

**UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK**

STATE OF NEW YORK, STATE OF CALIFORNIA,
STATE OF ILLINOIS, STATE OF MARYLAND,
PEOPLE OF THE STATE OF MICHIGAN, STATE OF
MINNESOTA, STATE OF OREGON, STATE OF
VERMONT, and COMMONWEALTH OF VIRGINIA,

Plaintiffs,

v.

UNITED STATES ENVIRONMENTAL PROTECTION
AGENCY; ANDREW WHEELER as Administrator of
the UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY; and SUSAN PARKER
BODINE as Assistant Administrator of the UNITED
STATES ENVIRONMENTAL PROTECTION
AGENCY,

Defendants.

20-CV-3714 (CM)
[rel 20-CV-3058]

DECLARATION OF JAY SHIMSHACK

I, Jay Shimshack, hereby affirm and state:

1. I am an Associate Professor of Public Policy and Economics, and the Associate Dean for Academic Affairs, at the University of Virginia's Frank Batten School of Leadership and Public Policy. I am a recognized expert on environmental enforcement and compliance. My research on the topic has been published widely in leading peer-reviewed outlets.¹ I have advised the US Environmental Protection Agency (EPA), the US Department of Agriculture, the US

¹ See, for example: (1) Evans, M. F., Gilpatric, S. M., & Shimshack, J. P. 2018. Enforcement spillovers: Lessons from strategic interactions in regulation and product markets. *J Law and Economics*, 61, 739-769. (2) Langpap, C., & Shimshack, J. P. 2010. Private citizen suits and public enforcement: Substitutes or complements? *J Environmental Economics and Management*, 59, 235-249. (3) Shimshack, J. P., & Ward, M. B. 2008. Enforcement and over-compliance. *J Environmental Economics and Management*, 55, 90-105. (4) Shimshack, J. P., & Ward, M. B. 2005. Regulator reputation, enforcement, and environmental compliance. *J Environmental Economics and Management*, 50, 519-540.

Department of Labor, and other federal agencies and consulted for private organizations on monitoring and enforcement matters. I have twice testified before the US House of Representatives about environmental monitoring and enforcement. Recently, I have devoted considerable effort towards synthesizing the state of knowledge on environmental enforcement and compliance.²

2. My broader fields are environmental regulation and economics for public policy. I hold a Ph.D. from U.C. Berkeley and a B.S. from Cornell University. I am a former co-editor of the *Journal of Environmental Economics and Management (JEEM)*, a leading scholarly journal. My teaching experience includes statistics and research methods, environmental economics and policy, the law and economics of enforcement, economics for public policy, and benefit-cost analysis. As Associate Dean, I serve as the Chief Academic Officer of the UVA Batten School. I oversee all academic programs including teaching, research, and public engagement.

Statement

3. On March 26, 2020, the Environmental Protection Agency (EPA) issued a policy that waives penalties for the vast majority of its regulated entities if the facilities stop monitoring, analyzing, and reporting pollution and compliance due to disruptions from the COVID-19 pandemic. I have studied this “nonenforcement policy” carefully and have evaluated it in light of my 20 years of academic research on enforcement, compliance, and pollution policy.

² See, for example: (1) Shimshack, J. P. 2014. The economics of environmental monitoring and enforcement. *Annual Review Resource Economics*, 6, 339-360. (2) Alm, J., & Shimshack, J. 2014. Environmental enforcement and compliance: Lessons from pollution, safety, and tax settings. *Foundations and Trends® in Microeconomics*, 10, 209-274. (3) Gray, W. B., & Shimshack, J. P. 2011. The effectiveness of environmental monitoring and enforcement: A review of the empirical evidence. *Review of Environmental Economics and Policy*, 5, 3-24. (4) Shimshack, J. 2007. Monitoring, enforcement, & environmental compliance: understanding specific & general deterrence. Washington, DC, *US Environmental Protection Agency*.

4. My stated opinions regarding the nonenforcement policy are based on my professional assessment of the state of scientific knowledge, including the peer-reviewed literature that isolates the effect of changes in environmental compliance and pollution that result from changes in environmental enforcement, monitoring, and reporting. The documented scientific knowledge that serves as the basis for my opinions relies on a quantitative literature that rigorously analyzes intervention, outcome, and control data.³ It is important to understand three things about the scientific literature cited in this declaration: (a) This peer-reviewed literature takes care to support causal interpretation of results. (b) The literature generates knowledge about the effects of changes in monitoring, enforcement, and other regulatory conditions in an “all else equal” sense. For the present purposes, I use the results from the documented state of scientific knowledge to explore the current state of the world, with EPA’s nonenforcement policy, relative to a counterfactual – but otherwise identical – world in which the EPA did not issue the nonenforcement policy. (c) I focus on generalizable lessons from the literature, supported by the results of several studies simultaneously.

³ For an overview of empirical approaches to measuring the effects of monitoring, enforcement, and reporting, see: Shimshack, J. P. (2017). Quantitatively measuring deterrence: empirical tools for assessing the impact of environmental monitoring and enforcement actions. In Elgar Encyclopedia of Environmental Law (pp. 231-241). Edward Elgar Publishing Limited. Empirical approaches may include: (a) controlled field experiments, where researchers examine changes in pollution and compliance for facilities randomly assigned as part of an experiment to be subject to changes in monitoring, enforcement, or other regulatory conditions, all relative to control facilities; (b) natural experiments, where researchers examine changes in pollution and compliance for facilities subject to observed real-world changes in monitoring, enforcement, and regulatory conditions, all relative to control facilities not subject to the same changes; (c) regression approaches, where researchers use quantitative database analysis to examine changes in pollution and compliance for facilities experiencing real-world changes in monitoring, enforcement, or other regulatory conditions, after using statistical techniques and control variables to capture other factors possibly associated with changes in pollution and compliance. Such factors include facility characteristics, community characteristics, political economy influences, economic indicators, seasonality and weather variables, and production data.

5. Other stated opinions regarding the nonenforcement policy are based on my professional assessment of the state of scientific knowledge from a peer-reviewed literature that isolates changes in public health that result from changes in pollution and environmental compliance. I also review the documentation and data that EPA itself uses for issuing guidance to regulated entities and its own staff regarding monitoring, enforcement, and reporting.

6. First, based on the scientific literature described more fully below, I expect that the nonenforcement policy will result in lower environmental compliance and more pollution from regulated entities – relative to a state of the world without the nonenforcement policy. Second, based on the literature, if facilities increase pollution as a result of the nonenforcement policy, I expect more illnesses and premature deaths, and especially for vulnerable populations. Third, based on EPA’s published guidance and documented prior practice, I believe the nonenforcement policy represents a marked departure from historical regulatory precedent.

Background and context

7. Monitoring, reporting, and enforcement are the key pillars of pollution oversight. Environmental *monitoring* represents the set of processes that measure the emission of pollutants and assess compliance with environmental laws. Monitoring strategies evaluate and document compliance with permits and regulations. For the majority of large facilities regulated under the major air, water, and waste laws, facilities’ self-monitoring is the primary way that EPA, states, and regulated entities assess and measure their emissions and whether they are complying with laws.⁴ Environmental *reporting* involves facilities transmitting regular and standardized results of

⁴ The specific compliance monitoring processes vary by pollution types and the type of facility. For example, under Clean Air Act (“CAA”) Continuous Emissions Monitoring Systems, installed technologies directly and continuously measure pollution concentrations or emissions rates. In other cases, such as under the Clean Water Act, compliance monitoring involves water sampling followed by chemical, biological, or other tests of the samples (often at onsite or offsite

their compliance monitoring activities to EPA and any other state or local agency relevant to the reporting requirement. This facility self-reporting is the primary way that EPA, states, third-party citizen groups, and the general public document and track most pollution and compliance, far more than via inspections by regulators.⁵ Environmental *enforcement* consists of the administrative, judicial, and other actions taken against violators to achieve a return to compliance and to deter future violations. Enforcement actions – typically based on information from monitoring and reporting – range from informal warnings, notices of violation, and compliance orders to consent decrees, monetary penalties, and injunctive relief.

8. EPA's March 26 nonenforcement policy waives penalties for the majority of its regulated entities if the facilities curtail or stop monitoring and reporting pollution and compliance because of the COVID-19 pandemic. The nonenforcement policy amounts to a widespread waiver

laboratories). Leak detection and repair under the CAA and the Resource Conservation and Recovery Act involves using monitoring instruments to search for volatile organic compound and volatile hazardous air pollutant releases from valves, pumps, connectors, etc. When leaks are detected, the equipment generating the problem should be replaced or repaired. In all of these cases, the compliance monitoring process is sensitive to quality assurance, equipment maintenance, employee training, and operational attention.

⁵ On-site regulator inspections in fact often serve to verify the validity of facility self-monitoring and the validity of the reports transmitted to regulators by the facilities themselves. Regulator inspections are an important piece of compliance monitoring, but they are in no way a substitute for the dominant way that compliance with the environmental laws is assured – through monitoring and reporting by industry. One reason for this is that regulator inspections are infrequent. EPA guidelines advise regulators to inspect large CAA and CWA facilities once every two years, and medium-sized CAA and CWA facilities just once every five years. In many circumstances, even these non-binding guidelines are not met. Even among large facilities, many facilities go years without an onsite regulator inspection. Moreover, according to the independent EPA Office of the Inspector General (OIG), EPA inspections declined 50% between FY2010 and FY2018. EPA conducted fewer inspections in the most recent year considered by the EPA OIG report. See *USEPA*. Office of the Inspector General. EPA's Compliance Monitoring Activities, Enforcement Actions, and Enforcement Results Generally Declined from Fiscal Years 2006 Through 2018. Report #20-P-0131, March 2020. <https://www.epa.gov/office-inspector-general/report-epas-compliance-monitoring-activities-enforcement-actions-and>.

of facilities' self-monitoring and compliance responsibilities, and the policy gives facilities broad license to relax or even halt altogether the compliance monitoring, analysis, and reporting activities described above. The policy states that EPA will not seek penalties for any compliance monitoring violations "that result from the COVID-19 pandemic."⁶

9. Three issues bear reiterating. First, a broad license to relax or even halt altogether the compliance monitoring, analysis, and reporting activities essentially implies that facilities have broad license to disregard many enforceable limitations on air, water, waste, and drinking water contaminants. Without the collection, analysis, and reporting of the data necessary to determine pollution exceedance violations – by the facility, states, the EPA, and the general public – compliance obligations with emission limits are essentially meaningless. Moreover, facility self-analysis and self-reporting has direct benefits for pollution and compliance. Self-assessment and reporting help facility personnel identify easily correctable maintenance and operations issues influencing emissions and violations. Self-assessment and reporting serve compliance reminder and reassurance functions; feedback from these activities reminds facility personnel about compliance obligations and reassures them that government agencies and the public care about pollution and will respond to noncompliance.⁷

10. Second, the nonenforcement policy targets the foundations of pollution oversight. The policy covers audits, stack tests, continuous emissions monitoring, fence line monitoring, tank and piping inspections, leak detection and repair, effluent sampling, laboratory analysis, reporting,

⁶ USEPA. COVID-19 Implications for EPA's Enforcement and Compliance Assurance Program. March 26, 2020. <https://www.epa.gov/enforcement/covid-19-implications-epas-enforcement-and-compliance-assurance-program>.

⁷ Hindin, D. A., & Silberman, J. D. 2016. Designing More Effective Rules and Permits. *George Washington J. Energy & Environmental Law*, 7, 103.

and other activities. For the vast majority of regulated large facilities, these tasks represent the overwhelming majority of compliance monitoring requirements. The nonenforcement policy refers to these activities as “routine.” This is misleading. In fact, these activities are the bedrock of environmental compliance monitoring because they evaluate and document most large facilities’ compliance with permits, regulations, and other legal requirements.

11. Third, this policy applies to many entities. Even if one focuses on the larger facilities most directly influenced by this policy, this still leaves around 20,000 Clean Air Act (CAA) “major” facilities; 20,000 “midsize” CAA facilities; 7,000 Clean Water Act (CWA) “major” facilities; and 30,000 Resource Conservation and Recovery Act (RCRA) “large quantity” hazardous waste generators.⁸ The nonenforcement policy applies equally to all types of business activity and to all ownership structures (private, municipal, federal, etc.).

Consequences for pollution and compliance

12. Public EPA documents outline the agency’s goals for monitoring, reporting, and enforcement. EPA enforcement press releases celebrate accomplishments like facilities’ direct “commitments to reduce, treat, or eliminate” millions of pounds of waste and pollution (air, toxics, and water) each year.⁹ EPA’s policy on civil penalties states, “The first goal of penalty assessment

⁸ “Major facility” designations are based on specific ratings criteria developed by EPA/state regulators. For example, CWA major municipal dischargers include all facilities with design flows of greater than one million gallons per day. Similarly, CAA “major facilities” emit or have the potential to emit above predetermined pollution thresholds. “Midsize” CAA facilities are typically those that have the potential to emit at or above 80% of the thresholds for a CAA major. RCRA Large Quantity Generators generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste. Historically, the larger facilities flagged here have received the bulk of regulator attention under the CAA, the CWA, and RCRA.

⁹ See, for example, <https://www.epa.gov/newsreleases/epa-announces-2018-annual-environmental-enforcement-results>.

is to deter people from violating the law. Specifically, the penalty should persuade the violator to take precautions against falling into noncompliance again (specific deterrence) and dissuade others from violating the law (general deterrence). Successful deterrence is important because it provides the best protection for the environment.”¹⁰ A recent EPA strategic plan notes, “EPA civil and criminal enforcement cases directly reduce pollution and risk, and deter others from violating the law.”¹¹

13. A multidisciplinary scientific literature that rigorously analyzes data shows that environmental monitoring and enforcement does indeed achieve EPA’s objectives stated above. The studies in this literature endeavor to inform causal relationships. Results apply to air pollution, water pollution, hazardous waste, and many other pollution types. Studies consider entities in the chemical, paper, utilities, oil and gas, municipal wastewater treatment, drinking water treatment, agriculture, iron and steel, and many other sectors.¹²

14. The peer-reviewed scientific literature shows that pollution monitoring and enforcement:

1. reduce direct immediate harm;
2. improve future environmental performance at the evaluated or sanctioned facility;

¹⁰ USEPA. Policy on Civil Penalties: EPA General Enforcement Policy GM-21. Feb 1984. Despite the publication date, this document still represents the major guidance on general penalty policies. <https://www.epa.gov/enforcement/enforcement-policy-guidance-publications#models>.

¹¹ USEPA. FY2014-2018 EPA Strategic Plan. April 2014. https://www.epa.gov/sites/production/files/2014-09/documents/epa_strategic_plan_fy14-18.pdf.

¹² For literature surveys, see Shimshack 2014 (n2), Alm & Shimshack 2014 (n2), and Gray and Shimshack 2011 (n2). See also M. Cohen, “Monitoring and Enforcement of Environmental Policy”, in Tom Tietenberg and Henk Folmer (eds), *International Yearbook of Environmental and Resource Economics* 1999, (Edward Elgar, Cheltenham 1999).

3. improve future environmental performance at other facilities in the same jurisdiction as the evaluated or sanctioned facility; and

4. encourage facilities to reduce pollution below levels strictly necessary for compliance.

15. The peer-reviewed literature indicates that nonenforcement and waivers of monitoring responsibility will reduce regulated entities' environmental compliance and increase total pollution, relative to a counterfactual without the nonenforcement policy.¹³ We know that pollution and compliance can change when monitoring and enforcement intensity changes due to impacts from political elections, community pressure, activist activity, budgetary realizations, administrative backlogs, and new public policies. Reductions in EPA and state inspections and enforcement actions are associated in the literature with more pollution and less compliance from industrial and municipal facilities regulated under the CWA, the CAA, RCRA, and other statutes.¹⁴ Studies show that, after the historical transition from federal to state management of the CWA, states with high levels of corruption experienced changes in compliance consistent with underreporting of pollution violations.¹⁵ States that increased maximum penalties for RCRA noncompliance or enhanced facilities' legal liability subsequently experienced less hazardous

¹³ See Shimshack 2014 (n2), Alm & Shimshack 2014 (n2), Gray and Shimshack 2011 (n2), and M. Cohen 2009 (n12).

¹⁴ See Shimshack 2014 (n2), Alm & Shimshack 2014 (n2), Gray and Shimshack 2011 (n2), and M. Cohen 2009 (n12).

¹⁵ Grooms, K. K. 2015. Enforcing the Clean Water Act: The effect of state-level corruption on compliance. *J Environmental Economics and Management*, 73, 50-78. In this work, corruption is defined by numbers of public officials in each state and year convicted in a federal court of a crime related to corruption. The original corruption data source is US DOJ annual reports to Congress on the Activities and Operations of the Public Integrity Section.

waste pollution and fewer waste accidents.¹⁶

16. The peer-reviewed literature shows that changes to monitoring and enforcement often result in *rapid or immediate* changes to pollution and environmental compliance, relative to a counterfactual world without changes to monitoring and enforcement. Decreases in monitoring and enforcement – like those induced by the nonenforcement policy – often result in quick increases in emissions and declines in compliance. Conversely, increases in monitoring and enforcement often result in quick reductions in emissions and quick improvements in compliance.

17. For example, the literature documents that reductions in EPA and state inspections and enforcement intensity decreased CWA compliance and increased water pollution discharges within *months*.¹⁷ Reductions in EPA and state inspections and enforcement intensity reduced the duration of CAA compliance at industrial facilities within *quarters*.¹⁸ Reductions in monitoring and less enforcement from nonprofit watershed groups and citizen coalitions resulted in *immediate* increases in conventional water pollution and reductions in CWA compliance.¹⁹ Coal-fired power plants exiting from the added scrutiny of EPA “non-attainment” designations due to reclassification of those areas as “attainment” with ambient air quality standards began increasing

¹⁶ See, for example, (1) Alberini, A., & Austin, D. 2002. Accidents waiting to happen: Liability policy and toxic pollution releases. *Rev Economics and Statistics*, 84, 729-741. (2) Stafford, S. L. 2002. The effect of punishment on firm compliance with hazardous waste regulations. *J Environmental Economics and Management*, 44, 290-308.

¹⁷ See Shimshack 2014 (n2), Alm & Shimshack 2014 (n2), and Gray and Shimshack 2011 (n2).

¹⁸ Nadeau, L. W. 1997. EPA effectiveness at reducing the duration of plant-level noncompliance. *J Environmental Economics and Management*, 34, 54-78.

¹⁹ Langpap & Shimshack (n1) and Grant, L. E., & Grooms, K. K. 2017. Do nonprofits encourage environmental compliance? *J Association of Environmental and Resource Economists*, 4, S261-S288.

their nitrogen dioxide emissions, and these increases began to show up in the next year's data.²⁰ CAA policies that raised public penalties or facilitated disclosure for High Priority Violations produced dramatic changes in compliance within one or two *quarters*.²¹ A crackdown on power plants regulated under the CAA's New Source Review program led to rapid reductions in sulfur dioxide emissions. Within *months*, emissions at facilities with a greater probability of being sued fell by roughly 10 percent. Plants named in lawsuits saw pollution emissions fall by 30 percent.²²

18. To reiterate, pollution and compliance can and often do respond quickly to changes in monitoring and enforcement like those induced by the coronavirus nonenforcement policy. A common misconception is that pollution emissions and environmental compliance are influenced by installed pollution abatement technologies alone. Instead, emissions and compliance are strongly influenced by production decisions, quality control, employee training and attention, abatement conditions, equipment operation, and equipment maintenance.²³ These conditions are all key components of the monitoring and enforcement regime impacted by the nonenforcement policy. As such, all else being equal, one would expect noncompliance and pollution from

²⁰ Walter, J., & Raff, Z. 2019. When the regulator goes home: The effectiveness of environmental oversight. Available at SSRN 3394867.

²¹ See (1) Blundell, W. 2020. When threats become credible: A natural experiment of environmental enforcement from Florida. *J Environmental Economics and Management*, 101, 102288. (2) Evans, M. F. 2016. The clean air act watch list: An enforcement and compliance natural experiment. *J Association of Environmental and Resource Economists*, 3, 627-665.

²² Keohane, N. O., Mansur, E. T., & Voynov, A. 2009. Averting regulatory enforcement: Evidence from new source review. *J Economics & Management Strategy*, 181, 75-104.

²³ For example, biological wastewater treatment involves balancing microorganism substrates, acidity, temperature, light, nutrient, and other conditions. Incremental attention to these matters by the treatment facilities can significantly and very quickly improve compliance and reduce measured pollution.

noncomplying facilities to increase quickly following the March 26 announcement of the nonenforcement policy.

19. EPA asserts that the nonenforcement policy may have limited consequences because states and localities are typically the primary regulatory jurisdiction under the CAA, the CWA, RCRA, and other statutes. This is very unlikely. Federal EPA compliance assurance activities typically target different issues than state and local compliance assurance activities. Federal and regional EPA disproportionately target transboundary pollution, large firms operating in multiple states, and national enforcement priority sectors, contaminants, or noncompliance types. EPA oversight focuses on compliance cases where economies of scale in information gathering are important.²⁴

20. It is also not clear where the resources for state and local monitoring and enforcement to offset the reductions in federal monitoring and enforcement triggered by the nonenforcement policy might come from. States and localities are currently suffering severe financial constraints from COVID-19 disruptions. State tax revenues are falling markedly while spending on healthcare and social safety net programs is increasing rapidly. Even absent coronavirus disruptions, states and local agencies have been asked to do more with less for decades, and this is especially true in recent years.²⁵ According to the independent EPA Office of the Inspector General, between FY2007 and FY2018 EPA-initiated enforcement actions declined 52%. Between FY2006 and FY2018, EPA enforcement funding and staffing fell approximately

²⁴ As an example, the New Source Review cases studied by Keohane et al. (n22) targeted 46 plants owned by 9 parent company utilities, many simultaneously operating in multiple states.

²⁵ See *USEPA*. Office of the Inspector General 2020 (n4). See also, Shimshack 2014 (n2) and Gray and Shimshack 2011 (n2).

20%. Moreover, a considerable fraction of state and local enforcement resources have historically come from federal grants. Without additional federal resources, the reductions in federal monitoring and enforcement oversight triggered by the nonenforcement policy will result in more pollution and less compliance relative to a counterfactual world without the policy.

21. Two natural additional questions arise. First, won't *some* facilities continue to comply under the nonenforcement policy? The answer is very likely 'yes.' However, this generates conditions that are inconsistent with what we know about *fair* enforcement policy. Although environmental performance at some facilities may not change, the evidence is clear that it will decline at other facilities. Complying members of the regulated community may be put at a competitive disadvantage by this outcome. One of EPA's stated enforcement goals is "to assure a level playing field among states and industries."²⁶ The nonenforcement policy does not promote a level playing field for those regulated entities that strive to continue to comply.

22. Second, how much will the nonenforcement policy impact total pollution emissions? The answer is that, as an unfortunate consequence of the nonenforcement policy, we will likely never have a complete answer to that question. The widespread waiver on foundational monitoring and reporting obligations will deprive us of the data necessary to assess the scale of its negative impacts. The EPA does not plan to ask facilities to "catch-up" with missed monitoring or reporting, so regulators and the public will never have these data. As discussed in more detail below, EPA has never issued a nonenforcement policy of this sort. As such, we do not even have

²⁶ See, for example, <https://www.epa.gov/enforcement/enforcement-goals>. EPA's Policy on Civil Penalties similarly establishes "a single set of goals for penalty assessment in EPA administrative and judicial enforcement actions ... the fair and equitable treatment of the regulated community." USEPA. Policy on Civil Penalties: EPA General Enforcement Policy #GM-21. Feb 1984. <https://www.epa.gov/enforcement/policy-civil-penalties-epa-general-enforcement-policy-gm-21>.

historical evidence to “ballpark” the consequences of the policy.

Consequences for public health and vulnerable communities

23. The above discussion highlights that the nonenforcement policy will result, on average, in more pollution and less compliance relative to a counterfactual without the nonenforcement policy. The peer-reviewed literature indicates that increases in pollution generate increased probabilities of illness and death, especially among vulnerable populations.

24. EPA’s Integrated Science Assessments (ISAs), which document scientific understanding of the health and other impacts of pollutants subject to ambient air quality standards, indicate that air pollution is causally associated with morbidity and mortality.²⁷ EPA’s ISAs find that: (1) incremental changes in particulate matter pollution are causally associated with increased cardiovascular effects and overall mortality; (2) incremental changes in nitrogen dioxide, sulfur dioxide, and ozone are causally associated with respiratory effects, especially in vulnerable populations like children, the elderly, and asthmatics; and (3) incremental changes in lead are causally associated with reproductive effects and developmental, cognitive, and behavioral effects in children. EPA also asserts that there is likely to be a causal association between air pollutants and (1) nervous system effects; (2) cancer; (3) metabolic effects; and (4) premature death.

²⁷ See: USEPA. Integrated Science Assessment for Ozone and Related Photochemical Oxidants (EPA/600/R-20/012). Jan 2020. <https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=348522>; USEPA. Integrated Science Assessment for Particulate Matter - Health Criteria (EPA/600/R-19/188). Dec 2019. <https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=347534>; USEPA. Integrated Science Assessment for Sulfur Oxides - Health Criteria (EPA/600/R-17/451). Dec 2017. <https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=338596>; USEPA. Integrated Science Assessment for Oxides of Nitrogen – Health Criteria (EPA/600/R-15/068). Jan 2016. <https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=310879>; USEPA. Integrated Science Assessment for Lead (EPA/600/R-10/075F). June 2013. <https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=255721>; USEPA. Integrated Science Assessment for Carbon Monoxide (EPA/600/R-09/019F). Jan 2010. <https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=218686> .

25. Indeed, EPA's economic assessments of its own policies assume that reductions in air, water, and waste pollution generate measurable benefits via increases in life expectancy, reductions in infant mortality, higher property values, improved recreational opportunities, and other beneficial outcomes.²⁸ Reductions in contaminants common in hazardous and toxic waste are known or reasonably anticipated to causally reduce cancer, cardiovascular issues including heart failure, reproductive issues including infertility and birth abnormalities, kidney disease, neurological illness, and developmental problems in children.²⁹

26. The peer-reviewed literature is also clear that if, as expected, facilities increase pollution due to the nonenforcement policy, that will disproportionately impact vulnerable populations. As noted in EPA's ISAs referenced above, increases in pollution are disproportionately borne by those with preexisting respiratory and cardiovascular conditions, infants and children, and the elderly. Moreover, dozens of peer-reviewed studies document longstanding associations between the locations of toxic and hazardous waste sites and poverty and race. As such, any increases in toxic and hazardous waste will likely be disproportionately borne by low-income and minority populations. The literature also highlights that minority and

²⁸ See, for example, *USEPA. Benefits and Costs of the Clean Air Act, 1970 to 1990: Retrospective study*; *USEPA. Benefits and Costs of the Clean Air Act, 1990 to 2010: First prospective study*; *USEPA. Benefits and Costs of the Clean Air Act, 1990 to 2020: Second prospective study*. Available at: <https://www.epa.gov/clean-air-act-overview/benefits-and-costs-clean-air-act>. See, also, *USEPA. A Benefits Assessment of Water Pollution Control Programs Since 1972: Part 1, The Benefits of Point Source Controls for Conventional Pollutants in Rivers and Streams*. January 2000. <https://archive.epa.gov/aed/lakesecoservices/web/pdf/ee-0429-01.pdf>.

²⁹ See: <https://www.epa.gov/iris>. EPA's IRIS Program identifies and characterizes the health hazards of chemicals found in the environment. Each IRIS assessment can cover a chemical, a group of related chemicals, or a complex mixture. See also, International Agency for Research on Cancer. IARC monographs on the evaluation of carcinogenic risks to humans, volumes 1-121. Lyon, France: IARC; 1972-2019.

poorer populations are disproportionately exposed to air, water, and waste pollution.³⁰ They also disproportionately reside in “fenceline communities” (close to polluting facilities), where the lack of compliance information from industry means they could be exposed to hazardous releases without warning.³¹ Any increases in traditional air, water, and waste pollution resulting from noncompliance induced by the nonenforcement policy will be disproportionately experienced by these communities. This is of particular concern since the evidence suggests that environmental inspections and penalties under the CAA, the CWA, and RCRA may *already* be less frequent and less intense in poorer communities.³² In sum, the nonenforcement policy contradicts EPA’s own stated goal that all people – regardless of race or income – will “enjoy the same degree of protection from environmental and health hazards.”³³

³⁰ For broad reviews of the literature, see (1) Banzhaf, S., Ma, L., & Timmins, C. 2019. Environmental justice: The economics of race, place, and pollution. *J Economic Perspectives*, 33(1), 185-208. (2) Mohai, P., Pellow, D., & Roberts, J. T. 2009. Environmental justice. *Annual review of environment and resources*, 34, 405-430. (3) Ringquist, E. J. 2005. Assessing evidence of environmental inequities: A meta-analysis. *J Policy Analysis and Management* 24, 223-247. (4) Bowen, W. 2002. An analytical review of environmental justice research: what do we really know? *Environmental management*, 29, 3-15.

³¹ See, for example, Mikati et al., “Disparities in Distribution of Particulate Matter Emission Sources by Race and Poverty Status” *American Journal of Public Health*, Vol. 108, No. 4, 480-485 (April 2018); EPA: “Fenceline Monitoring: Finding air pollution leaks with smaller, faster, cheaper measurement technologies,” <https://www.epa.gov/sciencematters/fenceline-monitoring> .

³² See: (1) Konisky, D. M. 2009. Inequities in enforcement? Environmental justice and government performance. *J Policy Analysis and Management*, 28, 102-121. (2) Gray, W. B., & Shadbegian, R. J. 2004. ‘Optimal’ pollution abatement—whose benefits matter, and how much? *J Environmental Economics and management*, 47, 510-534.

³³ See <https://www.epa.gov/environmentaljustice>.

A major departure from EPA guidance and prior practice

27. It is my view that the nonenforcement policy represents a significant departure from EPA's own guidance and practice. The policy gives facilities broad license to relax or even halt altogether compliance monitoring, analysis, and reporting or certification. The policy states that EPA will not seek penalties for any compliance monitoring violation due to COVID-19 disruptions. Since the policy functionally eliminates the need to collect, analyze, and track the data necessary to ensure compliance with enforceable limits, the policy waives penalties for failing to meet most enforceable limitations for air, water, waste, and drinking water violations.

28. Although existing EPA guidelines allow enforcement discretion, this nonenforcement policy is markedly different. Typical discretion allows the frequency and intensity of monitoring and enforcement to vary with compliance history, intent, facility characteristics, facility compliance costs, facility ability to pay, inspection and enforcement costs, and other factors.³⁴ EPA has also issued highly targeted, short fixed-term discretion notices that stipulate narrowly defined relief activities for specifically named individual facilities or industries directly impacted by hurricanes.³⁵ In contrast, the nonenforcement policy applies to all facilities, requires no ex-ante demonstration of disruption, and no specified end date. This policy amounts to a widespread de facto waiver of facilities' primary monitoring and compliance responsibilities.

³⁴ See <https://www.epa.gov/enforcement/enforcement-policy-guidance-publications#models>.

³⁵ For example, after Hurricane Michael, EPA suspended enforcement for vapor recovery device violations at Florida fuel terminals directly impacted by damage or outages. After Hurricane Irma, EPA issued discretion allowing power plants to deviate from specific permit requirements. These were both highly targeted and short, fixed term actions. For example, the Michael vapor recovery device and Irma power plant no action assurances specified end dates of 13 and 15 days after issuance.

Without monitoring and reporting, enforceable compliance with emissions limits is hollow. Facility self-assessment and reporting, by identifying easily correctable problems and serving reminder and reassurance functions, also directly enhances facilities' compliance outcomes. The policy simply treats all facilities and conditions equally, without evidence showing that they are equally impacted by the COVID-19 pandemic. This one-size-fits-all policy is a major departure from EPA's own guidance and prior practice.³⁶

29. Although the nonenforcement policy asks regulated entities to act responsibly and document the nature and dates of environmental noncompliance, with the widespread waiver of monitoring obligations it is not at all clear how facilities might assess whether they are meeting enforceable limits on air emissions, water discharges, and waste management. Similarly, it is not obvious how state and federal agencies might assess whether a given regulated entity is meeting enforceable limits. Concurrent or retroactive enforcement for pollution violations are not possible if the basic data for compliance determination is not collected, analyzed, and reported. One of EPA's most recent national compliance initiatives reinforces this point: EPA introduces its initiative on "Reducing Significant Non-Compliance with National Pollutant Discharge Elimination System (NPDES) Permits" by noting that CWA facilities' systematic failure to submit

³⁶ I do not diminish the reality that disruptions to compliance monitoring from COVID-19 will occur at some facilities. I do not in any way discount that the health and welfare of facility personnel is a concern in specific instances. However, a formal case-by-case request for regulatory flexibility is consistent with the state of EPA guidance and practice. A blanket waiver of oversight responsibility is not. Instead of a blanket waiver, EPA has often provided incremental compliance assistance and incremental Agency monitoring following particular grants of tailored enforcement discretion. Following disasters and accidents, EPA Risk Management plans indicate that EPA has technologies, including aircraft and mobile laboratories, that may be deployed to help support vulnerable environmental monitoring in impacted areas. Following Hurricane Harvey, instead of reducing pollution monitoring obligations, EPA and the Texas Council on Environmental Quality deployed substantial additional fence-line monitoring technologies, aircraft, and mobile labs.

discharge reports “can mask serious deficiencies.”³⁷

Summary

30. In my professional opinion, the EPA nonenforcement policy is not consistent with effective, socially efficient, or fair environmental monitoring and enforcement policy and practice. It is my view that the policy represents a sharp departure from prior practice and EPA’s own guidance. The policy will reduce compliance and increase pollution relative to a counterfactual world without the policy. If, as expected, the policy results in more pollution from noncompliant facilities, that increase in pollution will likely increase expected illness and death. Those health and welfare consequences will be disproportionately borne by vulnerable Americans, like impoverished citizens, infants, and the elderly.

I declare and affirm under penalty of perjury that the foregoing is true and correct.



Dr. Jay Shimshack

Signed: June 3, 2020
Charlottesville, VA

³⁷ <https://www.epa.gov/enforcement/national-compliance-initiative-reducing-significant-non-compliance-national-pollutant>.