EARTHJUSTICE

ALASKA CALIFORNIA FLORIDA MID-PACIFIC NORTHEAST NORTHERN ROCKIES
NORTHWEST ROCKY MOUNTAIN WASHINGTON, DC INTERNATIONAL

October 15, 2012

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BY FIRST CLASS MAIL AND EMAIL

Re: Petition for Reconsideration of Oil and Natural Gas Sector: National Emission Standards for Hazardous Air Pollutants Reviews; Final Rule, 77 Fed. Reg. 49,490 (Aug. 16, 2012), 40 C.F.R. Part 63, Subparts HH and HHH, Dkt. ID No. EPA-HQ-OAR-2010-0505

Dear Administrator Jackson and Assistant Administrator McCarthy:

This is a petition for reconsideration under Clean Air Act § 307(d)(7)(B), 42 U.S.C. § 7607(d)(7)(B). The parties submitting this petition are California Communities Against Toxics, California Safe Schools, Clean Air Council, Coalition For A Safe Environment, Desert Citizens Against Pollution, Natural Resources Defense Council, and Sierra Club. Petitioners respectfully request that the Environmental Protection Agency ("EPA") reconsider certain aspects of the final action taken at 77 Fed. Reg. 49,490 (Aug. 16, 2012), entitled Oil and Natural Gas Sector:

National Emission Standards for Hazardous Air Pollutants Reviews; Final Rule, addressing 40 C.F.R. Part 63 Subpart HH: Oil and Natural Gas Production and Subpart HHH: Natural Gas Transmission and Storage.[1]

EPA changed important elements of this rule from the proposal to final stage and provided new explanations for its action in the response to comments. Petitioners submit this petition to raise objections to certain substantive rule changes and to EPA's new explanations which were impracticable to raise before the comment period closed and which are of central relevance to the final rule. 42 U.S.C. § 7607(d)(7)(B). Petitioners urge EPA to take new final action after reconsideration that will strengthen protection for the people most exposed to and most affected by the toxic air pollution from the oil and natural gas source categories.

**Executive Summary**

EPA's Final Rule on hazardous air pollutants emitted by the Oil and Natural Gas source categories fails to protect the health of the most-exposed communities and does not satisfy the Clean Air Act. Petitioners urge EPA to grant reconsideration and resolve the following eleven serious problems without delay.

(1) EPA must reconsider its failure to evaluate and set limits on hazardous air pollutant ("HAP") emissions from all points within the Oil and Natural Gas source categories, and perform a new rulemaking to set limits for all missing emissions.

(2) Because EPA's lack of data was fatal to its rulemaking decisions under both Section 112(f)(2) and Section 112(d)(6), 42 U.S.C. §§ 7412(f)(2), (d)(6), EPA must grant reconsideration to collect adequate, representative, and reliable emission data for the entire Oil and Natural Gas source categories.

(3) EPA must grant reconsideration to evaluate and set the required maximum achievable control technology ("MACT") limit for storage vessels without the potential for flash emissions, which its final rule unlawfully delayed, due to a professed lack of necessary data.

(4) For small glycol dehydrators, EPA must grant reconsideration to strengthen the limit EPA set on benzene, toluene, ethylbenzene, and xylene emissions, by setting a standard that actually follows the Section 112(d)(3)(A) requirement to base the floor on the emission

[1] This petition calls these the "oil and natural gas source categories," or the "production" and "transmission and storage" source categories, as shorthand.

reductions achieved by the best performers on average. And, EPA must set a limit on all other pollutants which small glycol dehydrators emit, in addition to those four.

(5) For large glycol dehydrators, EPA must remove the benzene-only 0.9 mg/yr limit, which allows sources to emit unlimited amounts of other HAPs, in violation of Section 112.

(6) For equipment leaks, EPA must grant reconsideration to set limits that follow the best performers' significant leak reduction achievements, illustrated by local air district standards and the Natural Gas Star Program, which EPA unlawfully ignored based on cost.

(7) Reconsideration is also required to revoke the last-minute decision EPA made to weaken reporting requirements for malfunctions, as part of the unlawful affirmative defense for civil penalties, which EPA must remove.

EPA must also grant reconsideration to consider and evaluate a wealth of new information that has come in since the comment period closed, including:

(8) EPA's own 2012 study on flare efficiency,

(9) EPA's own proposed uniform standards (for storage vessels, equipment leaks, and control devices), and

(10) new air monitoring studies showing higher levels of benzene and other pollutants in the air, requiring more protective action by EPA.

Each of these new pieces of information merits EPA's reconsideration.

(11) To fulfill the Administrator's own commitment to fully evaluate and assure environmental justice, EPA must grant reconsideration to perform an adequate and meaningful environmental justice analysis, which it failed to include in this rulemaking.

In addition, on a number of the above issues, EPA failed to respond at all or failed to respond with a reasoned explanation, and these failures alone justify reconsideration.

For all of the above reasons, as further explained below, Petitioners urge EPA to grant reconsideration and perform all further rulemaking that is needed to protect the health of affected communities, including children, living daily with toxic air pollution from oil and gas facilities.

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## I. EPA MUST RECONSIDER ITS FAILURE TO REVIEW AND SET LIMITS ON EMISSIONS FROM THE ENTIRE OIL AND NATURAL GAS SOURCE CATEGORIES.

### A. Need for Reconsideration

In timely comments, Petitioners urged EPA to conduct a review of the health and environmental risks caused by the Oil and Natural Gas source categories and to set standards for "all HAP emission points," including "all currently uncontrolled HAP emissions" in both oil and natural gas source categories, not just large glycol dehydrators (for both source categories), storage vessels with potential for flash emissions ("PFE") and equipment leaks (for Oil and Natural Gas Production). Sierra Club *et al.* Comments Part II.A.1.ii.-iii, at 14-23; Pt. III.D, at 97-99, Doc. ID. EPA-HQ- OAR-2010-0505-4457.[2] Petitioners explained that EPA is required to assess the health and environmental risk created by the entire source category, not just the emission points for which EPA originally set Section 112(d) standards. *Id.* at 14-15. Petitioners also explained that EPA must set limits on all hazardous air pollutant ("HAP") emissions, including those that the existing standard does not control. *Id.* at 97-98.

Petitioners have provided a Table that lists major emission points that EPA has ignored, and summarizes significant problems with the existing standards. *See* Table 1 (attached).

Yet, in taking final action, EPA neither performed the actions urged by Petitioners, nor provided an adequate response to Petitioners' comments as required by the Clean Air Act. 42 U.S.C. § 7607(d)(6)(A)-(B). Because EPA's failure to provide a reasoned explanation for its action under Section 307(d)(6)(A) and its failure to respond to Petitioners' significant comments as required by Section 307(d)(6)(B) both occurred in combination with issuance of the final rule, it was impracticable for Petitioners to raise this objection during the comment period. EPA's failure to consider all risks and its failure to set limits to control significant parts of the source

[2] This petition cites this and other documents in the rulemaking docket according to the final four digits of their docket identification number, e.g., -4457.

category are of central relevance to this rulemaking. Thus, Section 307(d)(7)(B), 42 U.S.C. § 7607(d)(7)(B), requires EPA to grant reconsideration on this issue.

### B. Grounds for Objection

As Petitioners originally explained, *see* Sierra Club *et al.* Comments (-4457) at 14-15, in the proposed rule, EPA failed to address or take legally required action regarding all emissions coming from all parts of the Oil and Natural Gas Production and Natural Gas Transmission and Storage source categories. EPA's failure to review and its failure to regulate all emission points within these source categories, including all fugitive emissions, are unlawful under Sections 112(f)(2) and 112(d)(6) of the Clean Air Act ("CAA"), 42 U.S.C. §§ 7412(f)(2), (d)(6). *See* Comments (-4457) at 15-19, 97-99.

#### 1. EPA's Refusal to Regulate All Emission Points Violates Section 112(d)(6).

##### i. Background

As a first major problem, in its Section 112(d)(6) review, EPA failed to examine all listed HAPs and all uncontrolled point and fugitive sources, and thus failed to revise the existing standards to set limits on all uncontrolled HAP emission points under Section 112(d). Comments (-4457) at 97-98. EPA did not finalize limits for the emission sources listed by Petitioners. *Id.* at 97 (explicitly incorporating list in comments at 15-18, under Section 112(d)); *see also* Table 1 (attached). Additionally, EPA's Section 112(d)(6) technology review memo also did not evaluate control technologies, practices or any other "developments" for any other emission sources within the source categories. The memo in the docket only discussed the same trio of emission points that were already controlled under Section 112(d) (i.e., large glycol dehydrators, storage vessels with PFE, and equipment leaks). Memorandum from Bradley Nelson, EC/R Inc., to Bruce Moore, EPA, Oil and Natural Gas Production MACT and Natural Gas Transmission and Storage MACT – Technology Review (July 28, 2011) (-0062) at 2-3.

Notably, however, EPA did recognize that certain sources were uncontrolled, and proposed to set limits for them pursuant to its Section 112(d)(2)-(3) authority – *i.e.*, small glycol dehydrators and storage vessels without PFE. Oil and Natural Gas Sector: National Emission Standards for Hazardous Air Pollutants Reviews; Proposed Rule, 76 Fed. Reg. 52,738, 52,767-69 (Aug. 23, 2011). In the final rule, EPA finalized MACT limits only for small glycol dehydrators (and not for these storage vessels, even though it did redefine the term "associated equipment" to include all storage vessels). 77 Fed. Reg. at 49,503. The action EPA took on small glycol dehydrators and its proposal (recognizing the need for limits) on storage vessels without PFE shows that EPA recognized the need to go beyond currently regulated sources, to review and

set Section 112(d) limits for the entire source categories, not just those emission points originally regulated under Section 112(d). Yet EPA failed to follow the approach it took on small glycol dehydrators for the long list of other uncontrolled emission points listed in Petitioners' comments. Comments (-4457) at 14-19 (Pt. II.A.1.ii); *id.* at 97-98 (explicitly incorporating into the Section 112(d) comments the comments and list provided at 14-19, in Part II.A.1.ii); *see also* Table 1.

After initially setting limits for only a trio of regulated emission points in the Oil and Natural Gas Production source category (large glycol dehydrators, storage vessels with PFE, and certain equipment leaks), and only for large glycol dehydrators in the Natural Gas Transmission and Storage source category, EPA again ignored a broad spectrum of fugitive emissions and emission points within each source category during the current review and rulemaking. Comments (-4457) at 15-18; Comments of Colo. Dep't of Pub. Health & Env't (-4191).

In listing Natural Gas Transmission and Storage and setting standards for both source categories for the first time, EPA explained that the Oil and Natural Gas source categories cover a broad set of emission points:

> The oil and natural gas production and natural gas transmission and storage source categories consist of various facilities used to recover and treat products (hydrocarbon liquids and gases) from production wells. These source categories include the processing, storage, and transport of these products to (1) the point of custody transfer for the oil and natural gas production source category or (2) the point of delivery to the local distribution company (LDC) or final end user for the natural gas transmission and storage source category.

Proposed Rule, 63 Fed. Reg. 6288, 6291 (Feb. 16, 1998); *see also* Final Rule, 64 Fed. Reg. 32,610 (June 17, 1999) (also listing natural gas transmission and storage as a major source category).[3] As EPA further explained in the current proposed rule, the "oil and natural gas sector" is extensive and includes:

[3] In 1992, EPA listed "Oil and Natural Gas Production" as a major source category of HAPs under Section 112. 57 Fed. Reg. 31,576 (July 16, 1992).

> operations involved in the extraction and production of oil and natural gas, as well as the processing, transmission and distribution of natural gas. Specifically for oil, the sector includes all operations from the well to the point of custody transfer at a petroleum refinery. For natural gas, the sector includes all operations from the well to the customer.

76 Fed. Reg. at 52,744-45. In the final Residual Risk Assessment document, EPA again broadly described these source categories. Residual Risk Assessment (-4558) at 22 (broad description of natural gas source category, noting that "Glycol dehydration unit reboiler vents represent one HAP emission point at natural gas transmission and storage facilities," among others); *id.* at 28 ("The oil and natural gas production source category includes facilities involved in the recovery and treatment of hydrocarbon liquids and gases from oil and natural gas production wells.").

These are only some example statements by EPA recognizing the broad spectrum of emission sources covered by the listed source categories. *See also, e.g.*, Nelson Memo (-0062) at 2 ("The oil and natural gas production source category includes the separation, upgrading, storage, and transfer of extracted streams (primarily hydrocarbons) that are recovered from production wells. . . . The oil and natural gas production source category includes the processing and upgrading of crude oil prior to the point of custody transfer, and natural gas prior to entering the pipeline systems associated with the natural gas transmission and storage source category. The types of processes and operations in this source category include production wells, dehydration units, tank batteries, natural gas processing plants, and offshore production platforms."); *id.* at 3 ("The natural gas transmission and storage source category includes the pipeline transport, storage, and processing of natural gas prior to entering the final pipeline of the local distribution company that delivers natural gas to the final end user.").

However, when EPA initially set Section 112(d) standards for these source categories, it left a number of emission points within these source categories uncontrolled, such as: gas condensate glycol separator or flash tanks, amine treating units and sulfur recovery units, pipeline pigging and storage of pipeline pigging wastes, valves pump seals and other leaking equipment, containers, equipment leaks at tank batteries and offshore production platforms, production surface impoundments, and waste and wastewater management units. 63 Fed. Reg. at 6304. EPA discussed the fact that these sources are within the Oil and Natural Gas source categories. *Id.* at 6303-04 (explaining that "The EPA identified the primary types of HAP emission points at oil and natural gas facilities" as "(1) process vents, (2) storage vessels, and (3) equipment leaks," including many of the above list of emission points). Yet EPA stated for certain emission points (including certain containers, equipment leaks, impoundments, and

wastewater units): "it has been determined that the existing level of control for this collection of other HAP emission points is no control." 63 Fed. Reg. 6304 (emphasis added).

Although EPA defined the Production source category broadly, it set limits only for large glycol dehydrators, storage vessels with PFE and some equipment leaks. *See* 40 C.F.R. § 63.760(a) (making Oil and Natural Gas Production standards applicable only to specific emission units within the listed source category: "This subpart applies to the owners and operators of the emission points, specified in paragraph (b) of this section that are located at oil and natural gas production facilities that meet the specified criteria in paragraphs (a)(1) and either (a)(2) or (a)(3) of this section."). EPA also defined the Natural Gas Transmission and Storage source category broadly, stating that:

> This subpart applies to owners and operators of natural gas transmission and storage facilities that transport or store natural gas prior to entering the pipeline to a local distribution company or to a final end user (if there is no local distribution company), and that are major sources of hazardous air pollutants (HAP) emissions as defined in § 63.1271. Emissions for major source determination purposes can be estimated using the maximum natural gas throughput calculated in either paragraph (a)(1) or (2) of this section and paragraphs (a)(3) and (4) of this section. . A compressor station that transports natural gas prior to the point of custody transfer, or to a natural gas processing plant (if present) is not considered a part of the natural gas transmission and storage source category.

40 C.F.R. § 63.1270(a). But, then EPA exempted most of this source category from emission limits in the same regulation and set numeric limits only for large glycol dehydrators: "(b) The affected source is each glycol dehydration unit. (c) The owner or operator of a facility that does not contain an affected source, as specified in paragraph (b) of this section, is not subject to the requirements of this subpart." *Id.* § 63.1270(b)-(c).

EPA did not include all HAP-emitting sources in the major source threshold determination, and did not even require sources to calculate all HAP emissions, apparently out of deference to industry preferences. 63 Fed. Reg. at 32,618; 40 C.F.R. § 63.761. EPA did this to "reduce the burden" on sources "in making a major source determination." 63 Fed. Reg. at 32,618 ("The EPA believes that eliminating the need to quantify HAP emissions from small sources at production field facilities would not affect the major source status determination, but would reduce the burden on owners or operators."). In addition, EPA also defined "associated

equipment" more broadly than Section 112(n)(4) requires, as encompassing all equipment "from the wellbore to the point of custody transfer" except certain glycol dehydration units and storage vessels. 40 C.F.R. § 63.761. And, to allow production sources to avoid actually calculating their emissions, EPA defined major source "facility" based on a certain level of through-put, instead of total HAP emissions. 63 Fed. Reg. at 32,621 ("the final subpart HH states that facilities, prior to the point of custody transfer, that have a facilitywide actual annual average natural gas throughput less than 18.4 thousand m3/day and a facilitywide actual annual average hydrocarbon liquid throughput less than 39,700 liter/day are exempt from subpart HH"; "The final subpart HHH states that natural gas transmission and storage facilities operating with an actual annual average natural gas throughput below 28.3 thousand m3/day are exempt from subpart HHH."). EPA's redefinition of major source in the rule contradicts the plain language of Section 112 which defines "major source" as a source that emits 10 tons per year or more of a single listed HAP or that emits 25 tons per year or more of a combination of listed HAPs. 42 U.S.C. § 7412(a)(1).

In sum, EPA's original Section 112(d) standards limited the HAP emissions of only three components of the Oil and Natural Gas Production source category, and only one component of the Natural Gas Transmission and Storage source category. EPA allowed all other parts of the source categories to emit freely without any limit, so that all other HAP emission sources in these categories – as listed above, in our Comments (-4457) at pp. 14-19, the Buckheit and Sahu Addenda, and including sources like flares that create HAP emissions – remain unquantified and uncontrolled. EPA also authorized sources to ignore some of their HAP emissions completely in assessing whether they are a major source subject to the rules. EPA must require all facilities to compute their actual HAP emission for all sources and provide those data to EPA. The agency also must require field testing to assess the full amount of HAP emissions at each source, using its Section 114, 42 U.S.C. § 7414, authority.

### ii. The Final Rule Violates Section 112(d)(6) and (d)(2)-(3).

EPA must evaluate and set limits to reduce the HAP emissions from all uncontrolled emission sources in the Oil and Natural Gas source categories to meet the requirements of Section 112(d)(6). Comments (-4457) at 97-99; *Lime Ass'n v. EPA*, 233 F.3d 625, 637 (D.C. Cir. 2000). This is because all rulemakings for major sources under Section 112(d)(6) must satisfy Sections 112(d)(2)-(3), 42 U.S.C. §§ 7412(d)(2)-(3). Congressional intent is clear in the statute; all

HAP emission points must be controlled.[4] The Final Rule and Response to Comments rely on a too-narrow interpretation of Section 112(d)(6) that ignores certain uncontrolled emission points. Moreover, EPA's statutory interpretation in the final rule conflicts with EPA's recognition of the need to set limits for certain uncontrolled emission points, including small glycol dehydrators and storage vessels without PFE. (Although for the latter emission points, EPA has not yet finalized limits, it has recognized the need to do so in the proposed and final rules by changing the definition of "associated equipment" to include all storage vessels).

***(1) EPA's Description of Its Decision to Regulate Some But Not All Uncontrolled Emission Points.***

As EPA chose to close some unlawful gaps in the existing standards (but not all), EPA disputes only that Section 112(d)(6) requires it to set limits on previously uncontrolled parts of the source categories under review. EPA does not contest its authority to do so. Petitioners and EPA agree that Sections 112(d)(2)-(3) require EPA to evaluate all parts of a major source category to set HAP emission limits, and that is why EPA proposed and finalized new limits for uncontrolled sources (small glycol dehydrators) in the current rulemaking. Final Rule, 77 Fed. Reg. at 49,502. Although EPA relied on Section 112(d)(2)-(3) authority to do so, it took the opportunity of the Section 112(d)(6) rulemaking as the impetus for this action. Resp. to Comments (-4546) at 240 (explaining that EPA is "not constrained by section 112(d)(6) and it may reassess its standards more often") (emphasis added). But EPA did not do the same for the long list of sources in Table 1, attached.

As EPA stated in responding to industry comments urging it not to set limits for certain previously uncontrolled emission points, the agency found in its review for this rulemaking that: "[t]he absence of standards for these HAP is not proper." EPA, Response to Public Comments on Proposed Rule (-4546) ("Resp. to Comments") at 239 (citing *Nat'l Lime*, 233 F.3d at

[4] *See, e.g.*, 1990 CAA Leg. Hist. at 869 Mitchell Ex. 1 (Conf. Rep.) ("The managers have one other statement to make regarding the discussion of alternative 1 (a). In that discussion the paper asserts that 'a facility may be subject to a MACT regulation but * * * cutoffs specified in the standard may result in no additional controls being applied.' No such authority has been retained in the final statute. While various categories and subcategories of sources may be established, emissions from all facilities within a category or subcategory must be controlled by the MACT standard. The managers specifically disapprove of EPA's practice -- evident in recent new source performance standards under section 111 of current law -- for example, the air oxidation and distillation standards -- of establishing cutoffs that result in excluding some sources within the category or subcategory from the emission limitations or control measures otherwise required.").

633-34; *Med. Waste Inst. v. EPA*, 645 F.3d 420, 426 (D.C. Cir. 2011)). For these sources "that were not controlled under the initial NESHAP [national emission standard for hazardous air pollutants]," EPA explained that originally "[t]he EPA adopted no MACT standard at all for these emission points, an approach soundly rejected by the D.C. Circuit." *Id.* at 240. For these reasons, EPA exercised its authority to correct this problem in the current rulemaking under review, and noted that in several other recent rulemakings, "we have chosen to fix underlying defects or make other necessary revisions or clarifications in existing NESHAP." *Id.* at 239-41.

As EPA further explained, it "is reasonable to make corrections following the process that would have been followed if we had not made an error at the time of the original promulgation." Resp. to Comments (-4546) at 411-12. EPA's statement confirms not only that correcting errors in the existing standard is "reasonable," *id.*, but that this is a core purpose of Section 112(d)(6). For the same reasons that EPA has authority to fix problems at any time, Section 112(d)(6) makes it "necessary" at least every 8 years for EPA to do so, if it has not already set lawful standards and corrected problems before that point. 42 U.S.C. § 7412(d)(6).

However, in response to Petitioners' comments that EPA should do the same thing for other uncontrolled emission points that it proposed to do for small glycol dehydrators (and storage vessels without PFE), EPA stated that Petitioners' contention that Section 112(d)(6) requires EPA to address all significant, uncontrolled sources of HAPs "is unsupported by the plain language of section 112(d)(6), which directs the EPA to review and revise as necessary 'emission standards promulgated.'" Resp. to Comments (-4546) at 241; *see also id.* at 411-12 (repeating same). EPA further stated that:

> we believe that section 112 does not expressly address this issue, and the EPA has discretion in determining how to address a purported flaw in a promulgated standard, such a situation where the underlying MACT standard does not include a standard for a particular HAP emission point. . . . The 'as necessary' language must be read in the context of the provision, which focuses on the review of developments that have occurred since the time of the original promulgation of the MACT standard and thus should not be read as a mandate to correct flaws that existed at the time of the original promulgation.

*Id.* at 411; *see also* Final Rule, 77 Fed. Reg. at 49,532 (similar statements).

***(2) EPA's Failure to Regulate All Emission Points Is Unlawful and Arbitrary.***

EPA's narrow interpretation of Section 112(d)(6), as quoted above—that this provision presents an opportunity (i.e., the current rulemaking) but does not require EPA to review and set limits for emission points unlawfully left uncontrolled by the original standards —is incorrect and cannot be reconciled with the plain text, structure, or purpose of this provision. In addition, even if the text were ambiguous, EPA's reading should be given no deference because it is unreasonable and impermissible.

***(a) EPA's statutory interpretation and Final Rule conflict with the Clean Air Act's text.***

By requiring review of EPA's original emission standards for promulgated under Section 112(d), Section 112(d)(6) covers the entire listed source category for which EPA has promulgated any Section 112(d) standards. 42 U.S.C. § 7412(d)(6). For the same reasons that the D.C. Circuit in *Nat'l Lime* recognized that Section 112(d)(1)-(2) requires EPA to set standards for all emitted HAPs, Section 112(d)(6) requires EPA to review its original standards for all such HAPs. *Nat'l Lime*, 233 F.3d at 633-34; *Sierra Club v. EPA*, 479 F.3d 875, 883 (D.C. Cir. 2007).

In conducting a Section 112(d)(6) rulemaking, EPA may not lawfully set standards or reach a determination not to set such standards for a major source category without satisfying Sections 112(d)(2)-(3). Section 112(d)(2) plainly applies to all "[e]missions standards promulgated under this subsection." 42 U.S.C. § 7412(d)(2) (emphasis added) (explaining that all such standards "shall require the maximum degree of reduction in emissions of the hazardous air pollutants subject to this section . . . that the Administrator . . . determines is achievable for new or existing sources . . . ."). (The only exception to this is area sources that EPA may, in some circumstances, choose to make subject to Section 112(d)(5) instead of (d)(2)-(3)). Where, as here, the existing standards are not fully compliant with the statute, due to the fact that they do not include limits for uncontrolled emission points, it is "necessary" and therefore legally required under Section 112(d)(6) that EPA set a limit on the emissions from these sources.

The statute requires EPA to take all "necessary" action to ensure the Section 112(d) standards fully comply with Section 112(d). Section 112(d)(6) directs that EPA must "review, and revise as necessary . . . emission standards promulgated under this section." 42 U.S.C. § 7412(d)(6) (emphasis added). By using this broad language, the requirement for a rulemaking under this provision fully reopens EPA's existing Section 112(d) standards for the Oil and Natural Gas source categories and requires the agency to ensure compliance with Section 112(d)(2)-(3), *id.* § 7412(d)(2)-(3). The term "review" illustrates that EPA must do just that –

review – the original emission standards in full. EPA also must determine whether to "revise" such standards.

In this instance, Congress by statute reopened the original rule by requiring EPA to "review" and "revise, as necessary" within every 8 years. 42 U.S.C. § 7412(d)(6). EPA may not narrow the scope of the review and revision provision when Congress clearly intended it to be broad. EPA cannot satisfy Section 112(d)(6) without fully reviewing and reopening the original rule.

In sum, Section 112(d)(6) plainly directs EPA to determine whether it is "necessary" to revise existing major source standards. The question of whether revision is "necessary" is answered by EPA's "review" of whether those standards comply with "this subsection," *i.e.*, Section 112(d)(2)-(3), which all Section 112(d) standards for major sources must satisfy. *Id.* § 7412(d)(2). EPA cannot, as it did here, reach the determination not to revise standards set under Section 112(d)(2)-(3) without evaluating the standards for the source categories and deciding whether those standards currently satisfy these legal requirements. One of those requirements is to evaluate and set HAP limits for emissions coming from all emission points, including any "fugitive emissions point." *Id.* § 7412(d)(2)(A)-(E).

The parenthetical language in Section 112(d)(6) adds specific requirements for EPA's review and revision determination, to ensure that EPA does not just repeat its original analysis. In addition to performing a review and performing the Section 112(d)(2)-(3) MACT floor analysis to assess what the best sources have "achieved" and the maximum emission reduction that is now "achievable" based on current emission data, the agency also must take account of new "developments" in practices, processes, and control technologies used by the industry. 42 U.S.C. § 7412(d)(6). Doing so may lead it, for example, to collect more emission data to better evaluate the source category and set a MACT floor than it did initially, to set stronger beyond-the-floor standards than it might without evaluating these factors, to discover that a surrogate can or cannot be used, based on the current practices, processes or technologies in use, and/or to find other new practice, process, or control technology-based standards that it may set under Section 112(d) and/or Section 112(h) in addition to numeric limits.

***(b) EPA's interpretation and Final Rule contravene the Act's structure and purpose.***

The structure and purpose of the Act reaffirm the text of Section 112(d)(6) and show that EPA must set limits for all HAPs emitted from all parts of a listed source category. In the 1990 Amendments, Congress set more specific requirements than it had done in the past because EPA had dragged its feet to implement the air toxics program of the Clean Air Act. The original "approach proved to be disappointing" and "little progress was made." *Sierra Club v. EPA*, 353 F.3d 976, 979 (D.C. Cir. 2004) ("Very little has been done since the passage of the 1970 [CAA] to

identify and control hazardous air pollutants.") (quoting S. REP. NO. 101-228 at 3 (1989) ("Senate Report"); *id.* at 979 ("No decision – is the history of this program.") (quoting H. Rep. at 151 (quoting a Nov. 7, 1983 Comm. Hearing)).

To force EPA action, Congress listed certain pollutants as "hazardous" under CAA § 112(b)(1) and directed EPA to list categories of major sources that emit those pollutants under Section 112(c), and then regulate all emissions of those pollutants under Section 112(d). *Nat'l Lime*, 233 F.3d at 633-34. As the Senate Report explained: "By establishing in the statute an initial list of chemicals to be regulated and requiring that the standards be based on maximum achievable control technology, this bill [enacted as the CAA 1990 Amendments] forces regulatory action to overcome the inertia that has plagued the health-based, standard-setting process[] [sic] authorized by current law." S. REP. NO. 101-228 at 3543. As part of the 1990 Amendments, Congress enacted Section 112(d)(6). The legislative history on this specific provision is limited, but the Senate Report notes that EPA is required to "review and revise" the Section 112(d) standards within the time period provided, and says nothing about limiting this review to a consideration of only new "developments." S. REP. NO. 101-228 at 3557 ("The Administrator is to review and revise emission standards promulgated under section 112(d) no less than every seven years.") (text enacted requires the review every 8 years).

The point of Section 112(d)(6) is to ensure that at least every 8 years, EPA reviews the MACT standards to ensure that they continue to comport with the requirements of CAA § 112(d)(2)-(3). Thus, this provision requires EPA to strengthen the Section 112(d) standards if the relevant best-performing sources have achieved better emission levels than are required by the current standards or if a greater level of reduction is achievable. A reading that limits this provision to a concept of reviewing only technologies, practices and processes that EPA did not evaluate in the original MACT rulemaking would allow EPA to leave its standards unchanged even if they do not reflect the emission levels achieved by the relevant best sources and even if they do not reflect the maximum achievable degree of reduction – and thus would allow EPA to retain standards that do not satisfy Sections 112(d)(2) and 112(d)(3). Because it is "necessary" that all Section 112(d) standards fully satisfy Sections 112(d)(2) and 112(d)(3), EPA would violate Section 112(d)(6) either by promulgating standards that do not satisfy Section 112(d)(2)-(3) or by leaving standards that violate Section 112(d)(2)-(3) in place. 42 U.S.C. § 7412(d)(6); *id.* §§ 7412(d)(2)-(3).

Further, EPA's interpretation is based on the untenable assumption that EPA adequately regulated source categories the first time such that it is not "necessary" to review them in full. However, the legislative history of the 1990 Amendments confirms that EPA's interpretation is at odds with Congress's intent. Revealing its concern that EPA would not act effectively or in a timely way, Congress passed multiple new mandatory duty provisions for EPA – including

both the Section 112(d)(6) requirement, and the Section 112(f)(2) requirement to force EPA to act and then later to review and improve on its initial action.

In sum, the plain language of Section 112(d)(6) – using the terms "review," "revise," and "necessary," combined with the Section 112(d)(2) term "under this subsection" – plainly require EPA to evaluate the original standards in full under Sections 112(d)(2)-(3). *See Nat'l Lime*, 233 F.3d at 633-34; *Sierra Club v. EPA*, 479 F.3d 875, 883 (D.C. Cir. 2007); Resp. to Comments (-4546) at 239 (describing these gaps as "not proper").

In conflict with the text and purpose of Section 112(d)(6), EPA's interpretation of this provision would allow the agency to perform a narrow review of only practices, processes, and control technologies not considered when it set the original standards, without correcting serious legal gaps in those standards, such as the requirement to evaluate and set a limit on all emission points within the source category. EPA's statutory reading is so limited that it would not even require the agency to "review" the actual emission standards themselves. The memorandum in the record that EPA created to support its Section 112(d)(6) review demonstrates this problem, by considering only "developments" that were "not identified and considered" during the original MACT development and "improvements" in those that were identified and considered. Memo at 4 (-0062). EPA's statutory interpretation that this is all it must do to satisfy Section 112(d)(6) is both illogical and an impermissible interpretation of this important statutory provision.

First, the requirement in Section 112(d)(6) for EPA's rulemaking to be considering or "(taking into account developments in practices, processes, and control technologies)" is plainly an additional requirement, not a limiting clause (as EPA would interpret it). 42 U.S.C. § 7412(d)(6). This language directs that EPA not only "review" and "revise, as necessary," under the requirements of this subsection, but <u>also</u> consider specific types of "developments." The "developments" parenthetical is the type of language Congress regularly uses when it intends to ensure that an agency consider certain factors. The term "review" is broad and there is no language in this provision that suggests that EPA can limit its review to the "developments" listed in the parenthetical. The term "take account" requires consideration of specific factors, but is not a limiting term. If this parenthetical were a limiting provision, it would say "but only review developments in practices, processes and control technologies." Instead, it plainly requires EPA, in determining whether revision is "necessary" to "take account" of developments as required factors that it must consider on top of the basic statutory requirement in force – *i.e.*, 42 U.S.C. § 7412(d)(2)-(3) – rather than considering such developments as the only factors.

Second, EPA's interpretation is not valid or reasonable because it conflicts with the plain language in Section 112(d)(2) that makes clear that all standards "under this subsection" (*i.e.* 112(d)) must satisfy that provision. There is no exception in Section 112(d)(6) from the Section 112(d)(2) blanket application to Section 112(d) standards. In contrast, there is just such an exception in Section 112(d)(5), which makes clear that for area sources "the Administrator may, in lieu of the authorities provided in paragraph (2) and subsection (f) of this section, elect to promulgate standards. . ." known as "GACT." *Id.* § 7412(d)(5). The absence of similar language in Section 112(d)(6) demonstrates that Congress intended not to create a similar exception in that provision.

Further, reading the "developments" parenthetical in the limited manner EPA proposes would gut the purpose and value of Section 112(d)(6). If EPA need only consider "developments," it is then unclear how it would be required to revise the standards. EPA seems to contend that it may simply add such "developments" onto the Section 112(d)(2)-(3) standards, without ensuring they comply with those provisions. However, Section 112(d)(6) is not a standard-setting provision itself, it is only a review and revision provision. Absent the clear language in Sections 112(d)(2)-(3) which provides the test that all standards "under this subsection, *i.e.* all EPA's Section 112(d) standards, must meet, EPA would have virtually unfettered discretion to act, or not, under Section 112(d)(6). Moreover, nowhere does EPA even explain how its approach under Section 112(d)(6) satisfies the test for all emission standards under Section 112(d) – the floor and beyond-the-floor requirements of Sections 112(d)(2)-(3).

Congress was quite clear in its amendments to CAA § 112 as a whole that its intention was to limit EPA's discretion and ensure that EPA would finally restrict hazardous air pollutants emitted by major sources, after years of delay. *See* S. REP. NO. 101-228 at 3543. Reading Section 112(d)(6) to give EPA unfettered discretion to consider "developments," and then act, or not, as it prefers, regardless of whether its action satisfies the requirements in Sections 112(d)(2)-(3), runs directly counter to the statute's text and the intent of the 1990 Clean Air Act Amendments. *See, e.g.*, *Whitman v. Am. Trucking Ass'ns*, 531 U.S. 457, 483-84 (D.C. Cir. 2001) (requiring EPA to follow "carefully designed restrictions on EPA's discretion" enacted as part of the 1990 Amendments). EPA must meet the test for Section 112(d) standards established by Congress. For major sources, that test is provided in Sections 112(d)(2)-(3), and it cannot evade these fundamental requirements as it has attempted to do in the Final NESHAP.

Contrary to EPA's attempt to rely on this case to justify its refusal to correct problems with the original 1999 Final Rule during this review, existing caselaw does not authorize EPA to ignore uncontrolled emission points in the current rulemaking. Resp. to Comments (-4546) (citing *NRDC v. EPA*, 529 F.3d 1077 (D.C. Cir. 2008) ("HON" decision). That case (which involved a different rule for hazardous synthetic organic chemicals), did not resolve the legal

question discussed here. There the court held that EPA was not required to recalculate the MACT floor in that case only because "EPA squarely found that there were no 'significant developments in practices, processes and control technologies,' and petitioners do not challenge this conclusion." *Id.* at 1084 (emphasis added) (further stating that "[f]ortunately, we do not have to decide this question").

In contrast with the HON rule, here EPA did find such "developments" existed, and that one revision was necessary – lowering the leak definition to 500 ppm. 77 Fed. Reg. at 49,502; Memo (-0062) at 10 ("The only new developments for equipment leaks were found in EPA's current LDAR [leak detection and repair] programs. Both the 40 CFR part 60, subpart VVa and the alternative work practices under 40 CFR part 60, subpart A provide more stringent requirements than the subpart V standards."). However, for other "developments" that EPA found existed but did not use to set stronger standards – on LDAR – EPA chose not to require revision of the existing rule based primarily on its determination that "the additional costs of these options were not justified," not because there were no significant developments. Memo (-0062) at 11. And, unlike the petitioner in the HON case, here Petitioners have challenged in comments and again in this petition challenge EPA's determination not to require additional updates to the equipment leak standards and EPA's determination that there are no "significant developments" for large glycol dehydrators and storage vessels. Comments (-4457) at 78-92 & Buckheit Addendum.

Petitioners also have challenged in comments and here again challenge EPA's consideration and treatment of cost in this rulemaking. *Id.* at 90; Memo (-0062) at 11; *see* Part VI of this petition, below. As the D.C. Circuit noted, without resolving the question in the HON case, the question of whether EPA may consider cost is a "troublesome" issue. *NRDC*, 529 F.3d at 1084. The statutory text makes clear that EPA may only consider cost in the beyond-the-floor analysis under Section 112(d)(2), and may not do so in setting or reviewing and updating a MACT floor under Section 112(d)(3). 42 U.S.C. § 7412(d)(2)-(3) (requiring that the maximum degree of reduction that is deemed achievable "shall not be less stringent" than the level achieved by the best-controlled similar source, for new sources, and by the average emission level achieved by the best-performing similar sources for existing sources). Further, although EPA may consider cost in determining the maximum degree of reduction that is "achievable" under § 112(d)(2), the agency may not consider cost-effectiveness. Section 112(d)(2) does not mention cost-effectiveness, but requires standards to reflect the "maximum" degree of reduction that is achievable considering cost.

Thus the statute plainly directs EPA to set standards requiring the maximum degree of reduction that can be achieved considering cost, not the degree of reduction that EPA views as cost-effective. Legislative history further illustrates that EPA may not use "cost-effectiveness" or

a cost-benefit analysis as the basis for action under Section 112(d). S. REP. NO. 101-228 at 3553 (quoted, *infra*, in this petition). The D.C. Circuit has recognized this as a central tent of the MACT floor standard. *Nat'l Lime*, 233 F.3d 625; *see also NRDC v. EPA*, 489 F.3d 1364, 1375-76 (D.C. Cir. 2007). For all of these reasons EPA cannot rely on the HON case to authorize its unlawful failure to set limits on the emissions coming from all HAP emission points in these source categories. Further, although the HON case does not support EPA here for reasons explained above, the *dicta* and holding of that case are incorrect and inconsistent with the statute.

***(c) EPA's 1999 Final Rule is a set of "emission standards promulgated" for the Oil and Natural Gas source categories and EPA must review these standards in full.***

In addition to basing its failure to act on the term "developments," EPA states that Petitioners' view of the statute "is unsupported by the plain language of section 112(d)(6), which directs the EPA to review and revise as necessary 'emission standards promulgated.'" Resp. to Comments (-4546) at 241. Even if EPA's interpretation were correct that it need only review under Section 112(d)(6) "emission standards promulgated" in the original MACT rule, it still must fully review and revise the standards it set in 1999 for the entire listed source categories in the Oil and Natural Gas Sector.

The fact that Section 112(d)(6) uses the term "emission standards promulgated" does not mean EPA's only obligation is to consider changing the stringency of its current standards for controlled emission points. EPA must evaluate and determine whether its standards fully satisfy Section 112(d)(2)-(3). If not, as here, EPA must take action to ensure this occurs.

Thus, EPA may not limit its review only to those parts of the source category for which it originally set *numeric limits* or control standards. In the CAA § 112(d)(6) review, Congress intended EPA to fully review the original standards set for the entire source category. EPA's "standards" for the Oil and Natural Gas source categories fully cover the listed source categories, as described above, although these standards do not all include actual emission limits. 63 Fed. Reg. at 6303-04. EPA's 1999 Final Rule for the Oil and Natural Gas source categories is indeed a set of "emission standards promulgated" for the entire source category, and EPA cannot evade the requirement to consider all emission points under Section 112(d)(6) based on an idea that it did not promulgate numeric limits or controls as part of its original 1999 Final Rule for them.

EPA did not state in that rule that it was removing emission points from the source category to be included in another source category or covered by another set of standards. EPA set "standards" in that rule that included both actual numeric limits for certain emission points or "affected" sources and "no control" standards or exemptions from numeric limits for all

other emission points within these source categories, as discussed and cited above. 63 Fed. Reg. at 6304; 64 Fed. Reg. at 32,620 (*e.g.*, "the EPA determined that the MACT floor for black oil facilities was no control."). EPA's "standards" cover the entire source category, limiting emissions from some parts of it and not others. EPA may not escape the Section 112(d)(6) review by attempting to redefine the "emission standards promulgated" to include only those parts of the source category for which it established limiting controls. The fact that EPA set "no control" standards for some emission points within the source category, *id.* at 6304, and that EPA similarly exempted some parts of the source category in how it promulgated the terms "affected source," "facility," and "associated equipment," 63 Fed. Reg. at 32,618 (even if that were lawful, which it is not), do not mean that EPA can exempt these emission points from the Section 112(d)(6) review and revision requirement. EPA promulgated "emission standards" for the entire source categories, and the fact that it chose to set some exemptions and some no-control standards as part of the original rule does not allow it to ignore the full source categories now.

Ignoring emission points within the source categories in this rulemaking is inconsistent with EPA's reliance on the 1999 Final Rule for the Oil and Natural Gas source categories as satisfying its responsibility to set standards for these source categories. EPA has relied on the 1999 Final Rule as fulfilling its obligation to "establish emissions standards under subsection (d) of this section, according to the schedule in [subsection (c) and subsection (e) of section 112]." 42 U.S.C. § 7412(c)(2). Accepting EPA's view that it originally met this responsibility (for the purpose of the current petition), even though EPA has admitted that its action in 1999 was "not proper," requires EPA to recognize that it cannot evade its responsibility in the review/revision rulemaking to perform a complete Section 112(d)(6) review for the Oil and Natural Gas source categories' "emission standards." This review must include a review both of the limits and control standards set and a review of the "no control" standards and exemption standards that EPA established in 1999.

Finally, as the D.C. Circuit has held, and as EPA has recognized in its determination that such standards are "not proper" for small glycol dehydrators, "no control" standards violate Section 112(d), 42 U.S.C. § 7412(d). EPA's violation of the Clean Air Act in 1999 does not insulate it from complying with the Clean Air Act forever after. Section 112(d)(6) is supposed to ensure that does not happen.

***(d) EPA's recognition of the need to review and set limits on small glycol dehydrators shows that its decision not to do so for all uncontrolled emission points is unlawful and arbitrary.***

EPA has appropriately recognized that in this rulemaking it must set MACT limits for certain previously uncontrolled sources – small glycol dehydrators and storage vessels with PFE (once it collects more data). EPA reached this conclusion, in part, because the prior standards unlawfully set no-control standards for these emission points. Resp. to Comments (-4546) at 238-39. Petitioners agree with this (and later in this petition take issue with EPA's failure to set emission limits for those storage vessels as proposed). EPA's own recognition that it is necessary to set these MACT limits now shows that it is also "necessary" as a matter of law for EPA to fully review all other no-control parts of the standards, and set revised standards that finally limit emissions from the full source categories. Just as EPA "did not adopt a proper MACT standard" for small glycol dehydrators initially, and so must do it now, it also failed to adopt proper standards for other uncontrolled emission points, and therefore must "adopt[] one for the first time" now. Resp. to Comments (-4546) at 240.

EPA recognized that storage vessels without PFE should be controlled (and thus removed from the definition of associated equipment) in preparation for setting limits. In supporting this action, EPA stated that, industry commenters "have not identified a basis for excluding such storage vessels from the MACT requirements where they are a source of HAP emissions subject to subpart HH standards." Resp. to Comments (-4546) at 263. The same is true for all other uncontrolled emission points for which Petitioners urge EPA to set limits. Thus, EPA's failure to implement the Act consistently is arbitrary and capricious.

***(e) The uncontrolled emission points are significant HAP sources.***

Finally, EPA does not dispute as a factual matter that additional uncontrolled points within these source categories emit HAPs. It cannot do so, based on the record. And, EPA's failure to collect data does not excuse its failure to satisfy its statutory obligations under CAA § 112.

EPA's Final NESHAP Rule did not provide a comprehensive estimate of the total HAP emissions currently emitted from existing and new point and fugitive sources from Oil and Natural Gas Production, Transportation and Storage Systems. By comparison with the lack of emission information and assessment performed and provided by EPA here, the Environmental Protection Agency's (EPA's) April 17, 2012 decision on Final New Source Performance Standards for the Oil and Natural Gas Industry, Oil and Natural Gas Sector: Standard of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution (Final NSPS Rule) provided a limited examination of HAP emissions from Oil and Natural Gas Facilities from a discrete list of additional point and fugitive emission sources covered under the NSPS. More specifically EPA estimated the amount of HAPs that would be emitted from

new wells, pneumatic controllers, compressors, storage vessels, and equipment leaks for equipment installed after August 23, 2011.

The attached Table 2 (in the Appendix) provides a summary of the HAP emissions in tons per year (tpy) that EPA estimated would be controlled as a co-benefit of the Final NSPS Rule. The data shown in this Table was gathered from EPA's technical support documents, the final rule itself and other docket materials. The attached Table 2 also provides a preliminary estimate of the amount of HAPs that are emitted from existing wells, pneumatic controllers, compressors, storage vessels, and equipment leaks for facilities installed on or before August 23, 2011, based on data available in EPA's technical support documents on the NSPS, the final rule itself and other docket materials.

EPA estimated that approximately 22,000 tpy of HAPs would be controlled from new wells, pneumatic controllers, compressors, storage vessels, and equipment leaks for facilities installed after August 23, 2011 as a co-benefit of VOC controls required under the Final NSPS Rule.[5] However, it is important to note that the Final NSPS Rule only addressed a sub-set of the Oil and Gas Sector equipment that is required to be examined under the NESHAP requirements. Therefore, the HAP emission co-benefits achieved under the Final NSPS Rule do not include the HAP emission reductions that could be achieved if new MACT standards were applied to all the point and fugitive emission sources identified in in this petition that should have been examined under Section 112(d)(6), and to the degree that could be required under a MACT standard versus a NSPS of the sources that were controlled. Therefore, this petition requests that EPA be required to examine and propose MACT standards for the substantial HAP emission control target remaining for uncontrolled sources of emissions that are part of the Oil and Natural Gas source categories.

Based on the data EPA provided in connection with the NSPS, Petitioners estimate that approximately 80,000 tpy of HAP are currently emitted from this subset of facility point and fugitive sources, as shown in Table 2. This chart does not include the HAP emission reductions that could be achieved if new MACT standards were applied to all existing point and fugitive emission sources identified in this petition that should have been examined under Section

[5] That number is based on 2009 data as computed by EPA in its technical support document on the NSPS (attached as Appendix). In the Regulatory Impact Analysis accompanying the final rule, EPA predicted what would happen by 2015, which changed some of the data from the 2009 information use above in part due to predictions of voluntary compliance and some reduced oil and gas activity. That analysis found that 11,000 tons per year of HAP reductions under the NSPS. 77 Fed. Reg. at 49,492 tbl. 1.

112(d)(6), and if applied to the degree that could be required under a MACT standard versus a NSPS of the sources that were controlled.

Even in the face of its own data, EPA tries to justify its refusal to set limits for other parts of the Oil and Natural Gas source categories that currently have no-control standards by stating that "[t]he Agency does not . . . have sufficient information to establish MACT standards under section 112(d)(2) and (d)(3) for such sources at this time, even assuming that such sources emit HAP and are located at a major source oil and natural gas production facility." Resp. to Comments (-4546) at 411. Yet EPA does not include any discussion or analysis of the data provided by Petitioners' comments. Comments (-4457) at 14-19 & Appendix. Nor does EPA explain why those data are insufficient to set MACT limits. EPA also does not provide any explanation as to why it cannot simply gather the information needed to set such standards, such as pursuant to its information collection authority under Section 114, 42 U.S.C. § 7414.

EPA also provided a cursory response to the Colorado data – stating only that "[w]hile we appreciate the data provided by the commenter concerning the amine treaters, that data is from a small subset of facilities in one State. We believe we would benefit from obtaining additional data on emissions from amine treaters from other facilities in the oil and natural gas production source category before we propose any further amendments to the definition of associated equipment." Resp. to Comments (-4546) at 412. This statement suggests that EPA recognizes that these sources are currently uncontrolled, which requires EPA to set limits under *Nat'l Lime*. EPA's statement that the data come from facilities in only one state is an arbitrary and capricious justification for refusing either to (1) use those data to set limits or (2) collect more data to set limits. EPA's statement that the data submitted are limited does not provide a reasonable basis for refusing to further investigate these emission points and set appropriate emission limits.

EPA has stated that it plans to collect further information that it recognizes is needed to set standards for storage vessels without PFE and it has also recognized the need to gather data in order to set a limit beyond the BTEX limit for small glycol deyhydrators. 77 Fed. Reg. at 49,532 ("after evaluating the available data and comments received, we believe that we need additional data"); Resp. to Comments (-4546) at 247. EPA should have secured this and all data needed to assess risk and evaluate the MACT requirements for uncontrolled emission points well before now. The agency already had 12 years to do so, including four years since the 8-year review and revision deadline. A lack of data does not give the agency a valid excuse for failing to fulfill its regulatory responsibility in this rulemaking.

Without delay, before another year has passed, EPA should collect such data both for these sources and for all other sources for which EPA's current standards contain no controls

and set limits as required by Section 112(d)(2)-(3) and (d)(6). EPA should grant reconsideration to perform this data acquisition using all necessary authority, including its authority to require testing and reporting of current emission levels to the agency under Section 114, 42 U.S.C. § 7414.

### 2. EPA's Refusal to Regulate Uncontrolled Emission Points Violates Section 112(f)(2) and Is Arbitrary and Capricious.

#### i. Background

In its Section 112(f)(2) review, at the time of proposal, the record showed that EPA had assessed health and environmental risks only for "emissions for specific emission points": *i.e.*, those emission points already regulated by Section 112(d). Comments at 14-19 & n.19 (citing Memorandum from EC/R Inc. to EPA at 3-4 (July 28, 2011), EPA-HQ-OAR-2010-0505-0055). The sources with limits in the existing standards are: glycol dehydrators (both source categories) and storage vessels with PFE and equipment leaks (ONGP only). The record showed that EPA failed to assess health risk from any other emission points, as it summarized data only for these specific emission points. Memo (-0055) at 3-4 (describing how EPA assessed "allowable" emissions for the purpose of the risk assessment).

As a result, EPA's residual risk review does not show any assessment of the health risk from the full "category or subcategory of sources," as required by Section 112(f)(2), 42 U.S.C. § 7412(f)(2). It shows an assessment only for some pieces of the source categories. EPA also did not set residual risk standards to limit the HAPs coming from any other parts of these source categories. As examples of which emission points EPA was required to evaluate and set limits for under Section 112(f)(2), Petitioners provided a long list of uncontrolled emission points in their comments. Comments (-4457) at 15-18 (citing, for example, compressors, valves, fugitive emissions from equipment leaks, pneumatic controllers, produced water, condensate tanks, processing plants, amine treaters, and wells). The Colorado Department of Public Health and the Environment also submitted comments and provided data urging EPA to set limits on emissions from certain emission points – including amine units, pneumatic pumps, and produced and flowback water facilities. Comments of Colo. Dep't of Pub. Health & Env't (-4191). These emission points are significant HAP sources. *See, e.g.*, Table 2 (attached).

#### ii. EPA's Final Rule, Failing to Assess the Real-World Health Risk Communities Face from All Emission Points that Are Part of the Listed Source Categories, Violates Section 112(f)(2).

Unlike its argument under Section 112(d)(6), EPA has not disputed that Section 112(f)(2) requires EPA to address all significant HAP emissions. Resp. to Comments (-4546) at 241. In

response to Petitioners' comments on this issue (-4457, at 14-19)— that EPA must fully evaluate the entire source category's emissions under Section 112(f)(2) (not merely those parts for which EPA originally set numeric limits) – EPA stated only that "[t]he residual risk review included evaluation of all emissions sources, including any significant HAP emission points, for which we have available data," citing its residual risk determination. Resp. to Comments (-4546) at 241.

Although EPA contends that the language referring to "emission standards promulgated" in Section 112(d)(6) allows it to ignore the rest of the source categories, it has not made a similar argument with regard to the similar language contained in Section 112(f)(2). EPA has not contended that Section 112(f)(2) does not require it to fully evaluate the risk to public health and the environment that remains from an entire listed source category's emissions after Section 112(d) standards are in place, as explained by Petitioners' Comments (-4457) at 14-19 (citing the statute and legislative history).

As stated, Section 112(f)(2) requires that within 8 years "after promulgation of standards for each category or subcategory of sources pursuant to subsection (d) of this section," EPA must set residual risk standards "if promulgation of such standards is required in order to provide an ample margin of safety to protect public health . . . or to prevent . . . an adverse environmental effect." 42 U.S.C. § 7412(f)(2) (emphasis added). This provision requires EPA to review the health and environmental risk that remain after the existing standards are in place for each listed source category. This includes the risk from all emission points – those for which EPA originally set limits, and those which EPA's standards exempted or allowed to emit without any limits. The focus in this provision on the "category or subcategory" makes clear that Congress intended EPA to assess health risk from the entire listed category, not just those parts for which it has set limits. *Id.* Moreover, this provision mandates EPA to set residual risk standards if the existing standards promulgated under Section 112(d) "do not reduce lifetime excess cancer risks to the individual most exposed to emissions from a source in the category or subcategory to less than one in one million." *Id.* § 7412(f)(2)(A) (emphasis added). The provision's focus is plainly on protecting most-exposed people from emissions from any source in the category, not just those that EPA has previously set limits for.

Legislative history confirms that where EPA "under-regulates in the technology-based phase," Congress anticipated that this "will lead to more, and more stringent, regulation as the Agency moves to reduce residual risks." S. REP. NO. 101-228 at 143 (1989), *reprinted in* 1990 U.S.C.C.A.N. 3385, 3555. Thus, EPA could not make the argument that by under-regulating at the MACT stage (*i.e.,* exempting or setting no-control standards for parts of a source category, as it did here), it can again under-regulate under Section 112(f)(2) (and also should not be making this argument under Section 112(d)(6), for reasons discussed above). Petitioners'

comments explained this argument, based on the text and legislative history of Section 112(f)(2), and this petition fully reincorporates those arguments by reference here. Comments at 14-15; *see, e.g.*, S. REP. 101-228 at 155 ("[The 1990 Amendments] require [] [EPA] to protect against all significant environmental effects when setting residual risk standards in the second phase.") (emphasis added). EPA's silence on these issues is an admission that Section 112(f)(2) requires it to assess risks from all HAP emission points within a listed source category for which it has previously promulgated NESHAP.

EPA advanced no statutory interpretation that could somehow allow it to ignore any HAP emission points in the source category that its original standards had left uncontrolled. EPA provided no response to the plain language and legislative history that Petitioners' Comments provided, and its silence shows recognition that it agrees with Petitioners on their interpretation of Section 112(f)(2). *Id.* (citing 42 U.S.C. § 7412(f)(2); S. REP. NO. 101-228 at 143, 151 (1989)).

Instead of taking issue with the legal requirement under Section 112(f)(2) to assess and set standards that account for all risk – including from uncontrolled emission points – in its response to comments, EPA provided only the conclusory statement that "[t]he residual risk review included evaluation of all emissions sources, including any significant HAP emission points, for which we have available data." Resp. to Comments (-4546) at 241. EPA's failure to collect data does not excuse it from determining the health risk from the "category or subcategory," or from setting standards where any "source in the category or subcategory" causes a cancer risk of 1-in-1 million or more. 42 U.S.C. § 7412(f)(2)(a).

Moreover, EPA has not demonstrated that it has indeed performed such an evaluation for any emission points other than glycol dehydrators, storage vessels, and certain equipment leaks. Memo (-0055) at 3-4 (discussing only these emission points). Although it states EPA defines these source categories broadly, the Residual Risk Assessment does not provide information regarding the risk for <u>any</u> other emission points. Residual Risk Assessment for the Oil and Natural Gas Production and Natural Gas Transmission and Storage Source Categories (Apr. 2012) (-4558). The record also includes no discussion of why EPA has omitted all other emission points, even though, as Petitioners' Comments have shown, there is a legal requirement and strong need to do so, in order to fully assess the risk created by the Oil and Natural Gas source categories. As discussed above, Petitioners explained in their Comments that these source categories include a significant set of emission points that EPA's review and proposed rule had ignored. Comments (-4457) at 14-19. EPA did not analyze any of these specific emission points, or provide any meaningful response to the data provided by Petitioners' Comments.

EPA has therefore failed to provide the required, rational support for its statement in the Response to Comments that it satisfied its Section 112(f)(2) duty to fully evaluate the health and environmental risk created by these source categories, with the original 1999 Final Rule in place. EPA's action is both unlawful and arbitrary and capricious.

### 3. EPA's Lack of a Meaningful Explanation or Response Violates CAA Section 307(d)(6).

In addition to the above problems, EPA's minimal statements in the Response to Comments do not adequately or meaningfully respond to Petitioners' Comments on the requirements to review and limit toxic air emissions from currently uncontrolled portions of the Oil and Natural Gas Production and Natural Gas Transmission and Storage source categories.

Petitioners pointed out in their comments that the source categories include a long list of emission points within these listed source categories that EPA's review and proposed rule had ignored. Comments (-4457) at 14-19, 97-98; Table 1 (attached). Petitioners explained why, as discussed above, if EPA ignored these emissions, it would violate Sections 112(f)(2) and (d)(6). *Id.* Yet EPA failed to provide an adequate or lawful response to Petitioners' significant comments on these uncontrolled emissions.

EPA's statements cited above, Resp. to Comments (-4546) at 239-41, 411-12, cite a lack of data as one reason why it has not fulfilled its Section 112(f)(2) responsibility. Yet EPA gave no response to or analysis of the data provided in Petitioners' Comments. Comments (-4457) at 14-15 (citing Memo (-0055) at 3-4). EPA also did not cite any supporting documentation that showed what "significant HAP emission points" EPA evaluated other than the trio of sources explicitly controlled by the prior NESHAP. EPA did not respond at all to <u>any</u> of the emission points listed in Petitioners' Comments. EPA failed to address or respond at all even though Petitioners provided data recognizing that these sources are significant sources of HAP emissions, and some could qualify alone for major source treatment due to their high amount of HAP emissions. These examples include produced water, condensate tanks and wastewater impoundments – which Colorado data have shown emit over 100 tons per year of VOCs, including benzene, and Texas data have shown are some of the largest sources of HAP emissions. Comments (-4457) at 16 (citing Mall *et al.*, *Drilling Down* (2007) (citing CDPHE 2006 data) and 2009 Barnett Shale Report at A1). Other data show that these impoundments can emit 32.5 tons per year of methanol. *Id.* (citing Harvey comments on NY Generic Environmental Impact Statement). Petitioners also cited data on compressor stations, well pads, processing plants, saltwater treatment plans, and fugitive emissions, showing that they are all significant sources of HAPs. *Id.* at 17 (citing ERG Fort Worth Texas Report). Petitioners

submitted a letter after the comment period on the Petron and McKenzie studies, and again resubmit that here, as further discussed in Part X, below.

And, the Colorado Department of Health and the Environment ("CDHE") provided data on amine treaters and other sources, as discussed above. In particular, CDHE stated:

- "Still vent emissions from amine units contain VOC and HAP emissions which are often routed to regenerative thermal oxidizers or thermal oxidizers. Table A in Appendix A shows the potential to emit VOC and HAP emissions both before and after control equipment as provided in construction permit applications for amine units received by the Division. . . .The Division will make additional data on amine unit emissions available to the EPA upon request." CDHE Comments (-4191) at 6.
- "The Division has found that produced and flowback waters have the potential to emit large quantities of VOC and HAP, with some water treatment, storage, or evaporation facilities having a potential to emit greater than 250 tons of VOC per year." *Id.*
- "The Division has found that individually, pneumatic pumps can be significant emission sources. The Division has issued construction permits for multiple pneumatic pumps with the potential to emit between ten (10) and twenty (20) tons of VOC per year." *Id.*
- "In oil operations, the emissions from pigging can exceed fifty (50) tons of VOC per year. Natural gas pigging operations may result in much lower potential emissions, in the range of one (1) to two (2) tons of VOC per year." *Id.* at 7.

Yet EPA failed to respond to or show that it had considered the specific comments and data Petitioners submitted on particular emission points or fugitive emissions generally, as required by Section 307(d)(6)(B), 42 U.S.C. § 7607(d)(6)(B). And, EPA provided no information to show that EPA indeed evaluated residual risk for any sources other than glycol dehydrators (at both source categories), and storage vessels with PFE and equipment leaks (in the Production source category). In addition, EPA gave only a very cursory response to the Colorado Department of Health and Environment data on amine treaters, without explaining why the data on amine treaters could not be used, simply because it came only from facilities on one state. Resp. to Comments (-4546) at 412.

EPA's failure to respond adequately or to provide a reasoned explanation based on the record violates Section 307(d)(6)(B). Petitioners' Comments are "significant" within the meaning of Section 307(d)(6)(B) because they point out serious legal flaws and gaps in EPA's final rule. For EPA to respond meaningfully to Petitioners' Comments, the agency must

consider and address the data in the record on currently uncontrolled parts of the source categories and set limits to protect public health, as Petitioners requested in comments. EPA's failure to take the required action and its failure to even respond to these comments each cause prejudice to Petitioners and their members living near current and planned oil and gas operations.

Not only have Petitioners and their members failed to receive the protection from hazardous air pollution that EPA should have provided in the final rule, EPA has not even given the required explanation for its decision. The lack of any reasoned explanation under Section 307(d)(6)(A) and (B) makes it difficult for Petitioners to understand and challenge EPA's failure on the merits both in court and through advocacy with the agency.

#### 4. Alternatively, Petitioners Petition for a New Rulemaking under *Oljato*.

The Clean Air Act unambiguously requires EPA to review and revise its standards, as described above, and no *Oljato* petition should be required for EPA to act here. In the alternative and without prejudice to any of the arguments in favor of reconsideration discussed above, Petitioners also hereby request, pursuant to *Oljato Chapter of Navajo Tribe v. Train*, 515 F.2d 654, 666 (D.C. Cir. 1975), that EPA exercise its Section 112(d)(2)-(3) authority to set limits for these other emission points. Petitioners rely on and fully incorporate their original comments on the list of uncontrolled emission points, and the data provided therein. Comments (-4457) at 14-19, 97-98; Tables 1-2 (attached). EPA must fully analyze all of these emission points – including those EPA's 1999 Final Rule set "no control" standards for, and those which the Final Rule allowed sources to ignore in their major source determinations, as they are all part of the Oil and Natural Gas source categories.

EPA has recognized that it has this authority and has finalized new limits for small glycol dehydrators pursuant to that authority. It can have no rational basis for refusing at least to fully analyze all other emission points, including fugitive emissions, that it did not set limits for in the 1999 Final Rule, to determine whether, like small glycol dehydrators and storage vessels, they require MACT limits, as urged by Petitioners.

## II. EPA MUST GRANT RECONSIDERATION TO COLLECT AND PERFORM A NEW RULEMAKING WITH REPRESENTATIVE HAP EMISSION DATA.

### A. <u>Need for Reconsideration.</u>

Petitioners submitted significant comments explaining why EPA has not shown that the data estimates it used allowed it to assess the health risk from the Oil and Natural Gas source categories as required by Section 112(f)(2) or to evaluate the existing standards as required by

Section 112(d)(6). Comments (-4457) at 11-13, 79, 83. EPA had 8 years to develop a rule, did not collect the data needed, did not conduct emission or ambient air tests, did not survey industry and then did not set standards because it did not have the data it should have collected. EPA must rectify this fundamental error in its NESHAP rulemaking by collecting data and performing the required evaluations using those data, on reconsideration.

Petitioners' comments challenged the low data quality and lack of data for this rule as arbitrary and capricious and a violation of Section 112(f)(2) and 112(d)(6). Comments (-4457) at 11-13, 83. Petitioners also offered data on additional pollutants that EPA's emission inventory and rulemaking ignored completely – such as mercury (a known constituent of natural gas), and a list of chemicals used in the hydraulic fracturing process which are also listed HAPs. Comments (-4457) at 19-23. Emission profiles are likely to be different in some respects at fracking and non-fracking sites, due to different chemicals used.

EPA provided no response to Petitioners' comments with regard to the Section 112(f)(2) violation. EPA provided only a cursory response to Petitioners' comments with regard to Section 112(d)(6). EPA has given a new rationale for its decision in part, to which it was impracticable for Petitioners to object during the comment period, and EPA has failed to respond to Petitioners' comments in part, creating a new objection. The quality of EPA's data goes to the heart of its rulemaking and has central relevance to EPA's final action. Thus, Section 307(d)(7)(B), 42 U.S.C. § 7607(d)(7)(B), requires EPA to grant reconsideration on this issue. Petitioners urge EPA both to grant reconsideration and exercise its authority pursuant to Section 114 of the Clean Air Act, 42 U.S.C. § 7414, to collect data that will be representative and reliable for it to use in completing its Section 112(f)(2) and (d)(6) responsibilities.

**B. <u>Grounds for Objection</u>**

EPA's final residual risk determination violates Section 112(f)(2) and is arbitrary and capricious because it is based on outdated emission estimates that likely undercount the full level of HAP emissions from the Oil and Natural Gas source categories. EPA also failed to provide a reasoned explanation for ignoring data showing HAPs in the ambient air near these sources and in the chemical makeup of natural gas, which indicate the presence of pollutants that EPA's rulemaking ignores such as mercury, 1,1,2 trichloroethane, 1,1 dichloroethane, 1,2 dichloroethane, 1,2 butanone, chloroethane, chloromethane, and vinyl chloride. Petitioners' comments provided data on pollutants EPA's analysis ignored, and Petitioners fully reincorporate and rely on those comments here. Comments (-4457) at 19-23 & Addenda. EPA states that "the commenter did not identify or provide any information regarding any specific HAP from the oil and natural gas source categories that we failed to consider in our risk review," Resp. to Comments (-4546) at 287, but these comments did just that. Although EPA

further states that its "facility-wide emissions files" contain emissions for 1,3 butadiene and mercury, and that the agency "determined in our review that those emissions are from sources outside these two MACT categories," it fails to explain where those emissions come from, or how EPA knows they are not emitted by oil and natural gas facilities, and conflicts with its own emission inventory which contains these data. *Id.* at 288.

It is EPA that has the obligation to collect data and do the technical work. It is supposed to be the expert agency. To suggest that public comments must provide EPA with all the technical data required to make a decision would render agency staff unnecessary and is an attempt by the agency to avoid the duty given to it by Congress. EPA cannot evade its own responsibility by contending that a commenter should have provided more data than the significant amount already in this rulemaking record.

Yet the record shows that EPA did not collect any emission test data before undertaking this rulemaking, even though it has authority to do so under Section 114, 42 U.S.C. § 7414. Instead, for its risk and MACT review, EPA used only 2005 National Emissions Inventory ("NEI") data which is unreliable, unrepresentative, and outdated. 76 Fed. Reg. at 52,767. EPA's action is particularly arbitrary here because the dataset EPA chose to use was missing information on at least 12 listed HAPs that EPA recognized are "key" for 3/4 of the existing facilities. As EPA stated: "For 983 of the 1,318 Oil and Natural Gas Production and Natural Gas Transmission and Storage facilities (75%), emission estimates for key HAPs were not available in the NEI." Memo (-0022) at 4. Therefore, for these dangerous "missing HAPs" – which include: 2,2,4-Trimethylpentane, Acetaldehyde, Benzene, Carbon Disulfide, Carbonyl Sulfide, Ethylbenzene, Ethylene Glycol, Formaldehyde, Hexane, Naphthalene, Toluene, and Xylenes – EPA used data on VOCs to develop estimates, without providing any rational basis or assurance that those numbers are reliable and representative. *Id.* & tbl. 2.

There is good reason to have low confidence that EPA's emissions inventory appropriately accounts for HAP emissions and health risk, as summarized here and further elaborated below. Recent monitoring in Colorado illustrates this, as it found the use of emissions factors substantially underestimated benzene emissions. *See, e.g.*, Petron *et al.*, Hydrocarbon emissions characterization in the Colorado Front Range: A pilot study, J. OF GEOPHYS. RESEARCH, VOL. 117, D4304 (2012) (attached as Appendix).

Because EPA failed to collect emission data from the industry in recent years, EPA likely underestimated health risk. The industry has changed in substantial and material ways since the data EPA collected. *See* Comments (-4457) at 22-23; Sahu Addendum at 6-7. The industry has the resources to collect and provide EPA with much more data than EPA used here, if EPA required it to do so. By relying on old data, EPA has not shown that it has accounted for

industry changes, like the expansion of hydraulic fracturing. Emission profiles are likely to be different at fracking and non-fracking sites, and EPA's emission inventory does not contain all chemicals used in the process. Emission factors used are out of date. EPA did not respond at all to the ambient monitoring and other data submitted by Petitioners in comments. Comments (-4457) at 19-23 & Appendix.

| **Table No. 3: NESHAP Timeline Oil and Natural Gas Industry (Production, Transmission and Storage Systems)** | |
|---|---|
| 1992 | EPA originally listed Oil and Natural Gas Production as a Major Source of Hazardous Air Pollution |
| 1998 | EPA added Oil and Natural Gas Transmission and Storage to the list of Major Sources of Hazardous Air Pollution |
| 1999 | EPA Promulgated the first National Emissions Standards for Hazardous Air Pollutants (NESHAP) for the Oil and Natural Gas Production and Natural Gas Transmission and Storage Source Categories |
| 2005 | National Emissions Inventory (NEI) and National-Scale Air Toxics Assessment (NATA) data set issued. This 2005 data set was relied on in proposed and final rule. |
| **2007** | **RESIDUAL RISK:** Eight years after setting a Section 112(d) NESHAP standard under Section 112 (f)(2), EPA must assess the health risk that remains. EPA did not complete this work in 2007 as required. **MACT STANDARD REVIEW:** Eight years after setting a MACT Standard, under Section 112(d)(6), EPA must review the MACT Standard and decide whether it should be updated based on new technology or emission reductions achieved or achievable since the initial standard was set. EPA did not complete this work in 2007. Both actions were delayed, 5 years, until 2012. |
| 2008 | **No new data collected by EPA.** |
| 2009 | **No new data collected by EPA.** |
| 2010 | **No new data collected by EPA.** |
| 2011 | **No new data collected by EPA.** EPA Issues Draft Proposed Residual Risk Assessment and MACT Standard Review. EPA relies on 2005 National Emissions Inventory data and data collected in 1998-1999 for Residual Risk and MACT Standard Review. |
| 2012 | **No new data collected by EPA.** EPA Issues Final Residual Risk Assessment and MACT Standard Review. |

### 1. Section 112(f)(2)

EPA failed to respond to Petitioners' comments on the effect EPA's lack of data had on the Section 112(f)(2) residual risk review and rulemaking, or on the additional missing pollutants identified by Petitioners' comments.

EPA stated that Petitioners provided no information showing that these pollutants are emitted by this source category. Resp. to Comments (-4546) at 287-88. Our comments did so, however, and EPA did not respond to the data Petitioners provided. Comments (-4457) at 19-23 (citing sources submitted as Appendix). Specifically, Petitioners offered information on the chemical composition of oil and natural gas; ambient air monitoring near oil and natural gas facilities that has showed other HAPs in the air; and information on chemicals in fracking fluids. *Id.* Yet EPA did not consider or respond to these data or the comments on these data.

EPA responded to Petitioners' comments concerning the serious data gaps in regard to the new MACT limit for small glycol dehydrators merely to contend that Section 112(d)(3) allows EPA to set limits using data for existing sources "(for which the Administrator has emissions information.)" 77 Fed. Reg. at 49,529-30. EPA also included a vague statement that "[w]e believe that the NEI dataset used in both the technology review and the risk review is the best available data for emission from the natural gas transmission and storage category," without discussing the Oil and Natural Gas production source category. Resp. to Comments (-4546) at 234.

EPA has this backward. First, the language EPA cites from Section 112(d)(3) does not apply to a Section 112(f)(2) rulemaking. Second, if Congress wanted to let EPA base rules only on the sources for which it had data, it would have said so.

These statements provide no response to Petitioners' comments under Section 112(f)(2). EPA's statement on using "the best available data" seems to refer to Section 112(d). EPA also provided no response at all to Petitioners' comments regarding the production source category, only on transmission and storage. EPA has violated Section 307(d)(6), 42 U.S.C. § 7607(d)(6), by providing no reasoned explanation or response to Petitioners' comments on the data gaps for "key" pollutants. In addition, EPA provided no response to Petitioners' comments on the air monitoring data or the composition of natural gas (which contains mercury). Thus EPA has failed to provide the required response to comments, and the required reasoned explanation for its refusal to set any Section 112(f)(2) standards based on the record. Because EPA has not addressed or explained why it can ignore the data Petitioners provided or the significant comments provided on this issue, its decision is arbitrary and capricious and violates the Clean Air Act.

EPA's residual risk rule is unlawful, arbitrary, and capricious because EPA started with virtually no current data on at least a dozen of the "key" pollutants for 75% of the facilities in these source categories. Memo (-0022) at 4. Without representative emission data on all HAPs emitted from a sufficient part of the source categories, EPA cannot rationally draw conclusions on risk to public health. We urge EPA not to respond to this petition by trying to defend its decision to perform this rulemaking using estimates of estimates of HAP emissions, based on the outdated 2005 NEI. That is what EPA's Memo shows that it did for major HAPs emitted, describing in cursory terms how it attempted to roughly estimate emissions from the estimates of other pollutants for which it had some (albeit limited) information. *Id.*

Instead, EPA should recognize that it has a responsibility under Section 112(f)(2), during the major 8-year residual risk review, to begin its rulemaking analysis with data that EPA and the public can rely on. EPA cannot complete a residual risk rulemaking with nothing known about the emissions of key HAPs going into the air for the vast majority – 75% – of existing facilities. Where, as here, EPA has no data at all on key HAPs for such a high percentage of the facilities, it must use its rulemaking authority to gather emission test data, it must use its Section 114 authority to collect emission test data, and it must consider and use the pollutant data provided in the record. In addition, EPA must analyze, and not just ignore, the data on the pollutants provided in Petitioners' comments.

Because of the serious lack of reliable emission data underlying the air toxics rule, the public and Petitioners' members can have no confidence in EPA's final determination and lack of action in the final rule. There are millions of people living near current oil and natural gas facilities and many more who face new potential facilities coming into their communities. Residual Risk Assessment (-4558) at 25 tbl. 3.2-1, 31 tbl. 4.2-1 (finding that 58 million people live within 50 km of transmission and storage facilities and 57 million live within the same distance of production facilities). The record suggests that EPA incorrectly believes that most of these sources are far away from people. *See, e.g.*, 77 Fed. Reg. 49,530 ("oil and natural gas production facilities are typically not sited in urban areas."). However, there are indeed many existing oil and natural gas operations located in or near urban and other high-population areas showing the need for EPA to treat this source category seriously, collect actual emission test data, and grant reconsideration to strengthen the standards for oil and natural gas sources. Communities are even located at the fenceline, or right across the street from these facilities, as in Wilmington, California, where these facilities' emissions combine with many other types of air-polluting facilities.

As another example, EPA should examine the circumstances of residents of the Baldwin Hills area of Los Angeles.[6] There are 300,000 people living near the large urban Inglewood Oil Field where over 1,000 wells have been drilled during the last century and other operations are expected. *See* http://baldwinhillsoilwatch.org/; http://www.inglewoodoilfield.com/. [7] A recent environmental impact review found that one oil company (PXP) has plans to drill approximately 60 wells in Culver City by 2015 and another 40 by 2028.[8]

EPA should talk with and consider the experience of members of California Safe Schools who are concerned about the impact of facilities (mainly oil) on children and school staff. Complaints about air pollution have occurred at the Rachel Carson-Al Gore School in Los Angeles which is across the street from an oil operation. Other Los Angeles children face toxic air pollution from other similar facilities in the city.[9] If EPA evaluated the actual data on these facilities, it would find urban oil and natural gas operations in other parts of the country as well, such as Colorado and Texas.[10] Smaller residential towns, like Gates Mills, Ohio, also have active oil and natural gas operations located very close to people.[11] With the dramatic expansion of the hydraulic fracturing industry across the country in recent years, communities that have never had to confront this issue being forced to do so, and they are extremely

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[6] http://www.inglewoodoilfield.com/res/docs/baldwin_hills_community_standards_district_final_eir%20.pdf.

[7] A map of the oil field shows how close it is to people's residents, community centers, and a cemetery. http://baldwinhillsoilwatch.org/wp-content/uploads/baldwin_hills_community_standards_district_final_eir-1.jpg (Appendix).

[8] http://articles.latimes.com/2011/jul/07/local/la-me-oil-deal-20110707.

[9] *See* Google map (showing proximity of Carson-Gore school to oil facility); Google Map of Oil Wells in Los Angeles; Ctr. For Land Use Interpretation, Urban Crude: The Oil Fields of the Los Angeles Basin (2010) (all attached as Appendix).

[10] http://www.dallasnews.com/news/politics/texas-legislature/headlines/20110307-urban-gas-wells-may-get-closer-look.ece; http://www.greeleytribune.com/news/1503282-113/permits-gas-oil-colorado

[11] http://www.youtube.com/watch?v=3kr-SrEj4Yg ("Fire Chief Tom Robinson of Gates Mills, Ohio, describes his concerns about having 43 wells in a small urban community. He urges changes in the law to enhance safety for the public and the firefighters.")

concerned about its public health impacts. EPA should consult with Petitioners like the Clean Air Council that are on the front lines of this fracking expansion.

To respect the concerns of communities living near oil and natural gas facilities and those facing potential expansions of new hydraulic fracturing operations, EPA must at least grant reconsideration on this rule and collect and analyze data on the actual air emissions that communities near these facilities breathe daily.

The record is replete with reasons for EPA to collect more data. For example, EPA has admitted that it needs more data to set a MACT limit for storage vessels without PFE. 77 Fed. Reg. at 49,503, 49,532. The only reason EPA did not finalize its proposed plan to set this limit is the lack of data. Resp. to Comments (-4546) at 260 ("we have determined that additional data is needed in order for us to establish an emissions standard for storage vessels without PFE as our existing data is not representative of current operations and emissions. We intend to collect the necessary data and propose a MACT standard under section 112(d)(2) and (3) of the CAA.").

Further, recent research has shown that the emission factors used to create emission estimates, such as the NEI, dramatically underestimate emissions. *See, e.g.*, EPA Office of Inspector General, Improvements in Air Toxics Emissions Data Needed to Conduct Residual Risk Assessments 18 (Oct. 31, 2007); EPA Office of Inspector General, EPA Can Improve Emissions Factors Development and Management 9-10 (Mar. 22, 2006) (EPA has judged 62% of its official emission factors as "below average" or "poor" in quality, and noting that in several industries – including specifically petroleum refining – EPA officials indicated that the "annual emissions reported by the individual industry facilities significantly understated the actual amount of emissions released into the atmosphere."). For more information, see the attached *Env'tl Def. Fund et al.* Comments on EPA's proposed Uniform Standards.

The fact that EPA has failed to address or consider HAP emissions from many parts of these source categories, as discussed in Part I, above, provides additional reason for EPA to collect emission test data now on reconsideration. EPA should collect these data not just for the currently controlled sources but also for fugitive emissions throughout the source categories, including for equipment leaks and the list of sources Petitioners have provided data on. *See* Tables 1-2 (attached). EPA has failed to respond to the information provided in Petitioners' comments. At the very least, these comments and this petition provide EPA with more than sufficient reason to collect emission test data from uncontrolled sources. Collecting emission data would ensure that EPA at least has the information it needs to fully consider and evaluate the questions it must answer under Section 112(f)(2) and 112(d)(6) and provide a reasoned explanation for a new rule proposal or other action EPA may take.

EPA's response to the Colorado Department of Health and the Environment comment on amine treaters provides an additional reason to collect data. EPA did not discount the merit of the data provided by the state, which suggest that EPA should set HAP limits for these units. Resp. to Comments (-4546) at 411-12 (discussing CDHE data). EPA only stated that the data given, from a set of facilities in one state, was not enough. *Id.* at 412. EPA has failed to explain why this is not sufficient data to show these facilities need limits. If EPA needs more information to set those limits, within 1 year, EPA must collect emission data from this type of emission point and use it on reconsideration to set limits for these sources.

EPA's own decision to perform a study on hydraulic fracturing and its human health effects on drinking water shows the need for a full residual risk assessment of its air effects, through the collection of emission data. http://www.epa.gov/hfstudy; EPA, Ofc. Of Research & Devel., Plan to Study the Potential Impacts of Hydraulic Fracturing on Drinking Water Resources (Nov. 2011) (HF Study Plan), http://www.epa.gov/hfstudy/HF_Study__Plan_110211_FINAL_508.pdf (attached as Appendix). EPA is in the process of performing this study, which included an initial collection of data from industry. http://www.epa.gov/hfstudy/qapps.html (describing data, including 2011 data collection request from HF companies). The reasons why EPA is performing the drinking water study show that EPA must also perform a full residual risk assessment for toxic air emissions that, at minimum, includes an assessment of the actual pollutants and amounts of pollutants going into the air. HF Study Plan at 1 ("Advances in technology, along with economic and energy policy developments, have spurred a dramatic growth in the use of hydraulic fracturing across a wide range of geographic regions and geologic formations in the US for both oil and gas production. As the use of hydraulic fracturing has increased, so have concerns about its potential impact on human health and the environment, especially with regard to possible effects on drinking water resources. These concerns have intensified as hydraulic fracturing has spread from the southern and western regions of the US to other settings, such as the Marcellus Shale, which extends from the southern tier of New York through parts of Pennsylvania, West Virginia, eastern Ohio, and western Maryland.").

Finally, on this issue Petitioners further re-incorporate and rely on their original comments, and respectfully request that EPA grant reconsideration.

**2. Section 112(d)(6)**

Petitioners re-incorporate into this petition and rely on their original comments regarding EPA's inadequate dataset for the Section 112(d)(6) review. EPA has failed to provide a reasoned response to Petitioners' comments under Section 112(d)(6). Comments (-4457) at 79,

83. Petitioners urge EPA to grant reconsideration, collect emission data, and use that to fix the problems with EPA's Section 112(d)(6) determination.

Further, EPA inappropriately limited its "search" for information to the RBLC Clearinghouse, the Gas Star Program and to State regulations. It does not appear to have done the necessary literature search, contacted vendors of control technologies, and it did not issue information requests. EPA then used the lack of information that ensued from its limited search as a basis to exclude technologies that it acknowledged were available. For example, based on all of these statements, pointing out the limited data EPA based this rulemaking on, it determined that improvements should not be made to the Section 112(d) standards:

- "Emission reductions from sensory requirements were assumed to be zero because we are unable to quantify emissions reductions associated with sensory requirements." (-4493 at 18).
- "Natural Gas STAR report does not provide information to determine whether the use of a pressurized storage tank would be technically feasible…" (-4568, at 27).
- "We do not have information to indicate that any significant improvement has occurred" in regard to optimization of glycol circulation rate and installation of a flash tank separator. (-4568, at 22)
- "Based on . . . uncertainties, and the incremental cost effectiveness values (with and without savings), we determined that this technology [i.e., zero emissions dehydrator] is not technically and economically feasible for the large glycol dehydration unit subcategory in both production and transmission and storage." (-4568 at 20).
- "[T]here is no information on the effectiveness of this technology [i.e., methanol injection] for high pressure systems." (-4568 at 6).

EPA's analysis is an embarrassment under Section 112(d)(6). It relies on uncertainties rather than actual data and findings to decide not to set stronger standards, despite significant improvements in emission controls since 1999. As a result, EPA refused to strengthen protection for local communities facing dangerous toxic air pollution from Oil and Natural Gas facilities. EPA should both collect the necessary data to perform its obligations, and fully satisfy the Clean Air Act, as further discussed later in this petition.

## III. EPA MUST GRANT RECONSIDERATION AND SET A MACT LIMIT FOR STORAGE VESSELS WITHOUT POTENTIAL FOR FLASH EMISSIONS.

### A. Need for Reconsideration.

EPA proposed but did not finalize standards for storage vessels that its original 1999 rules exempted in the oil and natural gas production source category – *i.e.*, storage vessels without potential for flash emissions. EPA states that it plans to set these standards at some point in the future after it collects more data, but has set no date for this update. Resp. to Comments (-4546) at 234 ("we believe that we need additional data and information to set emission standards for storage vessels without the PFE, and we intend to collect additional data and propose MACT emission standards under section 112(d)(2) & (3) of the CAA for such storage vessels."); *see also id.* at 240, 292; 77 Fed. Reg. at 49,502.

Because EPA did not discuss any potential data gaps on this issue at proposal, it was impracticable for Petitioners to raise this concern during the comment period. EPA should therefore grant reconsideration on this issue under Section 307(d)(7)(B).

### B. Grounds for Objection.

EPA proposed to set a MACT limit for storage vessels without PFE because it recognized that it is "not proper" that these are exempted or uncontrolled under the 1999 rule. Resp. to Comments (-4546) at 239; 76 Fed. Reg. at 52,767-69. In the final rule, EPA recognized that it needs to set these limits, but stated that it did not yet have enough information to do so. 77 Fed. Reg. at 49,502; Resp. to Comments (-4546) at 234.

As Petitioners have already discussed above and EPA has agreed in the cited record pages, it is unlawful for a MACT standard to contain no limit for certain emission points. *See, e.g.*, *Sierra Club v. EPA*, 479 F.3d 875, 883 (D.C. Cir. 2007); *Nat'l Lime*, 233 F.3d at 633-34.

EPA cannot rely on its lack of information as a justification to fail to set a MACT limit for any part of this source category. EPA must either set a limit on reconsideration or take immediate action to gather the necessary data, by using its Section 114 authority, 42 U.S.C. § 7414, and commit to set such a limit by a given date. EPA has provided no rational or lawful justification for failing to set a MACT limit now. The lack of data is not a rational explanation either for the failure to regulate or the failure to set a deadline to collect more data to allow it to do so effectively.

As discussed above, EPA's failure to set a limit for this type of source, which it has recognized needs one to comply with Section 112(d)(2)-(3) only shows again why EPA must grant reconsideration and collect emission test data.

## IV. EPA MUST GRANT RECONSIDERATION TO TIGHTEN THE MACT LIMIT FOR SMALL GLYCOL DEHYDRATORS.

### A. Need for Reconsideration.

EPA made significant changes to the MACT limit for small glycol dehydrators from proposal to final (used a upper prediction limit ("UPL") at final that it had not used at proposal) and provided a new explanation for its decision in the response to comments on the benzene, toluene, ethane, xylene ("BTEX") content of the limit, as further discussed below. Because these changes came in or accompanied the final rule, it was impracticable for Petitioners to object during the comment period. Therefore, EPA must grant reconsideration under Section 307(d)(7)(B) of the Clean Air Act, 42 U.S.C. § 7607(d)(7)(B).

### B. Grounds for Objection.

#### 1. EPA Must Grant Reconsideration to Use No Variability Factor or a Lower, Representative Factor to Set BTEX Limit.

At proposal, EPA had set the MACT limit for BTEX emitted by small glycol dehydrators by calculating a straight average for the top 12 best performing sources. Resp. to Comments (-4546) at 254-55. In response to industry comments, EPA set standards that accounted for variability using an upper prediction limit of 99%. 77 Fed. Reg. at 49,503 (ONGP), 49,505 (NGTS); Resp. to Comments (-4546) at 255. As a result, EPA weakened the MACT standard for small glycol dehydrators from the proposal to the final.[12]

[12] The proposed MACT floor limit for existing sources at production facilities (ONGP) was $1.1 \times 10^{-4}$ g BTEX/scmd-ppmv. The final MACT limit for existing sources is $3.28 \times 10^{-4}$ g BTEX/scmd-ppmv. 40 C.F.R. § 63.764. The proposed MACT floor limit for existing sources at transmission/storage facilities (NGTS) was $6.42 \times 10^{-5}$ g BTEX/scmd-ppmv and for new sources it was $1.10 \times 10^{-5}$ g BTEX/scm-ppmv. At final, it is $3.10 \times 10^{-4}$ g BTEX/scmd-ppmv for existing sources and $5.44 \times 10^{-5}$ g BTEX/scm-ppmv for new sources. 40 C.F.R. § 63.1275.

Using this UPL is unlawful and irrational.[13] EPA's upper prediction limit does not reflect the "average" emission level actually achieved by the top 12 percent of the source category, as Section 112(d)(3) requires. 42 U.S.C. § 7412(d)(3). Rather, the upper prediction limit is an emission level EPA expects all future tests by all sources in the alleged top 12 percent to fall below. Thus, EPA's new approach guarantees that its floors do not reflect the "average emission limitation achieved by the best performing 12 percent of the existing sources," *id.* § 7412(d)(3)(A), but instead the *worst* performance that EPA expects any of these sources ever to achieve.

Although EPA may consider variability in calculating the best sources' performance, EPA's method of considering variability may not assure that none of the sources among those identified as best performers would ever exceed the floor level. This approach ignores the reality that sources' emission levels are largely within their control, and that a well-run source will try to avoid exceedances. EPA must set standards based on the best-performers' usual emissions when operating properly, not based on these sources' worst reasonably foreseeable performance.

### 2. EPA Unlawfully Failed to Set Standards for Emitted Pollutants Other Than BTEX for Small Glycol Dehydrators.

For small glycol dehydrators at both source categories (oil and natural gas production and natural gas transmission and storage), EPA proposed and then finalized a BTEX emission limit for four HAPs: benzene, toluene, ethylbenzene, and xylene. *See* 40 C.F.R. §§ 63.764, 63.1275. Petitioners commented that EPA could not ignore other pollutants emitted by these sources, and that EPA also must set limits on all other emitted pollutants. Comments (-4457) at

[13] Brown Memo, Impacts of Final MACT Standards for Glycol Dehydration Units – Oil and Natural Gas Production and Natural Gas Transmission and Storage Source Categories (Apr. 17, 2012) (-4494) at 2 ("A prediction interval (e.g., a UPL) for a future observation is an interval that will, with a specified degree of confidence, contain the next (or some other prespecified) randomly selected observation from a population. In other words, the prediction interval estimates what future values will be, based on present or past measurements. Given this definition, the UPL represents the value that the mean of three future test run observations (three-run average) can be expected to fall below, based on the results of the independent sample of size (n) from the same population. Therefore, should a future test condition be selected randomly from any of these sources (i.e., average of three runs), one can be 99 percent confident that the reported level will fall below a MACT floor emissions limit calculated using a UPL, assuming representativeness of the underlying data set. For these reasons, we used the UPL to account for variability in our MACT floor calculations.").

95. Petitioners also noted that EPA did not appear to be using BTEX as a surrogate for other pollutants emitted. Other pollutants emitted include, at least, the following HAPs that showed up in Colorado data: n-hexane, 2,2,40-trimethylpentane, ethylene glycol, and possibly others. *Id.*

Section 112(d)(1)-(2) and case law make clear that EPA must set a limit on all emitted pollutants. *Nat'l Lime*, 233 F.3d at 634. This is a core requirement of the statute and a core part of the purpose why Congress enacted this provision. It is therefore unlawful for EPA to set a BTEX-only MACT for small glycol dehydrators.

In its response to comments on the final rule, EPA stated first that it is not using BTEX as a surrogate, showing that it cannot attempt to rely on that principle as a potential excuse for failing to set limits on all HAPs. Resp. to Comments (-4546) at 247. EPA further stated that it set a limit only for BTEX because "[t]he data available [from the 1999 rulemaking] . . . only contained BTEX emissions for all units." *Id.* And, EPA stated: "we intend to further investigate the non-BTEX emissions from small glycol dehydrators and once we obtain sufficient data, we would propose a MACT standard for those other HAP." *Id.* EPA's response does not provide a reasoned explanation for failing to act in this rule, and only further supports Petitioners' contention that further data collection and rulemaking are required to complete its rulemaking responsibilities for the Oil and Natural Gas source categories, as discussed in Part II, above.

EPA's statement is erroneous and arbitrary. Petitioners submitted data on other HAPs emitted, as cited above. Comments (-4457) at 19-23. Yet, EPA failed to analyze or consider those data. Resp. to Comments (-4546) at 247. Failing to regulate all emitted HAPs violates *Nat'l Lime v. EPA*. The Clean Air Act requires EPA to set limits on all emitted HAPs, including those listed in Petitioners' comments.

Further, EPA has not stated that it has no data for other pollutants emitted, only that it just had BTEX data "for all units." Resp. to Comments (-4546) at 247. EPA also stated that "we lacked information for other HAP emitted from these sources in the database that contained the necessary inlet concentration and natural gas throughput information," but did not explain why it could not use the data it did have on the other HAP to set standards. *Id.* at 250. If EPA has any emission data for non-BTEX pollutants, then it must set limits on those pollutants pursuant to Section 112(d)(3) under EPA's own theory that, to set a MACT limit, it need only use the best available data. Although Petitioners support EPA's effort to collect more data, and set a limit by a new date certain, rather than use poor data, EPA has not set any such deadline for its

action. Barring that, EPA can have no rational justification for not using the data it does have to set a MACT limit.[14]

A lack of data is not an excuse, as a matter of law, for the failure to take any further action to control pollutants under Section 112(d) when information in the record indicates that these HAPs are emitted. Although Section 112(d) does include a parenthetical that allows EPA to calculate a MACT floor based on existing sources "for which the Administrator has emissions information," § 7412(d)(3)(A), this provision simply indicates that EPA may calculate a MACT floor based on available information. It does not excuse the Administrator from regulating pollutants at all, or taking the steps needed to assure regulation (such as data collection) because it does not yet have the minimum amount of information EPA decides is necessary to set a MACT floor. If EPA need not set a limit for pollutants for which it has no information, then it could evade the requirements of Section 112(d)(2) forever simply by never collecting any emission data. That would be an absurd outcome, not at all consistent with the statute's language or intent.

EPA must collect information on non-BTEX pollutants, as discussed in Part II, above. And because it has information that such other HAPs are emitted, EPA has not provided and cannot provide a rational or legally valid justification for failing to set limits to control these pollutants now. EPA must grant reconsideration to do so.

## V. EPA MUST GRANT RECONSIDERATION TO REMOVE THE BENZENE-ONLY STANDARD FOR LARGE GLYCOL DEHYDRATORS.

### A. Need for Reconsideration

EPA originally proposed to use its Section 112(f)(2) authority to remove the alternative compliance option, established in the 1999 Final Rule, which allows glycol dehydrators to emit up to 0.9 Mg/year (nearly 1 ton) of benzene. 76 Fed. Reg. at 52,783 (proposing to delete 40 C.F.R § 63.1275(c)(3)(ii) ("Benzene emissions are reduced to a level less than 0.90 megagrams per year.")). EPA explained that this was needed to reduce the maximum individual risk ("MIR") of cancer to 20-in-1 million. *Id.* Petitioners filed comments supporting EPA's proposed removal of the exemption under Section 112(f)(2), which also requested further information on this issue because EPA's underlying documentation did not appear to match up with its conclusions.

[14] For EPA's residual risk review it considered data on key pollutants from only 25% of the industry to be sufficient. As discussed in Part II of this petition, Petitioners do not believe that was lawful or reasonable, but point this out as an additional indication of EPA's self-contradictory approach in deciding how much data is enough to regulate.

However, in the final rule, EPA did not finalize the removal of the alternative benzene compliance option because it determined that a new data analysis – not available at the time of proposal – showed that this would not actually reduce cancer risk as EPA had originally calculated. 77 Fed. Reg. at 49,503. EPA also changed the final rule (not proposed) so that the benzene allowance applies to "large glycol dehydrators." Resp. to Comments (-4546) at 257 (revising 40 C.F.R. § 63.765(c)(3)(ii)), 283-84.

Because EPA neither provided notice of these new data nor of EPA's decision not to finalize the removal of the alternative benzene compliance option, it was impracticable for Petitioners to object to its non-removal during the comment period. Thus, Section 307(d)(7)(B), 42 U.S.C. § 7607(d)(7)(B), requires EPA to grant reconsideration on this issue.

**B. Grounds for Objection**

EPA should grant reconsideration on the 1-ton benzene-only standard because retaining this standard as a compliance alternative violates both Sections 112(f)(2) and (d)(6), 42 U.S.C. §§ 7412(f)(2), (d)(6).

First, EPA's new determination – reached in the final rule without proposal or public notice – to retain the 1-ton benzene standard violates Section 112(d). Section 112(d)(1)-(2) requires that EPA set limits on all emitted HAPs. *Nat'l Lime Ass'n*, 233 F.3d at 633-34. EPA cannot decide to retain the benzene loophole, because it violates this requirement. But, that is what is has done by proposing to remove the benzene allowance and then retaining the benzene standard in the final rule. The 1-ton benzene standard is a benzene-only standard, which allows a glycol dehydrator to fully comply even if it limits no other pollutants. As the record shows, glycol dehydrators emit many other listed HAPs, including toluene, ethylbenzene, xylene, and others. *See, e.g.*, 77 Fed. Reg. at 49,502 (setting a BTEX standard for small glycol dehydrators due to the emission of pollutants in addition to benzene, specifically); Residual Risk Assessment at 23-24, 29-30 (-4558) (listing other HAPs emitted); Comments (-4457) at 19-23 (describing evidence of emissions from other HAPs, including pollutants EPA has ignored completely in the rulemaking, such as fracking chemicals and mercury). EPA's new BTEX limit for small glycol dehydrators illustrates that its Final Rule – retaining the 1-ton benzene allowance for large glycol dehydrators – is unlawful, because it limits no pollutants other than benzene. For the above reasons, EPA must grant reconsideration to set limits on all emitted HAPs from large glycol dehydrators. In doing so, EPA should also take this opportunity to review the total-HAP limit, and assess whether it is appropriate to set only a total-HAP, not HAP-specific limit, for this emission point, under the D.C. Circuit's surrogate test. *See, e.g.*, *Nat'l Lime*, 233 F.3d at 638-39.

Second, EPA has failed to provide a reasoned explanation for its new risk assessment for benzene. Even assuming that EPA's original risk assessment calculation was skewed by including data from an area source, that does not resolve the issue. As discussed in Petitioners' comments – most of which EPA has failed to respond to at all or has provided no reasoned explanation for refusing to implement – EPA has failed to adequately assess the risk to public health, particularly from early exposure. Comments (-4457) at 36-42. Failing to account for the real-world risk faced by the most-exposed individuals violates Section 112(f)(2), which requires EPA to prevent unacceptable risk and also ensure an "ample margin of safety to protect public health" and the environment. 42 U.S.C. § 7412(f)(2). One ton of benzene is a huge amount of this highly dangerous pollutant for people living near Oil and Natural Gas facilities. As benzene is a known human carcinogen, there is no safe level of exposure to benzene, and the reference values for other types of health risk are extremely low, meaning that other types of chronic health impacts can occur at very low levels of exposure. EPA, IRIS, Benzene, http://www.epa.gov/iris/subst/0276.htm#woe (providing information on carcinogenicity and chronic and acute reference values or concentrations).

It is arbitrary and capricious for EPA to find that it is lawful to allow 1 ton per year of benzene to come out of a single glycol dehydrator at Oil and Natural Gas facilities, without applying current science on early exposure, cumulative impacts, and each of the other issues raised in Petitioners' Comments on the residual risk assessment, which are each again fully reincorporated into this petition. Comments (-4457) at 10-45. Therefore, EPA cannot rely on the new determination that it has now reached that removal of the 1-ton benzene standard would not reduce health risk enough to ensure the required "ample margin of safety to protect public health." 42 U.S.C. § 7412(f)(2). EPA must grant reconsideration and address the serious gaps and failures to account for new science, provided by Petitioners' Comments on its risk assessment, in regard to benzene.

## VI. EPA MUST GRANT RECONSIDERATION AND STRENGTHEN THE EQUIPMENT LEAK STANDARDS.

### A. Need for Reconsideration.

EPA proposed to make no updates under Section 112(d)(6) except reducing the leak detection definition from 10,000 ppm to 500 ppm. EPA finalized this change which is an improvement on the prior standards. 77 Fed. Reg. at 49,571 (40 C.F.R. § 63.769(c)).

However, EPA also reviewed and found other "developments" in leak detection and repair, but refused to strengthen the requirements for equipment leaks other than changing the leak definition. Memo (-0062) at 10-11. Accompanying the final rule, EPA provided additional analysis that showed why it made a mainly cost-based decision not to require other

improvements to LDAR requirements. Hancy-Howard Memo, Analysis of Emissions Reduction Techniques for Equipment Leaks (Dec. 21, 2011) (-4493) at 28-29. In addition, EPA has now also finalized the final rule for the NSPS which contains stronger LDAR requirements than the NESHAP standards for certain sources. 77 Fed. Reg. at 49,498 (applying procedures and monitoring requirements of 40 CFR part 60, subpart VVa to the NSPS).

Because EPA's new explanation was not provided until the final rule and EPA finalized stronger protections for the NSPS than the NESHAP simultaneously, it was impracticable for Petitioners to object during the comment period. EPA must therefore grant reconsideration on this issue under Section 307(d)(7)(B).

**B. Grounds for Objection.**

Equipment leaks throughout the oil and natural gas production facility chain are one of the most important parts of the source categories that require stronger control. EPA determined that "the risk driver . . . is fugitive emissions." 77 Fed. Reg. at 49,504. However, EPA's equipment leaks rule only requires control of certain equipment at natural gas processing plants (*e.g.*, compressors and "ancillary equipment," which includes pumps, pressure relief devices, sampling connection systems, open-ended valves, or lines, valves, flanges, or other connectors), 40 C.F.R. § 63.761 (defining "equipment leak"), and then only for such equipment that processes materials containing 10 percent or more volatile HAP. *Id.* § 63.769 (equipment leak standards); *id.* § 63.761 (definition of "in VHAP service"). And, EPA did not match or implement any of the other LDAR requirements from the California rules - i.e., exemption for certain VOC stream size; limits on components needing repair (i.e., leaking); application to emission stream including methane; lowering leak definition to 100 ppm. EPA also did not require the greater monitoring requirements contained in subpart VVa, as it did for gas processing plants under the NSPS final rule. 77 Fed. Reg. at 49,498. EPA only changed the leak definition threshold because the agency determined that it was "cost-effective" to do so. *Id.* at 49,505. As EPA further explained, in its Section 112(d)(6) review, EPA "evaluated advancements in controlling this emissions source since the original standards were promulgated, including the emission reduction potential and associated cost-effectiveness of these advancements." *Id.* at 49,532. Even as it unlawfully applied cost considerations to its review of earlier MACT floors, EPA did not even calculate or consider the actual cost effectiveness of available options. Rather, EPA merely evaluated the incremental cost-effectiveness in a memo accompanying the final rule and rejected cost effective options on this basis. Hancy Memo (Dec. 21, 2011) (-4493) at 27-29. Under EPA's "top down" guidance for examining cost in BACT determinations incremental cost is a secondary consideration – to be employed only where the cost effectiveness of the most effective technology is marginal. EPA's action is arbitrary and capricious as well as a violation of Section 112(d).

EPA's memo (-4568, at 36-41) responds to Petitioners' comments on the BAAQMD repair issue and on the 100 ppm leak definition in the BAAQMD rule. EPA considered these requirements and decided that they were not "economically feasible" or cost-effective. The feasibility of this option is clearly demonstrated by the fact that existing sources (including refineries) subject to the BAAQMD rules have been complying with these lower limits for years. EPA ignored other requirements (e.g., Ventura Air Quality Management District rules) because it stated that it did not have enough information regarding the amount of emission reductions they could produce. At the same time as it was arbitrarily applying this test, EPA reduced the leak threshold to 500 ppm, which Petitioners support, and which shows that EPA does indeed have sufficient information to further strengthen the LDAR standards.

First, EPA should grant reconsideration to address the Ventura County air district LDAR program. EPA stated that Petitioners' comments and the Buckheit Report did not provide sufficient information for the EPA to determine that the Ventura County APCD LDAR program as described in the Buckheit Report would result in greater HAP reductions, so that seems to be why they ignored that rule. Resp. to Comments (-4546) at 298. EPA has no excuse for not investigating this program. Petitioners provided sufficient information for EPA to contact the Ventura County air district. By doing so, EPA will gather more detailed information than a member of the public could do. EPA cannot evade its own responsibility to investigate and address information provided in Comments, as it attempts to do in the response to comments. Petitioners offered the information that was required for EPA to perform its own duty to "review" and decide whether to set stronger limits. Petitioners urge EPA to grant reconsideration to satisfy the Act's requirements for this review.

Second, EPA should grant reconsideration to respond to Petitioners' comment that more than just a work practice standard is required and EPA must set a numeric limit to control HAP emissions resulting from equipment leaks, at least at the facility-wide level. Comments (-4457) at 86; *Sierra Club*, 479 F.3d at 883-84. EPA has failed to respond. It has failed to explain how EPA's work practice-only provision is justified. Section 112(h), 42 U.S.C. § 7412(h), allows EPA "to substitute work practice standards for emission floors only if measuring emission levels is technologically or economically impracticable," and EPA has not made that determination in this rulemaking. 479 F.3d at 884.

EPA cannot set a work practice-only standard without meeting this requirement not only because it directly violates Section 112(h), but because the leak allowance on its own represents a major type of malfunction exemption that EPA has recognized is unlawful. EPA has appropriately removed most start-up, shut-down, malfunction exemptions from the standards, 77 Fed. Reg. at 49,507, and must not leave the leak malfunction allowance untouched. EPA's work practice-only standard for equipment leaks – without any numeric

limits – is equivalent to this same type of unlawful exemption, which violates the Act. A leak is a type of malfunction. EPA may not allow leaks to emit HAPs indefinitely into the air. Doing so is unlawful because Section 112 requires that emissions standards be "continuous" and apply at all times. *Sierra Club*, 551 F.3d at 1028-29; 42 U.S.C. § 7602(k). EPA has the burden under Sections 112(h) and 112(d) to ensure that it sets a numeric limit for all emitted HAPs that applies continuously (without any exemption for malfunctions), unless a numeric limit is not feasible. If EPA cannot set a numeric limit, it must at least set the maximum achievable work practice standards, which its LDAR requirements have failed to do.

In view of the requirement that Section 112 standards must apply to be "continuous," EPA has failed to justify its conclusion not to set a limit on the amount of leaking equipment awaiting repair. EPA again based this on cost: "No additional cost and emission data were identified to determine what the incremental costs associated with applying this approach to the 1999 subpart HH level of control. Based on this lack of additional information and the incremental cost effectiveness calculated for the proposed BAAQMD amendments, we do not consider implementation of BAAQMD-level limits on components awaiting repairs to be economically feasible." (-4568 at 36). EPA's conclusion is arbitrary and unlawful, and requires reconsideration. Moreover, EPA's monitoring exemptions and its decision to limit the LDAR rules to equipment processing >10 percent VHAP are unlawful even if EPA cannot fully measure the health protections removing these problems would provide. It is clearly "feasible" (as demonstrated by BAAQMD) for EPA to set stronger LDAR limits. So, any uncertainty about the amount of emissions reductions foregone should be resolved in favor of the public health.

EPA should grant reconsideration to set stronger LDAR standards based on the "developments" it found, and the requirement that EPA calculate the MACT based on the industry's performance now, per our Comments. EPA's refusal to do so is unlawful and arbitrary and capricious, for reasons stated in Petitioners' Comments which are fully incorporated by reference here. Comments (-4457) at 85-86, 90-92 & Buckheit Addendum.

Further, EPA's consideration of and use of cost is unlawful and inappropriate. EPA decided not to ensure a 43% reduction in HAPs from equipment leaks because it would require capital investment and EPA calculated the incremental annual cost to be $193,000/ton. 77 Fed. Reg. at 49,505. EPA appeared to use its underestimate of health risk – which is unreliable, for reasons discussed earlier in this petition and Petitioners' comments – as part of this calculation. *Id.* (explaining that EPA believed this would reduce cancer risk by 3 in 1 million for production facilities).

EPA may not use a "cost-effectiveness" or cost-benefit test under Section 112(d). There is no authorization in Section 112(d)(6) to consider cost. The provision requires EPA to satisfy

Section 112(d)(2)-(3), where EPA can consider cost only in the beyond-the-floor stage, not the MACT floor stage. As the Senate Report explained, describing Section 112(d)'s only allowable consideration of cost as part of what is "achievable":

> This is not a cost-effectiveness or cost-benefit test. Specifically, the policy enunciated by the Office or Management and Budget in a letter to the then-Assistant Administrator for Policy at the Environmental Protection Agency and dated December 9, 1983 calling for a cost-effectiveness test in the NESHAPs for inorganic arsenic and radionuclides is rejected. The number of cancers prevented per dollar invested is not any part of the definition of maximum achievable control technology as used here (or elsewhere in the Act).

S. REP. NO. 101-228 at 3553. Under Section 112(d), "maximum protection of human health shall be the objective test." *Id.*

The term "cost" does not appear in Section 112(d)(6). And even if EPA could somehow consider "cost," a consideration of "cost" is different from the incremental-only cost-effectiveness analysis EPA did here, which is not lawful or rational. Although Petitioners dispute EPA's use of cost-effectiveness at all, that incremental cost is only $96.50 per pound (as there are 2,000 pounds in a ton). 77 Fed. Reg. at 49,505. EPA has not even evaluated the true long-term cost which should be much lower due to the emission reductions achieved and improvements in efficiency. Many controls installed years ago at some facilities are likely approaching the end of their economic and engineering useful lifetime, and face replacement. More importantly, because HAPs like benzene can have a dramatic impact at low levels of exposure – it is a known human carcinogen, and its chronic reference concentration level is therefore very low: 3x10-2 mg/m$^3$.[15] Given the significant difference in health risk associated with VHAP, it is not reasonable or acceptable for EPA to apply a cost threshold at the same dollar per ton levels as for other pollutants. We note that the capital and operating costs identified by EPA in its analysis are readily affordable and indeed, insignificant as a percentage of the value of the products processes by the equipment subject to the rules. EPA has identified emission reductions that are achievable, and would strengthen health protection, and EPA should require them. EPA's consideration of cost is in conflict with the statute and Congressional intent and EPA must grant reconsideration.

[15] EPA, IRIS, Benzene, http://cfpub.epa.gov/ncea/iris/index.cfm?fuseaction=iris.showQuickView&substance_nmbr=0276.

Further, EPA's refusal to set LDAR standards in the NESHAP for valves that are at least as stringent as the NSPS is particularly arbitrary, and inconsistent with Congressional intent. As the 1990 Senate Report noted, "[a]n emissions limitation based on section 112(d) will, in most cases, be more stringent than a new source performance standard for the same category of sources or pollutants." S. REP. NO. 101-228 at 3552. Yet EPA's standards here are the opposite, because of the way it has considered cost, on an incremental per ton basis. EPA has failed to recognize – as Congress intended – that because HAPs can be harmful at much lower levels, more stringent (or at least as stringent) regulation of them is generally warranted. EPA must grant reconsideration to ensure that the NESHAP equipment leak standards are at least as strong as the final NSPS for leaks at gas processing plants. As the Senate Report stated: "In no event shall an emissions standard promulgated under section 112 allow a source to increase emissions above that which is otherwise allowed for the source pursuant to section 111 (new source performance standards) . . . ." S. REP. NO. 101-228 at 3557.

As of 1990, the Senate itself found that stronger leak detection and repair requirements were feasible for use. EPA has provided no reasoned explanation for reaching a conclusion contrary to Congressional intent on this specific issue. As the Senate explained, EPA's then uniform standard for equipment leaks at refineries, chemical plants and other sources:

> does not necessarily reflect the maximum degree of emissions reduction which is achievable. For example, it does not require the use of valves which the Agency has described as "leak-free" or pumps with double seals, despite the fact that both types of equipment are commercially available and have been demonstrated in practice. In addition, the current standard does not require preventive maintenance and repair practices that also have been demonstrated in practice. Standards meeting the test of section 112(h)(3) will require these and other control technologies.

S. REP. NO. 101-228 at 3568. The Senate may just as well have been talking about EPA's final rule for Oil and Natural Gas Production equipment leaks. The fact that EPA did not require at least "leak-free" valves, and the full preventative maintenance and repair requirements shown in the record conflicts with Congressional intent and factual findings as of 1990 that these practices are "achievable" and should be implemented by EPA.

EPA concedes that variations and enhancements in existing technologies and practices have occurred. Memo (-4493). In particular, EPA notes that improvements and more stringent requirements are found in LDAR programs such as the Bay Area Air Quality Management District program. EPA declines to adopt many of these improvements because it asserts that the

available information on, for example, low leak packing materials, does not quantify the mass emissions associated with leaks. However, the LDAR requirements are work practice requirements that are (only) appropriate where numerical emission standards cannot be implemented or enforced (although EPA has not provided the analysis necessary to meet this statutory test, as discussed above). 42 U.S.C. § 7412(h). Thus EPA's concern about difficulty quantifying mass emissions provides no reasoned explanation for not requiring updates to the LDAR as a work practice standard.

There are a number of additional problems with EPA's final rule, summarized here, all of which merit reconsideration:

- EPA's reliance on the SCAQMD cost effectiveness review fails to account for the fact that the Federal rules only apply to streams that have greater than 10% VHAP. In this context, the cost effectiveness is much greater.
- EPA's cost analysis fails to consider the co-benefits in PM, ozone and GHG reduction associated with potential controls.
- In many instances, undocumented, and likely incorrect, assumptions concerning costs drive the analysis. As an example, Petitioners cite the operating and maintenance charges EPA's contractor assigns to the cost of condensers. There is no support for the assertion that operating a medium sized condenser will require 260 man hours plus supervisory hours plus overhead or for the 320 hours of training per process unit that EPA claims as a cost. That appears to be excessive and inflating cost, leading to a decision not to update the standards.
- EPA often misuses the term "infeasible." Where a control technology will only cost a few thousand dollars or perhaps $25,000 per year, or for processing facilities, $100,000 or more, that technology cannot be said to be infeasible. Nor can a standard that is met by existing facilities in South Coast AQMD or Wyoming. What EPA means is that it finds the incremental costs to be too high compared to the less effective technology, but that is an unlawful consideration under Section 112(d).
- EPA provides no cost barrier or any rational explanation for not basing a standard on emission reductions available through the use of desiccant dehydrators.
- EPA is wholly lacking in quality information concerning the magnitude of emission leaks that go undetected because of its lax LDAR exemptions – but there are some fairly striking numbers in the data set – average uncontrolled leak rate for leaking valves in gas service is .46 kg/hr; for pumps in is 4.33 kg/hr

(Attachment 2, p. 10). These data suggest that unmonitored equipment leaks are likely to be significant sources of HAP emissions.

- EPA misuses the NEIC leak rates to produce the best case for not updating the standards – 90% of the leak frequencies were at least 1.7 x the leak frequencies reported by refineries (and so EPA uses a correction of 1.7 x the refinery data). Yet EPA has failed to support this analysis.
- The recovery credit of $500/ton seems low for methane, and EPA has failed to provide a reasoned explanation for this number.
- EPA admits that its analysis is skewed toward smaller facilities that would have higher costs, rather than more representative facilities.

Finally, EPA's refusal to respond to Petitioners' significant comments on certain LDAR issues, as described above, also violates Section 307(d)(6)(B). For example, EPA has failed to address the unlawfulness of an indefinite, unlimited leak allowance directly, and only discusses this issue based on cost. Comments (-4457) at 90 & Buckheit Add. at 24; 40 C.F.R. §§ 61.242-10, -11 and § 61.243-2 (applied to this source category via 40 C.F.R. § 63.769, as part of 40 C.F.R. Part 61, Subpart V). EPA has failed to justify not setting at least the same equipment leak standards for valves at Transmission and Storage facilities as those EPA has set for Production facilities. EPA has failed to justify not requiring all leaking valves, pumps, and compressors throughout the Oil and Natural Gas source category to comply with the equipment leaks standard, as discussed earlier in this petition. *See* Part I, above. EPA has recognized that fugitive emissions are significant and are driving health risk. 77 Fed. Reg. at 49,504. Fugitive emissions cannot be ignored as a matter of law under Section 112(d), which recognizes that EPA must control these emissions. 42 U.S.C. § 7412(d)(2). Therefore, Petitioners urge EPA to grant reconsideration and apply stricter LDAR, and set numeric limits to do so, as required by the Clean Air Act.

## VII. EPA MUST GRANT RECONSIDERATION TO REMOVE THE AFFIRMATIVE DEFENSE AND STRENGTHEN THE REPORTING REQUIREMENTS FOR VIOLATIONS.

### A. Need for Reconsideration.

EPA proposed an affirmative defense to civil penalties for malfunctions. Petitioners challenged that in comments. *See* Comments (-4457) at 99-103.

In the final rule, EPA finalized the affirmative defense and weakened the protection for citizens from malfunction or upset violations even more. EPA removed the 2-day reporting requirement for violations, and changed it to allow reporting at a much later time. Resp. to Comments (-4546) at 356, 358-59.

Because this was a last-minute change by EPA made only in the final rule without notice, it was impracticable for Petitioners to object during the comment period. EPA should therefore grant reconsideration on this issue and remove the affirmative defense, or at minimum, require 2-day reporting rather than delayed reporting.

### B. Grounds for Objection.

The affirmative defense provision – allowing facilities to evade civil penalties for violations if they meet a test EPA has defined for malfunctions – is unlawful for reasons explained in comments (-4457 at 99-103). EPA's regulation changes the penalty provisions enacted by statute, which violates the Clean Air Act and weakens the deterrent effect of the emission standards themselves. EPA should therefore grant reconsideration and remove the affirmative defense provision.

In addition, whether this provision remains or not, EPA should require reporting of violations within 2 days, and a full report soon thereafter, as EPA had proposed. 76 Fed. Reg. at 52,807 (proposing § 60.5415(h)(2)). Under EPA's final rule, a company could wait longer than 45 days, until the first or even the second compliance report after a violation occurs, to report that violation and still seek to take advantage of the affirmative defense. Resp. to Comments (-4546) at 355-56, 358-59. This reduces the information available to EPA and to local residents at a critical time – when the violation has just occurred. It also makes it more likely that greater emissions will occur before corrective action is taken. EPA has failed to justify the need for such a long delay in reporting of a violation, particularly when a company has a strong incentive to report by the required deadline in order to take advantage of EPA's (unlawful) affirmative defense. If a company is motivated enough and has the information needed to show that an incident is a true malfunction, then it should also be required to report no later than 2 days after such an incident occurs.

## VIII. EPA MUST GRANT RECONSIDERATION TO APPLY NEW FLARE RESEARCH TO THIS RULE AND REVISE THE FLARE PROVISIONS ACCORDINGLY.

### A. Need for Reconsideration.

Since the comment period closed, EPA finalized a new study on the effectiveness of flares. EPA, OAQPS, Parameters for Properly Designed and Operated Flares, Report for Flare Review Panel (Apr. 2012) ("EPA 2012 Flare Study") (attached as Appendix).

Petitioners were unable to submit this study and comments based on it by the 2011 comment deadline for this rule because it was not completed until April 2012. It was therefore impracticable for Petitioners to object during the comment period to EPA's failure to ensure that

requirements and provisions in the Oil & Natural Gas rule that rely on or allow flares should not assume as high a level of destruction efficiency. EPA should evaluate the way flares are regulated and propose new requirements for the Oil & Natural Gas source categories based on its new study. Thus, Section 307(d)(7)(B), 42 U.S.C. § 7607(d)(7)(B), requires EPA to grant reconsideration on this issue.

**B. Grounds for Objection.**

EPA's new study on flares' efficiency is ground-breaking. EPA found that some flares, previously believed to achieve a 95% reduction in HAPs, often reach only 50% or somewhere in between. EPA, OAQPS, Parameters for Properly Designed and Operated Flares, Report for Flare Review Panel at 3-7, 3-11 (Apr. 2012) (attached as Appendix). It confirms that flares are nowhere near as reliable or effective as control devices, and undermines basic assumptions regarding flares. This study presents significant new information about a "development" in control technologies being used for the Oil and Natural Gas source categories that is likely to affect EPA's Section 112(d)(6) review of this source category, and its determination of what standards are needed to ensure the reduction in HAP emissions required by the standards. It also presents information that EPA must evaluate in reconsidering its inspection and monitoring requirements that refer to flares, *e.g.*, 40 C.F.R. § 63.773(d) (exempting flare-users from certain requirements in (d)(4)-(5)).

And, the study shows that HAP emissions caused by flares are likely much higher than EPA previously believed. As some flares have been achieving only a 50% reduction in HAPs, while EPA has been assuming a 95% reduction, the amount of HAPs that EPA should be evaluating in its risk assessment – based on actual test data, not just estimates as discussed above) – is likely to be at least 10 times higher than it considered. (For example, assume that 100 tons of HAPs would be emitted without a flare, and EPA estimated that the flare was reducing 95% or 95 tons, to reach 5 tons total. EPA's risk assessment was based only on those 5 tons. However, the flare study suggests that the reduction could be as low as 50%, which in this hypothetical would mean that 50 tons of HAPs were still being emitted – rather than just 5.). EPA must reassess health risk based on the information its own flare study has now provided. The risk could be as much as 10 times higher, if not more, and this may lead EPA to conclude that risk is unacceptable under Section 112(f)(2), or that additional measures must be taken to ensure an "ample margin of safety to protect public health," as required by this provision. 42 U.S.C. § 7412(f)(2).

There are ways to reduce and better control flares and flared emissions. EPA's own research shows this. So do consent decrees such as the Marathon Petroleum consent decree

which includes flare minimization and efficiency requirements.[16] During settlement talks, EPA stated that pollution controls implemented had created "a 91% reduction in HAPs." *Id.* (reducing emissions from approximately 151 to 13 tons per year). *Id.*

EPA must grant reconsideration to assess the impact of its 2012 flare study on the Oil and Natural Gas NESHAP, which allows the use of flares as control devices. *See, e.g.*, 40 C.F.R. §§ 63.771(d)(3), 63.772(e). Petitioners believe that EPA's reconsideration of this rule in combination with analyzing the results of this study will provide reason for EPA to decide that it is both "necessary" and "required" to set stronger standards and to change the way flares are regulated in the existing rules, in order to reduce the use of flares and reduce flares' HAP emissions from the Oil and Natural Gas source categories, pursuant to Sections 112(d) and (f)(2).

## IX. EPA MUST GRANT RECONSIDERATION TO CONSIDER WHETHER TO APPLY THE UNIFORM STANDARDS TO THE OIL & GAS SOURCE CATEGORIES.

### A. Need for Reconsideration.

Since the comment period closed, EPA has proposed a new set of "uniform standards" that provide information about more stringent ways to limit HAP emissions from storage vessels, equipment leaks (using LDAR), and control technologies. National Uniform Emission Standards for Storage Vessel and Transfer Operations, Equipment Leaks, and Closed Vent Systems and Control Devices; and Revisions to the National Uniform Emission Standards General Provisions, Proposed Rule, 77 Fed. Reg. 17,898 (Mar. 26, 2012) (attached).

Petitioners were unable to submit EPA's proposed rule or the record therein during the comment period on this rule, because EPA proposed that rule after the comment period closed in this one. It was therefore impracticable for Petitioners to object during the comment period to EPA's failure to apply the uniform standards it has now proposed to the Oil and Natural Gas source categories. Thus, Section 307(d)(7)(B), 42 U.S.C. § 7607(d)(7)(B), requires EPA to grant reconsideration on this issue.

### B. Grounds for Objection.

EPA's uniform standards rulemaking illustrates that greater emission reductions are "achievable," 42 U.S.C. § 7412(d)(2), from storage vessels and equipment leaks, which are both emission points covered by EPA's Oil and Natural Gas rules. They also illustrate the type of

[16] http://www.epa.gov/compliance/resources/cases/civil/caa/marathonrefining.html (attached as Appendix); *see also* HOUSTON, WE HAVE A PROBLEM, REPORT (2008) (attached).

"developments" that EPA has admitted that it must consider under Section 112(d)(6). *Id.* § 7412(d)(6). These also illustrate example ways to strengthen the limitations on these emission points in the Oil and Natural Gas rules to better protect public health, as required by the direction to ensure an "ample margin of safety" under Section 112(f)(2).

Environmental Defense Fund ("EDF"), Sierra Club, and other groups submitted comments urging EPA to strengthen those proposed standards, and those comments are attached and incorporated by reference into this petition for reconsideration. Comments of EDF *et al.* (Sept. 24, 2012), Dkt. ID No. EPA-HQ-OAR-2010-0869 (attached as Appendix). EPA should at least take further comment on the application of the parts of the uniform standards that are more stringent than EPA's rules for the Oil and Natural Gas source categories to these source categories (including which elements should be applied in full and what improvements that should be made on the proposed uniform standards to apply them to these source categories). Petitioners also urge EPA to consider strengthening the Oil and Natural Gas standards based on each of the updates discussed in the EDF *et al.* comments on the uniform standards proposal. *Id.*

Therefore, EPA must grant reconsideration to fully consider the proposed upgrades to standards for all emission points contained in the Oil and Natural Gas source categories that could benefit from the application of EPA's uniform standards.

## X. EPA MUST GRANT RECONSIDERATION TO PERFORM THE RESIDUAL RISK REVIEW USING NEW HEALTH AND EMISSIONS INFORMATION.

After the comment period closed, new studies became available indicating that the health risk estimates described in EPA's rule likely significantly underestimate the true health risks posed by the Oil and Natural Gas sector. In light of the findings of these studies, a more careful assessment of emissions and health risk are needed, to address the need for a stronger rule to protect public health. Petitioners cite and incorporate in full the March 28, 2012 letter submitted by NRDC *et al.* to describe and urge EPA to address the Feb. 2012 *Journal of Geophysical Atmospheres* Pétron *et al.* study titled, "Hydrocarbon Emissions Characterization in the Colorado Front Range – A Pilot Study," and the March 2012, *Science of the Total Environment* McKenzie *et al.* study titled, "Human Health Risk Assessment of Air Emissions from Development of Unconventional Natural Gas Resources." *See* Mar. 2012 Letter, NRDC *et al.* (attached as Appendix, along with each of these studies).

As the NRDC *et al.* comment letter explains, together these studies illustrate the following flaws in the assessment of health risks in EPA's final rule:

- The reliance on inaccurate and incomplete emission inventories likely underestimates health risks.
    - The Petron *et al.* study found that Oil and Natural Gas development was a significant source of benzene to ambient air and that the inventories, particularly the NEI, are flawed and likely underestimate benzene emissions in the Colorado Front Range. EPA's reliance on a flawed inventory of emissions undermines the validity of the findings of the residual risk assessment. The Petron *et al.* study provides evidence for the need to evaluate and update the emissions inventory for this sector before determining health risks to neighboring communities.
- By only including a limited set of hydrocarbon contaminants, the risk assessment underestimated exposures which contributed to elevated risks found in the McKenzie study.
    - The McKenzie *et al.* study measured contaminants in the air near well pads, such as 1,2,3- Trimethylbenzene and 1,3,5 Trimethylbenzene, which were not included in the EPA residual risk assessment. When combined with other contaminants with neurological health endpoints, these exposures were found to result in elevated health risks. This study provides evidence that EPA's residual risk assessment underestimated exposures caused by this sector by not considering the full suite of contaminants which contribute to health effects.
- By failing to include well heads as a source of HAP emissions, the risk assessment failed to identify significant health risks documented in the McKenzie *et al.* study.
    - The McKenzie *et al.* study found measured levels of HAPs at higher concentrations in those samples taken close to the well heads during completion activities. For example, median levels of xylenes were 9 times higher in samples taken closer to the wells. The authors also determined that exposures from these elevated contaminant levels resulted in elevated risk (hazard indices greater than 1) for neurological and respiratory health impacts. By ignoring this source of HAP emissions, the EPA greatly underestimated HAP exposures and potential health risks. The McKenzie *et al.* study demonstrates that the residual risk assessment underestimates health risks to neighboring communities by failing to adequately estimate HAP exposures.

In addition, EPA must consider the new Government Accountability Office which found that "Oil and gas development, whether conventional or shale oil and gas, pose inherent

environmental and public health risks, but the extent of these risks associated with shale oil and gas development is unknown, in part, because the studies GAO reviewed do not generally take into account the potential long-term, cumulative effects." GAO, Information on Shale Resources, Development, and Environmental and Public Health Risks, GAO-12-732 (Sept. 2012) (attached as Appendix).

EPA must grant reconsideration to fully consider these studies, which are attached as part of the Appendix to this petition, and other new data on health impacts, and use them to assess the residual risk created by the Oil & Natural Gas source categories.

## XI. EPA MUST GRANT RECONSIDERATION TO PERFORM AN ADEQUATE ENVIRONMENTAL JUSTICE ANALYSIS.

EPA has appropriately recognized that it has a responsibility to assess environmental justice concerns, including disproportionate impacts on people of color and lower income individuals. *See* Petitioners' Comments (-4457) at 65-68.

Yet EPA only assessed demographic data within 50 kilometers (km) to assess the environmental justice impact of this rule, while failing to provide any reasoned explanation for looking so broadly. Resp. to Comments (-4546) at 406; EC/R, Inc., Analysis of Socio-Economic Factors for Populations Living Near Natural Gas Transmission & Storage Facilities (July 2011). This is inconsistent with EPA's own EJ View, which uses a default of 0.5 miles, and allows assessment up to a maximum of 10 miles. *See* http://epamap14.epa.gov/ejmap/entry.html.

Looking at demographic data as far out as 50 km only is equivalent to ignoring this issue completely in many areas, especially cities and smaller towns. EPA must also look at the direct area around a source, in order to ensure that it does not miss disproportionate impacts. By combining communities within a broad geographical area at that significant distance away from a facility (e.g., 50 km, or any distance beyond about 10 miles), the most significant demographic impacts are likely to be highly diluted or camouflaged. EPA has likely missed disproportionate impacts on the people most-exposed to a given source, which would have provided additional reason for EPA to set stronger standards.

Because Section 112(f)(2) requires EPA to assess the health risk to the individual "most exposed," EPA must perform its environmental justice and demographic analysis at a much more local level than it did for this rulemaking, at most within 5 miles of facilities in less populated areas, and within 1-3 miles of facilities in urban areas.

## CONCLUSION

For each of the above reasons, Petitioners respectfully request that EPA grant reconsideration on the Final Rule to fulfill the agency's legal responsibilities under the Clean Air Act and provide necessary protection to people affected by this source category.

In support of this petition, Petitioners attach a list of documents as an Appendix, partly included in this document and partly contained on an accompanying CD-ROM. Please contact us if you would like additional information regarding this matter.

Thank you for your time and consideration of this matter.

Sincerely,

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**CONTENTS OF APPENDIX**

14. Google Map of Oil Wells in Los Angeles

15. Marathon Petroleum Consent Decree Information Sheet
http://www.epa.gov/compliance/resources/cases/civil/caa/marathonrefining.html

16. DOJ, Press Release, U.S. Announces Innovative Clean Air Agreement for Industrial Flares with Marathon Petroleum Company (April 5, 2012).

17. McKenzie *et al.*, "Human Health Risk Assessment of Air Emissions from Development of Unconventional Natural Gas Resources," SCI. OF THE TOTAL ENVT. (Mar. 2012) and accompanying Tables.

18. NRDC *et al.* Letter to EPA (Mar. 28, 2012)

19. Petron *et al.*, Hydrocarbon emissions characterization in the Colorado Front Range: A pilot study, J. OF GEOPHYS. RESEARCH, VOL. 117, D4304 (2012)

20. Sierra Club *et al.* Comments on the Oil and Gas NESHAP and Addenda of Bruce Buckheit and Ron Sahu (Nov. 30, 2011)

| Table No. 1: Hazardous Air Pollutant Emissions from the Oil and Natural Gas Industry (Production, Transmission and Storage Systems) | | | | | | |
|---|---|---|---|---|---|---|
| | **Emission Source/Point** | **Original NESHAP MACT Standard Set (1999)** | **NESHAP Revision, MACT Standard Proposed (2012)** | **NESHAP Revision, Final MACT Standard Set (2012)** | **Petition for Reconsideration Review Requested** | **Petition for Reconsideration: Additional MACT Standards Warranting Consideration** |
| 1 | Glycol Dehydrator Process Vents (Large) | ✓ | ✓ | ✓ | ✓ | Practices, processes and control technologies for HAP reduction, including but not limited to optimization of glycol circulation rates; use of flash tank separators; redirecting condenser vent gases to the reboiler or flaring those gases; and zero emissions desiccant dehydrators (where technically feasible) |
| 2 | Glycol Dehydrator Process Vents (Small) | | ✓ | ✓ | ✓ | Practices, processes and control technologies for HAP reduction, including but not limited to optimization of glycol circulation rates; use of flash tank separators; redirecting condenser vent gases to the reboiler or flaring those gases; and zero emissions desiccant dehydrators (where technically feasible) |
| 3 | Storage Tanks with Potential for Flash (PFE) | ✓ | ✓ | ✓ | ✓ | Practices, processes and control technologies for HAP reduction, including but not limited to, more comprehensive evaluation of advances in vapor recovery unit technology and whether controls of 98-99% can be achieved vs. 95%. |
| 4 | Storage Tanks without PFE (e.g. breathing and working losses) | | ✓ | | ✓ | Practices, processes and control technologies for HAP reduction, including but not limited to more comprehensive evaluation of advances in vapor recovery unit technology; and reconsideration of floating roof technology. |
| 5 | Equipment Leaks | ✓ | ✓ | ✓ | ✓ | Practices, processes and control technologies for HAP reduction, including but not limited to more comprehensive evaluation of LDAR practices currently in use; lower detection limits, cap on amount of HAP that can leak, shorter repair time requirement, limit on number of equipment awaiting repair; no exemption for streams with less than 10% VOC content; and use of ultrasound leak detection. |
| 6 | Process Vents | | | | ✓ | Practices, processes and control technologies for HAP reduction, including but not limited to vapor recovery and detection systems. |
| 7 | Drilling Muds and Mud Degassing Systems | | | | ✓ | Practices, processes and control technologies for HAP reduction, including but not limited to vapor recovery and detection systems (e.g. closed loop-systems) |
| 8 | Drilling Waste Pits | | | | ✓ | Practices, processes and control technologies for HAP reduction, including but not limited to vapor recovery and detection systems (e.g. closed loop-systems); and alternative waste management practices. |
| 9 | Land Application of Waste | | | | ✓ | Practices, processes and control technologies for HAP reduction, including but not limited alternative waste management practices. |
| 10 | Produced Water and Other Waste Tanks | | | | ✓ | Practices, processes and control technologies for HAP reduction, including but not limited to vapor recovery and detection systems (e.g. closed loop-systems); and alternative waste management practices. |
| 11 | Condensate Tanks | | | | ✓ | Practices, processes and control technologies for HAP reduction, including but not limited to vapor recovery and detection systems (e.g. closed loop-systems) |
| 12 | Produced Water and Wastewater Impoundments | | | | ✓ | Practices, processes and control technologies for HAP reduction, including but not limited to vapor recovery and detection systems (e.g. closed loop-systems) |
| 13 | Truck Unloading | | | | ✓ | Practices, processes and control technologies for HAP reduction, including but not limited to vapor recovery and detection systems (e.g. closed loop-systems) |
| 14 | Saltwater and Produced Water Treatment Facilities | | | | ✓ | Practices, processes and control technologies for HAP reduction, including but not limited to vapor recovery and detection systems (e.g. closed loop-systems) |
| 15 | Compressors and Turbines, Routine Venting and Maintenance and Repair Venting | | | | ✓ | Practices, processes and control technologies for HAP reduction, including but not limited to increased frequency of reciprocating compressor rod packing system maintenance, repair, replacement; replacement of wet seas with dry seals at centrifugal compressors; capture of emissions during maintenance and repair. |
| 16 | Combustion Sources (including but not limited to flares) | | | | ✓ | Practices, processes and control technologies for HAP reduction, including flare prevention and minimization requirements |
| 17 | Well Pad Emissions | | | | ✓ | Practices, processes and control technologies for HAP reduction, including but not limited to green completions, liquids unloading technology, cap on HAPs emitted, and detection systems. |
| 18 | Processing Plant Emissions | | | | ✓ | Practices, processes and control technologies for HAP reduction, including but not limited to vapor recovery and detection systems (e.g. closed loop-systems). |
| 19 | Amine Units and Sulfur Recovery Units | | | | ✓ | Practices, processes and control technologies for HAP reduction, including but not limited to vapor recovery and detection systems (e.g. closed loop-systems). |
| 20 | Pneumatic Pumps | | | | ✓ | Practices, processes and control technologies for HAP reduction, including but not limited to vapor recovery and detection systems (e.g. closed loop-systems). |
| 21 | Pipeline Pigging and Pipeline Maintenance & Repair Venting | | | | ✓ | Practices, processes and control technologies for HAP reduction, including but not limited to capture of emissions during maintenance and repair and pigging operations, and alternative waste management practices |
| 22 | All offshore Oil and Natural Gas Sources | | | | ✓ | Practices, processes and control technologies for HAP reduction, of all point and fugitive sources of emissions at offshore oil and gas facilities (e.g. production platforms, islands, floating processing units, mobile units, and exploration activities). |
| 23 | All other Oil and Gas Production, Transportation and Storage Point and Fugitive Sources identified in EPA's Natural Gas STAR Program | | | | ✓ | Practices, processes and control technologies for HAP reduction, including but not limited to emission control and detection options identified in EPA's Natural Gas STAR Program. |

## Table No. 2: Oil and Gas Sector Summary
## Comparison of Emissions Controlled and Uncontrolled by EPA's Final NSPS Rule

| | Emissions (tons/year) | | |
|---|---|---|---|
| **Emission Type** | **Methane** | **VOC** | **HAP** |
| **Wells** | | | |
| New Natural Gas Wells Drilled and Completed using Hydraulic Fracturing | 1,589,622 | 215,559 | 16,844 |
| New Wild Cat Exploration, Delineation, and Low Pressure Wells Routed to Control Device During Completion Operations | 218,323 | 29,606 | 2,313 |
| Gas Wells Refractured | 224,665 | 30,466 | 2,381 |
| **Pneumatic Controllers** | | | |
| Oil and Gas Production Segment: Pneumatic controllers >6 scfh installed after 8-23-11. | 90,685 | 25,210 | 952 |
| Gas Processing Plant Segment: All pneumatic controllers in installed after 8-23-11. | 225 | 63 | 2 |
| **Compressors** | | | |
| New Gas Production (Gathering & Boosting) Reciprocating Compressors | 1,437 | 400 | 15 |
| New Gas Processing Plant Reciprocating Compressors | 3,892 | 1,082 | 41 |
| New Gas Processing Plant Centrifugal Compressors | 2,810 | 254 | 9 |
| **Storage Vessels** | | | |
| New Storage Vessels >6 tpy VOC | 6,490 | 29,746 | 68 |
| **Equipment Leaks** | | | |
| New Gas Processing Plants | 1,490 | 415 | 16 |
| **Subtotal Controlled Emissions** | **2,139,640** | **332,800** | **22,641** |
| **Wells** | | | |
| Gas Well Venting - Liquids Unloading (Existing Wells) | 2,464,800 | 359,614 | 26,127 |
| Gas Well Venting - Liquids Unloading (New Wells) | 771,519 | 112,565 | 8,178 |
| **Pneumatic Controllers** | | | |
| Oil and Gas Production and Gas Processing Plant Segments: Convert existing high-bleed devices to low-bleed devices. | 439,432 | 122,248 | 4,626 |
| Transportation and Storage Segments: Convert existing high-bleed devices to low-bleed devices. | 43,520 | 1,210 | 41 |
| Transportation and Storage Segments: Require low-bleed pneumatic controllers installed after 8-23-11. | 212 | 6 | 0.2 |
| **Compressors** | | | |
| New Wellhead Reciprocating Compressors | 947 | 263 | 10 |
| New Transmission Reciprocating Compressors | 423 | 12 | 0.3 |
| New Storage Reciprocating Compressors | 87 | 2 | 0.1 |
| New Transmission and Storage Centrifugal Compressors | 3,183 | 287 | 10 |
| Existing Oil and Gas Reciprocating Compressors | 1,138,800 | 316,586 | 11,957 |
| Existing Oil and Gas Centrifugal Compressors | 432,432 | 120,216 | 4,541 |
| **Storage Vessels** | | | |
| Existing Storage Vessels > 6tpy | 76,312 | 366,783 | 801 |
| **Equipment Leaks** | | | |
| New Well Pads; Control of Valves Only | 63,412 | 17,572 | 665 |
| New Gathering & Boosting Facilities; Control of Valves Only | 7,040 | 1,955 | 74 |
| New Transmission & Storage Facilities; Control of Valves Only | 3,403 | 94 | 3 |
| Existing Oil & Gas Sector Equipment Leaks | 2,141,568 | 595,356 | 22,486 |
| **Subtotal Uncontrolled Emissions** | **7,587,090** | **2,014,770** | **79,519** |