



June 22, 2017

The Honorable Scott Pruitt, Administrator  
U.S. Environmental Protection Agency  
Office of the Administrator, Mail Code: 1101A  
1200 Pennsylvania Avenue, NW  
Washington, D.C. 20460

Dear Administrator Pruitt,

Coalition for Clean Air (CCA) is dedicated to restoring clean, healthy air to California by advocating for effective public policy and practical business solutions. To that end, CCA works to reduce emissions from the transportation sector – the largest source of health-damaging and climate-disrupting air pollution in California. This includes directing transportation policies and incentive funding at the freight sector, in order to break the dependence of trucks, trains, ships, and cargo-handling equipment on costly diesel fuel in terms of air quality and public health.

Therefore, Coalition for Clean Air writes to express strong support for the petition to the U.S. Environmental Protection Agency (U.S. EPA) to adopt more health-protective emission standards for locomotives filed in April 2017 by the California Air Resources Board (ARB). CCA urges U.S. EPA to act swiftly and promulgate new, more stringent “Emission Standards for Locomotives and Locomotive Engines” no later than 2020, for newly built locomotives beginning in manufacture year 2025 and upon remanufacture of Tier 2-4 engines starting in 2023. Since their establishment in 1998, federal locomotive standards have resulted in measurable progress with respect to cutting fuel consumption and reducing harmful emissions of particulate matter and nitrogen oxides.

Further action by U.S. EPA is critically needed, however, in order to ensure that significant air quality and public health improvements occur in the hardest-hit neighborhoods and communities located near railyards. This action can also play an integral role in assisting states across the country in attaining National Ambient Air Quality Standards set by the U.S. EPA. Revising and strengthening federal locomotive emission standards, as was done under the Bush Administration in 2008, represents the most efficient and cost-effective policy option for U.S.



EPA to mitigate the impacts of rail transportation and continue achieving important economic, environmental, and health improvements.

### **Only federal action by U.S. EPA can impact locomotive emissions**

States and local agencies across the country are obligated and empowered to pursue measures that reduce criteria and toxic air pollution in order to protect public health and welfare. States must also rely, in part, on federal agency partners to help them attain health-protective national clean air standards. Lowering harmful pollution from rail transportation is a case in point, because U.S. EPA maintains sole legal authority for setting locomotive emission standards under the federal Clean Air Act.

Dangerous emissions of toxic diesel and fine particulate matter (diesel PM and PM<sub>2.5</sub>), smog-forming nitrogen oxides (NO<sub>x</sub>), and heat-trapping greenhouse gases (GHG) from rail operations would not decrease appreciably, even if state or local governments were granted authority over locomotives. This is because inter-state freight railroad operations, using diesel-powered engines, are the single greatest source of locomotive activity and emissions and both are projected to continue rising. Therefore, control measures adopted by only one state or jurisdiction would be an ineffectual response to ever-increasing emissions from locomotives nationwide.

California plays a leading role in the U.S. freight transport industry, with about 4 out of every 10 containers imported to the country arriving through the Ports of Los Angeles and Long Beach for instance. Nearly twenty major freight railyards (including intermodal and classification) operate in the state, and the concentration of these rail facilities in close proximity to neighborhoods creates toxic hotspots where residents face elevated health risks of cancer and chronic respiratory and cardiac diseases. Californians are not unique in experiencing this pattern of environmental inequity that disproportionately impacts low-income communities of color; toxic hotspots are found around railyards located close to neighborhoods in Houston, Dallas/Fort Worth, Atlanta, Chicago, and other cities with major freight activity according to U.S. EPA's 2011 National Air Toxics Assessment. Likewise, California is not alone in struggling to lower NO<sub>x</sub> emissions to meet federal ozone standards. People living in Texas, Pennsylvania, Illinois, Maryland, New Jersey, and New York would also benefit greatly from stricter locomotive emission standards due to the high levels of rail activity and associated NO<sub>x</sub> emissions.



## **Immediate action by U.S. EPA is required to meet clean air standards**

U.S. EPA must set higher, more health-protective locomotive emission standards in order to keep pace with the considerable advances in clean rail transportation technologies since the last update by the Bush Administration in 2008. These advancements include technologies for newly-manufactured locomotive engines and for the re-manufacture of older ones, and apply to line-haul as well as switcher locomotives. Swift action is necessary to ensure that sufficient time is available for each phase of the rulemaking and technology development processes, and so that implementation occurs in a timeframe that supports attainment of federal clean air standards nationwide.

Usage of a locomotive engine descends over time from providing interstate, line-haul transport at first to serving intermodal and classification railyards later. This approach to locomotive utilization means that the oldest and most polluting engines operate in the most populated and busiest industrial areas of rail activity. Therefore, more stringent emission standards should take effect first for the re-manufacture of older locomotive engines, a practice that occurs about every seven to ten years over the engine's useful life. These new standards should take effect in 2023 so that manufacturers have approximately five years to upgrade their processes for re-manufacturing locomotive engines currently certified at Tier 2-4 (e.g., applying better engine designs). For re-manufacture standards on current Tier 4 engines, it is also important to incorporate after-treatment technologies to achieve the significant reductions outlined in ARB's petition, including compact selective catalytic reduction (SCR) to nearly eliminate nitrogen oxide emissions and diesel oxidation catalyst (DOC) filters to reduce carbon monoxide, hydrocarbons, and diesel particulate matter emissions.

U.S. EPA should also establish a new Tier 5 emission standard for newly-built locomotive engines starting in manufacturing year 2025. This schedule will provide locomotive manufacturers about seven years to carry out the necessary steps to improve diesel-electric hybrid engines and make progress toward zero-emission rail equipment powered by on-board batteries and/or hydrogen fuel cells. This was roughly the same amount of time that U.S. rail manufacturers (e.g., General Electric and Electro-Motive Diesel) had to make commercially-available Tier 2 engines that represented a major increase from Tier 1 engine emission standards. A Tier 5 standard, as proposed by ARB, will ensure reductions in greenhouse gas emissions from locomotive engines for the first time, while also reaching near-zero-emission levels for health-damaging criteria and toxic air pollutants. Battery and fuel cell technologies that enable zero-emission rail operations can also make a noticeable difference in reducing



noise pollution, another major impact on the quality of life in communities located near railyards.

### **Strengthening locomotive emission standards delivers multiple economic benefits**

Strengthening locomotive emission standards presents an opportunity to spur job creation and business development in the U.S. rail transportation industry, much like the growth in automotive sector employment since 2009 following adoption of higher vehicle fuel economy standards nationwide. Furthermore, setting higher standards that help to accelerate the development and production of zero-emission, battery and fuel-cell electric locomotives would position U.S. rail manufacturers as global leaders capable of meeting the market demand for solutions to poor air quality and climate disruption. The total cost of ownership of advanced technology locomotives will likely be lower than conventional-fueled ones due to cost savings on fuel and maintenance. In short, adoption of more stringent locomotive emission standards will deliver a variety of economic benefits to the U.S. rail industry from engine manufacturers and parts suppliers to end-users.

Encouraging development of zero-emission, advanced technology for locomotive engines via updated emissions standards will have positive spillover effects on other segments of the highly-polluting, heavy-duty transportation sector. Buses are a prime example: technological breakthroughs that have helped bring zero-emission transit buses to market are now being transferred into the heavy-duty truck segment as reported by major global manufacturers such as Volvo/Nova Bus and BYD Auto. Aircraft and ocean-going vessels may be the beneficiaries of technology transfer from advancements in zero- and near-zero-emission locomotive capabilities. Lower production costs is another likely spillover effect, in which higher-volume production of batteries and fuel cells for locomotives will help reduce the unit cost of these critical components needed to power zero-emission heavy-duty vehicles and equipment.

In addition to the economic benefits described above, strengthening locomotive emission standards will continue delivering important air quality and public health improvements as a result of lower diesel fuel requirements. Reduced fuel consumption will also enhance the country's energy security and independence from imported petroleum, a long-standing and bipartisan goal of every administration since the oil embargoes in the 1970's.



## Conclusion

Texans, Georgians, Pennsylvanians, Californians, and people in other states with high rail activity are relying on U.S. EPA to protect their health and well-being from harmful air pollution. Setting higher, more stringent locomotive emission standards is crucial toward that end, and only the U.S. EPA may take such action. Furthermore, U.S. EPA must act swiftly so that U.S. rail manufacturers can design, test, demonstrate, and make cleaner locomotive engines available commercially within a timeframe that enables U.S. states to attain near-term federal clean air standards.

The multiple benefits of tighter locomotive emission standards – cleaner air to breathe, healthier communities and rail workers, and greater economic activity – will reach far beyond California and states in the U.S. South and Midwest where rail activity is highest. Therefore, Coalition for Clean Air strongly urges U.S. EPA to begin crafting more health-protective Emission Standards for Locomotives and Locomotive Engines, and to finalize these no later than 2020. It is critical for improving air quality and protecting public health that the revised emission standards apply to the re-manufacture of older, higher polluting Tier 2-4 locomotive engines effective as of 2023, and newly built engines starting with manufacture year 2025. U.S. EPA should work with the California Air Resources Board in crafting these new standards, beginning with a response this summer to ARB's petition filed in April 2017.

Swift and decisive action on this petition will deliver win-win opportunities for improved air quality and public health, particularly in the hardest-hit neighborhoods and communities, and increased global competitiveness for U.S. rail manufacturers. Thank you in advance for your consideration of this petition, and we look forward to a favorable and timely response from U.S. EPA. Please feel free to contact Coalition for Clean Air to discuss this matter further; you can reach us at (213) 223-6860.

Sincerely,

A handwritten signature in black ink that reads "Joseph K. Lyou". The signature is written in a cursive, flowing style.

Joseph K. Lyou, PhD

President and CEO

Coalition for Clean Air



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