed from the rule because sulfur removal from residual fuels is technologically difficult and extremely costly. While the comment describes why the commenter believes dilution is not a viable solution, the commenter provided no information as to the technological difficulties and costs associated with removing sulfur from residual oil. In addition, the Agency did not receive any such information or similar comments from other suppliers or refineries. The commenter alternatively requests that the limit for No. 5 and No. 6 fuels be raised from 5000 ppm to 7000 ppm. Yet, the commenter provided no background or supporting information as to the technological feasibility of 7000 ppm versus 5000 ppm or the cost differential. Once again, the Agency did not receive any such information or similar comments from other suppliers or refineries.

The 5000 ppm sulfur content limit for No. 5 and No. 6 residual oils proposed by Vermont is part of a regional strategy among Northeast and Mid-Atlantic states to reduce haze and improve visibility throughout the region. This regional strategy is also expected to provide substantial public health benefits by reducing SO2, NOx, and PM emissions. Each state in the Mid-Atlantic Northeast region has stated its intention to adopt the sulfur limits that Vermont is proposing to adopt in this rulemaking. Vermont will continue to coordinate with the other states in the region and to monitor the sulfur limits and effective dates adopted by the other states in the region. Further, the Agency is committed to reviewing any information regarding the technological difficulties and costs associated with adopting a sulfur limit of 5000 ppm for No. 5 and No. 6 residual oils that is provided to the Agency. If warranted based on the limits established by other states in the region and/or information provided to the Agency, there is ample time to amend the rule between now and July 1, 2018. However, for all of the reasons stated above, the Agency is retaining the proposed sulfur limits for No. 5 and No. 6 residual oils in the final proposed rule.

3. **Comment:** The provision in section 5-221(1)(b) of the proposed rule, which allows existing stocks of fuel to continue to be stored, used, and sold after the effective dates of the applicable sulfur content limits, is problematic as it creates an incentive for stockpiling large reserves of higher sulfur content fuels. This provision should not be

adopted. If, however, Vermont determines that an allowance for use of stored reserves is necessary with respect to the rule's first compliance date, such exemption should only be allowed for a limited time period, such as a year. [1]

Response: The commenter suggests that the exemption in §5-221(1)(b) would cause a problem by creating an incentive for stockpiling "large reserves of higher sulfur content fuels." The Agency believes this concern is unwarranted considering the available fuel oil storage capacity in Vermont. Tier 2 reporting data and other data collected by the Agency indicate that there are approximately 74 bulk plants in the state with fuel oil storage above ground, below ground, or both. Total storage capacity in the underground storage tanks is as follows:

- #2 fuel oil – 550,000 gallons
- Diesel – 65,000 gallons
- Kerosene – 72,000 gallons

It is likely the majority of bulk plant and other storage capacity is above ground. There is only one terminal facility in the state that stores fuel oil: Global Companies, LLC, Burlington. Global has nine tanks of various sizes for #2 fuel oil storage with a total capacity of 10.2 million gallons. While exact data is not available, the storage capacities at bulk plants for #2 oil, diesel and kerosene are much smaller. The Agency is aware of one larger bulk plant that has a total storage capacity of ~345,000 gallons. The total capacities of the other bulk plants appear to range from 60,000 to 200,000 gallons each. Considering that there is only one fuel oil terminal in Vermont and that the number and capacities of bulk plants in the state are relatively small, the Agency does not believe that "large reserves" of fuel oil would be stockpiled in Vermont under this exemption.

Furthermore, there is a practical reason that the Agency believes this exemption is necessary. Several large industrial and institutional facilities in the state, including IBM in Essex and UVM in Burlington, burn natural gas in their boilers with oil used as a backup fuel. These facilities, and others like them, only have oil delivered infrequently and may not consume an entire oil shipment for two or three years. Except for small amounts of diesel used for periodic testing of emergency generators, during some winters IBM may not burn any oil, and UVM may only burn oil for two or three weeks during the winter when the gas supply is interrupted. Since these facilities only burn small quantities of oil each year, if any, allowing them to store and use the oil after the effective dates of the limits in the rule would not cause a significant air quality impact. Consequently, forcing such facilities to remove or dilute their remaining stocks of stored fuel oil in order to meet the new sulfur content limits would create an unjustified economic burden on these facilities.

For the above reasons, the Agency does not believe the exemption in §5-221(1)(b) will cause the potential for large stockpiling of oil as envisioned by the commenter, nor will

use of any "stockpiled" oil create a significant air quality impact. Moreover, a one year or other time limit on the exemption is not feasible, as explained above.

4. **Comment:** Section 5-221(1)(d) of the proposed rule, which discusses the ability of the Secretary to temporarily suspend implementation and enforcement of the rule due to inadequate supplies, should require EPA approval of temporary suspensions, should not allow for open-ended exemptions, and should establish criteria for issuing suspensions. [1]

   Response: As proposed, section 5-221(d) provided: "The Secretary, by order, may temporarily suspend the implementation and enforcement of subsection (1)(a) of this section if the Secretary determines, after consulting with the commissioner of public service, that meeting the requirements is not feasible due to an inadequate supply of the required fuel." However, since the Agency proposed this language, the State of Vermont enacted a new law, as discussed above, that mandates limits on the sulfur content of heating oil. The new law also states: "The governor, by executive order, may temporarily suspend the implementation and enforcement of [the sulfur limits] . . . if the governor determines, after consulting with the secretary and the commissioner of public service, that meeting the requirements is not feasible due to an inadequate supply of the required fuel." Act No. 47, sec. 19 (to be codified at 10 V.S.A. § 585). Therefore, the Agency is revising section 5-221(d) to mirror the temporary suspension language in Act 47.

   Section 19 of Act 47 clearly delegates the authority to suspend the implementation and enforcement of the sulfur limits to the Governor. Thus, the Agency lacks the statutory authority to require EPA approval for such suspensions. Doing so would be inconsistent with the plain language of the statute and contrary to legislative intent. Further, given the formal and public nature of executive orders, one would expect this authority to be used sparingly (e.g., in emergency situations). In addition, the law specifically states that any suspension from the requirements must be temporary. In other words, any suspension shall be effective for only a period of time and not be permanent or open ended, as the commenter suggests. Revising the rule to require EPA approval of temporary suspensions and/or to set restrictions on issuing such suspensions would encroach on the Governor's authority, which is expressly granted by statute. Thus, in light of the recently enacted state legislation, the Agency not only lacks the authority to make the changes suggested by the commenter, but also questions whether such changes are even needed given that the only means for issuing a temporary suspension is by executive order of the Governor.

5. **Comment:** Section 5-221(1) should include appropriate record keeping and reporting requirements, such as those required in Chapter 106 of Maine's low sulfur fuel regulations, to ensure the enforceability of the sulfur in fuel oil limits. [1]

   Response: The Agency agrees with the commenter and has revised section 5-221(1) to include reporting and recordkeeping requirements similar to those required by Maine.