

ATTORNEYS GENERAL OF MARYLAND, CALIFORNIA, THE DISTRICT OF  
COLUMBIA, MASSACHUSETTS, CONNECTICUT, HAWAII, MINNESOTA,  
NEW JERSEY, NEW YORK, OREGON, PENNSYLVANIA, RHODE ISLAND,  
VERMONT, WASHINGTON, AND WISCONSIN

August 18, 2023

*Submitted via regulations.gov*

Michael Regan, Administrator  
Denise Keehner, Director  
Office of Pollution Prevention and Toxics  
U.S. Environmental Protection Agency  
1200 Pennsylvania Ave. NW  
Washington, D.C. 20460-0001

Re: U.S. Environmental Protection Agency Proposed Rule; Significant New Use  
Rules on Certain Chemical Substances (23-2.5e); 88 Fed. Reg. 39,804 (June  
20, 2023); Docket No. EPA-HQ-OPPT-2023-0245

Dear Administrator Regan and Director Keehner:

The Attorneys General of Maryland, California, the District of Columbia, Massachusetts, Connecticut, Hawai'i, Minnesota, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont, Washington, and Wisconsin (collectively "the Attorneys General") offer these comments in response to the U.S. Environmental Protection Agency's (EPA) proposed Significant New Use Rules (SNURs) on Certain Chemical Substances (23-2.5e). *See* 88 Fed. Reg. 39,804 (June 20, 2023).

Pursuant to section 5(a)(2) of the Toxic Substances Control Act (TSCA),<sup>1</sup> EPA is proposing the SNURs to set new use and recordkeeping requirements under 40 CFR part 721, subpart E, for 18 chemical substances<sup>2</sup> that are made from plastic

---

<sup>1</sup> 15 U.S.C. § 2604(a)(2).

<sup>2</sup> The subject 18 chemical substances are: Naphtha, heavy catalytic cracked (generic) (40 C.F.R. 721.11781); Naphtha, heavy alkylate (generic) (40 C.F.R. 721.11782); Naphtha, full range alkylate, butane-contg. (generic) (40 C.F.R. 721.11783); Naphtha, hydrotreated heavy (generic) (40 C.F.R. 721.11784); Naphtha, light catalytic cracked (generic) (40 C.F.R. 721.11785); Naphtha, light alkylate (generic) (40 C.F.R. 721.11786); Naphtha, hydrotreated light (generic) (40 C.F.R. 721.11787); Clarified oils, catalytic cracked (generic) (40 C.F.R. 721.11788); Distillates, hydrotreated heavy (generic) (40 C.F.R. 721.11789); Gas oils hydrotreated vacuum (generic) (40 C.F.R. 721.11790); Distillates, light catalytic cracked (generic) (40 C.F.R. 721.11791); Distillates, clay-treated middle (generic) (40 C.F.R. 721.11792); Distillates, hydrotreated middle (generic) (40 C.F.R. 721.11793); Distillates, hydrotreated light (generic) (40 C.F.R. 721.11794); Gases, C4-rich (generic) (40 C.F.R. 721.11795); Gases, catalytic cracking (generic) (40 C.F.R. 721.11796); Residues, butane splitter bottoms (generic) (40 C.F.R. 721.11797); and Tail gas, saturate gas plant mixed stream, C4-rich (generic) (40 C.F.R. 721.11798). 88 Fed. Reg. at 39,808.

waste derived feedstocks. These requirements will ensure that the plastic waste feedstocks are free from specific hazardous additives and impurities before they can be used to make transportation fuels or refinery feedstocks. Each of these chemical substances was the subject of a premanufacture notice (PMN) under TSCA and is subject to orders issued by the agency under TSCA section 5(e)(1)(A) requiring protective measures to limit exposures to, or otherwise mitigate potential unreasonable risk associated with, them.

In the proposed SNURs, EPA identifies significant new uses as any manufacturing, processing, use, distribution in commerce, or disposal of the 18 substances that does not conform to the restrictions imposed by the applicable underlying TSCA section 5(e) order and identifies an additional significant new use of manufacturing or processing the chemical substances using feedstocks that contain any of a specific set of chemicals identified in the proposed rules.<sup>3</sup> The Attorneys General support EPA's proposed SNURs as they will limit the presence of some known toxics in the subject 18 substances produced by the pyrolysis and gasification of plastic waste. However, we urge EPA to adjust the proposed SNURs as set forth below to better protect workers, nearby communities, and the general public from the potential health hazards of manufacturing and processing the subject chemicals.<sup>4</sup>

## I. Background

### A. Plastic Waste Represents a Growing Threat to Human Health and the Environment.

Global plastic production has skyrocketed in the recent decades, increasing from two million metric tons produced in 1950 to about 380 million metric tons in 2015,<sup>5</sup> with more than half of all the plastic ever created being produced in the last 15 years alone.<sup>6</sup> Along with the escalating rate of plastic production, distribution, use, and disposal, there has been a rampant increase in the amount of plastics

---

<sup>3</sup> Those chemicals are: "heavy metals (arsenic, cadmium, chromium VI, lead, mercury), dioxins, phthalates, per- and polyfluoroalkyl substances (PFAS), polybrominated diphenyl ethers (PBDEs), alkylphenols, perchlorates, benzophenone, bisphenol A (BPA), organochlorine pesticides (OCPs), ethyl glycol, methyl glycol, or N-methyl-2-pyrrolidone (NMP)." 88 Fed. Reg. at 39,806.

<sup>4</sup> These comments address the SNURs only as they relate to the protection of human health from exposure to the subject chemical substances and do not address environmental concerns associated with the greenhouse gas (GHG) emissions resulting from the production, distribution, use, and disposition of plastics nor from the burning of fossil fuels that may be produced using plastic feedstock.

<sup>5</sup> Ctr. for Int'l Env't Law, *Plastic & Health: The Hidden Costs of a Plastic Planet*, 5 (Feb. 2019), <https://www.ciel.org/wp-content/uploads/2019/02/Plastic-and-Health-The-Hidden-Costs-of-a-Plastic-Planet-February-2019.pdf> [hereinafter CIEL, *Plastic & Health*].

<sup>6</sup> *Id.*

released into the environment.<sup>7</sup> And it is not slowing down, with projections that the global amount of plastic waste will triple by 2060.<sup>8</sup> The United States has been recognized as the world's largest generator of plastic waste.<sup>9</sup>

Plastic creates waste throughout every stage of its lifecycle – from the greenhouse gases and toxics emitted during production to the microplastic byproducts of disposal of plastic products.<sup>10</sup> What's more, plastic waste, including the chemicals associated with it, can persist in the environment for centuries, polluting our soil and waterways and threatening human health.<sup>11</sup> Exposure to plastic-related chemicals has been found to be harmful, even lethal, especially for communities living near production facilities.<sup>12</sup>

### 1. Governments respond to the plastic waste crisis.

States and municipalities face a range of negative impacts caused by the influx of plastic waste, including the health harms related to plastic production and incineration, plastic waste management costs, and lost ecosystem services from ongoing plastic pollution.<sup>13</sup> Thus, they have progressively taken steps within their jurisdictions to reduce of the use of plastic.<sup>14</sup>

---

<sup>7</sup> United Nations Env't Programme, *Chemicals in plastics: A Technical Report*, 2 (2023), <https://www.unep.org/resources/report/chemicals-plastics-technical-report> [hereinafter UNEP, *Chemicals in Plastics*]; Laura Parker, *Here's How Much Plastic Trash Is Littering the Earth*, NAT'L GEOGRAPHIC (Dec. 20, 2018), <https://www.nationalgeographic.com/science/article/plastic-produced-recyclingwaste-ocean-trash-debris-environment> (stating that “of the 8.3 billion metric tons of plastic that has been produced, 6.3 billion metric tons has become plastic waste”); *Reckoning with the US Role in Global Ocean Plastic Waste*, NAT'L ACADEMIES OF SCI., ENGINEERING, & MEDICINE, 3 (2022).

<sup>8</sup> OECD, *Global Plastics Outlook: Policy Scenarios to 2060* (2022).

<sup>9</sup> Env't Protection Agency, *Draft National Strategy to Prevent Plastic Pollution*, 3 (Apr. 2023), [https://www.epa.gov/system/files/documents/2023-04/Draft\\_National\\_Strategy\\_to\\_Prevent\\_Plastic\\_Pollution.pdf](https://www.epa.gov/system/files/documents/2023-04/Draft_National_Strategy_to_Prevent_Plastic_Pollution.pdf) [hereinafter EPA, *Draft National Strategy*].

<sup>10</sup> CIEL, *Plastic & Health*, *supra* note 5.

<sup>11</sup> Laura Parker, *Here's How Much Plastic Trash Is Littering the Earth*, NAT'L GEOGRAPHIC (Dec. 20, 2018), <https://www.nationalgeographic.com/science/article/plastic-produced-recyclingwaste-ocean-trash-debris-environment> (“Plastic takes more than 400 years to degrade, so most of it still exists in some form.”).

<sup>12</sup> UNEP, *Chemicals in Plastics*, *supra* note 7, at 33.

<sup>13</sup> Dalberg Advisors, *Plastics: The cost to society, environment and the economy*, WWF, 12-23 (2021), <https://europe.nxtbook.com/nxteu/wwfintl/tcops/index.php#/p/1>.

<sup>14</sup> See Debra Carfora, et al., *Reduce, Reuse, Regulate: The Current State of Plastic Waste Legislation in the United States* (Mar. 20, 2023), <https://www.morganlewis.com/pubs/2023/03/reduce-reuse-regulate-the-current-state-of-plastic-waste-legislation-in-the-united-states>. State and local action to address plastic pollution includes bans and fees on the use of plastic bags, and laws to increase producer responsibility over packaging waste. See e.g., *State Plastic Bag Legislation*, Nat'l Conference of State Legislatures (Feb. 8, 2021), <https://www.ncsl.org/research/environment-and-natural-resources/plastic-bag-legislation.aspx?msclkid=c4e16dc3a9fe11ec84710e722f6f2e9f> (describing state and local efforts to reduce plastic bags); *States Continue Efforts to Hold Producers Responsible for Plastic Pollution*, Nat'l Caucus of Env'tl. Legislators (Feb. 4, 2022),

At the federal level, Congress passed the Save Our Seas 2.0 Act in 2020 which responded to increasing quantities of plastic waste in the U.S. and required EPA to develop reports on pathways to combat plastic pollution.<sup>15</sup> Since then, EPA developed the Circular Economy Strategy Series which outlines a 10-year vision for the country's waste management system. As part of that series, EPA released its National Recycling Strategy in 2021, and, more recently, released its Draft National Strategy to Prevent Plastic Pollution which sets forth potential actions that can be taken in the U.S. to eliminate the release of plastic waste into the environment.<sup>16</sup> The Draft National Strategy, promotes a circular economy while excluding processes or technologies that convert waste to fuels from being considered as a recycling practice. The Draft National Strategy further notes that there are "concerns about potential health and environmental risks posed by impurities" that may be present in feedstock oils generated from plastic waste.<sup>17</sup> The proposed SNURs follow EPA's commitment in the Draft National Strategy to ensure that plastic waste feedstocks do not contain hazardous impurities and are consistent with EPA's overall efforts to reduce plastic pollution.<sup>18</sup>

2. Plastic waste contains thousands of chemical additives and impurities, exposure to which can harm human health and the environment.

The chemical additives and impurities contained in plastic products pose a significant threat to human health and the environment. As plastic is produced, harmful chemicals are used, either as building blocks of the plastic material itself or as additives to provide desired properties like heat resistance, color, and flexibility.<sup>19</sup> Harmful chemicals are also unintentionally incorporated into plastics as impurities.<sup>20</sup> Additives may comprise up to 4% by weight of plastics,<sup>21</sup> and some additives, such as plasticizers, do not chemically bind to the plastic polymer and therefore can leach into the environment.<sup>22</sup>

---

<https://www.nceleenviro.org/articles/states-continue-efforts-to-hold-producers-responsible-for-plastic-pollution/> (producer accountability measures).

<sup>15</sup> Save Our Seas Act 2.0, Pub. L. No. 1160224 (2020).

<sup>16</sup> EPA, *Draft National Strategy*, *supra* note 9.

<sup>17</sup> EPA, *Draft National Strategy*, *supra* note 9, at 15.

<sup>18</sup> *EPA Proposes New Protections for Communities from Fuels Made Using Plastic Waste Based Feedstock*, EPA <https://www.epa.gov/chemicals-under-tsca/epa-proposes-new-protections-communities-fuels-made-using-plastic-waste-based> (last visited July 10, 2023).

<sup>19</sup> Philip J. Landrigan et al., *The Minderoo-Monaco Commission on Plastics and Human Health*, 89 ANNALS OF GLOBAL HEALTH 1, 2 (2023), <https://annalsofglobalhealth.org/articles/10.5334/aogh.4056>.

<sup>20</sup> *Id.*

<sup>21</sup> Anthony L. Andrady & Mike A. Neal, *Applications and Societal Benefits of Plastics*. 364 Phil. Transactions of the Royal Soc'y B: Biological Sci. 1526, 1977 -1984 (2009). <https://doi.org/10.1098/rstb.2008.0304>

<sup>22</sup> OECD, *Emission Scenario Document on Plastic Additives* at 64 (2009), <https://www.oecd-ilibrary.org/docserver/9789264221291en.pdf?expires=1689781992&id=id&accname=guest&checksum=533AC577893F4931F1926536A8DB17A7>.

More than 13,000 chemicals are associated with plastics and plastic manufacturing across a wide range of applications.<sup>23</sup> Among these, no less than 3,200 have been identified as chemicals of potential concern based on their hazardous properties (while many more have never been assessed and may also be toxic).<sup>24</sup> The proposed SNURs would cover only some of these harmful chemical additives and impurities. Many other additives and impurities have been identified as chemicals of major concern by national and international entities due to their high toxicity and potential to leach, migrate, or be released from plastics.<sup>25</sup> The following additives and non-intentionally added chemicals of concern are not included in the SNURs but are known to be present in plastic waste:

- Hexabromocyclododecane, tetrabromobisphenol A, short-chain/medium-chain chlorinated paraffins, Dechlorane Plus, tris(2-chloroethyl) phosphate, tris(1,3-dichloroisopropyl) phosphate, antimony, and polybromobiphenyls which are associated with loss of IQ points, intellectual disability, carcinogenicity, endocrine disruption, and reproductive toxicity.<sup>26</sup>
- Bisphenol F and bisphenol S which are associated with reproductive toxicity and endocrine disruption.<sup>27</sup>
- Biocides including organotin compounds, triclosan, quaternary ammonium compounds, and arsenic compounds which are associated with skin/eye irritation and sensitization, genotoxicity, and endocrine disruption.<sup>28</sup>
- UV stabilizers including UV-328, benzotriazoles, and hindered amine light stabilizers which can cause allergies in humans and harm to aquatic organisms.<sup>29</sup>

---

<sup>23</sup> UNEP, *Chemicals in Plastics*, *supra* note 7, at 2, 7.

<sup>24</sup> UNEP, *Chemicals in Plastics*, *supra* note 7, at 2, 7; Greenpeace, *Forever Toxic: The Science on Health Threats from Plastic Recycling* at 7 (2023), [https://prod.greenpeaceusa.info/usa/wp-content/uploads/2023/05/GreenpeaceUSA\\_ForeverToxic\\_ENG.pdf](https://prod.greenpeaceusa.info/usa/wp-content/uploads/2023/05/GreenpeaceUSA_ForeverToxic_ENG.pdf). Phthalates, which account for 95% of all plasticizers, are, for example, endocrine-disrupting chemicals that may cause developmental and/or reproductive toxicity concerns even at low concentration. *See* OECD, *supra* note 22, at 64 (describing prevalence of phthalates); *see also* Ying Zhang, et al., *Hazards of phthalates (PAEs) exposure: a review of aquatic animal toxicology studies*, 771 *Sci. Total Environ* 145418 (2021), <https://doi.org/10.1016/j.scitotenv.2021.145418> (describing health effects of phthalates).

<sup>25</sup> The United Nations Environment Programme (“UNEP”) has identified ten groups of chemicals that are of major concern due to their high toxicity and potential to leach, migrate, or be released from plastics. UNEP, *Chemicals in Plastics*, *supra* note 7. These chemicals include flame retardants, certain UV stabilizers, per- and polyfluoroalkyl substances (“PFAS”), phthalates, bisphenols, alkylphenols and alkylphenol ethoxylates, biocides, certain metals and metalloids, polycyclic aromatic hydrocarbons, and several non-intentionally added substances (“NIAS”). *See id.*

<sup>26</sup> UNEP, *Chemicals in Plastics*, *supra* note 7, at 2, 7.

<sup>27</sup> *Id.*

<sup>28</sup> *Id.*

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

- Antimony, cobalt, tin, zinc, and other metals and metalloids which are associated with damage to various human organ systems (i.e. nervous, cardiovascular, endocrine, respiratory) and to aquatic organisms.<sup>30</sup>
- Benzo[a]anthracene, benzo[a]pyrene, and naphthalene which are associated with carcinogenicity, mutagenicity, and reproductive toxicity.<sup>31</sup>
- Unintentionally added substances including volatile organic compounds, polybrominated and dibenzo furans, polychlorinated biphenyls, polybrominated dibenzo-p-furans which are also associated with harmful human health effects.<sup>32</sup>

These chemicals may be slowly released throughout a product’s lifecycle or released at specific lifecycle points like during waste processing and many such additives can persist in the environment for extremely long periods of time, bioaccumulate in the tissues of plants and animals, and travel long distances through the air and water.<sup>33</sup> There are therefore many different pathways for ecosystem and human exposure to these plastic-associated chemicals.<sup>34</sup> Exposure is dangerous as many additives are highly toxic and include carcinogens, neurotoxicants, and endocrine disrupters such as phthalates, bisphenols, and per- and polyfluoroalkyl substances.<sup>35</sup> Occupational exposure to plastic-associated chemicals is particularly relevant during the production and end-of-life stages, especially if waste is not properly managed.<sup>36</sup>

#### B. Pyrolysis and Gasification Are Resource Intensive Processes that Alone Cannot Address the Plastic Waste Crisis and Can Significantly Burden Adjacent Communities and Harm the Environment.

The plastics industry touts “chemical recycling” or “advanced recycling”—umbrella terms that describe heat or solvent-based processes that use plastic waste to produce substances used to make petrochemical feedstock - as a “circular” and “sustainable” solution to the plastics pollution crisis.<sup>37</sup> But most “chemical recycling” operations in the U.S. use pyrolysis or gasification primarily to produce

---

<sup>30</sup> *Id.*

<sup>31</sup> *Id.*

<sup>32</sup> *Id.*

<sup>33</sup> See e.g. UNEP, *Chemicals in Plastics*, *supra* note 7, at 3, 27; CIEL, *Plastic & Health*, *supra* note 5, at 62.

<sup>34</sup> UNEP, *Chemicals in Plastics*, *supra* note 7, at 26.

<sup>35</sup> Landrigan et al., *supra* note 19, at 2. See also, Tatum McConnell, *Recycling plastics “extremely problematic” due to toxic chemical additives: Report*, ENV’T HEALTH NEWS (June 1, 2023), <https://www.ehn.org/plastic-recycling-2660739413.html>.

<sup>36</sup> UNEP, *Chemicals in Plastics*, *supra* note 7, at 30.

<sup>37</sup> American Chemistry Council, *Advanced Recycling: Remaking Plastics to Meet Sustainability Goals* (Mar. 2023), <https://plasticmakers.org/wp-content/uploads/2022/07/Advanced-Recycling-Explainer-032023.pdf>.

fuels and other chemicals, not plastic.<sup>38</sup> Pyrolysis involves applying heat to plastic waste in an oxygen-deprived chamber to create a crude-oil-like substance, “pyrolysis oil.”<sup>39</sup> Gasification works similarly, except the process uses some oxygen and produces a gas, “syngas.”<sup>40</sup>

According to a U.S. Department of Energy study, virtually all of the plastic waste that undergoes pyrolysis or gasification (86 to 99 percent) is destroyed—becoming char, sludge, or other byproducts that must be disposed of, meaning only 1 to 14 percent of the plastic waste becomes pyrolysis oil or syngas.<sup>41</sup> This small amount of output is then mixed in with a large amount of virgin petrochemical feedstock, and together they undergo the normal refinery process.<sup>42</sup> The refinery process, which includes distilling and “cracking”<sup>43</sup> petrochemical feedstock, produces various chemicals, some of which can be used to make fuel, and others, such as ethylene or propylene, polymerized to make plastic.<sup>44</sup>

The pyrolysis and gasification processes release significant amounts of toxic chemicals. An investigation by the Natural Resources Defense Council, for example, revealed that in 2019, just one pyrolysis facility located in Tigard, Oregon generated nearly 500,000 pounds of hazardous waste—most of which consisted of benzene but also included other toxics such as lead, cadmium, and chromium.<sup>45</sup> The byproducts of pyrolysis contain concentrated toxins associated with increased risks of cancer, respiratory infections, kidney damage, and neurotoxicity.<sup>46 47</sup> Studies have shown that pyrolysis and gasification of plastic wastes can result in the formation of hazardous compounds including: polycyclic aromatic hydrocarbons (PAHs), oxygenated monoaromatic hydrocarbons (MAHs), polychlorinated biphenyls (PCBs),

---

<sup>38</sup> National Academies of Sciences, Engineering, and Medicine, *Reckoning with the U.S. Role in Global Ocean Plastic Waste*, 56 (2022) <https://nap.nationalacademies.org/catalog/26132/reckoning-with-the-us-role-in-global-ocean-plastic-waste>.

<sup>39</sup> American Chemistry Council, *supra* note 57 at 3, <https://plasticmakers.org/wp-content/uploads/2022/07/Advanced-Recycling-Explainer-032023.pdf>.

<sup>40</sup> *Id.*

<sup>41</sup> Taylor Uekert, et al., *Technical, Economic, and Environmental Comparison of Closed-Loop Recycling Technologies for Common Plastics*, 11 *American Chemical Society Sustainable Chemical Engineering*, 965, 969 (2023) (finding that pyrolysis and gasification have material retentions of 1 to 14 percent).

<sup>42</sup> EPA, *Chevron Waste Plastics Risk Summary and Characterization* (Jun. 13, 2023), 1; *see, e.g.*, Chevron-Phillips Chemical, *Marlex® Anew™ Circular Polyethylene*, <https://www.cpchem.com/AdvancedRecycling> (last accessed August 18, 2023).

<sup>43</sup> “Cracking” refers to the process of breaking molecules into simpler arrangements.

<sup>44</sup> Dr. Payal Baheti, *How Is Plastic Made? A Simple Step-By-Step Explanation*, British Plastics Federation, <https://www.bpf.co.uk/plastipedia/how-is-plastic-made.aspx>.

<sup>45</sup> Veena Singla, Natural Resources Defense Council, *Recycling Lies: “Chemical Recycling” of Plastic is Just Greenwashing Incineration*, 7 (Feb. 2022), <https://www.nrdc.org/sites/default/files/chemical-recycling-greenwashing-incineration-ib.pdf>.

<sup>46</sup> The Pew Charitable Trust, et al., *Breaking the Plastic Wave*, 35 (2020) [https://www.pewtrusts.org/-/media/assets/2020/07/breakingtheplasticwave\\_report.pdf](https://www.pewtrusts.org/-/media/assets/2020/07/breakingtheplasticwave_report.pdf).

<sup>47</sup> CIEL, *Plastic and Health*, *supra* note 5.

volatile organic compounds (VOCs), chlorinated/brominated dioxins and furans, hydrogen halides and halogens, and other brominated and chlorinated compounds.<sup>48</sup> Additionally, additives and impurities that are present in waste-plastic feedstocks are likely to make their way into the nearby environment through a facility's waste streams. A study conducted by Das, et al. in 2021, for example, showed that brominated organic compounds can end up in pyrolysis byproducts like solid residue or flue gas rather than in pyrolysis oil.<sup>49</sup> These operations also have large carbon footprints, with some studies showing that they emit over double the amount of greenhouse gas emissions as compared to mechanical recycling.<sup>50</sup>

These “chemical recycling” facilities, and the toxic chemicals they emit, are disproportionately located in communities of color and low-income communities, putting the health of the residents unreasonably at risk.<sup>51</sup> Pyrolysis and gasification can “lead to direct and indirect exposure to toxic substances for workers and nearby communities, including through inhalation of contaminated air, direct contact with contaminated soil or water, and ingestion of foods that were grown in an environment polluted with these substances.”<sup>52</sup>

Additionally, pyrolysis and gasification facilities pose fire risks that further threaten the safety and health of nearby communities. For example, in April 2023, a fire broke out at a plastics pyrolysis plant in Richmond, Indiana. For days, its thick, black, toxic smoke endangered the lives of the plant's workers, firefighters, and the 2,000 nearby residents forced to evacuate their homes.<sup>53</sup> At gasifier facilities in Sweden, 2,865 fires were documented over a six year period.<sup>54</sup> Burning plastic is inherently dangerous, it creates new toxic chemicals such as cancer-causing dioxins, and certain plastics like polyurethane release hydrogen cyanide, a chemical warfare agent, when burned.<sup>55</sup> The risk of accident at pyrolysis and gasification facilities is

---

<sup>48</sup> Zinaida Manzuch, et al., *Chemical Recycling of Polymeric Materials from Waste in the Circular Economy*, Final Report prepared for the European Chemicals Agency, 52 (Aug. 2021) (surveying studies of pollution associated with pyrolysis and gasification).

<sup>49</sup> Pallab Das, et al., *Value-added products from thermochemical treatments of contaminated e-waste plastics*, 261 *Chemosphere* 129409 (Apr. 2021). Similar observations have been made about the fate of additives in the gasification process. See Fredrik Weiland, et al., *Aspects of chemical recycling of complex plastic waste via the gasification route*, 126 *Waste Management* 65 (May 2021).

<sup>50</sup> The Pew Charitable Trust, et al., *supra*, note 46 at 44, fig. 20; Global Alliance for Incinerator Alternatives, *Chemical Recycling: Distraction, Not Solution*, 5 (2020), [https://www.no-burn.org/wp-content/uploads/CR-Briefing\\_June-2020.pdf](https://www.no-burn.org/wp-content/uploads/CR-Briefing_June-2020.pdf); see also Uekert, et al., *supra* note 41, 969 (“mechanical recycling has lower GHG emissions than chemical recycling, landfilling, or incineration.”).

<sup>51</sup> Singla, *supra* note 45 at 7; Kevin Budris, Just Zero, *Loopholes, Injustice, & The “Advanced Recycling” Myth*, 28-32 (Dec. 2022), <https://just-zero.org/wp-content/uploads/2022/12/2022-12-14-Just-Zero-Advanced-Recycling-Report.pdf>.

<sup>52</sup> CIEL, *Plastic and Health*, *supra* note 5.

<sup>53</sup> James Bruggers, *Where There's Plastic, There's Fire. Indiana Blaze Highlights Concerns Over Expanding Plastic Recycling*, Inside Climate News (Apr. 12, 2023), <https://insideclimatenews.org/news/12042023/plastics-fire-richmond-indiana/>.

<sup>54</sup> CIEL, *Plastic and Health*, *supra* note 5.

<sup>55</sup> *Id.*



therefore not uncommon, as hundreds of similar fires occur in North America each year.<sup>56</sup>

### C. TSCA Addresses the Production of New Chemicals as well as the Production of Existing Chemicals for New Uses.

TSCA was enacted in 1976 to prevent the “unreasonable risks of injury to health or the environment associated with the manufacture, processing, distribution in commerce, use or disposal of chemical substances.” S. Rep. No. 94-698, at 1 (1976) *as reprinted in* 1976 U.S.C.C.A.N. 4491, 4491. Those unreasonable risks had been allowed to proliferate under a previously fragmented regulatory framework that was “inadequate” to address the health and environmental risks posed by toxic chemicals. *See* H.R. Rep. No. 94-1341, at 6 (1976).

Despite its lofty purpose “shortcomings in the statute itself, and by several key decisions of Federal Courts and the Agency’s interpretation of those decisions,” hobbled TSCA’s effectiveness. S. Rep. No. 114-67, at 2 (2015); *see also Safer Chemicals Healthy Families*, 943 F.3d 397, 407 (9th Cir. 2019). Congress responded in 2016 by significantly amending TSCA for the first time in its 40-year history. Those revisions made significant changes to the premanufacture notice requirements at TSCA Section 5.<sup>57</sup>

Section 5 contains TSCA’s provisions to protect the public from new chemicals, and the manufacture and processing of known chemicals in new ways. It accomplishes this by broadly prohibiting the introduction of new chemicals, or the significant new use of existing chemicals, without EPA’s prior approval.<sup>58</sup> New chemicals, and new uses, may be authorized on a case-by-case basis upon submittal of a premanufacture notice or significant new use notice to EPA.<sup>59</sup> EPA reviews these notices to ensure that the new chemical or use does not “present[] an unreasonable risk of injury to health or the environment... including an unreasonable risk to a potentially exposed or susceptible subpopulation.”<sup>60</sup>

If a new chemical or use is determined to present such an unreasonable risk, EPA shall, pursuant to section 5(f), issue either (1) a proposed rule “limiting the amount of such substance which may be manufactured, processed, or distributed in commerce,”<sup>61</sup> and including such other requirements as necessary to protect against

---

<sup>56</sup> *Id.*

<sup>57</sup> 15 U.S.C. § 2604.

<sup>58</sup> *Id.* at § 2604(a)(1)(A).

<sup>59</sup> *Id.*

<sup>60</sup> *Id.* § 2604(a)(3)(A). For more information on the EPA’s review of pre-manufacture notices see EPA, *Review of New Chemical Substances under TSCA Presentation*, Feb. 23, 2022, <https://www.epa.gov/reviewing-new-chemicals-under-toxic-substances-control-act-tsca/integrated-approach-biofuel>.

<sup>61</sup> *Id.* § 2604(f)(2).

that unreasonable risk, or (2) an order prohibiting or limiting the manufacture, processing, or distribution of such substance.<sup>62</sup>

TSCA also acknowledges that in some cases the information around a new substance or new use may be “insufficient to permit a reasoned evaluation of the health and environmental effects of a chemical substance.”<sup>63</sup> Insufficient information concerning the risks posed by a new substance or new use is the statutory equivalent of EPA finding that a substance or use “may present an unreasonable risk of injury to health or the environment.”<sup>64</sup> EPA may also determine that the substance in question will be produced at such a scale that its manufacture or processing poses a risk to human health or the environment.<sup>65</sup>

If EPA determines that there is insufficient information to evaluate the risks posed by a new use or new chemical, the agency “shall issue an order... to prohibit or limit the manufacture, processing, distribution in commerce, use, or disposal of such substance or to prohibit or limit any combination of such activities to the extent necessary to protect against an unreasonable risk of injury to health or the environment, without consideration of costs or nonrisk factors, including an unreasonable risk to a potentially exposed or susceptible subpopulation,” pursuant to section 5(e).<sup>66</sup> If such an order is issued, the submitter of a premanufacture or significant new use notice “may commence” manufacturing or processing in line with the terms of the 5(e) order, “including while any required information is being developed.”<sup>67</sup>

If EPA issues an order or proposes a rule under either sections 5(e) or 5(f), it must, within 90 days, either promulgate a rule pursuant to section 5(a)(2)<sup>68</sup> “that identifies as a significant new use any manufacturing, processing, use, distribution in commerce, or disposal of the chemical substance that does not conform to the restrictions imposed,” under sections 5(e) or 5(f), or publish a statement describing the reasons for not doing so.<sup>69</sup> Such rules are known as Significant New Use Rules (SNURs) and require the submission of a significant new use notice for any use deviating from the terms laid out in the SNUR.<sup>70</sup> In other words, manufacturing

---

<sup>62</sup> *Id.* § 2604(f)(3)(A).

<sup>63</sup> *Id.* § 2604(a)(3)(B)(i).

<sup>64</sup> *Id.* § 2604(a)(3)(B)(ii)(i).

<sup>65</sup> *Id.* § 2604(a)(3)(B)(ii)(II).

<sup>66</sup> *Id.* § 2604(e)(1)(A).

<sup>67</sup> *Id.*

<sup>68</sup> Section 5(a)(2) instructs that “a determination by the Administrator that a use of a chemical substance is a significant new use with respect to which notification is required... shall be made by a rule promulgated after a consideration of all relevant factors,” including several statutorily described factors. 15 U.S.C. § 2604(a)(2).

<sup>69</sup> *Id.* § 2604(f)(4).

<sup>70</sup> *Id.*

and processing that complies with the SNUR does not require EPA's preauthorization.

D. EPA's TSCA Section 5(e) Order Regarding Chevron's Premanufacture Notice.

In August 2022, EPA and Chevron U.S.A., Inc. (Chevron) entered into a consent order pursuant to TSCA Section 5(e) that authorized the production of pyrolysis oils from plastic waste feedstocks by Chevron at a refinery in Pascagoula, MS ("2022 Consent Order").<sup>71</sup> The 2022 Consent Order placed some conditions on those activities including that the substances be used only "as a fuel, fuel additive, fuel blending stock, or refinery feedstock (including, but not limited to: cracking, coking, hydroprocessing, distillation, or deasphalting) subject to 40 C.F.R. Part 79 or 1090."<sup>72</sup> The order also incorporated by reference "other applicable EPA and OSHA regulations for worker safety, handling, storage, and transport that are intended to mitigate risks from exposure to fuels."<sup>73</sup> EPA anticipated that pyrolysis oils produced under the 2022 Consent Order would be used in a number of common industrial and consumer applications.<sup>74</sup>

The 2022 Consent Order did not, however, impose any independent limits on the amount of pyrolysis oil that can be produced at the facility, the content of the waste-plastic feedstock that is used to produce the oil, or the emissions of toxic chemicals associated with production of the pyrolysis oil.<sup>75</sup>

---

<sup>71</sup> EPA, *TSCA Section 5 Order for a New Chemical Substance*, PMN Numbers: P-21-0144-0147, P-21-0148-0150, P-21-0152-0154, P-21-155-0158, P-21-0160-0163, Aug.25, 2022 (the "2022 Consent Order").

<sup>72</sup> 2022 Consent Order at 6.

<sup>73</sup> *Id.*

<sup>74</sup> Specifically, EPA found that the "reasonably foreseen conditions of use" would include: "use as a chemical intermediate, carrier for herbicides and pesticides, paint and ink formulations, indoor heating oil, and solvent blend for cleaning, feedstock for ethylene cracker and gasoline reformer, refinery feed to catalytic reformer and heavy naptha sales, marine diesel fuels, anti-wear additive for greases, solvent/diluent for coatings, inks, adhesives, strippers and waxes, component of fuel oil, extraction solvent for metal recovery; cutting fluids; odorless spirits, olefin manufacturing feedstock, specialty solvents, alcohol denaturant, and fuel blendstock based on analogues." 2022 Consent Order at 22.

<sup>75</sup> On April 7, 2023, a group of concerned citizens filed a petition for review of the 2022 Consent Order in the D.C. Circuit. *Cherokee Concerned Citizens v. EPA*, No. 23-1096 (D.C. Cir.). Petitioners in that case challenge the 2022 Consent Order for failing to include sufficient prohibitions and limitations to protect against the unreasonable risks to human health and the environment that EPA concluded would accompany the production of these chemicals, as well as EPA's failure to require Chevron to develop additional information necessary to determine the risks from producing these chemicals, EPA's failure to consider whether non-cancer risks were unreasonable, the lack of analysis specific to potentially exposed or susceptible subpopulations, and EPA's decision to redact information that Petitioners assert did not qualify as Confidential Business Information. Statement of Issues, *Cherokee Concerned Citizens v. EPA*, No. 23-1096 (D.C. Cir. May 11, 2023). That litigation remains pending as of the filing of this letter.

## E. The Proposed Significant New Use Rules

EPA now proposes to adopt Significant New Use Rules, pursuant to TSCA Section 5(a)(2), that largely match the requirements of the 2022 Consent Order with an additional requirement that plastic waste feedstocks be free of specified toxic chemicals and heavy metals.<sup>76</sup> The proposed SNURs apply to 18 substances produced through chemical recycling processes.<sup>77</sup> So long as the manufacture or processing of any of the 18 substances covered by the proposed SNURs is done consistent with its terms, no further EPA review is required.

In particular, the proposed SNURs would require that the covered substances only be used “as a fuel, fuel additive, fuel blending stock, or refinery feedstock (including, but not limited to cracking, coking, hydroprocessing, distillation, or deasphalting) subject to 40 CFR part 79 or 1090,” require the “use of personal protective equipment where there is a potential for dermal exposure,” and the “establishment of a hazard communication program.”<sup>78</sup> The proposal also includes a requirement that the plastic-waste feedstocks used to produce the regulated chemicals not contain “arsenic, cadmium, chromium VI, lead, mercury[], dioxins, phthalates, per- and polyfluoroalkyl substances (PFAS),<sup>79</sup> polybrominated diphenyl ethers (PBDEs), alkylphenols, perchlorates, benzophenone, bisphenol A (BPA), organochlorine pesticides (OCPs), ethyl glycol, methyl glycol, or N-methyl-w pyrrolidone (NMP).”<sup>80</sup> The proposed SNURs would also waive the general Significant New Use Notice exemption at 40 C.F.R. §721.45(i) that allows manufacturers operating under a Section 5(e) order to avoid having to file an Significant New Use Notice if their processes comply with the terms of that order but are inconsistent with a subsequently issued SNUR.<sup>81</sup>

If a manufacturer intends to deviate from the conditions laid out in the SNUR it must first provide EPA with a Significant New Use Notice.<sup>82</sup> Manufacturing consistent with the SNUR requires no such preauthorization.

---

<sup>76</sup> 88 Fed. Reg. at 39,804.

<sup>77</sup> *See, supra* note 2.

<sup>78</sup> 88 Fed. Reg. at 39,808.

<sup>79</sup> EPA defines PFAS as “a chemical substance that contains at least one of these three structures: (i) R-(CF<sub>2</sub>)-CF(R)R”, where both the CF<sub>2</sub> and CF moieties are saturated carbons; (ii) R-CF<sub>2</sub>OCF<sub>2</sub>-R’, where R and R’ can either be F, O, or saturated carbons; or (iii) CF<sub>3</sub>C(CF<sub>3</sub>)R’R”, where R’ and R” can either be F or saturated carbons” for purposes of the SNUR. 88 Fed. Reg. at 39,806.

<sup>80</sup> 88 Fed. Reg. at 39,806.

<sup>81</sup> *Id.*

<sup>82</sup> *Id.* at 39,808.

## II. Comments

### A. The Proposed Rule is a Positive Step Towards Preventing the Introduction of Toxic Substances into Pyrolysis and Gasification Processes, But EPA Should Take Further Action to Ensure the Proposed SNURs Are Effective in Meeting TSCA's Purposes.

The Attorneys General largely support EPA's proposal because it would require EPA's preauthorization before a company could manufacture or process any of the 18 substances subject to the proposed SNURs from feedstocks containing specified hazardous additives and impurities.<sup>83</sup> However, there are thousands of other chemicals known to be added, or otherwise present, in plastic products that are not covered by the proposed SNURs.<sup>84</sup> We are therefore concerned that the proposed SNURs fall short of protecting the public from the processing and use of feedstocks containing other additives and impurities of concern. Moreover, the proposal lacks any clear requirements for testing and certifying a facility's feedstocks to ensure that they comply with the proposed SNURs. In short, the Attorneys General urge EPA to do more to ensure that the plastic waste feedstocks used in pyrolysis and gasification do not contain additives and impurities that could imperil public health.

1. EPA should conduct a comprehensive survey and evaluation of the additives and impurities present in plastics.

The Attorneys General urge EPA to conduct a comprehensive study to identify, and evaluate the hazards posed by, the complete universe of additives and impurities known to occur in plastics. As noted above, there are thousands of different types of plastic and thousands of different chemicals used to make plastic.<sup>85</sup> Under the proposed SNURs, however, a company must only apply for EPA's preauthorization when it proposes to manufacture one of the 18 covered substances from a feedstock containing a limited suite of listed additives and impurities (e.g. PFAS, specific heavy metals, etc.).<sup>86</sup> EPA's list of additives and impurities is, simply put, not exhaustive. To address this issue, EPA should conduct a study to comprehensively evaluate the additives and impurities present in any plastic waste used as feedstock for pyrolysis and other such chemical recycling processes and extend the proposed SNURs as necessary to prevent those additives and impurities from entering the pyrolysis and gasification processes.

---

<sup>83</sup> 88 Fed. Reg. 39,805-06

<sup>84</sup> UNEP, *Chemicals in Plastics*, *supra* note 7.

<sup>85</sup> Lisa Zimmerman, et al., *Benchmarking the in Vitro Toxicity and Chemical Composition of Plastic Consumer Products*, 53 *Enviro. Sci. and Tech.* 11467 (Aug. 5, 2019), <https://pubs.acs.org/doi/full/10.1021/acs.est.9b02293>.

<sup>86</sup> 88 Fed. Reg. at 39,805-06.

2. EPA should articulate clear testing and certification requirements to ensure compliance with the SNURs.

A company wishing to produce one of the 18 chemicals covered by the proposed SNURs can do so without having to submit a premanufacture or significant new use notice so long as it complies with all SNUR conditions.<sup>87</sup> But it is unclear from the proposal how EPA will verify that companies operating under the proposed SNURs do so using feedstocks that are free of the listed additives and impurities that would trigger the premanufacture or significant new use notice requirements. This is particularly concerning given the near ubiquity of these chemicals in plastic waste, and the potential for their release or incorporation into new end products.<sup>88</sup> Thus, a program to monitor and verify the composition of the feedstocks used at facilities claiming compliance with the proposed SNURs is essential and we urge EPA to adopt such a program here by using the full extent of its authority under TSCA.

- B. EPA Should Better Ensure that the Production of Chemicals Consistent with the Proposed SNURs Will Not Present Unreasonable Risks to Public Health and the Environment, Including to Potentially Exposed Susceptible Subpopulations.

The Attorneys General are also concerned that the conditions laid out in the proposed SNURs will prove insufficient to mitigate the significant risk to human health and the environment posed by pyrolysis and gasification of plastic waste. Producing the covered substances through pyrolysis and gasification is a high-risk proposition and those risks will be felt by workers, nearby “fenceline” communities, and the public even if the feedstocks used to produce them are free of the additives and impurities listed in the proposed SNURs.

The presence of other toxic additives and impurities in pyrolysis and gasification feedstocks poses significant risks to the population at large and specific risks to the workers that operate the facilities and handle their finished products as well as nearby communities. Generally speaking, these additives and impurities are likely to contaminate end products as well as the waste streams generated by the pyrolysis and gasification processes.<sup>89</sup> A scientific consensus regarding the fate of additives and impurities in the pyrolysis and gasification processes is still being developed, but studies have noted the presence of some additives, like brominated flame retardants, in final pyrolysis products.<sup>90</sup> Members of the public may then be

---

<sup>87</sup> 88 Fed. Reg. at 39,808.

<sup>88</sup> See, *supra* note 24 (discussing prevalence of phthalates as plasticizers).

<sup>89</sup> Manzuch, *supra* note 48 at 43-58 (discussing the fate of chemicals of concern in plastic waste during pyrolysis and other “chemical recycling” processes).

<sup>90</sup> *Id.* at 48 ((Acknowledging that research “on substance of concern in chemical recycling is scarce and mostly focuses on pyrolysis.”), 54 (describing studies detecting brominated flame retardants in pyrolysis oils).

exposed to these additives in a number of ways as EPA anticipates that substances regulated by the proposed SNURs could be used in consumer products like paints and inks, in transportation fuels, and even in home heating oil.<sup>91</sup> Notably, burning plastic-derived fuel can emit ultrafine particles of nickel, lead, and other toxic metals and emits more exhaust than diesel, with a higher sulphuric content than gasoline and diesel.<sup>92</sup>

EPA itself acknowledged the likelihood that producing the covered substances through pyrolysis and gasification will place an unreasonable burden on human health and the environment when it conducted its risk summary and characterization for Chevron's Pascagoula, Mississippi refinery.<sup>93</sup> There, EPA estimated that the cancer risk from exposure to combustion of six of the substances were above one in a million and as high as one in four for two substances in particular.<sup>94</sup> While the Attorneys General acknowledge that these estimates contained numerous conservative assumptions, the results of those estimates are nonetheless shocking and at the very least signal that EPA must gather more information to assess the risks posed by these substances.

Without such information it may be impossible to determine whether the conditions imposed by the proposed SNURs are sufficient to protect workers and nearby communities. EPA did not however, require Chevron to provide more information regarding the toxicity of these substances or the risks inherent in their production and stopped short of requiring any significant measures to mitigate that risk beyond those required by other statutes. In the face of such an informational deficit, EPA is left with no other option but to base its health and safety analysis on the most conservative assumptions possible. Failing to do so could allow the manufacture of new chemicals that place an unreasonable burden on human health and the environment.

The issues with the 2022 Consent Order are relevant here because the proposed SNURs are based largely on the terms of that order.<sup>95</sup> EPA is proposing these SNURs to comply with its obligation under TSCA Section 5(f)(4) which requires EPA to publish a proposed SNUR incorporating the terms of a 5(e) or 5(f) order no more than 90 days after issuing such order, or provide its reasons for not doing so.<sup>96</sup> And the SNURs themselves largely mirror the conditions that the section 5(e) order placed on uses of the covered substances and the requirements found at 40 C.F.R. § 721.63 for workplace personal protective equipment. Thus, any flaws inherent in the 2022 Consent Order are relevant here as well.

---

<sup>91</sup> See 2022 Consent Order at 22.

<sup>92</sup> CIEL, *Plastic and Health*, *supra* note 5.

<sup>93</sup> EPA, *Chevron Waste Plastics Risk Summary and Characterization*, at 15.

<sup>94</sup> *Id.*

<sup>95</sup> 88 Fed. Reg. at 39,805 (discussing the interplay between 5(e) orders and the proposed SNUR).

<sup>96</sup> 16 U.S.C. § 2604(f)(4).

The Attorneys General are also concerned that EPA has failed to properly identify, and assess the risk to, potentially exposed and susceptible subpopulations as TSCA requires.<sup>97</sup> This is particularly troubling because, as the 2022 Consent Order illustrates, these substances will likely be produced at existing refineries which are disproportionately located in minority and low-income areas already overburdened by decades of pollution.<sup>98</sup> These communities will bear the brunt of pollution from pyrolysis and gasification as they are exposed to waste vented to the air, deposited in landfills, and discharged into nearby waters. Existing pollution control requirements for these waste streams are unlikely to account for the variety of additives that may be introduced from waste-plastic feedstocks and therefore fall short of protecting nearby communities from these new pollutants.

### III. Conclusion

Plastic pollution is one of the most intractable issues of our day, but EPA must ensure that novel solutions to this problem do not further risk the health and safety of workers, consumers, and already overburdened communities. The Attorneys General therefore urge EPA to strengthen the proposed SNURs by conducting a comprehensive study to identify, and evaluate, the hazards posed by all of the additives and impurities known to occur in plastics, requiring reporting and certification that a facility's plastic-waste feedstocks are free of those additives, and imposing sufficient conditions on pyrolysis and gasification to protect public health and the environment.

---

<sup>97</sup> See 15 U.S.C. § 2604(e)(1)(a) (requiring EPA to “protect against... unreasonable risks to a potentially exposed or susceptible subpopulation.”). The Attorneys General also note that EPA has acknowledged that the concept of “potentially exposed or susceptible subpopulation” is broad enough to encompass overburdened communities. See Updates to New Chemicals Regulations Under the Toxic Substances Control Act (TSCA), 88 Fed. Reg. 34,100, 34,105 (proposed May 26, 2023).

<sup>98</sup> See e.g., Deep South Center for Environmental Justice, *The More Things Change the More they Remain the Same: Living and Dying in Cancer Alley (1990-2023)* (2023), [https://fluxconsole.com/files/item/211/171496/DSCEJ-CancerAlley\\_Report.pdf](https://fluxconsole.com/files/item/211/171496/DSCEJ-CancerAlley_Report.pdf)(mapping distribution of petrochemical facilities in Louisiana to show disproportionate citing in minority communities).



FOR THE STATE OF MARYLAND

ANTHONY G. BROWN  
Attorney General

/s/ Steven J. Goldstein

Steven J. Goldstein  
Special Assistant Attorney General  
200 Saint Paul Place  
Baltimore, MD 21202  
(410) 576-6414  
sgoldstein@oag.state.md.us

FOR THE DISTRICT OF COLUMBIA

BRIAN L. SCHWALB  
Attorney General

/s/ Lauren Cullum

LAUREN CULLUM  
Special Assistant Attorney General  
Office of the Attorney General  
for the District of Columbia  
400 6th Street, N.W., 10<sup>th</sup> Floor  
Washington, D.C. 20001  
lauren.cullum@dc.gov

FOR THE STATE OF CALIFORNIA

ROB BONTA  
Attorney General

/s/ Justin J. Lee

Justin J. Lee  
Megan Hey  
Deputy Attorneys General  
300 South Spring Street, Suite 1702  
Los Angeles, CA 90013  
justin.lee@doj.ca.gov

FOR THE COMMONWEALTH OF MASSACHUSETTS

ANDREA JOY CAMPBELL  
Attorney General

/s/ I. Andrew Goldberg

I. ANDREW GOLDBERG  
Assistant Attorney General  
Environmental Protection Division  
Office of the Attorney General  
One Ashburton Place, 18<sup>th</sup> Floor  
Boston, MA 02108  
(617) 963-2429  
andy.goldberg@mass.gov

FOR THE STATE OF CONNECTICUT

WILLIAM TONG  
Attorney General of Connecticut

/s/ Kaelah M. Smith

Kaelah M. Smith  
Assistant Attorney General  
165 Capitol Avenue  
Hartford, CT 06106  
(860) 808-5250  
kaelah.smith@ct.gov

FOR THE STATE OF HAWAII

ANNE E. LOPEZ  
Attorney General

/s/ Wade H. Hargrove III

WADE H. HARGROVE III  
Deputy Attorney General  
465 S. King Street, #200  
Honolulu, Hawaii 96813  
(808) 587-3050  
Wade.H.Hargrove@hawaii.gov

FOR THE STATE OF MINNESOTA

KEITH ELLISON  
ATTORNEY GENERAL

/s/ Joseph T. Heegaard

JOSEPH T. HEEGAARD  
Special Assistant Attorney General  
Minnesota Attorney General's Office  
445 Minnesota Street, Suite 900  
St. Paul, MN 55101  
Telephone: (651) 583-6667  
Email: joseph.heegaard@ag.state.mn.us

FOR THE STATE OF NEW JERSEY

MATTHEW J. PLATKIN  
Attorney General of New Jersey

/s/ Willis A. Doerr  
WILLIS A. DOERR  
Deputy Attorney General  
R.J. Hughes Justice Complex  
25 Market Street  
Trenton, NJ 08625-0093  
(609) 376-2789

FOR THE STATE OF NEW YORK

LETITIA JAMES  
Attorney General of New York

/s/ Sarah Kam  
SARAH KAM  
GAVIN G. McCABE  
Assistant Attorneys General  
New York State Office of the Attorney General  
Environmental Protection Bureau  
28 Liberty Street, 19th Floor  
New York, NY 10005  
(212) 416-8465  
sarah.kam@ag.ny.gov

FOR THE STATE OF OREGON

ELLEN F. ROSENBLUM

Attorney General

/s/ Paul Garrahan

Paul Garrahan

Attorney-in-Charge

Steve Novick

Special Assistant Attorney General

Natural Resources Section

Oregon Department of Justice

1162 Court Street NE

Salem, OR 97301-4096

(503) 947-4540

Paul.Garrahan@doj.state.or.us

Steve.Novick@doj.state.or.us

FOR THE COMMONWEALTH OF  
PENNSYLVANIA

MICHELLE A. HENRY

Attorney General

/s/ Ann R. Johnston

ANN R. JOHNSTON

Assistant Chief Deputy Attorney General

Office of the Attorney General

Civil Environmental Enforcement Unit

Strawberry Square

14th Floor

Harrisburg, PA 17120

ajohnston@attorneygeneral.gov

(717) 497-3678

STATE OF RHODE ISLAND

PETER F. NERONHA

Attorney General

/s/ Randelle L. Boots

Randelle L. Boots

Special Assistant Attorney General

Rhode Island Office of the Attorney General

150 South Main Street

Providence, RI 02903

(401) 271-4400 ext. 2122

rboots@riag.ri.gov

STATE OF VERMONT

CHARITY R. CLARK

Attorney General

/s/ Justin Kolber

Justin Kolber

Assistant Attorney General

Environmental and Public Protection Division

Vermont Attorney General's Office

109 State Street

Montpelier, VT 05609

justin.kolber@vermont.gov

802-828-3186

FOR THE STATE OF WASHINGTON

ROBERT W. FERGUSON  
Attorney General

/s/ Jonathan C. Thompson  
JONATHAN C. THOMPSON  
Assistant Attorney General  
Ecology Division  
PO Box 40117  
Olympia WA 98504-0117  
Phone: (360) 586-6740  
Email: Jonathan.Thompson@atg.wa.gov

FOR THE STATE OF WISCONSIN

JOSHUA L. KAUL  
Attorney General

/s/ Zachary B. Corrigan  
Zachary B. Corrigan  
Assistant Attorney General  
State of Wisconsin Department of Justice  
17 W. Main Street, PO Box 7857  
Madison, WI 53707-  
(608) 266-1677  
Corriganzb@doj.state.wi.us