

December 20, 2007

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National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries: Residual Risk Standards Docket ID No. EPA-HQ-OAR-2003-0146
U.S. Environmental Protection Agency
Air and Radiation Docket and Information Center
Mailcode: 2822T
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Sir/Madam:

On behalf of the National Association of Clean Air Agencies, thank you for this opportunity to comment on the proposed National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries, which were published in the *Federal Register* on September 4, 2007 (72 *Federal Register* 50716). The National Association of Clean Air Agencies (NACAA) is the national association of air pollution control agencies in 53 states and territories and over 165 metropolitan areas across the country.

NACAA is very concerned about emissions of hazardous air pollutants (HAPs) from petroleum refineries. According to EPA, emissions from refineries contain pollutants that are associated with a variety of adverse health effects including, among other things, cancer, pernicious anemia, lung structural changes, difficulty breathing, conjunctivitis, delirium, coma, and convulsions. NACAA believes these sources should be well controlled and that the public should be afforded the maximum protection possible from the threats to its health associated with these emissions, as provided by law. Accordingly, NACAA does not believe the proposal for addressing emissions of HAPs from petroleum refineries satisfies the requirements of the Clean Air Act or provides adequate protection for public health. The following are NACAA's comments on specific elements of the proposal.

Risk Assessment

The Clean Air Act requires EPA to establish residual risk standards if the Maximum Achievable Control Technology (MACT) standard has not reduced the lifetime excess cancer risk to the individual most exposed to less than 1 in 1 million. Yet, although EPA estimates that emissions from refineries result in risks of 70 in 1 million, which are significant and warrant additional controls, the agency has not proposed standards to address this risk adequately. NACAA is concerned that EPA seems to have reinterpreted the Clean Air Act, proposing that risks as high as 100 in 1 million do not need to be minimized with readily available measures already in use by some refineries. NACAA believes this is contrary to the intent of the Act and is clearly not acceptable.

Thus, on the basis of EPA's risk estimates alone, the agency's proposal under one of its options to require no further controls on several types of emission points is inconsistent with the mandates of the Clean Air Act because it does nothing to address significant risks above 1 in 1 million. Moreover, EPA's methodology for calculating the risks from refineries is flawed, so that even the risk of 70 in 1 million is underestimated. The following are some of our concerns about the methodology, many of which NACAA articulated in comments on the Advance Notice of Proposed Rulemaking on the Risk and Technology Review, Phase II, Group 2 on June 14, 2007.

Acute Exposure – NACAA does not endorse the use of Acute Exposure Guideline Levels (AEGLs) to address acute exposures in the residual risk assessments. These limits were developed for accident release emergency planning and are not appropriate for assessing daily human exposure scenarios. In the December 2002 EPA document, "A Review of the Reference Dose and Reference Concentration Processes", EPA states that the primary purpose of the AEGL program is to develop guidelines for once-in-a-lifetime, short-term exposures to airborne concentrations of acutely toxic chemicals. They are not meant to evaluate the acute impacts from routine emissions that occur over the life of a facility. Unlike the reference concentrations for chronic exposures, the AEGLs do not include adequate safety and uncertainty factors and cannot be relied upon to protect the public from the adverse effects of exposures to toxic air pollutants. The use of AEGLs in residual risk assessments is not appropriate and does not ensure that public health is adequately protected from the acute impacts of HAP exposure.

EPA initially used California acute Reference Exposure Levels (RELs) for this assessment and found that three chemicals (benzene, acrolein and arsenic) exceeded the RELs. The agency then used the AEGLs and, based on no modeled impacts greater than the AEGLs, concluded that there was not a concern for acute impacts. Because EPA found no concern for acute health impacts, the agency did not include this endpoint in the evaluation of the need for additional controls to protect public health with an ample margin of safety. NACAA believes the California RELs are more appropriate than the AEGLs to use for assessing acute health impacts and recommend that EPA reassess the risks using the RELs.

Actual Emissions – In evaluating residual risk in the preliminary assessments, EPA considered actual reported emissions instead of potential or allowable emissions. Since facility emissions could increase over time for a variety of reasons, and with them the associated impacts, EPA should consider the risks based on potential or allowable emissions. We believe EPA's analysis, based on actual emissions from a single point in time, underestimates the residual risk from a source category. Further, the major source HAP thresholds are based on maximum potential-to-emit, as opposed to actual emissions, and air agencies issue permits based on potential emissions. Limiting the scope of a risk evaluation to actual emissions would be inconsistent with the applicability section of Part 63 rules. We recommend that EPA conduct residual risk assessments using up-to-date data on potential or allowable emissions. Residual risk assessments *must* be performed on potential or allowable emissions to fully understand the potential public health implications for a source category.

Property-line Concentrations – In assessing the cancer risks related to the source category, EPA used long-term concentrations affecting the most highly-exposed census block for each facility.

This analysis dilutes the effect of sources' emissions by estimating the impact at the centroid of the census block instead of at the property line. Census blocks can be large geographically, depending on the population density, so the maximum point of impact can be far from the centroid, including at or near the property line where people may live or work. Further, even if the area near the property line is not developed, over time homes and businesses could locate closer to the facility. While it is possible that population distribution is homogenous over a census block, this assumption is not necessarily accurate in considering the predicted impacts from a nearby point source. Accordingly, NACAA recommends that the impact from all of the sources in a source category be calculated based on concentrations at the property line and beyond and take into account the maximum exposed individual.

Deficiencies in Data – High-quality data is obviously an essential component of a high-quality risk assessment. Accordingly, we believe EPA should base its estimates on more robust and complete data, rather than on information that the agency admits is the result of underreporting. With the tools at EPA's disposal for collecting data (e.g., Section 114 letters), there is no reason the agency should rely on a deficient data set for this or the other source categories for which EPA must do residual risk analyses.

Additionally, NACAA recommends that EPA's analysis include data on emissions from startup, shutdown, and malfunctions, which are the cause of significant HAP emissions. Exempting startup, shutdown, and malfunction emissions underestimates the true risks and does not provide an incentive to refineries to control these emissions.

Control Options

EPA's proposed rule includes two options for work practice standards for leaks from cooling towers. Additionally, the proposal outlines two options for addressing emissions from storage vessels and wastewater streams. The first option for storage vessels and wastewater streams calls for no additional controls, which NACAA believes is unacceptable. The second option does include new requirements; however, they do not go far enough.

There are state and local programs that already include measures more stringent than those in the proposal, such as limiting flaring to an emergency procedure, recovering and recycling vent gases, imposing limits on floating roof tank landings, calling for lower leak limits, requiring domes or internal floating roof tanks, and monitoring emissions at the fenceline, among others. EPA's rule should *at least* reflect what the best-controlled sources at refineries have accomplished. The costs associated with these measures are reasonable, especially considering the toxic nature of the emissions.

While NACAA is encouraged that EPA is acknowledging the need for additional controls in some of its options, we recommend that the agency adopt more protective standards. The following are our specific concerns and recommendations relative to the proposal.

Storage Vessels – The proposed Option 2 calls for slotted guidepole sleeves and gasketed covers for external floating roof tanks, in some cases. Facilities in many areas are already required to employ more stringent controls, so we recommend EPA strengthen the proposal to reflect those

accomplishments. Existing refineries currently are exempted under 63.646(c) from 21 federal requirements that otherwise apply to storage vessels. EPA's proposed rule would do away with only two of these exemptions (related to slotted guide poles on external floating roof tanks). We recommend that EPA consider removing from the refinery rules the other exemptions as well. Based on existing practices at some refineries, EPA should also call for add-on controls for degassing and interior tank-cleaning. In addition, EPA should consider requiring an annual inspection for all internal floating roof tanks through the use of infrared cameras. Although necessitating the purchase of a camera (which is a modest cost), this is a reasonable and effective way of checking for larger leaks. Finally, EPA should include controls for emissions from floating roof landings and consider domes for gasoline external floating roof tanks.

Wastewater Streams – We are pleased that Option 2 calls for benzene controls from Enhanced Biodegradation Units. Additionally, we recommend that EPA require measures to prevent evaporative emissions before the biological treatment is effective. The agency should consider requiring covers that will reduce evaporation of HAPs.

EPA should also reduce the benzene loading control threshold below 10 megagrams per year, eliminate the exemption of controls for up to 2 megagrams per year of benzene wastewater loading and require periodic monitoring to demonstrate that the benzene loading exemption thresholds are not exceeded. Enhanced benzene loading rate monitoring for exempt streams and sites will improve enforceability.

Cooling Towers – EPA calls for work-practice standards for cooling towers, identifying two options for the provisions. Option 1 is deficient because it calls for infrequent monitoring that could allow significant leaks to go undetected and uncorrected for several months, resulting in unacceptably high emissions. For this reason, Option 2 is preferable. However, we recommend that EPA investigate whether some agencies also impose emission limits on cooling towers and, if so, consider including provisions that are currently in place around the country.

Other Requirements that Should Be Included – In order to further minimize emissions from petroleum refineries, additional measures should be included in the final rule. We suggest the following:

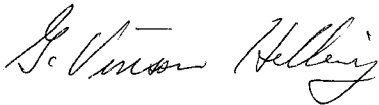
- *Flaring* – EPA should not permit elevated flares to be used to control routine emissions from refineries. The actual destruction efficiency of an elevated flare is lower than its estimated efficiency and lower than other available control devices that could be used.
- *Fenceline monitoring* – The petroleum refinery standards should call for monitoring at the fenceline of the facility in order to measure the levels of emissions that go beyond the boundary of the site. This is critical to understanding the exposure experienced by those who may live, work or otherwise spend time in close proximity to the facility.
- *Startup, Shutdown and Malfunction* – The regulations should include emission standards for startup, shutdown and malfunction activities, since these are often significant. The standards should reflect what is achieved by well-controlled sources.

Eight-Year MACT Review

As part of this proposal EPA has included its required eight-year review of the MACT standard. EPA has determined it is not required to conduct a reevaluation of the MACT floor and that there have been no technological advances warranting controls beyond the same options proposed for the residual risk standards. As stated earlier, state and local agencies have already successfully required more rigorous programs to control emissions of HAPs from refineries. Therefore, even if NACAA agreed with EPA's interpretation of the requirements of the eight-year review of MACT, the standards the agency has proposed are inadequate because the controls do not reflect the advances that have been made in the last eight years. For example, since the adoption of the rule, many petroleum refinery external floating roof storage tanks were retrofitted with geodesic domes or converted to internal floating roof tanks. Therefore, the eight-year review should have included the possibility of requiring domed roofs to new and existing external floating roof storage tanks, among other things.

I thank you for this opportunity to provide NACAA's comments. Please contact us if we can provide additional information.

Sincerely,



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