



ALASKA CALIFORNIA FLORIDA MID-PACIFIC NORTHEAST NORTHERN ROCKIES  
NORTHWEST ROCKY MOUNTAIN WASHINGTON, D.C. INTERNATIONAL

**Testimony**  
of  
**Alok Disa**

on behalf of  
**Earthjustice**

before the  
**New York City Council Committee on Environmental Protection**

regarding  
**Air quality impacts of lead emissions from aircraft  
in NYC environmental justice communities**

February 28, 2014

250 Broadway, Hearing Room, 14th Floor  
New York, NY

## **INTRODUCTION**

Good afternoon and thank you, Chairman Richards and members of the Committee on Environmental Protection. I am Alok Disa, a litigation assistant with Earthjustice.

Earthjustice is a non-profit public interest law organization dedicated to defending the right of all people to a healthy environment – the air we breathe, the food we eat, the water we drink. A main pillar of our work is limiting toxic air emissions. Of all the toxic elements spewed out into the environment from industrial activity, one of the most dangerous is lead. While great strides have been made in eliminating lead from gasoline and from paint, leading to widespread public health benefits, significant sources of lead air pollution remain. The U.S. Environmental Protection Agency (EPA) has identified general aviation aircraft engines as the single largest source of airborne lead emissions. However, this source remains unregulated.

On behalf of the environmental organization Friends of the Earth, we have sought to compel the EPA to adopt emissions limits for lead from aircraft engines. To date, EPA has failed to propose any limits, despite the impacts on human health and, particularly, communities of color and low-income communities.

We appreciate the opportunity to present testimony before the Committee to raise awareness of this issue in New York City and to highlight some areas where action may be taken to prevent the harms associated with lead emissions.

## **THE CONSEQUENCES OF LEAD EXPOSURE ARE WELL-DOCUMENTED**

Without chronicling the scientific literature, it is important to state that the harmful effects of lead exposure are well-documented and not in dispute. Indeed, EPA readily acknowledges the harms associated with exposure to lead. Lead is a toxin that can impair almost every system in the body<sup>1</sup>. While the nervous system is most sensitive to lead exposure, studies have also shown

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<sup>1</sup> Agency for Toxic Substances & Disease Registry. “Lead Toxicity: What Are the Physiologic Effects of Lead Exposure.” Available at <http://www.atsdr.cdc.gov/csem/csem.asp?csem=7&po=10>.

adverse effects on the renal, gastrointestinal, cardiovascular, reproductive and endocrine systems.<sup>2</sup> Consequences can range from IQ loss and behavioral issues, to coma and even death in extreme cases.<sup>3</sup> Prenatal exposure can impact pregnancy outcomes and affect early childhood development.<sup>4</sup> Children are most at risk, but lead can be stored in bone mass, meaning health consequences can be felt later in life, even after exposure has been eliminated.<sup>5</sup>

Perhaps the most alarming fact about lead, however, is that there is no safe level of exposure. Study after study has shown that even trace amounts of lead in the bloodstream can be linked to negative health outcomes.<sup>6</sup>

Based on the mounting, unequivocal body of scientific evidence, in 2008 the EPA revised its standards for allowable levels of airborne lead emissions down tenfold to 0.15 micrograms per cubic meter.<sup>7</sup> More recently, in 2012 the Centers for Disease Control and Prevention (CDC) revised its reference level for lead, and the threshold for “lead poisoning” is now 5 micrograms per deciliter, down from 10 micrograms.<sup>8</sup> These revisions were designed to protect children and other at-risk populations and are an acknowledgement that lead is dangerous even at levels once considered to be safe.

Recognizing that there is no safe level of lead, the public health community has mobilized around a strategy that emphasizes primary prevention as their chief objective. Both the EPA

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<sup>2</sup> *Id.*

<sup>3</sup> *Id.*

<sup>4</sup> *Id.*

<sup>5</sup> Oregon Department of Human Services. “Health Effects of Lead Exposure.” Available at <https://public.health.oregon.gov/HealthyEnvironments/HealthyNeighborhoods/LeadPoisoning/MedicalProvidersLaboratories/Documents/introhealtheffectsmedicalprovider.pdf>.

<sup>6</sup> Advisory Committee on Childhood Lead Poisoning Prevention of the Centers for Disease Control and Prevention. Low Level Exposure Harms Children: A Renewed Call for Primary Prevention. 2012.

<sup>7</sup> US Environmental Protection Agency. “Fact Sheet: Revisions to Lead Ambient Air Monitoring Requirements.” Available at: [http://www.epa.gov/air/lead/pdfs/Leadmonitoring\\_FS.pdf](http://www.epa.gov/air/lead/pdfs/Leadmonitoring_FS.pdf).

<sup>8</sup> Centers for Disease Control and Prevention. *CDC Response to Advisory Committee on Childhood Lead Poisoning Prevention Recommendations in “Low Level Lead Exposure Harms Children: A Renewed Call of Primary Prevention.”*

and CDC state that “the most important step parents, doctors and others can take is to prevent lead exposure before it occurs.”<sup>9, 10</sup>

## **LEAD EXPOSURE AFFECTS THE MOST VULNERABLE POPULATIONS**

Lead is particularly harmful to children.<sup>11</sup> Lead is associated with IQ loss, learning disabilities, attention deficit, and behavioral problems.<sup>12</sup> Elevated blood lead levels (BLLs) in students are associated with decreased academic performance.<sup>13</sup>

Based on current CDC estimates, over 450,000 children nationwide are thought to have lead poisoning.<sup>14</sup> In 2012, over 8,000 children were newly identified as suffering from lead poisoning in New York City alone.<sup>15</sup> The harmful effects on children are thought to be irreversible.

In addition, lead exposure disproportionately impacts low-income communities, immigrants and people of color. In a study of over 48,000 schoolchildren in Chicago, researchers found BLLs among non-Hispanic black students were more than double those of non-Hispanic white students.<sup>16</sup> Lead remains in the paint and pipes of many older apartment buildings, which tend to be concentrated in low-income neighborhoods. Even newly-built affordable housing is often built on sites where land is cheap, such as former industrial facilities, and where the threat of lead in the soil remains.

Environmental justice communities are more susceptible to contaminants like lead. New research shows that poverty fundamentally alters the way the body responds to pollutants,

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<sup>9</sup> US Environmental Protection Agency. “Learn About Lead.” Available at <http://www2.epa.gov/lead/learn-about-lead>.

<sup>10</sup> Centers for Disease Control and Prevention. Blood Lead Levels in Children. Available at [http://www.cdc.gov/nceh/lead/ACCLPP/Lead\\_Levels\\_in\\_Children\\_Fact\\_Sheet.pdf](http://www.cdc.gov/nceh/lead/ACCLPP/Lead_Levels_in_Children_Fact_Sheet.pdf).

<sup>11</sup> US Environmental Protection Agency. “Learn About Lead.”

<sup>12</sup> *Id.*

<sup>13</sup> National Center for Healthy Housing. “Issue Brief: Childhood Lead Exposure and Educational Outcome.”

<sup>14</sup> Advisory Committee on Childhood Lead Poisoning Prevention of the Centers for Disease Control and Prevention. Low Level Exposure Harms Children: A Renewed Call for Primary Prevention.

<sup>15</sup> New York City Department of Health & Mental Hygiene. “Report to the New York City Council on Progress in Preventing Childhood Lead Poisoning in New York City.” September 30, 2013.

<sup>16</sup> Chicago Department of Public Health. Policy Brief, July 2013. “Healthy Homes: Policy Options for Preventing Lead Exposure.”

exacerbating their effect on our most vulnerable communities.<sup>17</sup> In other words, “the toxicity of lead may be stronger in a child also exposed to the stress of poverty.”<sup>18</sup>

### **DESPITE PROGRESS, THE PROBLEM OF LEAD EXPOSURE PERSISTS**

In addition to the national phase out of lead from motor vehicle gasoline, New York City has an impressive array of regulations and codes aimed at limiting the public’s exposure to lead. To a large extent the City’s efforts have been a success. Following the passage of Local Law 1 of 2004, cases of lead poisoning have declined significantly.

Nevertheless, lead exposure remains a reality for New Yorkers and for communities across the country, and lead emissions from general aviation aircraft—the single largest source of lead air pollution—continue to contribute to this problem. Aircraft that burn leaded aviation gasoline (avgas) generate almost half of all lead emitted into the air on a yearly basis.<sup>19</sup> Of the 21 areas in the U.S. currently in non-attainment for the national air quality standards for lead, all have at least at one airport servicing aircraft using leaded avgas, and most have several such facilities.<sup>20</sup>

Across the country there are almost 20,000 airports in which leaded avgas is used,<sup>21</sup> and there are 6 such airports in New York City – LaGuardia Airport, East 34<sup>th</sup> Street Heliport, JFK International Airport, Pan Am Metroport Heliport, Downtown Manhattan Heliport, and New York Skyports Seaplane Base – emitting an estimated total of 0.7 tons of lead into the city’s air every year.<sup>22</sup> Just looking at the two biggest airports, last year approximately 10% of the flights

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<sup>17</sup> Konkel, Lindsey. “Stress + pollution = health risks for low-income kids.” *Environmental Health News* 6 Jun 2012.

<sup>18</sup> *Id.*

<sup>19</sup> US Environmental Protection Agency. “Regulatory Update: EPA Response to the 2006 Petition from Friends of the Earth Regarding Lead Emissions from Piston-Engine Aircraft.” July 2012.

<sup>20</sup> “Advance Notice of Proposed Rulemaking on Lead Emissions from Piston-Engine Aircraft Using Leaded Aviation Gasoline.” 75 Federal Register 22439 (28 April 2012).

<sup>21</sup> US Environmental Protection Agency, 2012.

<sup>22</sup> US Environmental Protection Agency. 2008. *Lead Emissions from the Use of Leaded Aviation Gasoline in the United States: Technical Support Document.*

leaving JFK<sup>23</sup> and 20% of the flights leaving LaGuardia<sup>24</sup> -- a total of 115,161 total flights -- were of planes fueled by leaded avgas.

The emission of lead by aircraft taking off from and landing at the City's airports presents a risk to the health of the surrounding communities around the city's airports and, especially, of the children who live, play or attend school in those communities. A 2011 study out of Duke University found that children who live within one kilometer of airports where avgas is used had noticeably higher blood lead levels than children living further away.<sup>25</sup> This increase was enough to push some of the children in the study above the reference level for lead and into the range where medical treatment is advised.<sup>26</sup>

Putting this into a local context, LaGuardia alone is responsible for 0.3 tons of lead air emissions every year.<sup>27</sup> Looking at the surrounding community, almost 20,000 people live within 1 mile of LaGuardia, over 85% of them non-white.<sup>28</sup> More than 3,000 of those individuals are living below the poverty line.<sup>29</sup>

Furthermore, the use of leaded avgas may also present a risk to airport workers. In a study of aircraft maintenance personnel in Korea, workers at airports that used avgas were found to have elevated blood lead levels compared to similar workers in airports without avgas.<sup>30</sup>

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<sup>23</sup> Flight data found at <http://www.airnav.com/airport/KJFK>. For this analysis, we considered the air taxi and transient general aviation categories. Using the same method EPA used in their analysis on p.4 of their October 2008 Technical Support Document, we then assumed that 72% of those planes are piston-engine aircraft.

<sup>24</sup> Flight data found at <http://www.airnav.com/airport/KLGA>.

<sup>25</sup> Miranda et al. "A Geospatial Analysis of the Effects of Aviation Gasoline on Childhood Blood Lead Levels." *Environmental Health Perspectives*, October 2011.

<sup>26</sup> *Id.*

<sup>27</sup> US EPA, 2008.

<sup>28</sup> US Census Bureau. 2000. American FactFinder. <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>. (Report generated on July 2011).

<sup>29</sup> *Id.*

<sup>30</sup> Park et al. "Blood Lead Levels and Types of Aviation Fuel in Aircraft Maintenance Crew." *Aviation, Space and Environmental Medicine*, October 2013.

## **EPA INACTION**

In 2006, Friends of the Earth filed a petition asking EPA to regulate lead emissions from avgas-fueled aircraft under the Clean Air Act. Over seven years have passed and EPA has yet to formally acknowledge the dangers of these emissions with an endangerment finding, let alone propose any limits on lead emissions. Instead, EPA has suggested that more data regarding demographics and air lead levels at and around airports would allow the Agency to make a judgment on whether lead emissions from aircraft fueled by leaded aviation gasoline are a danger to public health. EPA has estimated that it would take up to three years in order to make a judgment on whether regulation of lead emissions is warranted.

At some point, the impetus to study a problem must give way to action. EPA has known about the problem of lead in aviation gas for decades. Initial priority was given to phasing out lead from motor fuel. Now it is time to move on lead in aviation fuel. Given all of the evidence of the human health risks posed by lead pollution, delay of another three years is simply unacceptable. The additional analyses proposed by EPA are unnecessary, and we have urged the Agency to move ahead with an endangerment finding for lead from aircraft engines without further delay.

## **NOW IS THE TIME FOR ACTION**

Given the CDC's revised level for lead poisoning, to 5 micrograms per deciliter, this is not a time to be complacent. New numbers suggest that about 1 in 38 young children have lead poisoning.<sup>31</sup> While public health experts argue for more testing and preventive measures, budget cuts at the federal level have deprived funding for such programs, amounting to what some have described as "an abandonment of children." The problem has not been solved, and this is not an issue of the past. If anything, based on what we know now, we should be moving more vigorously to reduce and ultimately eliminate any exposure.

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<sup>31</sup> Young, Alison. "Lead poisoning toll revised to 1 in 38 young kids." *USA Today*, 4 April 2013.

The reality is that we know enough about the prevalence and severity of lead's toxicity to warrant action against all known sources. The accumulated effect of lead present in our air, water, soil and food results in significant public health and economic costs, burdening communities across the country and in our own backyard. We urge the City Council to make the issue of lead in avgas an environmental health priority by pushing EPA to act now.

## **SUMMARY**

Avgas is the leading contributor to lead air pollution in this country. There is no safe level of lead exposure. Taken together, those two facts demand an aggressive policy limiting every source of lead. EPA has the authority to remove lead from aviation fuel across the country. We urge the Council and the wider environmental justice community to press EPA to end the years of delay and to take the immediate action necessary to protect the health of our communities.