NATIONAL LIME ASSOCIATION

August 17, 2023

Ms. Lanelle Wiggins
U.S. Environmental Protection Agency
RFA/SBREFA Team Leader
US EPA - Office of Policy (1803A)
1200 Pennsylvania Avenue, NW
Washington, DC 20460.

(Submitted via e-mail)

RE: Comments of the National Lime Association on: EPA Small Business Panel (August 3, 2023), Docket ID No. EPA-HQ-OAR-2017-0015, RIN 2060-AV59

Dear Sir or Madam:

The National Lime Association (NLA) appreciates the opportunity to comment on EPA's Small Business Panel for Lime Manufacturing Plants on August 3, 2023. As part of this comment submission, NLA is incorporating by reference its prior comments dated February 21, 2023, on EPA's original proposed rule (dated Jan. 5, 2023), including the attachments thereto (EPA-HQ-OAR-2017-0015-0166).

NLA is the trade association for manufacturers of high calcium quicklime, dolomitic quicklime, dead-burned dolomitic lime, and hydrated lime, collectively referred to as "lime." Lime provides cost-effective solutions to many of society's manufacturing and environmental needs. Lime is an important ingredient in many other manufacturing processes and industries. It is used in the steel manufacturing process, road building, and the creation of building products like mortar and plaster. Lime is also a critical component in environmental compliance for many industries and municipalities, as it is used to purify water and scrub air pollutants from stack emissions.

These comments are submitted in support of NLA's small business members pursuant to the Small Business Panel meeting held on August 3, 2023.

I. EPA Should Use All of Its Authority and Discretion to Provide Maximum Flexibility Permitted by the Clean Air Act to Minimize Impacts on Small Businesses

EPA has analyzed risk from lime industry emissions, and twice determined that those risks are acceptable with an ample margin of safety, even without additional controls.[1] Because those findings are not in dispute, and because the rule as proposed would impose substantial burdens on the small businesses in the lime industry, EPA should follow the advice of the Small Business Administration's Office of Advocacy:

> EPA should exercise the maximum flexibility permitted by the Clean Air Act, including the use of health-based standards and work practice standards, to allow small businesses to continue operating without requiring investment in expensive emission control equipment that will have no appreciable public health benefit.

Office of Advocacy Comments to EPA at p. 1 (February 16, 2023).

Accordingly, EPA should use its authority and discretion to do the following: adopt an intra-quarry variability factor for mercury; adopt an aggregated o-HAP approach for regulated organic HAPs; promulgate a health-based standard for HCl; and collect more information on dioxins and furans before setting a MACT floor standard (or, in the alternative, correct the numeric standard and allow additional flexibility in demonstrating compliance with that standard). The reasons for these regulatory alternatives (and several additional points) are set out in more detail and explained below.

II. EPA Should Adopt NLA's Proposed Intra-Quarry Variability Factor (IQV) for Mercury

NLA notes with approval that EPA, in the small business panel discussion, indicated a willingness to establish an intra-quarry variability factor (IQV) to adjust the proposed mercury standard. The amount of mercury in limestone within a single quarry can vary greatly, and mercury amounts also vary significantly from one quarry to another. Low levels of mercury are inherent to the mined stone and are not due to treatment technologies or mining techniques. Thus, EPA should take this variability into account in setting a standard. This precedent has been established in both the brick and cement rules.

In its comments, NLA urged EPA to use an IQV based on actual quarry and feed pile measurements performed at the two MACT floor sources. This is appropriate because the IQV is intended to reflect the variability of those sources. It should be noted here that a MACT floor source should be able to meet the required emissions standard without additional controls – that is, controls are supposed to be imposed on sources that emit at levels above the MACT floor. However, if the standard is not adjusted by an appropriate IQV, the MACT floor sources themselves will not be able to meet the standard when using stone with higher mercury amounts in their own quarries. This would defeat the purpose of setting a MACT floor.

[1] *National Emission Standards for Hazardous Air Pollutants for Lime Manufacturing Plants Final Rule,* 69 Fed. Reg. 394, 397 (Jan. 5, 2004); *National Emission Standards for Hazardous Air Pollutants: Lime Manufacturing Plants Residual Risk and Technology Review*, 85 Fed. Reg. 44960 (July 24, 2020).

NLA understands that EPA is considering setting an IQV based on mercury findings at the MACT floor sources but is contemplating using statistical methods to "discount" higher findings at one of those sources. NLA has not seen EPA's statistical analysis, and thus cannot fully comment on this approach, but NLA continues to believe that the method used to derive the IQV proposed by NLA is correct. This IQV reflects real-world mercury levels that the source in question will encounter when it mines the portion of the quarry with higher levels. Accordingly, NLA urges EPA to adopt the IQV described in NLA's prior comments. EPA should provide sources with the maximum flexibility to provide relief for the small business members of unnecessarily burdensome requirements. This is true for all aspects of this rule.

III. EPA Should Adopt an Aggregated O-HAP Approach to Address Organic HAP Emissions

In its comments, NLA provided extensive information demonstrating that total hydrocarbons (THC) are not an appropriate surrogate for organic HAPs emitted by the lime industry. NLA is pleased to note that EPA has apparently also concluded the THC will not serve as an adequate surrogate. NLA proposed that instead of using THC, EPA should establish a standard that would require sources to test all the 15 organic HAPs identified at lime plants using approved EPA test methods, and to meet an aggregate standard of the sum of three times the representative detection limit (RDL) for each of those organic HAPs. At the small business panel meeting, EPA indicated that it is considering setting MACT floors for two organic HAPs, formaldehyde and toluene, to serve as surrogates for all additional organic HAPs. NLA believes that there are numerous problems with this approach, and that the aggregate approach suggested by NLA is preferable both in terms of achievability and in terms of controlling all the appropriate organic HAPs emitted in the lime industry.

a. THC is Not an Appropriate Surrogate for Organic HAPs

NLA's prior comments explained in detail why THC should not be used as a surrogate for organic HAPs in the lime rule. In brief, THC is not a HAP, and it tends to be dominated by other substances that are also not HAPs. For this and other reasons, it does not correlate with emission rates of organic HAPs in the lime industry and would not demonstrate that HAPs are being controlled. It is therefore not a reasonable surrogate pursuant to D.C. Circuit caselaw. See *Nat'l Lime Ass'n v. EPA*, 233 F.3d 625, 637 (D.C. Cir. 2000)(establishing a three-part test for determining whether the use of a surrogate for HAPs is reasonable, including whether: (1) the relevant hazardous air pollutant is invariably present in the proposed surrogate; (2) control technologies for the proposed surrogate indiscriminately capture the relevant HAP along with other pollutants; and (3) the control of the surrogate is the only means by which facilities achieve reductions in emissions of the hazardous air pollutant.)

b. An Aggregated Organic HAP Approach Best Addresses O-HAP Emissions

Instead of THC as a surrogate, the aggregated o-HAP approach would require measurement of all organic HAPs that have been identified at lime plants using approved EPA test methods and would require that levels of organic HAPs in the aggregate remain low.

A similar approach was used in the cement rule, but there the aggregated o-HAP values are used to modify the THC standard, and it is the modified THC standard that must be met for compliance. NLA's proposed approach is superior, because it eliminates uncertainty by ensuring

low levels of all 15 o-HAPs. In NLA's proposed approach, sources would continue to monitor all 15 o-HAPs to ensure that, in the aggregate, they remain at a low level.

There is adequate data in the record to support this approach. Data available to EPA includes the 2016 EPA Information Collection Request responses, and voluntary industry testing performed in 2021. Organics data were analyzed using approved EPA methods 18 and 320 and were obtained from four distinct lime companies. The data set represents ten lime plants and 16 kilns, with data from straight rotary, preheater and vertical kilns fired using coal, coke, and natural gas. This approach ensures that all o-HAPs that have been found in lime kilns will be regulated.[2]

Another reason the aggregated o-HAP approach is appropriate is that organic HAP emissions from lime plants can be extremely variable, based on ambient temperature, fuel input, stone composition, and other factors. NLA members have noted wide variations in emissions from kilns with identical conditions except for ambient temperature, and in some cases the emissions of one HAP went down while another went up. The aggregated o-HAP approach responds to this issue by requiring that all the relevant HAPs be measured and remain below a low level in the aggregate. This approach ensures that there cannot be a situation in which a single HAP is emitted in large quantities but is not measured directly because a different surrogate is being used.

If the aggregated o-HAP approach is characterized as a surrogate, it satisfies the legal requirements set out by the D.C. Circuit Court of Appeals for an appropriate surrogate. *Sierra Club v. EPA*, 353 F.3d 976, 984 (D.C. Cir. 2004). First, a surrogate must be "invariably present" with the relevant HAPs. In this case, the aggregate is composed of the very HAPs that are being regulated. It will be present unless none of these HAPs is being emitted at detectable levels at all. (While none of the 15 HAPs has been individually identified in all tests, most tests have detected at least some of them, albeit at low levels.) Second, control of the surrogate must "indiscriminately capture" the relevant HAPs. With this approach, control of the aggregated o-HAPs would control the individual HAPs as well. Finally, control of the surrogate must be the only means by which facilities achieve reductions in emissions of the HAPs. Here, if the aggregate level is exceeded, control would be required, and it would be the same type of control as for individual organic HAPs.

c. Issues with Using Formaldehyde and Toluene as Surrogates

Because the concept of using only two organic HAPs, formaldehyde and toluene, as surrogates for all organic HAPs is new, NLA and its members are still analyzing the potential impacts of such an approach. However, several concerns have been identified.

First, NLA members are concerned that if MACT floors are set at very low levels for these HAPs, it may be difficult or impossible for any source to meet the standards consistently without new controls. As noted above, emissions of HAPs can vary substantially due to conditions beyond the source's control (such as ambient temperature), and a low standard that can be met on one day may not be met on another. This would be true even for the MACT floor

[2] Note that the suggested aggregated approach uses the sum of three times the RDL for each of the o-HAPs, even though in some cases the upper prediction limit (UPL) is likely to be higher. This guarantees that the aggregate number will be extremely low.

sources, which as noted earlier, should in theory be able to meet standards without additional controls. It is conceivable that a source that emitted no formaldehyde or toluene in previous tests may emit these substances in future tests. As noted above, this is an issue that is avoided by using the aggregated o-HAP approach, which reflects and accounts for this variability, but still ensures that all o-HAPs remain at low levels in the aggregate.

Second, based on our current understanding, using these two substances as a surrogate would be significantly more burdensome on the small businesses in the lime industry, because, as noted above, it could require controls even if aggregate organic emissions are extremely low (despite EPA's own finding that risks from lime plants are acceptable with an ample margin of safety, even without controls).

Accordingly, based on NLA's current understanding, EPA should adopt the aggregated o-HAP approach rather than setting MACT floors for specific HAPs.

IV. EPA Should Adopt a Health-Based Standard for HCl

NLA submitted extensive comments and data showing that EPA should adopt a health-based standard for HCl for the lime industry (including that EPA previously determined that such a standard would be appropriate for the industry, then determining that no standard at all was needed). NLA demonstrated that the case for a health-based standard is stronger in this case than it was in the brick case, and that there is no scientific evidence that HCl is a carcinogen. NLA will not repeat these prior points here but incorporates them by reference.

However, NLA will simply note that if EPA believes that the facts and law support setting a health-based standard for the lime industry, it should do so, even if there is a possibility that the decision will be challenged by others. It would be unfair to the lime industry to impose millions of dollars of unnecessary control costs on the industry, including on its small business members, to preserve the use of a health-based standard for some other, perhaps larger, industry.

NLA also believes that the idea that some future case will provide a more ironclad argument that a substance is not a carcinogen is unrealistic. The case that HCl is not a carcinogen is very strong. EPA should follow the science and should use the tool that Congress provided to avoid an unfair and unreasonable result. Indeed, this is an ideal case for use of this tool because EPA has already twice determined that use of a health-based standard (or no standard at all) would not create an unacceptable risk, including both cancer and non-cancer risks.

V. NLA Supports EPA's Proposed Subcategories for HCl

While NLA continues to believe that EPA should set a health-based standard for HCl, NLA appreciates EPA's proposal to set subcategories for lime industry sources for HCl. These subcategories recognize real differences in operations and products leading to differences in emissions. NLA suggested several modifications to the subcategories, and NLA understands that EPA is addressing these issues.

In addition to subcategorization by kiln type, EPA proposed to subcategorize by production of high calcium quicklime and dolomitic lime (and dead-burned dolomitic lime). As explained in NLA's prior comments, the data in the record show that kilns producing dolomitic lime consistently have higher HCl emissions than kilns producing high calcium lime (this is true

even when the two kinds of product are produced in the same kiln). These differences are due to differences in the stone feedstock, and not because of fuels or equipment. Dolomitic lime is made from naturally occurring stone with a higher percentage of magnesium chloride than high calcium quicklime. It should also be noted that dolomitic lime and high calcium quicklime are different products and have different uses and markets. They are not interchangeable, and sources would not be able to switch products to reduce emissions. Accordingly, the differences in HCl emissions between these two types of lime are appropriate for subcategorization.

VI. NLA Urges More Flexibility for Dioxins & Furans (D/F)

In its prior comments, NLA urged EPA to seek additional data on dioxins and furans because the inadequate data in the record did not support the MACT floor proposed by EPA. NLA continues to believe that more data is needed, but we submit further comments below on how to improve EPA's proposal.

NLA's comments on the proposed rule (EPA-HQ-OAR-2017-0015-0166) drew attention to an inconsistency with the application of the Steffan Johnson memo which was used to develop the MACT limit. To properly utilize Reference Image 4-3 in the memo to obtain an emissions limit, the stack gas sample volume (in dry standard cubic meter (dscm)) is required to select the appropriate 3xRDL value. NLA concurs that a sample volume for D/F testing on a lime kiln should be 3 dscm (or less, desirably, given costs for testing and long sample collection times). However, EPA's proposed D/F limit is set incorrectly in that it improperly references a sample collection volume of 4 dscm (and not 3 dscm as is included in the rulemaking). Thus, the proposed D/F limit is incorrect, and the correct D/F limit is 0.037 ng/dscm. NLA understands that EPA has recognized the need for this correction, for which NLA commends EPA.

If EPA continues with a proposed D/F numerical limit rather than seeking more data, EPA should allow lime plants to meet a numeric MACT standard of 0.037 ng/dscm TEQ @ 7 percent O_2 and demonstrate compliance through periodic stack testing. This is because some lime plants may have non-detectable or extremely low concentrations of D/F present and may be able to achieve the numeric standard without additional controls.

NLA also suggests that, in addition to meeting the numerical standard by periodic testing, EPA should establish an alternative compliance method based on temperature control. NLA understands that EPA has considered developing a temperature-based work practice combined with periodic testing. NLA suggests that instead of a work practice, the agency should consider setting an alternative method of complying with the numerical standard by allowing an appropriate inlet temperature to the air pollution control device (APCD) to be set on a site-specific basis. This is appropriate due to the wide variety of gas temperatures entering the various APCD and the variety of kiln/APCD configurations. This approach would be justified because compliance testing combined with a site-specific temperature (i.e., inlet to APCD temperature) would ensure that each plant's configuration and temperature parameters result in D/F emissions that consistently meet the numeric standard.

Compliance with the site-specific temperature should be on a 30-day rolling average. If annual compliance testing for a period of three years shows the lime plant consistently meets the numeric standard and the temperature requirement is met, then the lime plant should be allowed to opt out of further emissions testing and show compliance through the temperature requirement alone.

This temperature-based approach would be a parametric way of implementing the 0.037 ng/dscm standard. Thus, the temperature-based approach is not appropriately classified as a work practice – measuring 0.037 with either a periodic stack test or measuring temperature would be an alternative means of compliance with the same numerical standard. (NLA would like to emphasize that this temperature-based approach should only be set as an alternative means of compliance to periodic stack testing, and not the sole means of compliance, because some lime plants will be able to meet the numeric standard without temperature control.)

The temperature-based approach to compliance is supported by law and precedent. Past EPA NESHAP rules provide support for such an approach when EPA has promulgated "parametric operating limits" or "operating parameters" alongside HAP numerical emission standards. *See, e.g.*, 40 C.F.R. Part 63 Subpart EEE (NESHAP for Hazardous Waste Combustors), *id.* At Subpart YYYY (NESHAP for Stationary Combustion Turbines), *id.* At Subpart ZZZZ (NESHAP for Stationary Reciprocating Internal Combustion Engines), and *id.* At Subpart AAAAAAA (NESHAP for Asphalt Processing and Asphalt Roofing Manufacturing).[3] These "operating parameters" or "operating limits" allow major sources to demonstrate ongoing compliance with numerical emission standards. Importantly, EPA regulations treat operating limits as distinct from work practice standards. *See, e.g., id.* Subpart EEE § 63.1201(a) ("Operating requirements means operating terms or conditions, limits, or operating parameter limits developed under this subpart that ensure compliance with the emission standards.").

As is being suggested here, EPA has previously required sources to demonstrate compliance through an initial performance test, after which the source must continually monitor performance (such as through use of a particulate matter continuous parametric monitoring system (PM CPMS), a particulate matter continuous emission monitoring system (PM CEMS), or quarterly compliance testing). 40 C.F.R. Part 63 Subpart UUUUU (NESHAP for Coal- and Oil-Fired Electric Utility Steam Generating Units). *See also id.* Subpart AAAAAAA (NESHAP for Asphalt Processing and Asphalt Roofing Manufacturing). EPA has also adopted operations limitations linked to the inlet temperature of an APCD. 40 C.F.R. Part 63 Subpart YYYY (NESHAP for Stationary Combustion Turbines). In Subpart YYYY, EPA imposed "operating limitations" related to the oxidation catalyst inlet temperature to ensure compliance with the numeric emissions limit for formaldehyde. 69 FR 10512-01, 10516 (Mar. 5, 2004).

Both EPA and NLA have sought to identify a standard temperature-based work practice that would be appropriate for the lime industry. However, this has proven to be extremely challenging due to wide variations in temperature, equipment, and other operating parameters. EPA questioned whether temperature could be controlled by using the induced draft (ID) fan on a lime kiln (to provide additional cooling of hot exhaust gases). This approach is infeasible as ID fans are designed and built for normal operating conditions, i.e., production, fuel rates, dust loading, etc., and run with little to no extra capacity. ID fans typically operate at 95 percent capacity or greater. Using the ID fan for cooling the kiln gas temperature to below 400 deg. F

[3] EPA's Credible Evidence Revisions further support the use of using parametric data for proving compliance with emission limits. Credible Evidence Revisions, 62 FR 8314-01, 8315 (Feb. 24, 1997) ("Where available, continuous emission monitoring (CEM) data and well-chosen parametric monitoring data, such as operating temperature and air flow rate of a regenerative thermal oxidizer, generally provide accurate data regarding a source's compliance with emission limits and standards. These data also generally cover a greater percentage of a source's time in operation and are more representative of a source's ongoing compliance status than sporadic performance testing.")

would have significant negative impacts throughout the system. For example, it would lower the air-to-cloth ratio in the baghouse (i.e., the filtration efficiency of the baghouse will be reduced) and would decrease production due to a reduction in process gas loading. Increasing fan capacity would also mean increased operating costs: more bags would have to be installed in the baghouse, additional maintenance costs would be incurred, and more kilowatt hours would be needed to run the fan at a higher rate. Replacing an existing ID fan with a bigger fan would also mean replacing the fan drive assembly, and the project would have to go through Title V re-permitting. Another unintended consequence would be that if production was hypothetically dropped to enable more cooling, this could result in failed stack tests. Stack testing requires the test to be run at 90 percent capacity. The kiln would potentially not be able to achieve 90 percent production at temperatures of 400 deg. F or lower.

Despite these challenges, NLA believes that some lime plants will be able to demonstrate through testing that they operate at temperatures that assure the emissions of D/F are below the numerical standard, and EPA should allow such plants to demonstrate compliance by monitoring temperature.

VII. EPA Should Allow Emissions Averaging for All Regulated HAPs

In its prior comments, NLA requested that emissions averaging, similar in concept to the existing emissions averaging requirements for PM in the current Lime MACT rule, be incorporated into a final rule for the newly regulated HAPs. NLA reiterates that request here. Emissions averaging will allow lime plants to more cost-effectively optimize controls to prevent excessive emissions across the entire facility.

In the 2004 Lime MACT, EPA permitted plant-wide averaging of PM emissions (with some limitations), explaining:

> We believe that allowing averaging is appropriate here because of the identity of the units (kilns and coolers in all cases), and the emissions (same HAP in same type of emissions, since all emissions result from kilns and coolers). Averaged emissions under these circumstances would, thus, still reflect MACT for the affected source. The averaging provisions are included in the final NESHAP as a result of the recommendations of the Small Business Advocacy Panel convened as required by section 609(b) of the Regulatory Flexibility Act (RFA) and improves the compliance flexibility options for small businesses, which is the intent of the RFA.

69 Fed. Reg. 401 (Jan. 5, 2004). For similar reasons, EPA should allow averaging for the additional HAPs added in this rule.

NLA again suggests that for limitations based on pounds or tons of HAP per ton or MMton of lime produced, and for lime kilns seeking to comply with the same numerical standard, EPA should authorize the weighted average methodology currently available for PM in the current Lime MACT (40 C.F.R.§ 63.7111) to show compliance. For concentration-based standards, and again for lime kilns seeking to comply with the same numerical standard, a simple average of results should be allowed for compliance demonstration. For both types of standards, parametric monitoring requirements, as applicable for each kiln in the average, should be set at the injection rate associated with the tests used in the emissions averaging compliance demonstration.

VIII. NLA Supports EPA's Proposed Five Year Stack Testing Interval

NLA again strongly supports EPA's proposal to establish a 5-year stack testing interval and parametric monitoring as the monitoring requirements for emissions standards under the Proposed Rule. This is consistent with the existing requirements for PM for the lime industry, and the parametric monitoring will ensure continuous compliance. Imposing more rigorous and costly monitoring requirements would not be justified in this case, given the low emissions of HAPs generally, and EPA's risk assessment showing that risks are acceptable with an ample margin of safety even without additional controls.

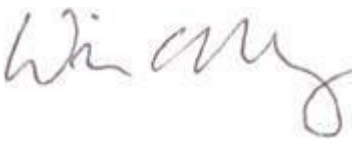
IX. EPA Should Authorize Use of Method 26/26A to Measure HCl

As noted in NLA's prior comments, Method 26/26A should be allowed by EPA to determine compliance with the proposed HCl emissions limits. EPA may have inadvertently omitted Method 26/26A (used in testing HCl) from Table 7 in the preamble (88 Fed. Reg. 815), and from Table 5, Row 19, in the redline in the docket. Method 26/26A is a standard isokinetic method that can be run concurrently with PM sampling.

In Method 26/26A, gas is withdrawn from the source and collected directly in acidified impingers. The impinger solution captures the HCl, and drives it to chloride ions, where it is analyzed by ion-chromatography. This is a simple approach that does not have the sample transport difficulties found in the direct interface FTIR approach. It is one of EPA's promulgated methods (*see* https://www.epa.gov/emc/emc-promulgated-test-methods), and it is allowed in other NESHAP rules (*see, e.g.,* 40.CFR section 63.7520 and Table 5 (boilers and process heaters). Method 26/26A has several advantages over the more technically complex and expensive M.320/321: it can allow for significantly lower detection limits, does not require a trained FTIR specialist on site to operate the equipment, and is significantly quicker. The limited availability of trained FTIR specialists will be problematic for both the lime industry and the testing industry. Additional costs are significant and can easily be greater than $10K/plant using FTIR. M26/26A is a tried and tested accepted method for HCl analyses and is allowed for compliance demonstration in other industries. EPA should authorize the use of Method 26/26A as an approved method for HCl compliance testing.

NLA appreciates the opportunity to comment on these important issues.

Respectfully submitted,



William C. Herz
Executive Director
National Lime Association
200 N. Glebe Road
Arlington, VA 22203
703-566-4634
wcherz@lime.org