NACAA
national association of clean air agencies

May 19, 2015

Sherri P. White
Designated Federal Officer
National Environmental Justice Advisory Council
Office of Environmental Justice
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
(MC-2201A)
Washington, D.C. 20460

Dear Ms. White:

We understand that during its meeting this week the National Environmental Justice Advisory Council (NEJAC) may discuss the U.S. Environmental Protection Agency's (EPA's) proposed Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards, which were published in the *Federal Register* on June 30, 2014 (79 *Federal Register* 36880). We urge NEJAC to recommend that EPA strengthen and issue the final rule. Attached are the comments that NACAA provided to EPA on October 28, 2014 containing our specific recommendations related to the proposal.

As we noted in our comments in October, because of their locations, many petroleum refineries pose special environmental justice concerns. NACAA believes these sources should be well controlled and that public health should be afforded the maximum protection the law provides. We believe a strong and effective regulation is necessary to protect public health in communities across the country, especially those with environmental justice concerns.

We encourage NEJAC to advise EPA to issue a strong and effective regulation that incorporates the suggestions we have previously made to improve air quality and protect public health. Thank you for your consideration.

Sincerely,

S. William Becker

cc: Jasmin Muriel
Matthew Tejada

444 North Capitol Street, NW • Suite 307 • Washington, DC 20001 • phone 202.624.7864 • fax 202.624.7863 • www.4cleanair.org

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October 28, 2014

EPA Docket Center
William Jefferson Clinton West Building (Air Docket)
Attention Docket ID No. EPA–HQ–OAR–2010–0682
U.S. Environmental Protection Agency
Mailcode: 28221T
1200 Pennsylvania Avenue NW
Washington, DC 20460

Dear Sir/Madam:

On behalf of the National Association of Clean Air Agencies (NACAA), thank you for this opportunity to comment on the proposed Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards, which were published in the *Federal Register* on June 30, 2014 (79 *Federal Register* 36880). NACAA is a national, non-partisan, non-profit association of air pollution control agencies in 41 states, the District of Columbia, four territories and 116 metropolitan areas. The air quality professionals in our member agencies have vast experience dedicated to improving air quality in the United States. These comments are based upon that experience. The views expressed in this document do not necessarily represent the positions of every state and local air pollution control agency in the country.

NACAA has long been concerned about emissions of hazardous air pollutants (HAPs) from refineries. According to EPA, refinery emissions include benzene, 1-3-butadiene, naphthalene and other compounds, which are associated with a variety of adverse health effects including cancer, neurological effects, blood disorders, damage to the liver, skin illnesses, depression of the immune system and other serious disorders. Additionally, because of their locations, many petroleum refineries pose special environmental justice concerns. NACAA believes these sources should be well controlled and that public health should be afforded the maximum protection the law provides.

In light of the serious public health concerns related to petroleum refinery emissions, and because the current standards for this source category are outdated, NACAA is pleased that EPA has proposed a rule that calls for additional measures to further reduce these hazardous emissions. While we support EPA's efforts to address emissions from petroleum refineries in general, we would like to raise a few issues for further consideration and offer some suggestions for improving EPA's proposed rule.

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Fenceline Monitoring

EPA is proposing to require fenceline monitoring to address fugitive emissions, among other things. Specifically, the proposal includes an annual average benzene concentration standard at the refinery fenceline, to be measured using two-week passive samples placed at the refinery's perimeter.[1]

NACAA supports a fenceline-monitoring requirement and believes it has many benefits, including identifying fugitive emissions that otherwise would be unaddressed and helping to characterize the concentrations facing local communities. In that the characteristics of refineries vary quite a bit, fenceline monitoring would be a good way to understand what the local communities' exposures are. NACAA also appreciates that the information, including the raw data, would be reported and made publicly available. We urge EPA to make the information available in a form that is easy for the public to access and understand.

We believe the public would be best served through the use of the most current technology. Therefore, we have some concerns about the use of passive monitoring over a two-week period, rather than real-time monitoring. For example, with data from passive monitoring, averaged over two weeks, it could be difficult to determine when a spike in emissions actually occurred or, worse, emissions spikes may not be flagged at all due to the averaging of emissions. Since these short-term spikes may be a significant problem for the surrounding community, it is important that systems be in place to discover them and address the problems expeditiously. Additionally, without real-time monitoring, there would be a lag time in the availability of the data to regulatory authorities and the public. Real-time monitoring allows for immediate feedback, which is beneficial in leak detection and other troubleshooting. It would also be especially useful in areas with a dense network of flares and multiple emission sources. Besides benefiting the public, speedy information about leaks could provide savings to the facility as the result of quicker remediation.

We recommend EPA more thoroughly analyze the benefits and costs of real-time versus passive monitoring before issuing a final rule. NACAA urges EPA to opt for the strategy that provides the best information that is most accessible for the public, the regulators and for the facilities themselves. Additionally, we recommend EPA provide a means to approve alternative equivalent fenceline monitoring approaches. Finally, we request that EPA further evaluate the selected methods to ensure the reliability of instrument operations across the broad range of temperature and environmental conditions (e.g., extremely cold wintertime temperatures) that exist at refineries across the country.

EPA has asked for comment on eliminating the fenceline monitoring requirements for certain facilities if they consistently measure concentrations below the action level.[2] NACAA does not believe this is prudent. Circumstances near the facility could change (e.g., development of the surrounding land) or the operation could have an unexpected event that would be undetected without the monitors in operation. We believe the fenceline monitors should remain in operation. Knowing that their fenceline concentrations will continue to be publicly available

[1] 79 *Federal Register* 36923
[2] 79 *Federal Register* 36928

will also be a strong incentive for sources to maintain their operations in good working order, so sources should not be exempt from this provision. While we do not endorse eliminating the fenceline monitoring requirements, if EPA does alter them in some way for sources that consistently measure concentrations below the action level, we recommend that any subsequent change in the operations at the facility should require the facility to revert to the fenceline monitoring requirements to which the facility was originally subject under this rule.

With respect to the placement of monitors, NACAA suggests that EPA include details in the rule regarding areas that can and cannot be used to site monitors in order to ensure consistency among facilities and reduce the possibility of abuse of the system through poor monitor placement. One possibility is to rely on the same monitoring siting criteria used for National Ambient Air Quality Standards monitoring, in order to establish valid data collection. Additionally, quality assurance/quality control on data recovery should be required.

Corrective Action Plan

NACAA believes it is important that sources be required to act if their fenceline monitoring shows benzene concentrations above a certain level, so we support EPA in requiring a corrective action plan.[3] However, we are concerned about the vagueness in the proposal regarding what must be contained in a corrective action plan, the possible delays in taking corrective action that could result, and the lack of detail about the enforcement actions that will follow an exceedance. We suggest those provisions be strengthened and made more specific. Additionally, with respect to the proposal to use a one-year rolling average[4], we recommend EPA call upon sources to identify problems as they are developing and take action before exceeding the action levels whenever possible.

EPA is proposing to allow sources to adjust their monitored levels to account for background processes co-located at the facility, such as leaks from Hazardous Organic NESHAP (HON) storage vessels or equipment. EPA then requests comment on whether the source's corrective action plan should be limited to emissions of refinery emission sources alone (i.e., by allowing sources to exceed the limit if they demonstrate that the exceedance is due to the non-refinery or background emissions) and comment on the requirements in the proposal for sources to make such a demonstration.[5]

NACAA is concerned about allowing sources to avoid taking corrective action by effectively subtracting emissions from their monitored levels. Public health is adversely affected by all the HAP emissions to which the public is exposed, not just those from certain types of emission points. In order to protect the public, the total HAP emissions from a facility should be considered in the corrective action plan and every effort should be made to reduce the public's exposure.

Finally, while some state and local agencies may not wish to take delegation of the approval of corrective action plans, we believe they should be provided this option. At the very

[3] 79 *Federal Register* 36926
[4] 79 *Federal Register* 39626
[5] 79 *Federal Register* 36927

least, those agencies that wish to receive the action plans should have the ability to obtain them, review the contents and provide comment on them before they are approved.

Benzene Action Level

As we stated earlier, we agree with EPA's proposed requirement that sources be required to act if their fenceline monitoring shows benzene concentrations above a certain level. However, NACAA is concerned that the benzene action level that EPA is proposing, which is 9 micrograms per cubic meter ($\mu g/m^3$), is too high.[6] Benzene is a carcinogen associated with serious health effects and efforts should be made to reduce the public's exposure to it as much as possible. However, EPA indicated in the proposal that no facilities the agency modeled currently exceed the action level, which means the rule would not result in reductions. Further, it is our understanding that benzene concentrations are already below the action level in some highly industrialized areas. For example, officials in Houston conducted a study in conjunction with EPA that concluded that average benzene concentrations at all monitors, including those in industrial areas near petroleum refineries, are considerably below the proposed action level (even before any adjustments for background levels). So, NACAA believes the proposed action level is too high and will not provide any significant additional emissions reductions or health protection to the public and that lower levels are certainly achievable. We encourage EPA to examine all available data and reconsider the proposed action level.

Flaring

NACAA is pleased that EPA is proposing to strengthen the requirements on flares.[7] We believe flares should not be used routinely or unnecessarily and that there should be strong operational and monitoring requirements related to flares. Additionally, we are concerned that emissions from flare malfunctions may be underreported and flare efficiencies may be overestimated. Therefore, NACAA supports the use of gas chromatographs for flares, since they provide real-time information about the flare destruction efficiency and improve their ability to report emission events.

Startup, Shutdown and Malfunctions

NACAA supports the provisions in the proposal to address the Startup, Shutdown and Malfunction (SSM) exemptions contained in the earlier rule.[8] Since NACAA agreed with the court decision of December 19, 2008 stating that there should not be an exemption to HAP standards during SSM events, we applaud EPA for proposing changes to make the rule consistent with the court ruling.

Risk Assessment

EPA has determined that the risks from petroleum refinery emissions are "acceptable." However, the proposal also states that, using MACT-allowable emissions, the estimated

[6] 79 *Federal Register* 36926
[7] 79 *Federal Register* 36904
[8] 79 *Federal Register* 36942

maximum individual lifetime cancer risks are up to 100 in one-million. We have serious concerns with this level of risk. Moreover, NACAA has recommended improvements to EPA's risk assessment methodology during numerous rulemakings in the past, which are reiterated below. If conducted properly, an improved risk assessment could show that the risks are even *higher* than the already unacceptable levels EPA has estimated. We strongly recommend that EPA reevaluate the risks related to petroleum refinery emissions, based on our recommended parameters, and ensure that the final rule adequately protects public health consistent with the mandates of Section 112 of the Clean Air Act. The following are specific recommendations related to the risk assessment methodology EPA used in developing the proposal.

Allowable Emissions – NACAA recommends that EPA consider potential or allowable emissions, rather than actual emissions, as much as possible in evaluating residual risk. Since facility emissions could increase over time for a variety of reasons, and with them the associated impacts, the use of potential or allowable emissions is more appropriate. We believe an analysis based on actual emissions from a single point in time could underestimate 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 were pleased to see that EPA used allowable emissions in parts of the rulemaking but were concerned about the fact that EPA used actual emissions in other elements of the risk assessment.[9] NACAA encourages the agency to use allowable emissions in the future, including in assessing acute health risks.

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.[10] 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 or wherever the maximum exposed individual is. 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. EPA itself alludes to this problem in the preamble to the proposed rule.[11] 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 the location of a source. Using Human Exposure Model-3 (HEM-3), EPA can identify the maximum individual risk at any point in a census block that is within a 50-kilometer radius from the center of the modeled facility. Based on HEM-3's power and ability, NACAA suggests that EPA abandon its use of the predicted chronic exposures at the census block centroid as surrogates for the exposure concentrations for all people living in that block. Rather, we recommend that EPA use the truly maximum individual risk, irrespective of its location in the census block, in its section 112(f)(2) risk assessments.

Environmental Justice – We commend EPA for considering environmental justice issues by expressing concern about the disproportionate impacts of HAP emissions on certain social,

[9] 79 *Federal Register* 36888
[10] 79 *Federal Register* 36889
[11] 79 *Federal Register* 36895

demographic and economic groups.[12] However, we believe improvements are needed in EPA's methods of evaluating environmental justice and encourage EPA to continue to consider these factors in developing the final rule and subsequent regulations.

NACAA recommends that EPA conduct the demographic analysis on individuals projected to experience a risk greater than 1-in-1-million for cancer or an HQ above one and *also* on individuals living within five kilometers of the facility, regardless of projected risk, consistent with the approach used for the Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks source category.[13] The socio-economic analysis for the Petroleum Refinery rule did not evaluate potential disparities within five kilometers for maximum allowable emission levels. This type of analysis is especially important in instances where a facility is located in or next to a minority and/or low-income population. Unfortunately, in the proposal, EPA evaluated the risk to the population within a 50-kilometer radius, which could dilute the results by including populations not in the demographic groups most at risk.[14] Therefore, we recommend an analysis at the five-kilometer distance be conducted to assess facility impacts to nearby environmental justice communities.

NACAA also recommends that the rule writers work with the EPA Office of Environmental Justice to develop criteria and specific guidance on how to interpret and apply the outcome of these types of analyses in the rulemaking process.

Acute Exposure – We have expressed our concerns in the past with EPA's use of Acute Exposure Guideline Levels (AEGLs) or Emergency Response Planning Guidelines (ERPGs) values 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 stated 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 (RfCs) for chronic exposures, the AEGLs and ERPGs do not include adequate safety and uncertainty factors and cannot be relied upon to protect the public from the adverse effects of exposure to toxic air pollutants. The use of AEGLs or ERPGs in residual risk assessments is not appropriate and does not ensure that public health is adequately protected from the acute impacts of HAP exposure. We are gratified to see that EPA has increased its reliance on the California Reference Exposure Levels (RELs) to address acute exposures in the residual risk assessments and we continue to urge EPA to use the RELs for these assessments.[15]

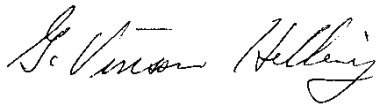
Additional Pollutants – EPA acknowledged in the proposal that there are HAPs beyond the seven the agency evaluated in the environmental risk screening assessment that "may have the potential to cause adverse environmental effects."[16] EPA also stated that it may evaluate additional HAPs

[12] 79 *Federal Register* 36938
[13] 75 *Federal Register* 65089
[14] 79 *Federal Register* 36937
[15] 79 *Federal Register* 36890
[16] 79 *Federal Register* 36898

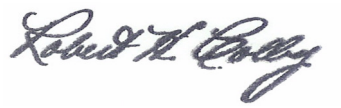
in the future, "as modeling science and resources allow." We strongly urge EPA to evaluate additional pollutants that are emitted by this source category, including arsenic and nickel, and ensure that measures are undertaken to reduce the public's exposure to them.

We believe EPA is correct in its determination that additional measures are necessary to address emissions from petroleum refineries and agree with the agency's decision to require new provisions that will help protect public health. We urge the agency to consider our recommendations and make these improvements to the regulation. Thank you for this opportunity to comment on the proposal. Please contact us if we can provide additional information.

Sincerely,



G. Vinson Hellwig
Michigan
Co-Chair
NACAA Air Toxics Committee



Robert H. Colby
Chattanooga, Tennessee
Co-Chair
NACAA Air Toxics Committee