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**Seyed Sadredin**  
Executive Director  
Air Pollution Control Officer

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Northern Region Office  
4800 Enterprise Way  
Modesto, CA 95356-8718  
(209) 557-6400 • FAX (209) 557-6475

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Central Region Office  
1990 East Gettysburg Avenue  
Fresno, CA 93726-0244  
(559) 230-6000 • FAX (559) 230-6061

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Southern Region Office  
34946 Flyover Court  
Bakersfield, CA 93308-9725  
(661) 392-5500 • FAX (661) 392-5585

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[www.valleyair.org](http://www.valleyair.org)

June 22, 2016

The Honorable Gina McCarthy, Administrator  
United States Environmental Protection Agency  
William Jefferson Clinton Federal Building  
1200 Pennsylvania Avenue, N.W.  
Washington, D.C. 20460

**Re: Petition Requesting that EPA Adopt New National Standards for On-Road Heavy-Duty Trucks and Locomotives under Federal Jurisdiction**

Dear Administrator McCarthy:

The San Joaquin Valley Air Pollution Control District (District) hereby submits the enclosed petition approved by the District Governing Board on June 16, 2016, requesting that EPA undertake rulemaking to establish new national standards for heavy duty trucks and locomotives. As you know, since its adoption, the Clean Air Act has led to significant improvements in air quality and public health benefits throughout the San Joaquin Valley. Through a comprehensive regulatory program, the District has adopted over 600 rules since 1992. With an investment of over \$40 billion, air pollution from San Joaquin Valley businesses has been reduced by over 80%. The pollution released by industrial facilities, agricultural operations, and cars and trucks is at a historical low, for levels of all pollutants. San Joaquin Valley residents' exposure to high smog levels has been reduced by over 90%.

Despite achieving significant emissions reductions through decades of implementing the most stringent stationary and mobile regulatory control program in the nation, nitrogen oxide (NOx) emissions, the primary precursor for both ozone and fine particulates (PM2.5) in the San Joaquin Valley, must be reduced by an additional 90% in order to attain the latest federal ozone and PM2.5 standards that now encroach on natural background levels. This air quality challenge is unmatched by any other region in the nation.

In addition to the many attainment plans that the District has already developed and implemented, the District is mandated under the Clean Air Act to develop and adopt multiple new attainment plans in the coming years to address a number of National Ambient Air Quality Standards, including:

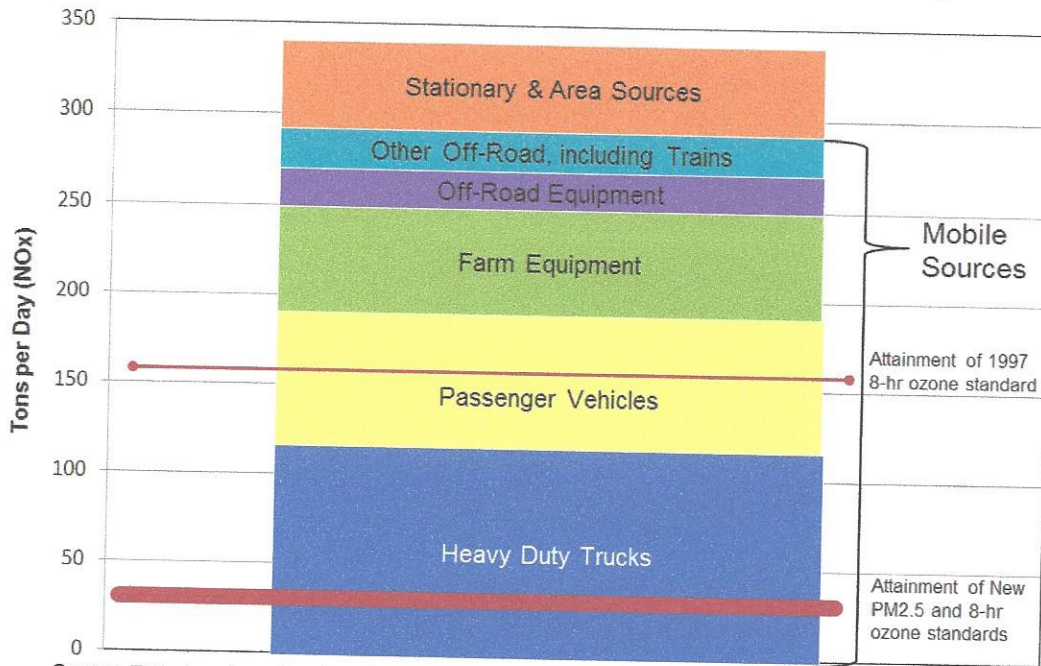
- 2006 PM<sub>2.5</sub> Standard (35  $\mu\text{g}/\text{m}^3$  24-hr and 15  $\mu\text{g}/\text{m}^3$  annual)
- 2012 PM<sub>2.5</sub> Standard (12  $\mu\text{g}/\text{m}^3$  annual)
- 2015 Ozone Standard (70 ppb 8-hr)

In crafting the new attainment plans, the District will explore all feasible opportunities to further reduce stationary sources emissions. However, the magnitude of potential reductions from stationary sources is miniscule compared to reductions needed to attain the PM<sub>2.5</sub> and ozone standards.

The District has jurisdiction over stationary and area sources, which make up less than 15% of the total NO<sub>x</sub> emissions inventory. With over 85% of the Valley's remaining ozone and PM<sub>2.5</sub> precursor emissions now coming from mobile sources under federal jurisdiction, the Valley cannot reach attainment even if all stationary sources were to be shut down (see Figure 1). While the District will leave no stone unturned in reviewing all existing stationary source categories and regulations for additional emission reduction opportunities, attaining the federal standards is not possible without significant reductions in emissions from mobile source categories.

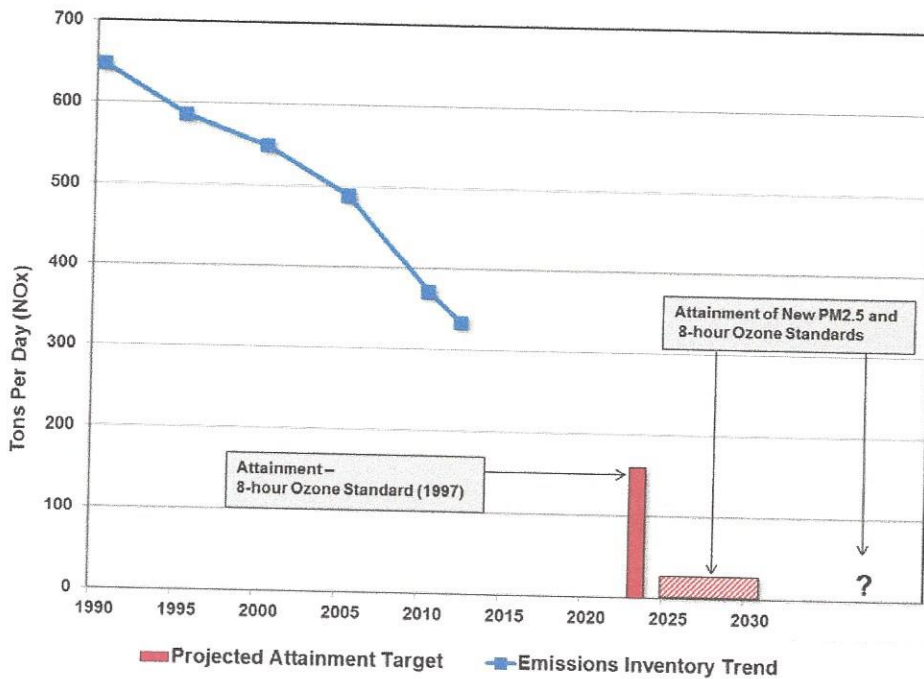
Unlike attainment plans for federal ozone standards, attainment plans for PM<sub>2.5</sub> standards are not able to rely on "black box" reductions from yet-to-be identified technologies and measures. Based on recent air quality modeling conducted by the California Air Resources Board, precursor emissions in the San Joaquin Valley will need to be reduced by an additional 90% from current emissions to meet the latest PM<sub>2.5</sub> standards. In order to develop a federally approvable attainment plan, this massive amount of emissions reductions must be achieved through clearly identified and legally enforceable control measures by 2024, much sooner than the 2031 attainment deadline for the federal 8-hour ozone standard of 75 ppb (see Figure 2).

**Figure 1 – San Joaquin Valley NOx Emissions and Federal Air Quality Standards**



Source: Emissions Inventory from San Joaquin Valley Air Pollution Control District's 2016 Ozone Plan for the 2008 8-hour Ozone Standard ([http://www.valleyair.org/Board\\_meetings/GB/agenda\\_minutes/Agenda/2016/June/final/13.pdf](http://www.valleyair.org/Board_meetings/GB/agenda_minutes/Agenda/2016/June/final/13.pdf))

**Figure 2 – San Joaquin Valley NOx Emissions Inventory and Targets for Attainment of Federal Air Quality Standards**

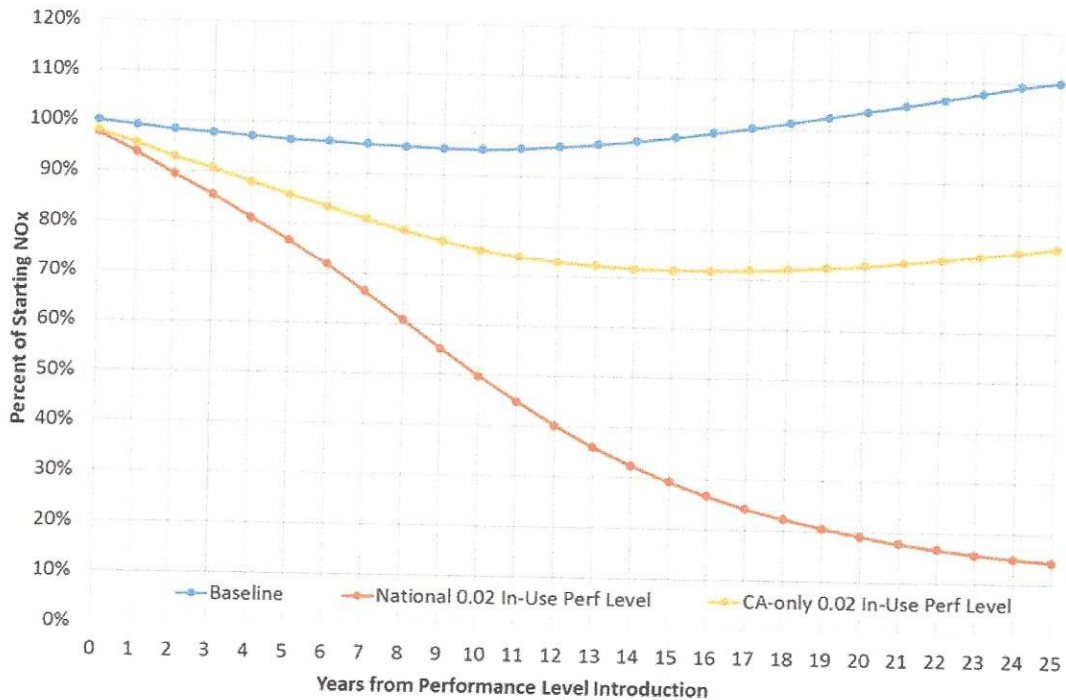


Given the enormity of the reductions needed to attain the health-based standards for particulate matter and ozone, mobile sources, particularly heavy duty trucks and locomotives that make up the majority of the Valley's goods movement-related emissions, must transition to near-zero emission levels through the implementation of transformative measures. The District does not have the authority to promulgate regulations requiring ultra-low tailpipe emissions standards on mobile sources.

A national tailpipe point-of-sale emissions standard for trucks of 0.02 g/bhp-hr NO<sub>x</sub>, 90% lower than the 2010 emissions limit, needs to be incorporated into the Valley's attainment plans for PM<sub>2.5</sub> and the new 8-hour ozone standard of 70 ppb.

Although the California Air Resources Board has indicated in their 2016 Mobile Source Strategy that they will be proposing a new point-of-sale emissions standard for trucks of 0.02 g/bhp-hr NO<sub>x</sub> by 2023, a state-only standard will not achieve the emissions reductions needed in the San Joaquin Valley and South Coast. Under a state-only standard, trucks purchased outside of California will not have to comply with the standard even if they operate in California. Figure 3 below prepared by the California Air Resources Board illustrates the shortfall in reductions that would occur from adoption of a state-only standard compared to a national standard. The figure below shows a significant shortfall despite the California Air Resources Board's optimistic projection that a good number of trucks will comply with the state-only standard despite higher cost even when they don't have to.

**Figure 3 – Emission Reduction Comparison of Statewide vs. National Truck Standard (Source: California Air Resources Board)**



Another source category that can bring about significant emissions reductions is locomotives. Currently, there are no federal regulations requiring the control of in-use locomotives. Federal regulations, however, require Tier 4 locomotives that provide 90% NOx control for new locomotives. Experts including the California Air Resources Board believe that significant additional reductions beyond those currently achieved through Tier 4 engines can be achieved through the promulgation of a new Tier 5 emissions standard for locomotives. For locomotives, neither the State of California nor the District has the legal authority to impose any emissions controls.

More stringent national federal regulations including a requirement for in-use locomotives to meet Tier 4 standards and a national Tier 5 emissions standard for new locomotives needs to be incorporated into the Valley's attainment plans for PM2.5 and the new 8-hour ozone standard of 70 ppb.

Federal action as requested in the enclosed petition is necessary to achieve the public health benefits that underlie EPA's adoption of the National Ambient Air Quality Standards for ozone and particulate matter based upon EPA's determination that such standards are necessary to protect public health. Failure by EPA to adopt the regulations requested by this petition will not only deprive San Joaquin Valley residents from the above-cited health benefits, it will also lead to imposition of devastating economic sanctions on San Joaquin Valley residents as outlined below:

- De facto ban on new and expanding businesses (2:1 offset requirement)
- Loss of federal highway funds (billions of dollars in funding for projects and massive job loss throughout the San Joaquin Valley)
- Federal takeover and loss of local control
- Expensive federal nonattainment penalties

We hope for strong action by EPA to address pollution sources under federal jurisdiction and look forward to working with you and your staff to craft and implement the strategies necessary to bring about the needed emissions reductions and public health benefits.

Respectfully,



Seyed Sadredin  
Executive Director/Air Pollution Control Officer

Enclosure

Petition Requesting that EPA Adopt New National Standards for On-Road Heavy-Duty Trucks and Locomotives under Federal Jurisdiction

June 22, 2016

Page 6 of 6

cc:

Janet McCabe, Acting Assistant Administrator for the Office of Air and Radiation, EPA

Alexis Strauss, Acting Regional Administrator, EPA Region 9

Debbie Jordan, Acting Deputy Regional Administrator, EPA Region 9

Mary Nichols, Chairman, California Air Resources Board

Richard Corey, Executive Officer, California Air Resources Board

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**BEFORE THE UNITED STATES  
ENVIRONMENTAL PROTECTION AGENCY**

**IN THE MATTER OF:  
PETITION TO EPA FOR RULEMAKING  
TO ADOPT ULTRA-LOW NO<sub>x</sub> EXHAUST  
EMISSION STANDARDS FOR ON-ROAD  
HEAVY-DUTY TRUCKS AND  
LOCOMOTIVES**

**INTRODUCTION**

Pursuant to 5 U.S.C. § 533(e), the San Joaquin Valley Unified Air Pollution Control District (District) petitions the Administrator of the United States Environmental Protection Agency ("EPA") to fulfill its role under the Clean Air Act, 42 U.S.C. § 7401 *et. seq.* ("the Act"), to control sources of air pollution within its exclusive jurisdiction which interfere with attainment of the federal ozone and PM<sub>2.5</sub> national ambient air quality standards ("NAAQS") in the San Joaquin Valley Air Basin ("Valley").

In particular, the District petitions EPA to do the following:

With respect to on-road heavy-duty trucks:

1. Begin formal rulemaking on the development of an ultra-low NO<sub>x</sub> exhaust emissions standard (0.02 g/bhp-hr) for on-road heavy-duty engines, publish the proposed rule by July 2017, and publish the Final Rule by December 31, 2017.
2. In developing the Proposed Rule, the U.S. EPA shall require ultra-low NO<sub>x</sub> engines meeting the 0.02 g/bhp-hr standard by January 1, 2022. These requirements shall be applicable nationally at the point of sale.
3. The new 0.02 g/bhp-hr NO<sub>x</sub> for on-road heavy duty trucks should be aligned with EPA phase 2 standards to the extent feasible since implementation of such standard will require modifications to the same engine system that will be modified to meet EPA Phase 2 GHG reduction requirements and it is more cost-effective for engine manufacturers to simultaneously develop an engine meeting both standards.
4. If full implementation of an ultra-low NO<sub>x</sub> exhaust emission standard is not feasible for certain classes or vocations of vehicles by January 1, 2022, U.S. EPA shall phase-in the sale of ultra-low NO<sub>x</sub> engines beginning that year for classes or vocations of vehicles that are more readily amenable to having cleaner engines deployed in the fleet. In

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doing so, U.S. EPA may establish intermediate NOx exhaust emission standards that are higher than the ultra-low NOx standard. However, the intermediate standards shall be no higher than 0.05 g/bhp-hr. Full implementation of the 0.02 g/bhp-hr standard shall occur no later than January 1, 2024.

5. To encourage early development and deployment of 0.02 g/bhp-hr engines, U.S. EPA shall develop guidelines under the Diesel Emissions Reduction Act that allow for owners of existing on-road heavy-duty vehicles with engines that meet the 2010 on-road heavy-duty NOx exhaust emissions standard of 0.2 bhp-hr to qualify for incentive funding to purchase an ultra-low NOx engine without scrapping the 2010 standard vehicle provided that the vehicle is sold and used outside of an area that is in nonattainment of the national ambient air quality standard for ozone. The guidelines shall ensure that the existing 2010 vehicles shall not operate in a nonattainment area.

With respect to locomotives:

1. Begin formal rulemaking on the development of an in-use locomotive regulation requiring the installation of Tier 4 locomotive control technology for units operated in ozone and PM2.5 nonattainment areas. Publish the proposed rule by July 2017 and publish the Final Rule by December 31, 2017. In developing the Proposed Rule, the U.S. EPA shall require the use of Tier 4 locomotive control technology in nonattainment areas by January 1, 2022.
2. Begin formal rulemaking on the development of a Tier 5 national emissions standard for newly manufactured locomotives. Publish the proposed rule by July 2017 and publish the Final Rule by December 31, 2017. In developing the Proposed Rule, the U.S. EPA shall require Tier 5 national emissions standard for newly manufactured locomotives by January 1, 2022.
3. Begin formal rulemaking on the development of a more stringent national emissions standard for remanufactured locomotives. Publish the proposed rule by July 2017 and publish the Final Rule by December 31, 2017. In developing the Proposed Rule, the U.S. EPA shall require remanufactured locomotives to meet Tier 4+ or the most stringent emissions standard feasible by January 1, 2022.

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1 **BACKGROUND**

2 The District is a duly constituted unified district, as provided in California Health  
3 and Safety Code (CH&SC) sections (§) 40150 to 40161. The District's jurisdiction  
4 includes over 4 million inhabitants throughout the eight counties of the San Joaquin  
5 Valley: Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare.  
6 Stretching over 250 miles from north to south and averaging 80 miles wide, it is  
7 partially enclosed by the Coast Mountain range to the west, the Tehachapi Mountains  
8 to the south, and the Sierra Nevada range to the east. The Valley is California's  
9 geographically largest air basin, and its unique geography coupled with severe  
10 weather patterns gives the Valley a natural propensity to form and retain ozone and  
11 PM2.5.

12 Pursuant to § 107(d) and § 181(b) of the Act, EPA has designated the Valley as  
13 extreme nonattainment for the federal 2008 8-hour ozone national ambient air quality  
14 standard (NAAQS). In addition, pursuant to § 107(d) and § 188(b) of the Act, EPA has  
15 designated the Valley as serious nonattainment for the federal 2006 PM2.5 NAAQS.

16 The District is mandated by federal and state law to adopt and enforce plans,  
17 rules, and regulations to achieve and maintain the federal ambient air quality  
18 standards in all areas affected by emission sources in the Valley. Over the next few  
19 years, the District must adopt a number of attainment plans to address the following  
20 standards:

- 21 • 2006 PM2.5 Standard (35 µg/m<sup>3</sup> 24-hr and 15 µg/m<sup>3</sup> annual)
- 22 • 2012 PM2.5 Standard (12 µg/m<sup>3</sup> annual)
- 23 • 2008 Ozone standard (75 ppb 8-hr)
- 24 • 2015 Ozone Standard (70 ppb 8-hr)

25 Pursuant to the Act, the District's jurisdiction to control air pollution extends  
26 only to stationary and area-wide emissions sources, which together now make up less  
27 than 15% of the total NOx emissions inventory. With over 85% of the Valley's  
28 remaining ozone and PM2.5 precursor emissions now coming from mobile sources

1 under state and federal jurisdiction, the Valley cannot reach attainment even if all  
2 stationary and area-wide emissions sources were shut down.

3 Through a comprehensive and innovative regulatory program, the District has  
4 adopted over 600 rules and amendments that have reduced emissions of ozone and  
5 PM2.5 precursors by nearly 90% control from these stationary and area-wide  
6 emissions sources. Despite achieving significant emissions reductions through  
7 decades of implementing the most stringent stationary and mobile regulatory control  
8 program in the nation, recent air quality modeling confirms that precursor emissions in  
9 the San Joaquin Valley will need to be reduced by an additional 90% from current  
10 emissions to meet the latest federal PM2.5 and ozone standards, that now encroach  
11 on natural background levels. This air quality challenge is unmatched by any other  
12 region in the nation.

13 While the District will leave no stone unturned in reviewing all existing  
14 stationary source categories and regulations for additional emission reduction  
15 opportunities, attaining the federal NAAQS for ozone and PM2.5 is not possible  
16 without significant reductions in emissions from mobile source categories.

17 Furthermore, in order to develop a federally approvable attainment plans for the  
18 2006 and 2012 PM2.5 NAAQS, this massive amount of emissions reductions must be  
19 achieved through clearly identified and legally enforceable control measures by 2024  
20 and much sooner than the 2031 deadline for the 2008 8-hour ozone NAAQS.

21 ARB's Mobile Source Strategy has identified that a lower NOx tailpipe point-of-  
22 sale emissions standard of 0.02 g/bhp-hr applicable to all heavy duty trucks operating  
23 in California is necessary to meet attainment of the current PM2.5 and 8-hour ozone  
24 standards. The authority to impose such a national standard rests exclusively with  
25 EPA. In addition, ARB's Mobile Source Strategy has identified that new regulations to  
26 bring about significant emissions reductions in locomotives must also be incorporated  
27 into the Valley's attainment plans for PM2.5 and the new 8-hour ozone standard of 70  
28 ppb in order to be able to demonstrate attainment.

1 Neither the District nor ARB have jurisdiction to adopt and implement national  
2 tailpipe point-of-sale emissions standard for trucks of 0.02 g/bhp-hr NOx, or new  
3 regulations to bring about significant emissions reductions from locomotives.

4 **CONCLUSION**

5 For the foregoing reasons, EPA has and must exercise its clear legal and  
6 regulatory authority to adopt the proposed national regulations for on-road heavy duty  
7 trucks and locomotives, pursuant to § 202 and § 213 of the Act.

8 EPA has established the applicable ozone and PM2.5 NAAQS based upon  
9 criteria requisite to protect public health, as required by § 109(b) of the Act. Failure of  
10 the Valley to attain these standards presents grave health and safety risks.

11 EPA must adopt the requested regulations to fulfill its responsibility in the  
12 cooperative federalism structure of the Clean Air Act, and cannot justify any failure to  
13 adopt the requested rule based on higher agency priorities given the massive  
14 reductions needed from mobile sources in order to reach attainment with federal  
15 ozone and PM2.5 standards in the San Joaquin Valley.

16 Any failure of EPA to adopt the requested regulations would be an arbitrary and  
17 capricious abuse of discretion, and would present a compelling circumstance that  
18 would justify a court overturning any such refusal to institute the proposed rulemaking.

19 Therefore, the District respectfully requests that EPA:

20 With respect to on-road heavy-duty trucks:

- 21 1. Begin formal rulemaking on the development of an ultra-low NOx  
22 exhaust emissions standard (0.02 g/bhp-hr) for on-road heavy-duty  
23 engines, publish the proposed rule by July 2017, and publish the Final  
24 Rule by December 31, 2017.
- 25 2. In developing the Proposed Rule, the U.S. EPA shall require ultra-low  
26 NOx engines meeting the 0.02 g/bhp-hr standard by January 1, 2022.  
27 These requirements shall be applicable nationally at the point of sale.
- 28 3. The new 0.02 g/bhp-hr NOx for on-road heavy duty trucks should be  
aligned with EPA phase 2 standards to the extent feasible since  
implementation of such standard will require modifications to the same  
engine system that will be modified to meet EPA Phase 2 GHG

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reduction requirements and it is more cost-effective for engine manufacturers to simultaneously develop an engine meeting both standards.

4. If full implementation of an ultra-low NOx exhaust emission standard is not feasible for certain classes or vocations of vehicles by January 1, 2022, U.S. EPA shall phase-in the sale of ultra-low NOx engines beginning that year for classes or vocations of vehicles that are more readily amenable to having cleaner engines deployed in the fleet. In doing so, U.S. EPA may establish intermediate NOx exhaust emission standards that are higher than the ultra-low NOx standard. However, the intermediate standards shall be no higher than 0.05 g/bhp-hr. Full implementation of the 0.02 g/bhp-hr standard shall occur no later than January 1, 2024.
5. To encourage early development and deployment of 0.02 g/bhp-hr engines, U.S. EPA shall develop guidelines under the Diesel Emissions Reduction Act that allow for owners of existing on-road heavy-duty vehicles with engines that meet the 2010 on-road heavy-duty NOx exhaust emissions standard of 0.2 bhp-hr to qualify for incentive funding to purchase an ultra-low NOx engine without scrapping the 2010 standard vehicle provided that the vehicle is sold and used outside of an area that is in nonattainment of the national ambient air quality standard for ozone. The guidelines shall ensure that the existing 2010 vehicles shall not operate in a nonattainment area.

With respect to locomotives:

1. Begin formal rulemaking on the development of an in-use locomotive regulation requiring the installation of Tier 4 locomotive control technology for units operated in ozone and PM2.5 nonattainment areas. Publish the proposed rule by July 2017 and publish the Final Rule by December 31, 2017. In developing the Proposed Rule, the U.S. EPA shall require the use of Tier 4 locomotive control technology in nonattainment areas by January 1, 2022.
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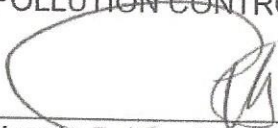
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3. Begin formal rulemaking on the development of a more stringent national emissions standard for remanufactured locomotives. Publish the proposed rule by July 2017 and publish the Final Rule by December 31, 2017. In developing the Proposed Rule, the U.S. EPA shall require remanufactured locomotives to meet Tier 4+ or the most stringent emissions standard feasible by January 1, 2022.

Respectfully Submitted,

SAN JOAQUIN VALLEY UNIFIED  
AIR POLLUTION CONTROL DISTRICT

By   
Oliver L. Baines III, Chair  
Governing Board