

**Comments of Legal Director Hayley Gorenberg
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To the Environmental Protection Agency
(Submitted June 30, 2020, preceded by testimony delivered May 27, 2020)**

**Opposing the Proposed Rule (Docket ID No. EPA-HQ-OAR-2015-0072) That
Fails to Strengthen National Ambient Air Quality Standards for Fine Particles (PM_{2.5})**

The U.S. Environmental Protection Agency will make a travesty of its mission to secure a healthful environment¹ if it fails to further curb dangerous fine particles in the air (PM_{2.5}). Scientists inside and outside your beleaguered agency,² health experts past and present, and researchers internationally and here in the United States make clear the health damage and death toll exacted by these fine particles produced by burning fossil fuels.

It is unconscionable to have your leadership, taken from the executive suites of the coal industry,³ tout "incredible strides in reducing particulate matter concentrations across the nation" since we entered the 21st century, while utterly disregarding the fact that average concentration has actually increased since this administration took office.⁴ As EPA well knows, the number of "unhealthy air days" in major cities, based on smog and PM_{2.5} levels, has risen to the highest level since 2012.⁵

Meanwhile evidence indicates air pollution is prematurely killing over 52,000 Americans annually, and even as we speak more Americans are being sickened and killed by a deadly pandemic virus that preys on people with health conditions aggravated by PM_{2.5}. As our government officials you have the obligation to make this better for us, not worse.

The fact that you twice added additional days for public testimony based on demand for, ironically, "air time" sought by members of the public indicates the high level of concern the people you serve have on this front. We hope it is not beyond imagination that the EPA could decide not to make these hearings a mere show, and instead turn things around for the American people to breathe easier.

¹ "Science is the foundation for EPA's credible decision-making to safeguard human health and ecosystems from pollutants." (<https://www.epa.gov/research>)

² <https://www.epa.gov/naaqs/particulate-matter-pm-standards-policy-assessments-current-review-0>;
<https://insideclimatenews.org/news/14042020/air-pollution-epa-covid-pm2.5-secret-science-rule-health-fuel-standard-climate-change>

³ <https://www.ecowatch.com/andrew-wheeler-decimated-epa-protections-2639209982.html?rebelltitem=3#rebelltitem3>

⁴ U.S. Environmental Protection Agency, *National Trends in PM25 Concentrations in 2010 - 2018*, https://www3.epa.gov/cgi-bin/broker? service=data& program=dataprog.aqplot_data_2018.sas&parm=88101&stat=WTDAM&styear=2010&endyear=2018&pre=val®ion=99 (last visited May 26, 2020).

⁵ U.S. Environmental Protection Agency, *Our Nation's Air* (2019), "Unhealthy Air Days Show Long-Term Improvement," https://gispub.epa.gov/air/trendsreport/2019/#unhealthy_aq_days (last visited May 26, 2020).

I am Hayley Gorenberg, Legal Director of New York Lawyers for the Public Interest (NYLPI), and I appreciate this opportunity to testify against the proposed rule (Docket ID No. EPA-HQ-OAR-2015-0072) and to urge the EPA to enact standards to better protect all of us against injury and death amplified by PM_{2.5}. As a community-driven civil rights organization, NYLPI works with our clients and community partners to eliminate the longstanding, unfair burden of environmental hazards faced by low-income communities and communities of color, and we advocate for better air quality standards in such communities and beyond.

As the EPA specifically sets forth, “Some particles less than 10 micrometers in diameter can get deep into your lungs and some may even get into your bloodstream. Of these, particles less than 2.5 micrometers in diameter, also known as fine particles or PM_{2.5}, pose the greatest risk to health.”⁶ With regard to EPA’s obligation, you note that “The Clean Air Act requires EPA to set national air quality standards for particulate matter, as one of the six criteria pollutants considered harmful to public health and the environment.⁷ The law also requires EPA to periodically review the standards to ensure that they provide adequate health and environmental protection, and to update those standards as necessary.”⁸

A cascade of studies on the various health problems relating to PM_{2.5}, including multiple studies concluding that exposure to PM_{2.5} links to more serious effects of COVID-19 infection, including increased rates of death, should help move the EPA to reassess its proposed do-nothing rule and act to reduce our exposure to these dangerous fine particles:

- A 2018 report from the World Health Organization found that “by reducing air pollution levels, countries can reduce the burden of disease from stroke, heart disease, lung cancer, and both chronic and acute respiratory diseases, including asthma. The lower the levels of air pollution, the better the cardiovascular and respiratory health of the population will be, both long- and short-term.”⁹ The report specifically reinforced that “PM_{2.5} can penetrate the lung barrier and enter the blood system” and that “chronic exposure to particles contributes to the risk of developing cardiovascular and respiratory diseases, as well as of lung cancer.”¹⁰ (Note that the World Health Organization uses a health limit of 10 micrograms per cubic meter, while the EPA’s current limit is 12 micrograms per cubic meter.¹¹)
- The Harvard University T. H. Chan School of Public Health earlier this year determined that “long-term exposure to air pollution increases vulnerability to experiencing the most severe COVID-19 outcomes.”¹² The researchers analyzed and compared the infection and death rates of 3,080 counties across the United States, finding that higher levels of exposure to PM 2.5 were associated with higher death rates in COVID-19 patients.¹³ The study found that an increase of only one microgram per cubic

⁶ <https://www.epa.gov/pm-pollution/particulate-matter-pm-basics#effects>

⁷ <https://www.epa.gov/criteria-air-pollutants>

⁸ <https://www.epa.gov/pm-pollution/setting-and-reviewing-standards-control-particulate-matter-pm-pollution>

⁹ World Health Organization, “Ambient (outdoor) air pollution” (May 2018), [https://www.who.int/news-room/fact-sheets/detail/ambient-\(outdoor\)-air-quality-and-health](https://www.who.int/news-room/fact-sheets/detail/ambient-(outdoor)-air-quality-and-health).

¹⁰ World Health Organization, “Ambient (outdoor) air pollution” (May 2018), [https://www.who.int/news-room/fact-sheets/detail/ambient-\(outdoor\)-air-quality-and-health](https://www.who.int/news-room/fact-sheets/detail/ambient-(outdoor)-air-quality-and-health).

¹¹ World Health Organization, “Ambient (outdoor) air pollution” (May 2018), [https://www.who.int/news-room/fact-sheets/detail/ambient-\(outdoor\)-air-quality-and-health](https://www.who.int/news-room/fact-sheets/detail/ambient-(outdoor)-air-quality-and-health).

¹² Xiao Wu et al., *Exposure to air pollution and COVID-19 mortality in the United States*, DEP’T OF BIostatISTICS, HARV. T.H. CHAN SCHOOL OF PUBLIC HEALTH (2020), available at https://projects.iq.harvard.edu/files/covid-pm/files/pm_and_covid_mortality_med.pdf.

¹³ Xiao Wu et al., *Exposure to air pollution and COVID-19 mortality in the United States*, DEP’T OF BIostatISTICS, HARV. T.H. CHAN SCHOOL OF PUBLIC HEALTH (2020), available at https://projects.iq.harvard.edu/files/covid-pm/files/pm_and_covid_mortality_med.pdf.

meter of fine particles can increase the COVID-19 death rate by eight percent,¹⁴ and concluded by underscoring the “importance of continuing to enforce existing air pollution regulations to protect human health both during and after the COVID-19 crisis.”¹⁵ According to the research, lowering particulate matter in Manhattan by just one microgram per cubic meter would have correlated to hundreds fewer Covid-19 deaths in the borough by early April 2020.”¹⁶ (Two densely populated Midtown districts of NYC are noted to on average exceed the EPA’s PM2.5 limit of 12 micrograms per cubic meter, with seasonal PM2.5 levels across the city climbing as high as 16.5 micrograms per cubic meter in 2018).¹⁷

- A study by Italy’s University of Sienna supports the Harvard study’s findings, and further concludes that air pollution increases the likelihood of contracting COVID-19, because air pollutants impairs the first line of defense against the disease by weakening the body’s upper airway system.¹⁸
- Several Chinese studies have also indicated that PM2.5 exposure can suppress the immune response to both viral infections like influenza as well as the body’s ability to defend itself against chronic illnesses like lung cancer, asthma, and chronic obstructive pulmonary disease (COPD), all of which place those affected in a higher risk demographic for COVID-19.¹⁹
- A University of California at Los Angeles study conducted in China in 2003 also made the connection between air pollution and respiratory illnesses.²⁰ The results of the Chinese study indicated that increased, long-term exposure to air pollution was associated with a higher risk of dying from Severe

¹⁴ Xiao Wu et al., *Exposure to air pollution and COVID-19 mortality in the United States*, DEP’T OF BIostatISTICS, HARV. T.H. CHAN SCHOOL OF PUBLIC HEALTH (2020), available at https://projects.iq.harvard.edu/files/covid-pm/files/pm_and_covid_mortality_med.pdf, at 2.

¹⁵ Xiao Wu et al., *Exposure to air pollution and COVID-19 mortality in the United States*, DEP’T OF BIostatISTICS, HARV. T.H. CHAN SCHOOL OF PUBLIC HEALTH (2020), available at https://projects.iq.harvard.edu/files/covid-pm/files/pm_and_covid_mortality_med.pdf, at 2.

¹⁶ Xiao Wu et al., *Exposure to air pollution and COVID-19 mortality in the United States*, DEP’T OF BIostatISTICS, HARV. T.H. CHAN SCHOOL OF PUBLIC HEALTH (2020), available at https://projects.iq.harvard.edu/files/covid-pm/files/pm_and_covid_mortality_med.pdf, at 2. See also, Isabelle Gerretsen, BBC, *How Air Pollution Exacerbates Covid-19*, April 27, 2020, <https://www.bbc.com/future/article/20200427-how-air-pollution-exacerbates-covid-19> (last visited May 26, 2020).

¹⁷ Jeremy Hinsdale, *By the Numbers: Air Quality and Pollution in New York City*, Earth Institute at Columbia University (06 Jun. 2016), available at <https://blogs.ei.columbia.edu/2016/06/06/air-quality-pollution-new-york-city/>; City of New York, *The New York City Community Air Survey: Neighborhood Air Quality 2008-2018*, NYC.gov, available at https://nyc-ehs.net/nyccas2020/web/report#Pollutant_Maps.

¹⁸ Edoardo Conticini et al., *Can atmospheric pollution be considered a co-factor in extremely high level of SARS-CoV-2 lethality in Northern Italy?*, *Environmental Pollution*, 2 (2020), available at <https://reader.elsevier.com/reader/sd/pii/S0269749120320601?token=A0A231D201A0F0E89A8D5DF58811FEE5F78FE22DAA359D10FD8ABB2D49F9ABBD7425732ADB60312D1B2CE7145A23C192>.

¹⁹ Jing-Hui Ma et al., *Long-term exposure to PM2.5 lowers influenza virus resistance via down-regulating pulmonary macrophage Kdm6a and mediates histones modification in IL-6 and IFN-β promoter regions*, *Biochemical and Biophysical Research Communications* (18 Nov. 2017), available at <https://doi.org/10.1016/j.bbrc.2017.09.013>; Ruyi Li, Rui Zhou, and Jiange Zhang, *Function of PM2.5 in the pathogenesis of lung cancer and chronic airway inflammatory diseases*, *Oncology Letters: Spandidos Publications* (May 2018), available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5920433/>; Mayo Clinic Staff, *COVID-19: Who’s at Higher Risk?*, *Mayo Clinic* (29 May 2020), available at <https://www.mayoclinic.org/diseases-conditions/coronavirus/in-depth/coronavirus-who-is-at-risk/art-20483301>.

²⁰ Yan Cui et al., *Air pollution and case fatality of SARS in the People’s Republic of China: an ecological study*, *ENVIRONMENTAL HEALTH: A GLOBAL ACCESS SCIENCE SOURCE* (Nov. 20, 2003), available at <https://ehjournal.biomedcentral.com/track/pdf/10.1186/1476-069X-2-15>.

Acute Respiratory Syndrome (SARS), a respiratory virus closely related to COVID-19.²¹ More specifically, the study found that SARS patients living in regions with a moderate air pollution index (API), or an air quality index (AQI), were 84% more likely to die from the virus than people from regions with low APIs, while those living in high-API regions were twice as likely to die.²² According to an EPA report, in 2018, 35 major U.S. cities experienced a combined total of 799 days with an AQI that was “Unhealthy for Sensitive Groups”; that total was the highest since 2012, and it was estimated that “approximately 137 million Americans lived in counties with air quality concentrations above the level of one or more NAAQS.”²³

- The American Journal of Respiratory and Critical Care Medicine and the Annals of the American Thoracic Society have shown that even short-term exposure to PM_{2.5} is associated with greater numbers of respiratory infections across all age groups, from young children ages 0-2 to adults ages 65 or above.²⁴
- A preliminary Italian study indicated that COVID-19 may be carried through the air by particulate matter, further increasing the health risk of air pollution.²⁵
- A study by the Yale School of Public Health found that in China, the decrease of pollution due to the COVID-19 quarantine prevented thousands of pollution-related deaths.²⁶ The authors of the study attributed these results to a decrease in nitrogen dioxide (NO₂) and PM_{2.5}.²⁷

Additional publications document the connection between high-pollution neighborhoods and respiratory illness:

- The New York Times examined how pollution affected health in three U.S. cities, focusing on workers and residents in Michigan, Texas, and California who live and work in some of the most polluted cities in the country.²⁸ These low-income communities of color have notably higher rates of inflammatory lung disease and coronary heart disease -- two illnesses linked to pollution²⁹ -- and have experienced exacerbated effects of COVID-19.
- The Proceedings of the National Academy of Sciences of the United States’ recent report “Inequity In Consumption Of Goods And Services Adds To Racial–Ethnic Disparities In Air Pollution Exposure”

²¹ Yan Cui et al., *Air pollution and case fatality of SARS in the People’s Republic of China: an ecological study*, ENVIRONMENTAL HEALTH: A GLOBAL ACCESS SCIENCE SOURCE (Nov. 20, 2003), available at <https://ehjournal.biomedcentral.com/track/pdf/10.1186/1476-069X-2-15>.

²² Yan Cui et al., *Air pollution and case fatality of SARS in the People's Republic of China: an ecologic study*, Environmental Health: A Global Access Science Source (20 Nov. 2003), available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC293432/>.

²³ United States Environmental Protection Agency, *Our Nation’s Air*, U.S. EPA (2018), available at <https://gispub.epa.gov/air/trendsreport/2019/#home>.

²⁴ Benjamin D. Horne et al., *Short-Term Elevation of Fine Particulate Matter Air Pollution and Acute Lower Respiratory Infection*, *Am J Respir Crit Care Med.* (15 Sept. 2018), available at <https://pubmed.ncbi.nlm.nih.gov/29652174/>; Cheryl S. Pirozzi et al., *Short-Term Air Pollution and Incident Pneumonia. A Case-Crossover Study*, *Ann Am Thorac Soc.* (Apr. 2015), available at <https://pubmed.ncbi.nlm.nih.gov/29283681/>.

²⁵ Leonardo Setti et al., *SARS-Cov-2RNA found on particulate matter of Bergamo in Northern Italy: First evidence*, *Environmental Research* vol 188 (30 May 2020), available at <https://www.sciencedirect.com/science/article/pii/S0013935120306472?via%3Dihub>.

²⁶ Michael Greenwood, *In China, strict quarantine improves air quality and prevents thousands of premature deaths*, YALE SCHOOL OF MEDICINE (May 17, 2020), <https://medicine.yale.edu/news-article/24721/>.

²⁷ Michael Greenwood, *In China, strict quarantine improves air quality and prevents thousands of premature deaths*, YALE SCHOOL OF MEDICINE (May 17, 2020), <https://medicine.yale.edu/news-article/24721/>.

²⁸ Hiroko Tabuchi, *In the Shadows of America’s Smokestacks, Virus is One More Deadly Risk*, N.Y. TIMES (May 17, 2020), <https://www.nytimes.com/2020/05/17/climate/pollution-poverty-coronavirus.html>.

²⁹ Hiroko Tabuchi, *In the Shadows of America’s Smokestacks, Virus is One More Deadly Risk*, N.Y. TIMES (May 17, 2020), <https://www.nytimes.com/2020/05/17/climate/pollution-poverty-coronavirus.html>.

reveals how minorities in the U.S. are disproportionately exposed to air pollution caused by the consumption of white Americans.³⁰ According to the study, “Black and Hispanic people are typically exposed to 56% and 63% more PM_{2.5} pollution than they produce through consumption and daily activities.”³¹

- Furthermore, in January 2020 just before the pandemic struck the Americas, staff at the EPA released the “Policy Assessment for the Review of the National Ambient Air Quality Standards for Particulate Matter,” noting that the current major, peer-reviewed epidemiological studies³² published since 2003 challenge the current PM 2.5 standard as inadequate.³³ The EPA has also long been aware of the fact that exposure to PM_{2.5} can aggravate respiratory and cardiovascular problems, which we now know places people at greater risk of dying from COVID-19; the agency has published materials promoting awareness and measures to take when individuals experience adverse health effects from poor air quality.³⁴

In the face of these studies, we entirely disagree with the assessment that more stringent standards are unnecessary, and we particularly oppose the Administrator’s assertion that there is considerable uncertainty in the public health benefits of reducing PM_{2.5}.³⁵

Heart disease is the leading cause of death in New York State,³⁶ and an estimated 1.5 million adults and more than 400,000 children have asthma³⁷ that the EPA confirms as linked to exposure to air pollution.³⁸ These health disparities are often connected to and aggravated by disproportionate siting of environmental hazards like power plants and bus depots, sources of high levels of PM_{2.5}. From the epicenter of the U.S. COVID-19 catastrophe, we see acutely devastating public health effects of high pollution levels in these communities, as these long-standing health disparities are set ablaze by infection. Two of three recent studies the EPA cited in its own document linking air pollution to childhood asthma concern exposure to PM_{10-2.5} and disproportionate air pollution impacts on African American children.³⁹ According to the EPA itself, “The EPA studies the link between air pollution and asthma so that action can be taken to reduce the health burden associated with the disease.”⁴⁰ This moment constitutes an opportunity for EPA to take that action.

For many years, much of NYLPI’S core work toward achieving health justice and environmental justice has focused on underlying health disparities, including many caused and further aggravated by polluted air -- for

³⁰ PNAS March 26, 2019 116 (13) 6001-6006; first published March 11, 2019 <https://doi.org/10.1073/pnas.1818859116>

³¹ PNAS March 26, 2019 116 (13) 6001-6006; first published March 11, 2019 <https://doi.org/10.1073/pnas.1818859116>

³² U.S. Environmental Protection Agency, “Policy Assessment for the Review of the National Ambient Air Quality Standards for Particulate Matter” (January 2020) at 3-60 through 3-68, https://www.epa.gov/sites/production/files/2020-01/documents/final_policy_assessment_for_the_review_of_the_pm_naaqs_01-2020.pdf.

³³ *Id.* at 3-105 - 3-107.

³⁴ AirNow.gov, *Asthma and Heart Disease Publications*, United States Environmental Protection Agency (2004), available at <https://www.airnow.gov/asthma-and-heart-disease-publications/>.

³⁵ U.S. Environmental Protection Agency, Summary Of Proposal To Retain The Air Quality Standards For Particle Pollution, at 1, https://www.epa.gov/sites/production/files/2020-04/documents/fact_sheet_pm_naaqs_proposal.pdf (last visited May 26, 2020).

³⁶ New York State Department of Health, “New York State Report on Mortality after Acute Myocardial Infarction,” (March 2018) at 1, https://www.health.ny.gov/statistics/diseases/cardiovascular/heart_disease/docs/2015_mortality_post_heart_attack.pdf.

³⁷ U.S. Environmental Protection Agency, “Information on Asthma in New York State” (July 2018) at https://www.health.ny.gov/statistics/ny_asthma/.

³⁸ U.S. Environmental Protection Agency, “The Links Between Air Pollution and Childhood Asthma,” (October 2018) <https://www.epa.gov/sciencematters/links-between-air-pollution-and-childhood-asthma>.

³⁹ U.S. Environmental Protection Agency, “The Links Between Air Pollution and Childhood Asthma,” (October 2018) <https://www.epa.gov/sciencematters/links-between-air-pollution-and-childhood-asthma>.

⁴⁰ U.S. Environmental Protection Agency, “The Links Between Air Pollution and Childhood Asthma,” (October 2018) <https://www.epa.gov/sciencematters/links-between-air-pollution-and-childhood-asthma>.

example, asthma and heart disease. By way of example, earlier this month New York Lawyers for the Public Interest and our coalition partners released the report *Dirty Energy, Big Money*, exploring how private companies make billions from operating fossil fuel “peaker” plants in environmental justice communities.⁴¹ The report spotlights the harm that the pollution from these plants inflicts on the vulnerable communities in which they run. Our report further describes how the reduction of air pollutants from “peaker” power plants would improve the health and quality of life of people living in New York City, millions of people in the “epicenter of the epicenter” of the COVID-19 crisis. As former EPA Administrator Gina McCarthy (now president of the Natural Resources Defense Council) recently noted, “Dirty air is preventing people of color, in low-income communities in particular, from being able to have a fighting chance against this pandemic.”⁴²

All of the preceding supports an ineluctable conclusion: For EPA to fulfill its mission and obligations by law, it must improve safeguards and standards, and reduce the fine particulates we’re breathing, which sicken and kill us. The proposed rule promotes the dangerously polluted status quo and must not go forward.

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New York Lawyers for the Public Interest (NYLPI) is a community-driven civil rights organization founded in 1976 to help achieve lived equality for communities fighting marginalization. NYLPI combines the power of law, organizing, and the private bar to make lasting change where it’s needed most. Attorneys, community organizers and advocates provide direct representation, advocacy and assistance to low-income New Yorkers pursuing disability justice, environmental justice, and health justice. Since the 1990s we have applied our legal and policy expertise in tandem with organizing and community partnerships to address disproportionate environmental burdens in New York’s low-income communities and communities of color. NYLPI is deeply engaged in local climate and renewable energy policy, with a focus on environmental justice. See www.nylpi.org.

⁴¹ *Dirty Energy, Big Money*, PEAK COALITION (May 2020) available at <https://nylpi.org/wp-content/uploads/2020/05/PEAK-report-Dirty-Energy-Clean-Money-May-2020.pdf>.

⁴² Isabelle Gerretsen, BBC, *How Air Pollution Exacerbates Covid-19*, April 27, 2020, <https://www.bbc.com/future/article/20200427-how-air-pollution-exacerbates-covid-19> (last visited May 26, 2020).