August 15, 2023

Submitted via Regulations.gov
Dr. Michal Freedhoff
Assistant Administrator, Environmental Protection Agency
Office of Chemical Safety and Pollution Prevention
1200 Pennsylvania Ave. NW
Washington, DC 20460-0001

Re: Perchloroethylene; Regulation Under the Toxic Substances Control Act ("TSCA"), Docket No. EPA-HQ-OPPT-2020-0720

Dear Assistant Administrator Freedhoff:

The undersigned organizations submit these comments on EPA's proposed risk management rule (the "Proposed Rule") for perchloroethylene ("PCE").[1]

PCE is a ubiquitous and highly toxic solvent used in dry cleaning, degreasing, petrochemical manufacturing, and various other industrial processes and consumer products. Acute exposure to PCE causes neurological harm, kidney dysfunction, and respiratory distress. Chronic exposure is associated with an increased risk of cancer, neurotoxicity, and other severe health effects. In addition to its widespread occupational and consumer uses, PCE is "the chemical most widely found in groundwater contamination at Superfund sites,"[2] with millions of people across the country exposed to PCE in the air they breathe, the water they drink, and the soil that migrates into their workplaces and homes.

Despite an incomplete and under-protective risk evaluation, EPA still concluded that PCE, as a "whole chemical," presents unreasonable risks to human health. EPA's subsequent fenceline assessment identified dozens of communities that will experience cancer risks exceeding EPA's unreasonable risk benchmark, to say nothing of elevated non-cancer risks that occur at lower exposure levels. TSCA requires EPA to fully eliminate PCE's unreasonable risks, including risks to potentially exposed or susceptible subpopulations like fenceline communities.

The Proposed Rule, despite several important provisions, falls short of that core requirement. EPA is right to prohibit PCE's consumer uses, but it undermines that prohibition with a "de minimis" concentration exemption that is not supported by the record and that fails to address the risks to people who use multiple products containing PCE. EPA is also correct to phase-out PCE's dry-cleaning uses, as multiple states have already done, but it undermines that provision by allowing those uses to continue for up to a decade without any protections for workers, residents living above dry-cleaners, or the surrounding communities in the interim.

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[1] Proposed Rule, Perchloroethylene (PCE); Regulation Under the Toxic Substances Control Act (TSCA), 88 Fed. Reg. 39,652 (June 16, 2023).
[2] Toxics Use Reduction Inst., *Perchloroethylene (Perc)* ("TURI PCE Profile"), https://www.turi.org/Our_Work/Policy/TURA_List/Higher_Hazard_Substances/Perchloroethylene_Perc (last updated Dec. 28, 2020).

Other risks are completely ignored in EPA's Proposed Rule; EPA left fenceline communities exposed to unsafe levels of PCE in their air, and it did nothing to address the known migration of PCE from contaminated soil and drinking water into overlying buildings. At the end of the day, the uses accounting for 80 percent of current PCE production will indefinitely continue under the Proposed Rule, subject to occupational controls that address PCE's unreasonable risks to some, but not all, workers.

TSCA compels a different approach. Instead of permitting the indefinite continuation of all industrial uses that EPA believes can be regulated under a Workplace Chemical Protection Program ("WCPP"), without regard to the risks to surrounding communities, EPA should apply the hierarchy of controls and its own pollution prevention policies to broadly phase out PCE and transition to safer substitutes. If industry submits evidence that a critical use cannot currently be phased out, EPA should establish compliance schedules that allow a longer transition period or grant time-limited exemptions that satisfy the requirements of TSCA 6(g). This approach is supported by EPA's existing risk evaluation and "whole chemical" unreasonable risk determination, and it would have the critical co-benefit of addressing the risks that the Trump Administration unlawfully excluded from that evaluation. It can be implemented without delay in EPA's risk management schedule, and it would result in a stronger, more equitable, and more legally defensible rule. We urge EPA to strengthen the Proposed Rule as set forth below and to finalize a risk management rule that protects all consumers, workers, fenceline communities, and other potentially exposed or susceptible subpopulations from PCE's unreasonable risks.

I. TSCA'S "OVERARCHING PURPOSE" AND STATUTORY MANDATE IS THE ELIMINATION OF CHEMICALS' UNREASONABLE RISKS

"The overarching purpose of . . . TSCA is to protect the public from chemicals that pose an unreasonable risk to health and the environment."[3] Over the first 40 years of its existence, however, TSCA rarely served that purpose. EPA evaluated the risks posed by few existing chemicals, like PCE, and regulated even fewer. One of the only regulations that EPA did issue—a 1989 ban on asbestos—was overturned by the Fifth Circuit Court of Appeals because EPA had not addressed asbestos' unreasonable risks using the "least burdensome requirements."[4]

In 2016, after decades of moribund federal toxics regulation, Congress amended TSCA to "enhanc[e] EPA's authority to regulate chemicals."[5] As relevant to the Proposed Rule, the 2016 amendments overhauled the way that EPA evaluates and manages chemicals' risks. First, Congress directed EPA to conduct risk evaluations for existing chemicals, like PCE, that entered commerce without EPA review or approval. Those risk evaluations must "determine whether [the] chemical substance presents an unreasonable risk of injury to health or the environment,

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[3] *Food & Water Watch, Inc. v. EPA*, 302 F. Supp. 3d 1058, 1066 (N.D. Cal. 2018); *see also* S. Rep. No. 94-698 at 1 (1976) (expressing intent of TSCA to "prevent unreasonable risks of injury to health or the environment associated with the manufacture, processing, distribution in commerce, use, or disposal of chemical substances").

[4] *Corrosion Proof Fittings v. EPA*, 947 F.2d 1201, 1215 (5th Cir. 1991) (quoting 15 U.S.C. § 2605(a)).

[5] 162 Cong. Rec. 7981 (2016).

without consideration of costs or other nonrisk factors, including an unreasonable risk to a potentially exposed or susceptible subpopulation" that experiences "greater risk than the general population" due to "greater exposure" to a chemical substance or "greater susceptibility" to harm from such exposures.[6]

Second, if EPA finds unreasonable risk, TSCA requires EPA to issue a risk management rule that fully eliminates such risk. In the 2016 amendments, Congress eliminated TSCA's mandate to address unreasonable risks using the "least burdensome" requirements, which lawmakers found had "paralyzed EPA and prevented them from regulating some extremely toxic chemicals."[7] In place of the prior requirement to minimize regulatory burdens and costs, Congress directed EPA to regulate chemicals "to the extent necessary so that . . . [they] no longer present[] [unreasonable] risks," using one or more of seven broad risk management tools listed in the statute.[8]

EPA must therefore ensure that any risk management rule issued under TSCA eliminates the chemical's unreasonable risks. Moreover, when multiple options satisfy that statutory mandate, EPA no longer has to select the lowest cost or least burdensome one.[9] Instead, Congress established four criteria that EPA "shall consider" when issuing risk management rules, while granting EPA the discretion to weigh those criteria and determine how to best address a chemical's unreasonable risks:

> (i) the effects of the chemical substance or mixture on health and the magnitude of the exposure of human beings to the chemical substance or mixture;
> (ii) the effects of the chemical substance or mixture on the environment and the magnitude of the exposure of the environment to such substance or mixture;
> (iii) the benefits of the chemical substance or mixture for various uses; and
> (iv) the reasonably ascertainable economic consequences of the rule, . . . [including] the costs and benefits of the proposed and final regulatory action and of the 1 or more primary alternative regulatory actions considered by the Administrator.[10]

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[6] 15 U.S.C. § 2602(12) (defining "potentially exposed or susceptible subpopulation"); *id.* § 2605(b)(4)(A).

[7] 162 Cong. Rec. 7498 (2016) (statement of Sen. Markey); *see also* 162 Cong. Rec. 7984 (2016) (explaining that, by "delet[ing] the paralyzing 'least burdensome' requirement in the existing law and instruct[ing] that EPA's rule must ensure that the chemical substance or mixture 'no longer presents' the unreasonable risk," the amended TSCA "clearly rejects the regulatory approach and framework that led to the failed asbestos ban and phase-out rule of 1989").

[8] 15 U.S.C. § 2605(a).

[9] 162 Cong. Rec. 7984 (2016) (explaining how the amended TSCA "do[es] not require EPA to demonstrate benefits outweigh costs, to definitively determine or select the least-cost alternative, or to select an option that is demonstrably cost-effective or is the least burdensome adequately protective option").

[10] 15 U.S.C. § 2605(c)(2)(A), (B).

II. EPA FOUND THAT PCE PRESENTS UNREASONABLE RISKS BUT FAILED TO EVALUATE THE FULL EXTENT OF THOSE RISKS

As EPA has found, "PCE[,] as a whole chemical substance[,] presents an unreasonable risk of injury to health."[11] "Acute exposures to PCE result in neurotoxicity effects that include central nervous system depression and [impaired] visual processing, including loss of consciousness which can result in death."[12] PCE is considered "likely to be carcinogenic in humans" by all routes of exposure,[13] and a growing body of evidence has also linked PCE exposure to Parkinson's disease and other severe health effects.[14]

In 2021, polluting facilities released approximately 780,000 pounds of PCE into the air, according to Toxics Release Inventory ("TRI") data.[15] Because of its mobility and persistence in water, PCE has contaminated the drinking water supplies of approximately 19 million people in 49 states.[16] PCE has also been detected at more than half of the nation's listed and proposed federal Superfund sites.[17] As a volatile organic compound ("VOC"), PCE is known to migrate from contaminated soil and groundwater into overlying buildings, a process known as vapor intrusion.[18]

In June 2020, EPA finalized a risk evaluation under the amended TSCA that evaluated more than 60 conditions of use and affirmed PCE's unreasonable risks. In multiple ways, however, that 2020 risk evaluation disregarded and understated PCE's risks, in violation of TSCA. Those flaws are described in greater detail in environmental and labor comments on the

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[11] EPA, Revised Unreasonable Risk Determination for Perchloroethylene, at 29 (Dec. 2022) ("PCE Revised Risk Determination"), https://www.epa.gov/system/files/documents/2022-12/PCE_Final%20Revised%20RD_12-5-22.pdf.

[12] EPA, *Risk Evaluation for Perchloroethylene*, Off. of Chem. Safety and Pollution Prevention, Doc. No. 740-R1-8011, at 326 (Dec. 2020) ("PCE Risk Evaluation"), https://www.epa.gov/sites/default/files/2020-12/documents/1_risk_evaluation_for_perchloroethylene_pce_casrn_127-18-4_0.pdf.

[13] *Id.* at 328.

[14] *See* Susan Searles Nielsen et al., *Solvent Exposed Occupations and Risk of Parkinson Disease in Finland*, 4 Clinical Parkinsonism & Related Disorders Art. No. 100092 (2021), https://doi.org/10.1016/j.prdoa.2021.100092.

[15] EPA, TRI Explorer, https://enviro.epa.gov/triexplorer/tri_release.chemical (search for 2021 "Year of Data" and carbon tetrachloride "Chemical") (last visited Aug. 13, 2023).

[16] Env't Working Gr., *Tap Water Database: Tetrachloroethylene (Perchloroethylene)* (2021), https://www.ewg.org/tapwater/contaminant.php?contamcode=2987.

[17] ATSDR, *Toxicological Profile for Tetrachloroethylene*, at 263 (June 2019)("ATSDR Toxicological Profile for PCE"), https://www.atsdr.cdc.gov/ToxProfiles/tp18.pdf.

[18] Minn. Dep't of Health, *Trichloroethylene (TCE) and Tetrachloroethylene (PCE) Exposures and Vapor Intrusion* (Nov. 20, 2018), https://www.health.state.mn.us/communities/environment/hazardous/docs/vihcpinfo.pdf

draft risk evaluation, copies of which are appended to these comments and incorporated by reference herein.[19] Among the most significant flaws:

- EPA failed to consider releases of PCE to the environment and the corresponding risks to communities who are exposed to the chemical in their air, drinking water, and soil, in violation of TSCA's requirement to evaluate risks to "potentially exposed or susceptible subpopulations" who experience "greater exposures" to a chemical substance than the general population;[20]
- EPA evaluated the risks associated with each individual exposure route (i.e., inhalation and dermal absorption) and exposure pathway (i.e., occupational exposures and environmental exposures) in isolation, in violation of TSCA's mandate to consider all of the circumstances under which a chemical is "intended, known, or reasonably foreseen to be manufactured, processed, distributed in commerce, used, or disposed of," as well as "any combination of such activities;"[21]
- EPA failed to consider the risks of continued PCE migration and vapor intrusion from contaminated sites, in violation of TSCA's mandate to evaluate such "ongoing" migration and exposure as "independent disposals."[22]
- EPA failed to consider ecological risks from multiple facilities in different conditions of use that discharge to the same water body, set an ecological concentration of concern that understated risks to the most sensitive species, and, in violation of its own risk assessment guidance, dismissed risks that exceeded EPA's benchmarks for action.[23]
- EPA assumed that workers would be provided with and protected by personal protective equipment ("PPE"), contrary to well-established procedures for occupational risk assessment and EPA's own findings concerning the limitations of PPE.[24]

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[19] Safer Chems. Healthy Families et al., *Comments on Draft Risk Evaluation for PCE,* Docket No. EPA-HQ-OPPT-2019-0502 (July 6, 2020) ("Safer Chemicals Health Families et al. Risk Evaluation Comments"), https://www.regulations.gov/comment/EPA-HQ-OPPT-2019-0502-0040 (attached as **Exhibit A**); Earthjustice and Occupational Health and Safety Law Project, *Comments on Draft Risk Evaluation for PCE*, Docket No. EPA-HQ-OPPT-2019-0502 (July 6, 2020) ("Earthjustice and Occupational Health and Safety Law Project Risk Evaluation Comments"), https://www.regulations.gov/comment/EPA-HQ-OPPT-2019-0502-0046 (attached as **Exhibit B**).

[20] Safer Chemicals Healthy Families et al. Risk Evaluation Comments at 7–22; 15 U.S.C. §§ 2602(12), 2605(b)(4)(A)).

[21] Safer Chemicals Healthy Families et al. Risk Evaluation Comments at 26–29; 15 U.S.C. §§ 2602(4), 2605(a).

[22] *Safer Chems. Healthy Fams. v. EPA*, 943 F.3d 397, 426 (9th Cir. 2019); Safer Chemicals Healthy Families et al. Risk Evaluation Comments at 18–20.

[23] Safer Chemicals Healthy Families et al. Risk Evaluation Comments at 57–59.

[24] Earthjustice and Occupational Health and Safety Law Project Risk Evaluation Comments at 3–11.

EPA has since acknowledged certain of those flaws, but many of them remain unaddressed. In June 2021, half a year after finalizing the PCE risk evaluation, EPA "announced important policy changes surrounding risk evaluations issued under the Toxic Substances Control Act," explaining that the Trump Administration's exclusion of air and water exposures was inconsistent with TSCA's obligation to assess risks to potentially exposed or susceptible subpopulations.[25] "To determine if . . . [PCE] . . . present[s] unreasonable risks to these communities," EPA conducted a screening analysis of PCE exposures and risks in fenceline communities.[26] But that screening analysis understated community risks by unrealistically assuming that community members were only exposed to PCE from a single source, via a single exposure route, without any exposures to other chemicals or non-chemical stressors that increase their susceptibility to harm.[27] EPA's Science Advisory Committee on Chemicals ("SACC") warned that EPA's "screening methodology was not protective because of the lack of consideration for cumulative exposures, multiple source exposures, or additional risk factors such as stress, poverty, and/or diet that may interact to affect exposures."[28]

In December 2022, EPA revised its risk determination for PCE to implement two primary changes. First, EPA affirmed that occupational risks must be calculated without the assumption of PPE use.[29] Rejecting industry arguments that health-protective PPE was already required by OSHA's PCE standard, EPA found that "unreasonable risk may exist for subpopulations of workers that may be highly exposed because they are not covered by OSHA standards, or their employers are out of compliance with OSHA standards, or because many of OSHA's chemical-specific permissible exposure limits largely adopted in the 1970's are described by OSHA as being 'outdated and inadequate for ensuring protection of worker health,' or because the OSHA PEL alone may be inadequate to protect worker health."[30] Second, instead of separate risk determinations for each condition of use, EPA issued a single unreasonable risk determination

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[25] *EPA Announces Path Forward for TSCA Chemical Risk Evaluations*, (June 30, 2021), https://www.epa.gov/newsreleases/epa-announces-path-forward-tsca-chemical-risk-evaluations.

[26] *Id.*

[27] Black Women for Wellness et al., *Comments on EPA's Draft TSCA Screening Level Approach for Assessing Ambient Air and Water Exposures to Fenceline Communities Version 1.0*, Docket No. EPA-HQ-OPPT-2021-0415-0081 (Mar. 22, 2022) (**attached as Exhibit C**).

[28] Sci. Advisory Comm. on Chems., EPA, *Meeting Minutes and Final Report: A Set of Scientific Issues Being Considered by the Environmental Protection Agency Regarding Draft TSCA Screening Level Approach for Assessing Ambient Air and Water Exposures to Fenceline Communities Version 1.0,* at 38 (May 16, 2022) ("SACC Fenceline Assessment Report"), https://www.regulations.gov/document/EPA-HQ-OPPT-2021-0415-0095; *see also id.* ("Lack of considerations for these factors may underestimate the adverse effects from environmental exposures in fenceline communities."). EPA's revised its fenceline assessment in the Proposed Rule to incorporate additional data concerning PCE releases, but it has not addressed most of the flaws identified by the SACC.

[29] PCE Revised Risk Determination at 8–10.

[30] EPA, *Perchloroethylene; Revision to Toxic Substances Control Act (TSCA) Risk Determination: Response to Public Comments*, at 32 (Dec. 2022) (" EPA Response to Pub. Comments"), https://www.epa.gov/system/files/documents/2022-12/PCE%20RD%20-%20RtC_11-30-22.pdf.

for PCE "as a whole chemical."[31] EPA explained that, because PCE's "chemical-specific health hazards and exposures cut across the conditions of use within the scope of the risk evaluation," "a whole chemical approach will help ensure the public . . . is protected from unreasonable risks from chemicals in a way that is supported by science and the law."[32]

EPA's revised unreasonable risk determination allows EPA to regulate PCE as a "whole chemical" in this risk management rule. To eliminate the chemical's unreasonable risks, however, EPA must account for the risks that EPA ignored or understated in its PCE evaluation.

III. EPA MUST STRENGTHEN THE PROPOSED RULE TO COMPLY WITH TSCA AND ENSURE THE ELIMINATION OF PCE'S UNREASONABLE RISKS

The Proposed Rule violates TSCA's core requirement to regulate PCE "to the extent necessary so that the chemical substance . . . no longer presents [unreasonable] risks.[33] To its credit, EPA proposed to prohibit all consumer and certain commercial uses of PCE.[34] As described below, those prohibitions are necessary, and we urge EPA to finalize them while removing exceptions that could leave people exposed to unreasonable risk.[35] But, according to EPA, the prohibited uses collectively "compris[e] less than an estimated 20% of the current production volume of PCE."[36] The vast majority of PCE production and use would continue indefinitely, with occupational exposures regulated under a Workplace Chemical Control Program ("WCPP").[37] The WCPP would not protect the communities surrounding facilities where PCE is processed and used, the people who are exposed from the ongoing migration of PCE in soil and groundwater, the workers who are exposed to PCE from multiple routes and pathways, or the environment. For those reasons and others, the Proposed Rule must be strengthened.[38]

The Trump Administration's exclusion of fenceline communities from its PCE risk evaluation does not justify EPA ignoring those and other potentially exposed or susceptible subpopulations in its Proposed Rule. To the contrary, a rule that fails to acknowledge the deficiencies in the PCE risk evaluation will be under-protective and more legally vulnerable than a rule that renders those flaws harmless. Having found that PCE, as a whole chemical, presents unreasonable risk, TSCA requires EPA to consider the chemical's health effects, the magnitude of human exposures, and the costs and benefits of different regulatory options during the risk management stage. Based on those considerations and existing EPA's unreasonable risk determination, EPA has broad authority to adopt a stronger risk management rule that it has currently proposed.[39]

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[31] PCE Revised Risk Determination at 3–4.
[32] EPA Response to Pub. Comments at 8.
[33] 15 U.S.C. § 2605(a).
[34] 88 Fed. Reg. at 39,654.
[35] *See infra* pp. 17–20.
[36] 88 Fed. Reg. at 39,655.
[37] *Id.*
[38] *See infra* Point III.A.
[39] See *infra* Point III.B.

To be clear, EPA can eliminate PCE's unreasonable risks without reopening the underlying risk evaluation or delaying its risk management rule, but doing so will require a different approach than EPA has adopted in the Proposed Rule. Instead of seeking to preserve as many uses of PCE as EPA believes can be covered by a WCPP, EPA should phase out as many uses of PCE as possible while permitting the time-limited continuation of any critical uses pursuant to TSCA section 6(g). As described below, that approach would spur the development and use of safer substitutes, advance the Biden Administration's environmental justice commitments, and satisfy TSCA's requirement to ensure the elimination of PCE's unreasonable risks. In contrast, EPA's proposal to indefinitely continue more than 80 percent of current PCE—relying on controls that understate occupational risks, fail to address exposures outside the workplace, and ignore the risks associated with PCE migration from contaminated soil and groundwater—falls short of that mandate.[40]

A. The Proposed Rule Fails to Eliminate PCE's Unreasonable Risks

The Proposed Rule leaves fenceline communities exposed to risks that EPA has not adequately assessed or regulated under TSCA. Those communities have "greater exposure" to PCE because of their proximity to polluting facilities, and they are also often more susceptible to harm from PCE because of their co-exposure to other toxic chemicals and non-chemical stressors.[41] They are thus a "potentially exposed or susceptible subpopulation" under TSCA, meaning EPA must specifically evaluate and eliminate any unreasonable risks that they experience.[42]

But EPA ignored fenceline community exposures in the PCE risk evaluation, an exclusion that EPA has since acknowledged "resulted in a failure to consistently and comprehensively address potential exposures to potentially exposed or susceptible subpopulations."[43] Moreover, as the SACC reported, EPA's post-risk evaluation screening analyses are "not protective" of those communities real-world exposures and risks.[44] Among other flaws, those analyses understated those communities' risks by unrealistically assuming that community members were exposed to PCE from a single source, via a single exposure route, without accounting for unplanned chemical releases and exposures to other chemical and non-chemical stressors that increase their susceptibility to harm.[45] They failed to consider exposures to PCE from groundwater and unrealistically assumed that no one would be exposed to PCE in the air for more than 33 years, ignoring the risks to people who rely on PCE-contaminated groundwater for their drinking water supplies or who spend their entire lives in fenceline

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[40] See *infra* Point III.C-III.D.
[41] 15 U.S.C. § 2602(4).
[42] *Id.*
[43] *EPA Announces Path Forward for TSCA Chemical Risk Evaluations*, (June 30, 2021), https://www.epa.gov/newsreleases/epa-announces-path-forward-tsca-chemical-risk-evaluations.
[44] SACC Fenceline Assessment Report at 38.
[45] *Id.*; *see also id.* at 38 (warning that EPA's "screening methodology was not protective because of the lack of consideration for cumulative exposures, multiple source exposures, or additional risk factors such as stress, poverty, and/or diet that may interact to affect exposures").

communities.[46] Therefore, even if those screening analyses failed to detect risks of concern, they would not rule out the possibility of unreasonable risk.

Despite undercounting those exposures and risks, however, EPA's screening analyses still identified nearly 30 facilities, mostly associated with non-prohibited conditions of use, that "had [fenceline] risk estimates above the benchmark for cancer."[47] EPA did not disclose the non-cancer risks to those communities, despite finding that "[n]eurotoxicity, in particular impaired visual and cognitive function and diminished color discrimination, are the most sensitive adverse effects driving the unreasonable risk of PCE."[48] EPA asserts that the Proposed Rule "is expected to reduce the potential risks identified in the screening analysis to any general population or fenceline communities close to facilities engaging in PCE use."[49] But TSCA's mandate is not merely to "reduce" the unreasonable risks experienced by fenceline communities, but rather to regulate PCE "to the extent necessary" so that it "no longer presents" such risks.[50]

The risks that EPA left unaddressed are concentrated in environmental justice communities. For instance, more than 50% of the people residing within one mile of the Phifer Inc. facility in Tuscaloosa, AL, which releases more than 15,000 pounds of PCE per year, are

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[46] Memorandum from Kevin Vuilleumier, M.S., Env't Eng'r Risk Assessment Branch 1, Existing Chem. Risk Assessment Div., EPA to Joel Wolf, Chief Risk Mgmt. Branch 1, Existing Chem. Risk Mgmt. Div., EPA Regarding Perchloroethylene: Fenceline Technical Support – Air Pathway ("Fenceline Technical Support, Air Pathway")at 2 (May 2023), https://www.regulations.gov/document/EPA-HQ-OPPT-2020-0720-0092."

[47] *Id.* at 2, 6–8. For the "general population," including fenceline communities, EPA uses a "benchmark" cancer risk $1x10^{-6}$, or 1-in-1,000,000. *Id.* at 3. Having exceeded that benchmark in multiple communities, EPA attempts to move the goalposts, claiming that, while "[i]t is preferable to have the air concentration of PCE result in an increased cancer risk closer to the 1×10^{-6} benchmark … 1×10^{-4} [or 1-in-10,000] … represent[s] the upper bound of acceptability for estimated excess cancer risk." 88 Fed. Reg. 39,700. But that is not what EPA said when it was conducting its fenceline assessments, and EPA weaken its cancer risk benchmark by a factor of 100 in an effort to negate the unreasonable risks it calculated to fenceline communities. *See, e.g.* EPA, *Draft TSCA Screening Level Approach for Assessing Ambient Air and Water Exposures to Fenceline Communities: Version 1.0,* Doc. No. EPA-744-D-22-001, at 54 (Jan. 2022), https://www.epa.gov/system/files/documents/2022-01/draft-fenceline-report_sacc.pdf ("EPA used 1×10^{-6} as the benchmark for cancer risk in fenceline communities. This is consistent with the cancer benchmark used for general population cancer risk in several other EPA programs and in previous risk evaluations.").

[48] 88 Fed. Reg. at 39,652.

[49] 88 Fed. Reg. at 39,700.

[50] 15 U.S.C. § 2605(a).

Black.[51] EPA calculated fenceline risks to that community exceeding its cancer risk benchmark[52] on top of a preexisting air toxics cancer risk index that ranks among the highest 10% in the nation.[53] More than 75% of the people residing within one mile of the Lyondell Chemical facility in Channelview, TX, which releases more than 11,600 pounds of PCE per year, are Latino.[54] EPA also calculated excess cancer risks for that community[55] on top of a preexisting air toxics cancer risk index that ranks among the highest 5% nationwide.[56] Facilities that release PCE are often clustered around other polluting facilities; for instance, the Oxy Vinyls VCM Plant in La Porte, TX has 8 other TRI reporting facilities within 1 mile, 38 within 3 miles, and 66 within 5 miles.[57] EPA's environmental justice analysis concluded that, "to be able to assess cumulative impacts on communities it is important to understand what is being emitted and what risks these facilities pose."[58] Yet EPA did not attempt to conduct that analysis or to address the cumulative exposures that can render residents of La Porte and other fenceline communities more susceptible to harm from PCE.

The Proposed Rule also fails to address other risks that EPA ignored or understated in the PCE risk evaluation. For instance, EPA selected its 0.14 ppm Existing Chemical Exposure Limit ("ECEL") based on the level that sits risk evaluation found would be protective against neurological effects. But the risk evaluation assumed that people would only be exposed through a single exposure route and pathway, and thus left workers who are exposed on the job and in their communities at risk. EPA also addressed the risks from each condition of use separately, despite the potential for workers to be exposed from multiple conditions of use occurring at the same facilities. This piecemeal regulation is contrary to EPA's "whole chemical" unreasonable risk determination, and it fails to protect people who are exposed from multiple conditions of use. The Proposed Rule thus violates TSCA's requirement to ensure the elimination of PCE's unreasonable risks to workers, fenceline communities, and other potentially exposed or susceptible subpopulations.

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[51] EPA, TRI Explorer: Release Reports, https://enviro.epa.gov/triexplorer/tri_release.chemical (printout of 2021 PCE release data attached as **Exhibit D**); EPA, EJScreen: EPA's Environmental Justice Screening and Mapping Tool (Version 2.2), https://ejscreen.epa.gov/mapper/ (printout of EJScreen Community Report for the community within one mile of Phifer's Tuscaloosa facility attached as **Exhibit E**).

[52] EPA, Fenceline Technical Support – Air Pathway at 18 (Dec. 8, 2022) (Facility TRI ID No. 35403PHFRW4400K).
[53] Ex. E at 2.
[54] Ex. D at 2; EPA, EJScreen: EPA's Environmental Justice Screening and Mapping Tool (Version 2.2), https://ejscreen.epa.gov/mapper/ (printout of EJScreen Community Report for the community within one mile of Lyondell's Channelview facility attached as **Exhibit F**).
[55] EPA, Perchloroethylene: Fenceline Technical Support – Air Pathway at 15 (Facility TRI ID No. 77530RCCHM2502S).
[56] Ex. F at 2.
[57] EPA, *Economic Analysis of the Proposed Regulation of Perchloroethylene Under TSCA Section 6(a)*, at 10–33 (June 2023) ("Economic Analysis"), https://www.regulations.gov/document/EPA-HQ-OPPT-2020-0720-0125.
[58] *Id.*

Finally, the Proposed Rule fails to address PCE's significant ecological risks. EPA's assertion that "exposures to the environment did not drive the unreasonable risk [for PCE]" is belied by EPA's own ecological risk analyses.[59] As described in prior comments, EPA's risk evaluation significantly understated PCE's risks to fish and other ecological receptors. First, EPA evaluated individual risks from individual facilities and conditions of use in isolation, even though EPA's own analyses show that multiple facilities in different conditions of use are located in the same municipality and discharge to the same water bodies and treatment plants.[60] Next, disregarding the advice of its own science advisory panel, EPA did not use the most sensitive species to calculate PCE's environmental risks.[61] Instead, EPA averaged toxicity values across several fish species to derive a concentration of concern, protecting a theoretical hybrid fish that does not exist in the real world as opposed to the actual species that are exposed to and harmed by PCE.[62] Between the draft and final risk evaluations, EPA weakened its ecological concentrations of concern without any adequate explanation, reducing PCE's calculated risks by up to two orders of magnitude.[63] Yet, despite its best efforts, EPA still calculated ecological risk quotients exceeding 1,[64] which, according to EPA, "generally indicates that there is risk of injury to the environment that would support a determination of unreasonable risk for the chemical substance."[65] EPA's claim that PCE presents no unreasonable environmental risks is contrary to the record, and EPA's failure to take any action to address PCE's environmental risks is contrary to TSCA.

B. TSCA Authorizes and, on These Facts, Requires a Stronger Risk Management Rule

EPA can address the flaws in the Proposed Rule without reopening the PCE risk evaluation or delaying the rule's finalization. EPA has broad authority to regulate PCE based on its 2020 risk evaluation and 2022 revised risk determination, which found unreasonable risk from PCE as a "whole chemical." Some of the options for addressing the unreasonable risks identified by EPA, such as a broader PCE prohibition subject to limited section 6(g) critical use exemptions, would have the co-benefit of addressing the exposures and risks that EPA excluded

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[59] 88 Fed. Reg. at 39,702.
[60] *See* Safer Chemicals Healthy Families et al. Risk Evaluation Comments at 57–58.
[61] *See id.* at 58.
[62] *Id.*
[63] *Compare* EPA, Draft Risk Evaluation for Perchloroethylene, Doc. No. EPA-740-R1-8011, at 253–54 (Apr. 2020)("Draft PCE Risk Evaluation"), https://www.regulations.gov/document/EPA-HQ-OPPT-2019-0502-0022 (click "Download") (calculating COC of 1,342 ppb for acute aquatic toxicity and 1.4 ppb for algae), *with* Final PCE Risk Evaluation at 282 (calculating COC of 1,400 ppb for acute aquatic toxicity and 360 ppb for algae).
[64] Final PCE Risk Evaluation at 451–73.
[65] PCE Revised Risk Determination at 10.

from its risk evaluation, rendering the flaws in that evaluation harmless.[66] In contrast, the Proposed Rule would double down on those flaws and leave unreasonable risks unaddressed.

Having found unreasonable risks from PCE as a whole, EPA "shall consider" the factors enumerated in TSCA section 6(c)(2) when deciding how to manage those risks.[67] Those statutory considerations include "the effects of the chemical substance on public health," "the magnitude of the exposure of human beings to the chemical substances," "the likely effect of the rule on . . . public health," and "the costs and benefits of the proposed and final regulatory action and of the 1 or more primary alternative regulatory action[]."[68] TSCA does not permit EPA to exclude any reasonably available information about a chemical's magnitude of exposure and effects on human health and the environment from its section 6(c)(2) analysis merely because the information was not quantified in EPA's risk evaluation. To the contrary, EPA has an independent obligation to consider those 6(c)(2) factors during the risk management process, including regulatory costs, benefits, and other "nonrisk factors" that EPA is precluded from considering in a risk evaluation.[69] Where there is insufficient information to conduct quantitative analyses of those factors, TSCA section 6(c)(2) allows EPA to consider and rely on qualitative assessments as well.[70]

When conducting the required section 6(c)(2) analysis for the Proposed Rule, EPA must consider not only the exposures and effects that it quantified in the PCE risk evaluation but also those that it unlawfully excluded. And when evaluating different ways of addressing the unreasonable risks found by EPA—such as a WCPP or a phase-out of a particular use—EPA must consider each alternative's co-benefits to fenceline communities and other exposed populations. In the Proposed Rule's discussion of the section 6(c)(2) factors, EPA "recognizes there is exposure to the general population from air and water pathways for PCE," and that the ongoing use of PCE would place fenceline communities at risk.[71] But EPA has not estimated the "magnitude of the exposure" to those communities or acknowledged the multiple ways that they and other populations are exposed to and harmed by PCE, including exposures from multiple sources and conditions of use. Further, while EPA purports to consider the costs and benefits of a broader PCE ban in its assessment of the Proposed Rule, it implausibly concludes that the benefits of a broader ban are essentially identical to those of the Proposed Rule.[72] But the only way to equate the benefits of those two options is to ignore PCE's risks to fenceline communities

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[66] EPA's "second alternative regulatory action (Option 3)" – which would prohibit more uses of PCE than the Proposed Rule – comes closer to addressing PCE's unreasonable risks, but it too can be strengthened along the lines set forth below. *See* Economic Analysis at 1-5–1-4 (comparing alternative regulatory actions and the Proposed Rule).

[67] 15 U.S.C. § 2605(c)(2)(A).

[68] *Id.*

[69] *Id.* § 2605(b)(4)(A)

[70] *Lab. Council for Latin Am. Advancement v. EPA*, 12 F.4th 234, 250 (2d Cir. 2021) (upholding EPA ban on consumer uses of methylene chloride paint strippers based in part on EPA's "qualitative assessments of the costs to retailers, distributors, and commercial end users").

[71] 88 Fed. Reg. at 39,699–700.

[72] Economic Analysis at ES-19 (comparing benefits from the Proposed Rule ("Option 1") and a broader PCE prohibition ("Option 3")).

and other groups that EPA unlawfully excluded from its PCE risk evaluation and failed to protect in the Proposed Rule. A prohibition would eliminate unreasonable risks to those groups and would thus offer greater benefits than a WCPP. To the extent EPA lacks the information needed to quantify those added benefits, it should discuss them qualitatively.

TSCA further requires EPA to "factor in" the section 6(c)(2) considerations "to the extent practicable" when "selecting among prohibitions and other restrictions."[73] Congress did not specify how EPA must weigh those considerations, leaving that to be determined by EPA on a chemical-by-chemical basis. Therefore, even if EPA were limited to the risks it found in its 2020 risk evaluation, it has the obligation to consider and authority to adopt different means of eliminating those risks, including a broader phase-out of PCE.

Industry has argued that a prohibition is not "necessary" to address uses of PCE that can be managed through other, less restrictive means and is thus barred by TSCA's requirement to regulate PCE "to the extent necessary so that . . . [it] no longer presents [unreasonable] risk."[74] This argument misconstrues the facts and law. As explained above, a broader prohibition of PCE and enhanced regulation of PCE disposal would ensure the elimination of unreasonable risks to consumers, workers, and fenceline communities, whereas the Proposed Rule would not.[75] If any option is barred by section 6(a), it is the one that leaves potentially unreasonable risks unaddressed.

Moreover, even if there were multiple options that eliminated PCE's unreasonable risks, TSCA does not prescribe how EPA accomplishes that statutory requirement. At its core, industry's characterization of a PCE prohibition as excessive or "unnecessary" is just another way of saying that it would be more burdensome for industry to replace a use of PCE than to comply with an ECEL. But Congress amended TSCA in 2016 precisely to remove the requirement that EPA select the "least burdensome" means of managing unreasonable risks, a restriction that lawmakers regarded as "a major roadblock to successful TSCA implementation" and one of "TSCA's biggest flaws."[76]

In place of that mandate, Congress directed EPA to eliminate chemicals' unreasonable risks and enumerated four considerations for EPA to "factor in" when deciding between permissible risk management options.[77] Interpreting "to the extent necessary" to mandate the

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[73] 15 U.S.C. § 2605(c)(2)(B).

[74] Bergeson & Campbell PC, *EPA Proposes to Ban Most Uses of PCE and Establish a WCPP for Uses Not Prohibited*, (June 16, 2023) (quoting 15 U.S.C. § 2605(a)), https://www.lawbc.com/regulatory-developments/entry/epa-proposes-to-ban-most-uses-of-pce-and-establish-a-wccp-for-uses-not-proh.

[75] 88 Fed. Reg. at 28,326 (stating that "EPA cannot determine . . . whether the risk to [fenceline] communities would be . . . unreasonable" or whether the proposed rule would eliminate any such unreasonable risks).

[76] S. Rep. No. 114-67, at 18 (2015); 161 Cong. Rec. 10257 (2015) (statement of Rep. Gene Green); *see also* S. Rep. No. 114-67, at 16 (explaining that TSCA "[was] amended so EPA is better able to ban or phase out the substance[s]" that present unreasonable risk.)

[77] 15 U.S.C. § 2605(c)(2)(B).

least amount of regulation that could address unreasonable risk would override TSCA's newly established decision-making process and resurrect the "least burdensome" means requirement that Congress deliberately eliminated in the 2016 amendments.[78]

Industry's interpretation of TSCA section 6(a) has been rejected by the sole court to consider it. In 2019, the Halogenated Solvents Industry Alliance challenged EPA's risk management rule banning consumer uses of methylene chloride paint strippers, claiming that rule was too broad, and thus in excess of what was necessary to protect consumers, because it swept in some commercial uses for which EPA had not made a finding of unreasonable risk. The Second Circuit upheld EPA's ban, explaining that the relevant inquiry under TSCA section 6(a) was not whether the rule impacted or restricted other uses but rather whether it was "a reasonable means, supported by substantial evidence, to ensure that the unreasonable risks of methylene chloride paint removal products for consumer uses be 'no longer present[ed].'"[79] That is the appropriate standard for a risk management rule, and it is plainly satisfied by a prohibition of non-essential PCE uses.[80]

C. EPA Should Phase Out the Use of PCE and Rely on TSCA Section 6(g) to Evaluate Requests for Time-Limited, Critical Use Exemptions

To manage the unreasonable risks presented by PCE, EPA should phase out as many uses of the chemical as possible. To the extent there are essential uses that cannot currently be phased out, TSCA section 6(g) permits EPA to grant time-limited exemptions to risk management rules. EPA need not identify alternatives for every use that it proposes to ban; rather, industry has proven capable of requesting critical use exemptions when it feels that "[a] specific condition of use is a critical or essential use for which no technically and economically feasible safer alternative is available."[81] Moreover, unlike the indefinite continuation of PCE uses proposed by EPA, critical use exemptions must contain "a time limit . . . to be determined by the Administrator as reasonable on a case-by-case basis," creating an ongoing incentive for the development and use of safer substitutes.[82] They would also avoid unnecessary arguments and potential industry litigation over whether a particular company or industry use can or cannot implement an ECEL.

In addition to satisfying TSCA's obligations, a broader phase-out of PCE is also supported by EPA's longstanding policy objectives. As the Second Circuit recognized in

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[78] *See Stone v. INS*, 514 U.S. 386, 397 (1995) ("When Congress acts to amend a statute, [courts] presume it intends its amendment to have real and substantial effect.").
[79] *Lab. Council for Latin Am. Advancement*, 12 F.4th at 239 (alteration in original) (quoting 15 U.S.C. § 2605(a)).
[80] *See Emhart Indus. v. New England Container Co.*, 274 F. Supp. 3d 30, 58 (D.R.I. 2017) (holding that CERCLA requirement to "assess site conditions … . . *to the extent necessary* to select a remedy" left EPA with "*significant leeway* to develop a remedial investigation and feasibility study process specific to a site" (emphases added) (quoting 40 C.F.R. § 300.430(a)(2)).
[81] 15 U.S.C. § 2605(g)(1)(A).
[82] *Id.* § 2605(g)(3).

upholding EPA's 2019 ban of consumer uses of methylene chloride paint strippers, chemical phase-outs promote the development and deployment of safer alternatives by "creat[ing] new business via alternative products and an evolving marketspace."[83] Upstream prohibitions are also "relatively easy to enforce because key requirements are directly placed on a small number of" manufacturers and suppliers, which also "minimizes to the greatest extent the potential for [PCE] to be intentionally or unintentionally misdirected into the prohibited uses."[84] In contrast, EPA's Proposed Rule relies on ECELs that depend on ongoing monitoring and inspections at a large range of facilities without any discussion of whether EPA has the resources to effectively enforce those workplace controls. EPA's pollution prevention guidance "makes clear" that source reduction—including the substitution of toxic chemicals with safer alternatives—is EPA's "preferred" strategy for reducing risk.[85] Finally, the hierarchy of controls that EPA endorses in the Proposed Rule prioritizes "elimination" and "substitution" as the most effective means of addressing occupational risks.[86]

EPA states that "prohibition is the preferred option … when feasible safer alternatives are reasonably available."[87] But regulatory prohibitions can incentivize the development of safer alternatives, and a broad phase-out of PCE, subject to statutorily authorized section 6(g) exemptions, would achieve EPA's "preferred option" of phasing out replaceable uses of PCE while allowing the temporary continuation of critical uses for which safer alternatives are not currently available. The Proposed Rule, in contrast, does not achieve EPA's stated objective. For instance, EPA permits the continued use of PCE as an adhesive and sealant despite identifying multiple non-solvent, water-based adhesives that, according to EPA's own analysis, are less toxic than PCE.[88] EPA never explains why those alternatives are not "feasible" or why it bypassed its "preferred option" and allowed the use of PCE-based adhesives for all industrial and commercial purposes, regardless of the alternatives available. The best way of identifying and promoting safer alternatives, for PCE adhesives and other conditions of use, is to ban more uses of PCE and to require industry to establish the necessity of a particular use and the absence of safer alternatives in a request for a section 6(g) exemption.

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[83] *Lab. Council for Latin Am. Advancement*, 12 F.4th at 250–51 (2d Cir. 2021).
[84] Proposed Rule, Trichloroethylene; Regulation of Certain Uses Under TSCA § 6(a), 81 Fed. Reg. 91,592, 91,607 (Dec.16, 2016).
[85] Carol M. Browner, *Pollution Prevention Policy Statement*, EPA (June 15, 1993), https://www.epa.gov/p2/pollution-prevention-policy-statement; *see also* 42 U.S.C. § 13101 (establishing a "national policy of the United States that pollution should be prevented or reduced at the source whenever feasible").
[86] 88 Fed. Reg. at 39,659.
[87] *Id.* at 39,691.
[88] EPA, *An Alternatives Assessment for Use of Perchloroethylene* ("Alternatives Assessment"), *App. A: Screening Results of Alternative Products*, Doc. No. EPA-HQ-OPPT-2020-0720-0104, at 8-57 (Jan. 2023), https://www.regulations.gov/document/EPA-HQ-OPPT-2020-0720-0104 (scroll down to the attachment titled "Appendix A: Screening Results of Alternative Products" and click "Download"); *see also* Woodshop News, *3M Introduces Alternative to Solvent-Based Adhesives* (Mar. 6, 2013), https://www.woodshopnews.com/news/3m-introduces-alternative-to-solvent-based-adhesives (last updated Sept. 1, 2017) (describing 3M Fast Tack Water Based Adhesive 1000NF).

D. EPA Must Address the Risks from Ongoing Disposal and Migration of PCE in the Environment

In addition to phasing out ongoing uses of PCE, EPA must address the risks associated with PCE disposal, including ongoing exposures from the migration of PCE through soil and groundwater. TSCA requires EPA to evaluate the risks posed by PCE "under the conditions of use,"[89] or "the circumstances … under which a chemical substance is intended, known, or reasonably foreseen to be manufactured, processed, distributed in commerce, used, *or disposed of*."[90] TSCA also gives EPA express authority to address disposal related risks, including by "prohibit[ing] or otherwise regulat[ing] any manner or method of disposal … by [the chemical's] manufacturer or processor or by any other person who uses, or disposes of it for commercial purposes."[91] Here, EPA has proposed an ECEL to protect the workers engaged in PCE recycling and disposal, but the Proposed Rule completely ignores the hundreds of communities that are exposed to PCE from acts of disposal, including spills, that continue to migrate through the soil and water.

This omission violates TSCA. As the Ninth Circuit made clear, "disposal" under TSCA includes "spills, leaks, and other uncontrolled discharges," as well as "ongoing" releases of a chemical that "was disposed of previously."[92] As described above, "PCE is reported to be the chemical most widely found in groundwater contamination at Superfund sites."[93] According to the California Water Resources Board, there are "more than 400,000 sites in the US where soil and ground water are contaminated by chlorinated solvents" like PCE,[94] including more than half of all proposed and listed federal Superfund sites.[95] When PCE enters groundwater, it "forms a 'plume' of [contamination]" that "migrates in the direction of groundwater flow."[96]

In short, disposed PCE does not remain stagnant in the environment. It leaches, migrates, and volatilizes, resulting in ongoing disposals and risks that TSCA requires EPA to address. PCE-contaminated groundwater plumes are poisoning drinking water supplies for millions of people across the country, yet EPA did not consider those exposures in its risk evaluation or

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[89] 15 U.S.C. 2605(b)(4)(A).
[90] 15 U.S.C. 2602(4) (defining "conditions of use").
[91] 15 U.S.C. 2605(a)(6)(A). TSCA also creates a mechanism for EPA to use "other Federal laws administered in whole or in part by [the EPA] Administrator," such as CERCLA and RCRA, to "eliminate[] or reduce[] to a sufficient extent" the disposal risks identified under TSCA. 15 U.S.C. 2608(b).
[92] *Safer Chems., Healthy Fams.*, 943 F.3d at 426.
[93] *See generally* TURI Perc Profile.
[94] State Water Res. Control Bd., *Groundwater Information Sheet: Tetrachloroethylene (PCE),* at 3, https://clu-in.org/download/contaminantfocus/dnapl/Environmental_Occurrence/PCE-CAfs.pdf (last revised Feb. 8, 2009).
[95] ATSDR Toxicological Profile for PCE at 263.
[96] Nev. Div. of Env't Protection, *About PCE,* at 1, https://ndep.nv.gov/uploads/documents/About_PCE.pdf.

address them in its Proposed Rule.[97] EPA also failed to address the migration of PCE from contaminated soil and groundwater into overlying buildings, despite identifying PCE as a "[c]ommon … chemical[] of concern for vapor intrusion."[98] In Grand Rapids, Michigan, employees of a non-profit organization were forced from their workplace for two months because soil vapor intrusion resulted in unsafe levels of PCE in the indoor air and in employees' blood.[99] In Northern New Jersey, PCE migrated from wastewater storage lagoons at a former DuPont munitions plant through groundwater and into nearby homes, resulting in exposures far exceeding regulatory action levels.[100] Other communities across the country are facing similar risks from PCE vapor intrusion, yet EPA has not attempted to address them in the Proposed Rule. Moreover, unlike the fenceline community risks from ongoing PCE use, a broader prohibition on PCE manufacturing and use would not address the risks from PCE disposal. EPA must address those disposal-related risks in a separate rule, following a supplemental risk evaluation that fully assesses those risks.[101]

IV. THE PROPOSED RULE APPROPRIATELY BANS CONSUMER AND SEVERAL COMMERCIAL USES OF PCE

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[97] *See* EPA, *Summary of External Peer Review and Public Comments and Disposition for Perchloroethylene (PCE),* Off. of Chem. Safety and Pollution Prevention, at 17 (Dec. 2020), https://www.epa.gov/sites/default/files/2020-12/documents/2_summary_of_external_peer_review_and_public_comments_and_disposition_for_for_perchloroethylene_pce_response_to_support_risk_evaluation_for_perchloroethylene_pce_0.pdf ("[E]xposure via drinking water was not assessed in this risk evaluation."). While EPA's fenceline assessment purports to assess the risks associated with surface water discharges to drinking water supplies, it did consider the impacts of PCE disposal and ongoing contamination of groundwater. *See* EPA, *Perchloroethylene: Fenceline Technical Support – Water Pathway*, Doc. No. EPA-HQ-OPPT-2020-0720-0091(Oct. 6, 2022), https://www.regulations.gov/document/EPA-HQ-OPPT-2020-0720-0091 (click "Download").

[98] EPA, *OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air*, Off. of Solid Waste and Emergency Response, at 22 (June 2015), https://www.epa.gov/sites/default/files/2015-09/documents/oswer-vapor-intrusion-technical-guide-final.pdf

[99] Garret Ellison, *Poison Vapor Evacuations Increase as Old Chemical Threats Resurface*, MLive News (Feb. 27, 2017), https://www.mlive.com/news/2017/02/michigan_vapor_intrusion_deq.html.

[100] James M. O'Neil and Scott Fallon, *Toxic Secrets: Pollution, Evasion and Fear in North Jersey*, Bergen Record (Feb. 14, 2018), https://www.northjersey.com/story/news/watchdog/2018/02/14/dupont-pompton-lakes-pollution/806921001/ (last updated Dec. 21, 2018).

[101] EPA's failure to address risks from ongoing disposal and chemical migration is not limited to PCE; it was a common flaw in each of the "first 10" TSCA risk evaluation. Therefore, we recommend that EPA's supplemental risk evaluation cover "ongoing" disposal from all of those chemicals, which would better enable EPA to assess risks that are exposed to combinations of the chemicals (such as PCE and its degradant trichloroethylene ("TCE").)

A. EPA Must Prohibit Consumer and Commercial Uses of PCE-Containing Products, Without a De Minimis Loophole

We support the EPA's proposal to prohibit all consumer and many commercial uses of PCE, which is currently present in approximately 115 different types of products used in the home and a broad range of jobs.[102] EPA's risk evaluations found unreasonable risks from all of those uses of PCE,[103] and there is no effective way to eliminate such risks short of a prohibition. Consumers are not bound by workplace exposure limits, and EPA cannot meaningfully enforce an ECEL and dermal exposure limits at the thousands of diffuse workplaces that use PCE-containing products.

EPA undermines the foregoing prohibitions, however, by permitting the continued use of products containing ostensibly "de minimis" amounts of PCE. EPA claims that "to aid the regulated community with implementing the prohibitions, and to account for de minimis levels of PCE as an impurity in products, EPA is proposing that products containing PCE at concentrations less than 0.1% by weight are not subject to . . . prohibition[]."[104] But EPA's proposed "de minimis" exemption is not limited to "impurities;" instead, it applies to all "[p]roducts containing perchloroethylene at levels less than 0.1 percent by weight," for any reason.[105] EPA also states that "products containing PCE . . . do not drive the unreasonable risk" because EPA calculated that "consumer use of products that are 0.124% PCE or less by weight would not drive the unreasonable risk from PCE" and that "a PCE concentration of 0.7% in aerosol brake degreasing products would achieve exposure concentrations at or below the ECEL" for occupational users.[106]

EPA's de minimis exemption is unjustified and legally impermissible for several reasons. First, when determining the weight fractions that allegedly avoid unreasonable risk, EPA separately calculated the risk from inhalation and dermal exposure for a given product, even though consumers and workers will typically be exposed from both routes.[107] Second, EPA assumes that people will only be exposed to PCE in a single type of product, either at home or at work, as if no one who polishes marble will use both "liquid marble polish" and "wax marble polish," no one who works on cars will use both "brake cleaner" and "rust primer and sealant," or no one who uses coatings and primers on their job will also use them (along with other PCE-containing products) for DIY projects at home.[108] Because of those exclusions, EPA's "de minimis" concentration may still result in unreasonable risks to people who inhale and absorb PCE from more than one product. Third, with respect to occupational users, EPA's "de minimis" calculations were based solely on single-use aerosol brake degreasing products. EPA

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[102] 88 Fed. Reg. at 39,699.
[103] Final PCE Risk Evaluation at 42–44.
[104] 88 Fed. Reg. at 39,671.
[105] *Id.* at 39,717.
[106] *Id.* at 39,693 (citation omitted).
[107] *See* EPA, Risk Management for Perchloroethylene Supplemental File: Consumer Risk Calculator (Mar. 2021), https://www.regulations.gov/document/EPA-HQ-OPPT-2020-0720-0084.
[108] *See id.*

acknowledges that its calculations "may less accurately estimate exposures from other applications where exposures may be different than those predicted [for aerosol brake degreasing], for example due to higher PCE application rates or lower ventilation rates."[109] Moreover, even those aerosol brake degreasing calculations were based entirely on inhalation exposures without any consideration of dermal risks.[110] This omission is significant, because EPA's Workplace Chemical Protection Program—including the prohibition on direct dermal contact—does not apply to aerosol degreasing, and the Proposed Rule does not extend those requirements to workers who use products that contain "de minimis" amounts of PCE.[111] In short, EPA has not shown that its "de minimis" PCE concentration is protective of workers engaged in aerosol degreasing, much less the other occupational uses for which EPA has not attempted to calculate safe weight fractions for PCE in products.

In defining the rule's scope, EPA proposed to prohibit all uses of PCE aside from those that are carved out of TSCA's definition of "chemical substance" or expressly permitted to continue under the Proposed Rule.[112] While the universe of prohibited uses is far too narrow, we support that general regulatory structure, as opposed to one under which prohibited uses are enumerated and all unlisted uses are permitted to continue. EPA determined that PCE presents unreasonable risk "as a whole chemical," a finding that is compelled by the record and based in large part on the chemical's underlying toxicity.[113] New uses of PCE should thus be prohibited, as they would be under the Proposed Rule, unless EPA amends the rule to permit them.

To ensure that consumers do not purchase PCE products intended for non-commercial use, EPA proposed to prohibit the sale of products containing PCE by any "retailer," defined as any "person who distributes in commerce or makes available a chemical substance or mixture to consumer end users, including e-commerce internet sales or distribution."[114] To the extent that EPA permits any continued commercial uses of PCE, we support that definition of "retailer," which was previously used in EPA's prohibition of consumer uses of methylene chloride paint strippers and upheld by the Second Circuit Court of Appeals.[115] To ensure that consumers are not unlawfully purchasing products containing PCE, EPA should also require anyone who sells such products to record tax IDs or other verification methods of a purchaser's commercial status and should be required to provide their PCE sales records and ID verifications to EPA.

B. EPA Should Expedite Its Phase Out of PCE's Dry Cleaning Uses

EPA appropriately proposes a prohibition on the use of PCE in dry cleaning, one of the chemical's most widespread and dangerous uses. However, the Proposed Rule would phase in

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[109] 88 Fed. Reg. at 39,693.
[110] Mem. from Greg Macek, EPA, to Joel Wolf & Kelly Summers, EPA Re: Perchloroethylene (PCE): Risk Management Support Documents 18–20 (Nov. 18, 2022) ("PCE Risk Management Support Documents"), https://www.regulations.gov/document/EPA-HQ-OPPT-2020-0720-0076.
[111] *See* 88 Fed. Reg. at 39,717–18 (listing conditions of use that are subject to the WCPP).
[112] *Id*. at 39,717.
[113] PCE Revised Risk Determination at 29.
[114] 88 Fed. Reg. at 39,716.
[115] *Lab. Council for Latin Am. Advancement*, 12 F.4th at 242.

that prohibition over a 10-year period, leaving workers and fenceline communities exposed to unreasonable risk for a decade.[116] States like California have already eliminated PCE-based dry cleaning, and there are readily available, non-PCE dry cleaning technologies that can be phased in over a much faster timeframe.[117] We urge EPA to move up the final deadline for the phase-out of PCE dry cleaning by at least five years.

EPA's rule would do little to hasten the existing market trend away from PCE dry cleaning. By EPA's own account, "very few PCE machines have been purchased in recent years," but approximately 6,000 previously purchased PCE dry cleaning machines remain in use.[118] Rather than expediting the transition of those dry cleaners away from PCE, the Proposed Rule waits until dry cleaners would be expected to replace their machines anyway, at which point most of them are expected to switch to non-PCE options with or without the Proposed Rule. The use of "third generation" dry cleaning machines, most of which are already "beyond their projected useful life," would be phased out within five years of the Proposed Rule's finalization.[119] The use of fourth generation and fifth generation machines could continue for a decade after the rule's finalization.[120] EPA predicts that, "given the declining trend of use and age of machines," only "60 [PCE dry cleaning] machines are expected to still be in use at the end of the 10-year phaseout period."[121]

EPA's 10-year delay in fully prohibiting PCE drycleaning is twice as long as the phase-out enacted by the State of Minnesota, which in 2021 passed a law that would ban PCE dry cleaning by 2026.[122] EPA has not proposed any interim protections during that phase-in period, meaning workers in drycleaning facilities—who are disproportionately Black and Latino[123] —and people residing above and around those facilities—will remain exposed to unreasonable risks for up to a decade. Instead of waiting until market forces all but eliminate PCE drycleaning, EPA should spur that transition by adopting a five-year phase-out period while requiring protections for workers and fenceline communities in the interim.

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[116] 88 Fed. Reg. at 39,656.
[117] Toxics Use Reduction Inst., Assessment of Alternatives to Perchloroethylene for the Dry Cleaning Industry(June 2012), https://www.turi.org/content/download/7399/134622/file/2012+M%26P+Report+27+Assessment+of+Safer+Alternatives+to+Perchloroethylene.pdf.
[118] 88 Fed. Reg. at 39,656
[119] *Id.* at 39,671.
[120] *Id.*
[121] *Id.*
[122] Carolyn Orr, *With Unanimous Legislative Support, Minnesota Bans Use of Perchloroethylene By Dry Cleaners*, CSG Midwest (Apr. 20, 2021), https://csgmidwest.org/2021/04/20/with-unanimous-legislative-support-minnesota-bans-use-of-perchloroethylene-by-dry-cleaners/.
[123] *See* Economic Analysis at ES-23 to ES-24.

C. EPA Should Use the Hierarchy of Controls to Manage Any Ongoing Occupational Exposures and Risks

For the reasons described above, we urge EPA to afford workers and fenceline communities the same degree of protection as consumers and to phase out all non-essential uses of PCE. However, for any uses that remain, even temporarily, we support EPA's reliance on the hierarchy of controls to manage occupational risks.[124]

As an initial matter, we support EPA's acknowledgment of the critical role for TSCA in worker protections. When Congress amended TSCA in 2016, it defined workers as a "potentially exposed or susceptible subpopulation" in recognition of the increased risks that workers experience from toxic chemicals. For chemicals like PCE, those risks persist despite the existence of OSHA permissible exposure limits ("PELs"), which OSHA readily admits are often "inadequate for ensuring protection of worker health."[125] It was against that regulatory background that Congress amended TSCA and affirmed EPA's role in addressing occupational risks. EPA exercised that statutory authority in the Proposed Rule, and we support EPA's finding, pursuant to TSCA section 9(a), that PCE's "unreasonable risk can be addressed in a more coordinated, efficient, and effective manner under TSCA than under different laws implemented by different agencies," such as the Occupational Safety and Health Act and the Consumer Product Safety Improvement Act.[126] Among those laws, only TSCA imposes a statutory mandate to eliminate unreasonable risks to workers and other potentially exposed subpopulations. Therefore, while EPA's risk management rules should not interfere with OSHA regulations, EPA must use TSCA to strengthen and broaden existing worker protections, as EPA has proposed here.

Consistent with longstanding OSHA practice, the Proposed Rule relies on the hierarchy of controls to manage occupational risks. The hierarchy of controls "is a prioritization of exposure control strategies from most protective and preferred to least protective and preferred techniques. In order of precedence, they are: elimination of the hazard, substitution with a less hazardous substance, engineering controls, administrative controls such as training or exclusion zones with warning signs, and, finally, use of PPE."[127] The hierarchy "has been established industrial hygiene practice since the 1950s,"[128] and it has been endorsed and adopted by OSHA, the National Institute for Occupational Safety and Health ("NIOSH"), the American Society of Safety Engineers, the American Conference of Governmental Industrial Hygienists, the American Public Health Association, the AFL-CIO, and many others. As explained by NIOSH, the hierarchy of controls "normally leads to the implementation of inherently safer systems" because chemical elimination and substitution, as well as engineering and administrative

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[124] 88 Fed. Reg. at 39,659.
[125] *Permissible Exposure Limits – Annotated Tables*, OSHA, https://www.osha.gov/annotated-pels (last visited Aug. 14, 2023).
[126] 88 Fed. Reg. at 39,705.
[127] *Id.* at 39,659 (citation omitted).
[128] OSHA, *Occupational Exposure to Methylene Chloride: Final Rule*, 62 Fed. Reg. 1494, 1582 (Jan. 10, 1997).

controls, are "more effective and protective" than PPE.[129] PPE occupies the lowest tier of the hierarchy because of "problems with adequate facial fit, increased heat stress, reduced vision, increased breathing resistance, speech limitation, limited mobility, and excess weight."[130] Moreover, "[i]ndividuals with impaired lung function due to asthma, emphysema, or chronic obstructive pulmonary disease . . . may be physically unable to wear a respirator."[131] The Proposed Rule should directly reference the hierarchy of controls in its regulatory text and make clear that employers are required to use the highest feasible level of that hierarchy to achieve the ECEL and eliminate dermal exposures.[132] To prevent reliance on PPE, EPA should also require specific engineering controls that may have been proven effective for particular uses, as it did for laboratory uses of PCE.[133]

EPA must resist industry's efforts to weaken the proposed ECEL and should instead strengthen that limit so it protects all workers from unreasonable risk. Industry complains that the 0.14 ppm ECEL, measured as an 8-hour time-weighted average, is "700 times lower than the OSHA legal limit."[134] This discrepancy says far more about the inadequacy of the OSHA PEL than the adequacy of EPA's ECEL. OSHA readily admits that its PCE PEL leaves workers exposed to a "[c]learly . . . significant" "cancer mortality risk of 45 deaths per 1,000 workers,"[135] in part because "OSHA's legal requirement to demonstrate that . . . [PELs] are technologically and economically feasible. . . often precludes OSHA from imposing exposure control requirements sufficient to ensure that the chemical substance no longer presents a significant risk to workers."[136]

If anything, the proposed ECEL should be strengthened. EPA set the ECEL at the highest level "at which an adult human . . . would be unlikely to suffer adverse [neurotoxicity] effects if exposed for a working lifetime."[137] In making that determination, however, EPA assumed that the worker would be exposed only through a single exposure route and pathway, leaving workers who are exposed to PCE on and off the job exposed to unreasonable risk. EPA claims that

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[129] *See* NIOSH, *Hierarchy of Controls* (Oct. 29, 2020) https://downloads.regulations.gov/EPA-HQ-OPPT-2019-0437-0112/content.pdf.
[130] *See ASARCO v. OSHA*, 746 F.2d 483, 496 n.27, 497 (9th Cir. 1984); *see also* 82 Fed. Reg. at 7481.
[131] 88 Fed. Reg. at 39,694..
[132] Currently, the Proposed Rule requires employers to provide "rationale of exposure controls used or not used" in the order set forth in the hierarchy of controls, but it does not impose any meaningful standards for or limits on that rationale, and thus allows could permit employers to rely on PPE based solely on cost concerns. *Id.* at39,720.
[133] *Id.* at 39,680.
[134] Am. Chem. Council, *ACC Responds to EPA Proposed Rule To Restrict Uses of Perchloroethylene* (June 12, 2023), https://www.americanchemistry.com/chemistry-in-america/news-trends/press-release/2023/acc-responds-to-epa-proposed-rule-to-restrict-uses-of-perchloroethylene.
[135] Final Rule, Air Contaminants, 54 Fed. Reg. 2332, 2688 (Jan. 19, 1989) (vacated on procedural grounds *AFL-CIO v. OSHA*, 965 F.2d 962 (11th Cir. 1992)).
[136] 88 Fed. Reg. at 39,657.
[137] *Id.* at 39,659.

neurotoxicity is the most sensitive health endpoint for PCE and that its ECEL thus "protects against excess risk of cancer" for exposed workers.[138] In making that comparison, however, EPA defines the acceptable level of occupational cancer risk as 1-in-10,000, a threshold that is 100 times less protective than the 1-in-1,000,000 cancer risk threshold that EPA uses for consumers and the general population. As described in prior comments, there is no reason for EPA to leave workers exposed to significantly greater cancer risks than consumers, fenceline communities, and other exposed populations.[139] The Science Advisory Committee on Chemicals has also criticized EPA's "[d]ecision that assumes the target cancer risk of less than [1-in-10,000] is an acceptable risk for occupational users when other programs threshold risks at [1-in-100,000 or 1-in-1,000,000]."[140] According to EPA's calculations, a 0.0047 ppm ECEL would be needed to protect workers from a 1-in-1,000,000 benchmark.[141] EPA's proposed ECEL of 0.14 ppm thus leaves workers exposed to cancer risks that EPA would consider unreasonable for everyone other than workers. This double standard is arbitrary, capricious, and inconsistent with TSCA's emphasis on worker protections.[142]

EPA also has not shown that its ECEL is protective against PCE's short-term exposures and risks. The American Conference of Governmental and Industrial Hygienists has established separate eight-hour and 15-minute threshold limit values ("TLVs") for PCE, finding that peak, short-term exposures may harm workers even if a facility complies with the eight-hour TLV.[143] Similarly, Cal/OSHA has established an eight-hour PEL, a 15-minute Short-Term Exposure Limit ("STEL"), and a separate peak exposure limit for PCE.[144] While the Proposed Rule defines "regulated area" as "an area . . . where airborne concentrations of a specific chemical substance exceed, or there is a reasonable possibility they may exceed, the ECEL *or the EPA Short-Term Exposure Limit (STEL)*," EPA has not actually proposed a short-term exposure limit for PCE. [145] Nor has EPA assessed whether its proposed ECEL would protect workers who are exposed to high levels of PCE over a less than eight-hour period.

Finally, EPA should strengthen its proposed protections against dermal exposures to PCE. The Proposed Rule states that regulated employers must "prevent all persons from direct

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[138] EPA, *Existing Chemical Exposure Limit (ECEL) for Occupational Use of Perchloroethylene*, at 1 (Apr. 15, 2021) ("PCE ECEL"), https://downloads.regulations.gov/EPA-HQ-OPPT-2020-0720-0023/content.pdf.

[139] Safer Chemicals Health Families et al. Risk Evaluation Comments at 44-45.

[140] TSCA Sci. Advisory Comm. on Chems., *Meeting Minutes and Final Report No. 2020-02: Peer Review for EPA Draft Risk Evaluation for N-Methylpyrrolidone (NMP)* at 91 (Mar. 5, 2020), https://www.regulations.gov/document/EPA-HQ-OPPT-2019-0236-0066.

[141] PCE ECEL at 2 (finding that a 0.47 ECEL is associated with a 1-in-10,000 cancer risk).

[142] *See, e.g.*, 15 U.S.C. § 2602(12) (defining "workers" as a "potentially exposed or susceptible subpopulation" for which EPA must specifically evaluate risks and eliminate any risks that are found to be unreasonable).

[143] *Tetrachloroethylene*, Am. Conf. Gov't Indus. Hygienists, https://www.acgih.org/tetrachloroethylene-2/ (last visited Aug. 14, 2023).

[144] *Perchloroethylene (Tetrachloroethylene)*, OSHA, https://www.osha.gov/chemicaldata/190 (last visited Aug. 14, 2023).

[145] 88 Fed. Reg. at 39,716 (emphasis added).

dermal contact with perchloroethylene except to the extent that the owner or operator can demonstrate that such controls are not feasible."[146] But "direct dermal contact" does not include "vapor exposures through the skin," so workers will continue to absorb the same PCE vapors that they inhale.[147] Even if dermal absorption of vapors is not driving PCE's unreasonable risks, it is contributing to the risks experienced by workers and others, and EPA cannot exclude those contributions from its decisions about of how to regulate PCE. EPA also permits employers to rely on gloves when other dermal control measures are deemed "not feasible."[148] In its PCE risk evaluation, however, EPA found unreasonable risks from multiple conditions of use, even when the most protective gloves were worn.[149] For such uses, a risk management rule that permits reliance on gloves would violate TSCA's mandate to regulate PCE "to the extent necessary so that [it] no longer presents [unreasonable] risk[s]."[150] If it is not feasible to fully eliminate dermal exposures, then EPA must prohibit the use.

V. FOR ANY ONGOING USES OF PCE, EPA SHOULD STRICTLY APPLY THE SECTION 6(G) EXEMPTION CRITERIA AS OPPOSED TO PERMITTING INDEFINITE CONTINUATION

A. EPA Has Not Justified the Continued Use of PCE in Chemical Manufacturing

The largest ongoing use of PCE is as a reactant in industrial chemical manufacturing, which EPA estimates accounts for nearly 65% of total PCE production.[151] "The leading fluorocarbons being produced from PCE are HFC-134a and HFC-125 . . ."[152] The Proposed Rule would allow the indefinite continuation of this condition of use, claiming that the processing of PCE would "complement the Agency's efforts to address climate-damaging HFCs under the AIM Act."[153] But HFC-134a and HFC-125 are themselves climate-damaging HFCs, which are currently being phased out of use because of their severe climate impacts. A refrigerant used in motor vehicle air conditioning systems, "HFC-134a . . . is a potent greenhouse gas" with a global warming potential ("GWP") 1,300 times greater than carbon dioxide.[154] HFC-125 is even worse for the climate, with a GWP of 3,170.[155] EPA has already banned the use of HFC-134a in new

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[146] *Id.* at 39,719.
[147] *Id.* at 39,675.
[148] *Id.* at 39,719.
[149] Final PCE Risk Evaluation at 419–428.
[150] 15 U.S.C. § 2605(a).
[151] 88 Fed. Reg. at 39,702.
[152] *Id.*
[153] 88 Fed. Reg. at 39,692.
[154] *Refrigerant Properties*, EPA, https://www.epa.gov/mvac/refrigerant-properties (last updated Feb. 28, 2023); Greenhouse Gas Protocol, *Global Warming Potential Values*, https://ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%2016%202016%29_1.pdf (last visited Aug. 14, 2023).
[155] Greenhouse Gas Protocol, *Global Warming Potential Values*, https://ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%2016%202016%29_1.pdf (last visited Aug. 14, 2023).

light-duty vehicles, and after model year 2026, no heavy-duty, off-road vehicles will use HFC-134a cooling systems.[156] HFC-125 is also being phased out under the AIM Act. EPA has estimated economic benefits from the phase-out of HFC-134a and HFC-125 of more than $2.6 trillion and $17.3 billion, respectively.[157] Yet EPA has found that the production of those climate-destroying chemicals, which are currently being replaced with massive environmental and economic benefits, justifies the perpetual processing of PCE as a reactant.

EPA claims that HFC-134a and HFC-125 "are likely to be used in blends to facilitate the transition from other HFCs and HFC blends with higher global warming potential in certain applications."[158] But EPA has not attempted to establish that these two high-GWP HFCs are needed for such blends.[159] Nor has EPA shown that PCE is needed to make HFC-134a and HFC-125. To the contrary, EPA readily admits that it did not "consider whether there are alternative processes that directly replace PCE with an alternative chemical or represent larger changes in multiple process steps in the production of [HFCs], due to the complexity of the analysis."[160]

The use of PCE in HFC production poses serious risks to fenceline communities. For instance, Honeywell manufactures HFCs at its plants in Baton Rouge and Geismar, LA.[161] EPA found that PCE releases from both of those facilities pose elevated cancer risks to surrounding communities, exceeding the 1-in-1,000,000 cancer risk threshold.[162] Instead of permitting those

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[156] *U.S. EPA Proposed Rule Establishes Restrictions on the Use of HFC Classes of Refrigerants*, Ass'n Equip. Mfrs. (Feb. 2, 2023), https://www.epa.gov/mvac/refrigerant-transition-environmental-impacts; https://www.aem.org/news/u-s-epa-proposed-rule-establishes-restrictions-on-the-use-of-hfc-classes-of-refrigerants

[157] EPA, *Regulatory Impact Analysis for Phasing Down Production and Consumption of Hydrofluorocarbons (HFCs)* (June 2022), https://www.epa.gov/system/files/documents/2022-07/RIA%20for%20Phasing%20Down%20Production%20and%20Consumption%20of%20Hydrofluorocarbons%20%28HFCs%29.pdf (using 2050 values, 3% discount rate).

[158] 88 Fed. Reg. at 39,695.

[159] For instance, EPA did not consider whether other, lower-GWP refrigerants qualify as replacements for HFC-32 under the criteria specified in the American Innovation and Manufacturing Act ("AIM Act"). See 42 U.S.C. § 7675(i) (establishing factors for EPA to consider when deciding whether to "restrict, fully, partially, or on a graduated schedule, the use of a regulated substance in the sector or subsector in which the regulated substance is used"); *see also Climate-Friendly Alternatives to HFCs*, Eur. Comm'n, https://climate.ec.europa.eu/eu-action/fluorinated-greenhouse-gases/climate-friendly-alternatives-hfcs_en (last visited June 30, 2023); *Case Studies on Alternatives to HFCs*, Climate & Clean Air Coal., https://www.ccacoalition.org/en/activity/case-studies-alternatives-hfcs (last visited June 30, 2023).

[160] Alternatives Assessment App. D at 1.

[161] Chuck Booten et al., Clean Energy Manufacturing Analysis Ctr., *Refrigerants: Market Trends and Supply Chain Assessment* (Feb. 2020), https://www.nrel.gov/docs/fy20osti/70207.pdf.

[162] Perchloroethylene: Fenceline Technical Support – Air Pathway at 19 (Facility TRI ID Nos. 70734LLDSGHWY31 and 70805LLDSGCORNE).

risks to continue or worsen, EPA should phase-out the processing of PCE as a reactant in industrial chemical manufacturing.

B. Any Ongoing Use of PCE Should be Time-Limited and Restricted to the Exemptions Authorized by TSCA Section 6(g)

Even if there were critical uses of HFC-125 or 134a that could not be immediately phased out, that would not justify the open-ended continuation of all processing of PCE as a reactant. Instead, TSCA section 6(g) allows EPA to grant exemptions from the requirements of a risk management rule upon a showing that "the specific condition of use is a critical or essential use for which no technically and economically feasible safer alternative is available, taking into consideration hazard and exposure."[163] The section 6(g) exemption process ensures HFC manufacturers, and the Agency itself, conduct their due diligence to identify potentially safer substitutes before allowing continued use of a chemical that is known to pose unreasonable risks. EPA must apply the statutory exemption criteria as written, and while we are not taking any position on whether HFC-134a and HFC-125 production would qualify, any continued manufacturing, production, or use of PCE must be limited to the following circumstances provided in section 6(g):

> (A) the specific condition of use is a critical or essential use for which no technically and economically feasible safer alternative is available, taking into consideration hazard and exposure;
> (B) compliance with the requirement, as applied with respect to the specific condition of use, would significantly disrupt the national economy, national security, or critical infrastructure; or
> (C) the specific condition of use of the chemical substance or mixture, as compared to reasonably available alternatives, provides a substantial benefit to health, the environment, or public safety.[164]

Section 6(g) exemptions offer multiple benefits compared to the Proposed Rule's indefinite continuation of PCE uses pursuant to a WCPP. First, and most importantly, by following the section 6(g) process, EPA may in fact identify safer chemicals (or non-chemical substances or methods) to achieve the same purpose—here, an effective refrigerant that does not deplete the ozone layer or worsen global warming—which will eliminate the need for PCE and address the risks to workers and to fenceline communities.

Second, section 6(g) requires exemptions to be time-limited, so any unreasonable risks associated with the use of PCE to produce HFC-134a and HFC-125 will not persist indefinitely. This limitation is particularly important given EPA's acknowledgment that "HFC-134a and HFC-125 [are] . . . regulated substances subject to the overall phasedown in production and

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[163] 15 U.S.C. § 2605(g).

[164] 15 U.S.C. § 2605(g)(1). Section 6(g) exemptions are discretionary, so even where the above conditions are satisfied EPA can determine that the risks associated with a use are so great that an exemption is not warranted. *Id.* (stating that EPA "may" grant an exemption when the statutory criteria are satisfied).

consumption of regulated substances under the AIM Act."[165] With the acknowledged need (and legal mandate) to phase down the use of HFC-134a and HFC-125 over the coming years, there is no need for the perpetual continuation of PCE's use as a process reactant.

Third, the time-limitation in section 6(g) promotes the development and use of safer substitutes and processes, resulting in the "growth of a new marketspace for . . . sales of alternative products."[166] The expiration of an exemption creates an incentive for the pursuit of new refrigerants and safer production processes, spurring innovation.[167]

Fourth, there is a clear statutory standard for a 6(g) exemption, as opposed to the vague and open-ended inquiry into whether a particular use can feasibly comply with the proposed ECEL.

Finally, and most critically for the Proposed Rule, section 6(g) exemptions are the *only* relief that TSCA authorizes from the overarching requirement that EPA ensure the elimination of a chemical's unreasonable risks. Because, as described above, EPA cannot ensure that any risk management measures short of a prohibition have fully eliminated unreasonable risk, EPA must use section 6(g) to review and authorize, where applicable, any ongoing uses of PCE.

Applying section 6(g) will go farther toward eliminating unreasonable risks posed by PCE, and do substantially more to fulfill EPA's commitment (and legal obligation) to protect fenceline communities and workers, than the Proposed Rule. If the production of HFC-134a and HFC-124 from large volumes of PCE were the sole viable option for complying with our climate change commitments (and they are not), such uses could still continue on a time-limited basis under a 6(g) exemption. And if other substances or processes ultimately prove to be suitable substitutes, the law will have succeeded in its core purpose of protecting the public from PCE's unreasonable risks. But TSCA neither contemplates nor allows EPA's proposal to indefinitely continue the processing of PCE as a reactant.

C. EPA Misapplies the Section 6(g) Exemption Criteria

Where EPA relies on section 6(g) to grant relief from a risk management rule, it must carefully apply the statutory exemption criteria and require the party seeking the exemption to demonstrate its applicability. Because a risk management exemption "by its nature . . . will allow for activities that present some degree of unreasonable risk,"[168] Congress imposed strict limits on EPA's authority to grant such exemptions under TSCA section 6(g). EPA must also "analyze the need for the exemption" pursuant to defined statutory criteria and "make public th[at] analysis

[165] 88 Fed. Reg. at 39,695.
[166] *Cf. Lab. Council for Latin Am. Advancement,* 12 F.4th at 250 (describing potential for EPA ban on consumer uses of methylene chloride paint strippers to spur innovation).
[167] While section 6(g) exemptions can be extended "on the basis of reasonably available information and after adequate public justification," that justification requirements an investigation into whether the exemption is still needed, or whether the processing of PCE as a reactant can be fully phased out. 15 U.S.C. § 2605(g)(3).
[168] 162 Cong. Rec. 7985 (2016) (statement of Sen. Merkley).

and a statement describing how the analysis was taken into account."[169] The exemptions in the Proposed Rule fall short of those statutory requirements.

For instance, as it did in its proposed methylene chloride risk management rule, EPA has once again proposed granting the National Aeronautics and Space Administration ("NASA") free reign to continue using PCE in any self-declared "emergency," in violation of section 6(g). The exemption invoked by NASA requires evidence that a "*specific condition of use* is a critical or essential use *for which no technically and economically feasible safer alternative is available*, taking into consideration hazard and exposure."[170] But NASA has not identified any known or foreseen use of PCE that is necessary for its current or anticipated work, much less a "specific condition of use . . . for which no technically and economically feasible safer alternative is available."[171] Instead, NASA "expressed concerns" that some unspecified condition of use "may be identified by NASA during an emergency as being needed in order to avoid or reduce situations of harm or immediate danger to human health," and, should such an emergency arise, "it is possible that no technically and economically feasible safer alternative would be available."[172] But any company whose operations pose significant public health threats—including refineries and chemical manufacturing plants—could similarly claim a need for PCE just in case it proved helpful in an emergency situation. If such speculation were sufficient to satisfy the requirements of section 6(g), the exemptions would swallow EPA's risk management rules. EPA states that "while . . . the use of PCE in emergency situations may be necessary in the near term, it is also EPA's understanding that NASA will continue its work to identify and qualify alternatives to PCE."[173] But if NASA has not identified any current or foreseen uses of PCE, it is unclear how it could possibly "identify and qualify alternatives" for its unknown future uses. In any event, because NASA has not identified any need for PCE, much less one that warrants a critical use exemption, its exemption request must be denied.

EPA also solicits comment on an unlawful section 6(g) exemption that allows federal agencies or contractors to petition EPA should they "become aware of [a critical use of PCE] after the final rule."[174] Under this proposal, EPA could grant the petition and authorize a prohibited use of PCE without any notice or comment; it is not until "*the year following the petition*" that "EPA would take public comment *on the approved petition*."[175] This proposal violates section 6(g)'s requirement that exemptions be granted "as part of a rule promulgated under subsection (a)[] or in a separate rule."[176] Under both TSCA and the Administrative Procedure Act, an essential part of the rulemaking process is the opportunity for public comment *before* a rule takes effect.[177] "[P]ermitting the submission of views after the effective date (of a regulation) is no substitute for the right of interested persons to make their views known to the

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[169] 15 U.S.C. § 2605(g)(2).
[170] *Id.* § 2605(g)(1)(A) (emphases added).
[171] *Id.*
[172] 88 Fed. Reg. at 39,681.
[173] *Id.*
[174] *Id.* at 39,669.
[175] *Id.* at 39,670 (emphases added).
[176] 15 U.S.C. § 2605(g)(1).
[177] *Id.* § 2605(c)(1); 5 U.S.C. § 553.

agency in time to influence the rule-making process in a meaningful way."[178] EPA cannot circumvent section 6(g)'s rulemaking requirements by creating a parallel petition process under which the people whose health is threatened by a proposed exemption would not learn of the request until after EPA had already decided to approve it.

Federal agencies have known of PCE's potential TSCA regulation since at least 2016, and the Proposed Rule underwent internal agency review before it was published for comment. Federal agencies have had ample opportunity to identify any critical operations that may be impacted by the Proposed Rule. If they fail to take advantage of that opportunity and discover additional uses of PCE after the rule is finalized, they can seek a section 6(g) exemption through the required rulemaking procedures, just like everyone else.

VI. EPA'S ECONOMIC ANALYSIS FAILS TO ACCOUNT FOR ALL THE PROPOSED RULE'S REGULATORY BENEFITS

Contrary to industry's claims, EPA appropriately accounts for the Proposed Rule's costs in its *Economic Analysis of the Proposed Regulation of Perchloroethylene Under TSCA Section 6(a)* (the "Economic Analysis"). EPA need not quantify all the rule's costs or benefits in order to assess its "reasonably ascertainable economic consequences," as required by TSCA section 6(c).[179] To the contrary, the Second Circuit upheld EPA's ban on consumer uses of methylene chloride paint strippers despite EPA's "inability to quantify the costs of the Final Rule to retailers, distributors, and small commercial users."[180] The Court agreed with EPA that those costs were "impossible to estimate because of the likely growth of . . . sales of alternative products," and upheld EPA's "qualitative assessment[]" of such costs.[181] Here, too, the costs to PCE manufacturers, processors, and users will be offset in part by the development and use of alternative products. EPA reasonably estimates the costs of complying with the Proposed Rule, including costs that businesses would incur in familiarizing themselves with the new rule, complying with its downstream notification requirements, reformulating products, changing industrial processes, and implementing and complying with a WCPP.[182] Finally, EPA qualitatively addresses costs that could not be quantified, such as "[t]he extent to which

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[178] *AFL-CIO v. Block*, 655 F.2d 1153, 1158 (D.C. Cir. 1981) (quotation omitted); *see also Sharon Steel Corp. v. EPA*, 597 F.2d 377, 381 (3d Cir. 1979) ("[T]he period for comments after promulgation cannot substitute for the prior notice and comment required by the APA. If a period for comments after issuance of a rule could cure a violation of the APA's requirements, an agency could negate at will the Congressional decision that notice and an opportunity for comment must precede promulgation."); *U.S. Steel Corp. v. EPA*, 595 F.2d 207, 214 (5th Cir. 1979) (affirming that the APA "is designed to ensure that affected parties have an opportunity to participate in and influence agency decision making at an early stage, when the agency is more likely to give real consideration to alternative ideas").

[179] 15 U.S.C. § 2605(c)(2)(A).

[180] *Lab. Council for Latin Am. Advancement,* 12 F.4th at 250.

[181] *Id.*

[182] *See generally* Economic Analysis at 7-8 to 7-70.

respirators might reduce worker productivity or necessitate offering higher wages to workers who must wear respirator."[183] This cost analysis satisfies the requirements of section 6(c)(2).

If anything, the Economic Analysis understates the rule's benefits and overstates its costs. For instance, despite acknowledging the potential for fenceline communities to experience ongoing cancer and non-cancer risks, EPA does not evaluate, quantitatively or qualitatively, the benefits of different regulatory options for fenceline communities. This omission understates the relative benefits of PCE phase-outs and prohibitions, which offer greater benefits to those communities than other risk management options. EPA's screening analysis of fenceline community risks, while incomplete and understated, provides a starting point for EPA's assessment of regulatory benefits to impacted communities. To the extent that EPA lacks the information needed to fully quantify those benefits, at a minimum it should acknowledge and describe them qualitatively and acknowledge that the second alternative regulatory action would offer greater benefits to fenceline communities by phasing out more of the uses that contaminate their air and threaten their health.

EPA also fails to quantify one of PCE's most significant economic costs and thus significantly understates the proposed benefits of the Proposed Rule and of regulatory alternatives like a broader PCE prohibition. In its risk assessment, EPA identified neurological effects as the most sensitive health endpoint for PCE, and that is the endpoint that drove the selection of EPA's proposed ECEL. "Neurotoxic effects of PCE identified in human studies include visual deficits, impaired cognition, and decreased math test scores."[184] Additionally, "prenatal and early childhood exposure to PCE in drinking water was associated with … illicit drug [use], early and heavy smoking, and frequent or heavy drinking."[185] EPA acknowledges that the "dollar-valued benefits from reduced neurotoxicity are potentially large due to the high social costs of drug and alcohol abuse and reduced cognition."[186] The Proposed Rule left those "large" benefits unquantified because "[w]ithout estimates of reduced incidence[,] it is not possible to express these benefits in quantitative or monetary terms."[187]

But EPA has all the information it needs to calculate the reduced incidence of neurotoxicity from reductions in PCE exposures. While EPA did not conduct a probabilistic non-cancer risk assessment and thus did not estimate the reduced incidence of neurotoxicity in its risk evaluation, a recently published, peer-reviewed paper fills that gap.[188] Scientists from the Boston University School of Public Health, Yale School of Public Health, University of California San Francisco's Program on Reproductive Health and the Environment, and others used the information in EPA's risk evaluation to calculate the likelihood of neurotoxicity from exposure

[183] *Id.* at 7-71.
[184] *Id.* at 8-1.
[185] *Id.*
[186] *Id.*
[187] *Id.*
[188] Greylin H. Nielsen et al., *Application of Probabilistic Methods to Address Variability and Uncertainty in Estimating Risks for Non-cancer Health Effects*, 21 Env't Health Art. No. 129 (2023), https://doi.org/10.1186/s12940-022-00918-z.

to different doses of PCE, concluding that "[approximately] 1 in 1000 people" are expected to experience measurable neurotoxic effects (a 5% reduction in scores on the Wechsler Memory Scale-Visual Reproductions test) from chronic exposure to PCE below the EPA reference concentration (0.0059 ppm).[189] EPA has data about existing exposure levels as well as exposures following the implementation of an ECEL or a PCE ban, and TSCA requires EPA to use that "reasonably available information" to calculate "the benefits of the proposed regulatory action… and of … 1 or more primary alternative regulatory actions."[190] Moreover, to the extent that EPA lacks the information required to calculate other, non-cancer health benefits, EPA's "qualitative discussion of the benefits of non-cancer risk reductions" should acknowledge that a broader phase-out of PCE would yield greater non-cancer benefits than the Proposed Rule.[191]

EPA's economic analysis also fails to account for or quantify the full benefits of reduced cancer risks from PCE regulation. EPA quantifies the benefits from reduced liver, kidney, brain, and testicular cancer,[192] but PCE exposure is also associated with an increased risk of breast cancer.[193] By failing to quantitatively or qualitatively assess the impacts of PCE on breast cancer, EPA further understates the benefits of strong PCE regulation.

Finally, EPA's Economic Analysis uses flawed discount rates that understate the Proposed Rule's future benefits. EPA calculates the Rule's economic impacts using a 7% and a 3% discount rate without expressing any preference between the two.[194] But the Office of Management and Budget ("OMB") has raised concerns with any discounting of "intergenerational" harms,[195] such as PCE's developmental effects and chronic cancer risks. Moreover, even for intra-generational effects, OMB recommends a "default" discount rate of 1.7%, far lower than either of the discount rates used in the Economic Analysis.[196] EPA's

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[189] *Id.*
[190] 15 U.S.C. § 2605(c)(2)(A).
[191] Economic Analysis at 8-1 (cleaned up).
[192] *Id.* at 8-22 to 8-25.
[193] *See* Lisa G. Gallagher et al., *Risk of Breast Cancer Following Exposure to Tetrachloroethylene-Contaminated Drinking Water in Cape Cod, Massachusetts: Reanalysis of a Case-Control Study Using a Modified Exposure Assessment*, 10 Env't Health Art. No. 47 (2011), https://doi.org/10.1186/1476-069X-10-47.
[194] *See* Economic Analysis at ES-10.
[195] OMB, Proposed Circular A-4: Regulatory Analysis 80–81 (Apr. 6, 2023) ("OMB Proposed Circular A-4"), https://www.whitehouse.gov/wp-content/uploads/2023/04/DraftCircularA-4.pdf ("Special ethical considerations arise when comparing benefits and costs across generations. Although most people demonstrate time preference in their own consumption behavior, which may vary by the good or service at hand, it may not be appropriate for society to demonstrate a similar preference when deciding between the well-being of current and future generations. . . . Some believe that it is ethically impermissible to discount the utility of future generations."); *see also* Frank Ackerman & Lisa Heinzerling, *Pricing the Priceless: Cost-Benefit Analysis of Environmental Protection*, 150 U. Pa. L. Rev. 1553, 1571 (2002), https://scholarship.law.upenn.edu/penn_law_review/vol150/iss5/6 (questioning the use of discounting to address long-term, intergenerational harms).
[196] *See* OMB Proposed Circular A-4 at 76.

excessive discounting of future benefits improperly diminishes the Proposed Rule's economic benefits. To the extent EPA does discount the rule's benefits, we urge EPA to use a rate of 1.7% or lower, consistent with OMB's latest guidance.

VII. EPA SHOULD USE ALL OF ITS AUTHORITY TO PROMOTE SAFER ALTERNATIVES TO PCE

For the PCE uses that EPA has proposed to ban, the Proposed Rule appropriately evaluates "to the extent practicable, whether technically and economically feasible alternatives that benefit health or the environment, compared to the use so proposed to be prohibited or restricted, will be reasonably available as a substitute when the proposed prohibition or other restriction takes effect."[197] As noted above, TSCA does not require EPA to identify alternatives to each prohibited use; EPA must merely evaluate the existence of such alternatives "to the extent practicable."[198] Here, EPA has done that. Its alternatives assessment reviews safety data sheets ("SDSs"), published reports, and other resources to identify hundreds of products that contain alternatives to PCE.[199] Moreover, to evaluate whether those alternatives would "benefit health or the environment" compared to PCE,[200] EPA also used the Design for the Environment (DfE) Program Alternatives Assessment Criteria for Hazard Evaluation to identify which potential alternatives are known to pose comparable hazards to PCE and which substitutes are safer for use.[201] Finally, to evaluate the feasibility of substitution and consumer acceptance of PCE alternatives, EPA considered consumer reviews for various replacement products.[202]

In the instances where EPA has identified safer alternatives, the Agency can and should do more to promote their use. While EPA cannot compel the use of a particular substitute under TSCA, the "[c]apacity for informed substitution can be enhanced through government initiatives that include research and evaluation support, guidance, information on alternatives, demonstration projects, technical assistance, databases, training, and supply chain networking of firms."[203] Whenever EPA completes an alternatives assessment, it should create and publish clear summaries of the hazards associated with all identified alternatives and conduct direct outreach to impacted businesses, labor organizations, fenceline communities, and state and local government officials. EPA can also offer Pollution Prevention Grants and other funding opportunities to incentivize the adoption of safer substitutes.[204] And, as it has for several chlorinated solvents in its initial round of risk evaluations, EPA should conduct category-based

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[197] 15 U.S.C. § 2605(c)(2)(C).
[198] *Id.*
[199] Alternatives Assessment at 8–9.
[200] 15 U.S.C. § 2605(c)(2)(C).
[201] Alternatives Assessment at 19–57.
[202] *See* Economic Analysis at 5-16, 5-21.
[203] *Examining Opportunities to Support the Transition to Safer Chemicals in Canada*, Gov't of Can., https://www.canada.ca/en/health-canada/services/chemical-substances/consulting-future-chemicals-management-canada/examining-opportunities-support-transition-safer-chemicals-canada.html#n (last visited June 30, 2023).
[204] *Pollution Prevention Grant*, EPA, https://www.epa.gov/p2/pollution-prevention-grant (last updated June 21, 2023).

or simultaneous risk evaluations for related chemicals that can be substituted for one another, and it should stringently regulate each chemical to prevent regrettable substitutions.

Finally, EPA must conduct a more robust assessment of alternatives for PCE's industrial uses, many of which EPA has permitted to continue indefinitely under the Proposed Rule. For instance, with respect to the processing of PCE as a reactant in chemical manufacturing, EPA stated that it "did not find it practicable to consider whether there are alternative processes that directly replace PCE with an alternative chemical or represent larger changes in multiple process steps . . . due to the complexity of the analysis."[205] While the complexity of industrial processes may make it difficult for EPA to *identify* alternatives to PCE, that does not excuse EPA's failure to look for such alternatives, which is particularly concerning given the large amounts of PCE associated with this condition of use.[206] With respect to the use of PCE as a laboratory chemical, EPA did not evaluate alternatives because "EPA is not proposing to prohibit or restrict in a manner substantially preventing activities in this [condition of use]."[207] But EPA did calculate unreasonable risk to workers who are exposed to PCE in laboratory settings, and even if the Proposed Rule does not ban that use, EPA should still assess the existence of alternatives and inform the public of any safer substitutes, starting with those identified in the EPA-funded report, *Green Chemistry in the General Chemistry Laboratory*.[208] Across all conditions of use, EPA should use its TSCA authority and its standing as the nation's leading environmental regulator to identify and promote safer substitutes to PCE.

VIII. EPA SHOULD STRENGTHEN THE REPORTING AND ENFORCEMENT PROVISIONS OF THE PROPOSED RULE

In her recent book *Next Generation Compliance,* former EPA Assistant Administrator for the Office of Enforcement and Compliance Director Cynthia Giles writes that "the most important determinant of [environmental] compliance is the structure of the regulation and the extent to which it adopts—or ignores—strategies to make compliance the default. The structure of the rule makes all the difference. . . . [E]nforcement alone will never get us there."[209] EPA should craft the PCE rule, and all risk management rules under TSCA, to "make compliance the default" by applying "Next Gen strategies" recommended in that book.

First, EPA should require any exposure control plans submitted pursuant to the Proposed Rule to be automatically submitted to EPA and, apart from statutorily protected confidential business information, to be made public. "Public access to . . . information—aka transparency—is a potentially formidable strategy for better compliance."[210] Exposure control plans are

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[205] Alternatives Assessment App. C at 1.
[206] 88 Fed. Reg. at 39,702.
[207] Alternatives Assessment App. C at 1.
[208] Beyond Benign, *Green Chemistry in the General Chemistry Laboratory*, https://www.beyondbenign.org/bbdocs/curriculum/higher-ed/CS_General_Chemistry.pdf (last visited Aug. 11, 2023).
[209] Cynthia Giles, *Next Generation Compliance,* at 6 (2022) ("Next Gen Compliance"), http://fdslive.oup.com/www.oup.com/academic/pdf/openaccess/9780197656747.pdf.
[210] *Id.* at 143.

essential to the implementation of a WCPP; they explain how an employer intends to implement the hierarchy of controls to achieve the ECEL and provide information about "any start-up, shutdown, or malfunction of the facility that causes air concentrations to be above the ECEL or any direct dermal contact with perchloroethylene."[211] We support the proposed requirement that those plans be shared with exposed workers.[212] The plans should also be automatically provided to EPA and, to the greatest extent permitted by law, made available to the public. Access to the plans would promote efforts to ensure that they comply with the Proposed Rule's requirements and will enable EPA to identify substitutes or work practices employed in one workplace that may be applicable to others as well. While the plans are currently available to EPA upon inspection or request, requiring their submission and broadening their distribution would reduce the enforcement burden on EPA.

Similarly, "[r]eporting by regulated facilities to government is the backbone of regulators' knowledge about compliance."[213] The Proposed Rule, however, does not require companies that violate an ECEL to report such exceedances to EPA. While employers must maintain workplace monitoring records for at least five years, there is no regulatory requirement for companies to report non-compliance to EPA, labor representatives, or the public. We urge EPA to add those mandatory reporting obligations to the Proposed Rule, which are expressly authorized by TSCA section 8 and, for any uses authorized via critical use exemptions, by section 6(g).

To the extent that EPA permits any uses of PCE to continue, EPA should require fenceline monitoring and make the results of that monitoring accessible to the public. The Proposed Rule currently would require monitoring only of occupational exposures, leaving EPA and the public with no information about the rule's impacts on fenceline community risks. EPA asserts that the rule "is expected to reduce" fenceline community risks, but it has not provided any basis for that statement or any way to assess the impacts of its occupational and consumer use controls on surrounding communities.[214] Fenceline monitoring would provide critical information on any ongoing risks to impacted communities, and the public disclosure of monitoring data would create an additional incentive to reduce PCE emissions and releases.[215]

EPA must also require electronic recordkeeping and reporting under the Proposed Rule. As *Next Generation Compliance* makes clear, "[electronic reporting] is an absolutely must-have element of any effective Next Gen plan. . . . [E]lectronic reporting is faster, more accurate, and lower cost. Time isn't wasted entering paper-reported data into electronic systems or dealing with the errors that transfer introduces."[216] Yet the Proposed Rule does not mandate electronic recordkeeping or reporting; instead, it merely states that records must be maintained for at least

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[211] 88 Fed. Reg. at 39,720.
[212] *Id.* at 39,719.
[213] Next Gen Compliance at 132.
[214] 88 Fed. Reg. at 39,700.
[215] *See* Next Gen Compliance at 145 ("Rule writers should consider what information the public wants and what will motivate companies to act and make sure it is included in the rule's monitoring and reporting obligations.").
[216] *Id.* at 140–41.

five years.[217] In the final rule, EPA should clarify that companies must maintain and submit records in a readily accessible electronic format.

Finally, EPA must consider the feasibility and effectiveness of enforcement when deciding between risk management options. As the former head of EPA's enforcement and compliance office has acknowledged, "there has never been and will never be enough inspectors to inspect all or even a significant fraction of regulated facilities."[218] The Proposed Rule would increase the burden on EPA enforcement staff by requiring additional monitoring and enforcement of ECELs at more than 1,000 facilities that would continue to use PCE.[219] In contrast, a broader, upstream prohibition would focus EPA's enforcement efforts on a relatively smaller number of PCE manufacturers and any facilities that may be eligible for section 6(g) exemptions.[220] EPA must keep those enforcement burdens in mind when deciding how to eliminate PCE's unreasonable risks.

CONCLUSION

The commercial and consumer use prohibitions in the Proposed Rule will save lives and reduce needless pain and suffering from PCE exposures. Those elements of the rule are critically important, and we urge EPA to maintain and strengthen them. But, as currently drafted, the rule would also leave fenceline communities and others exposed to unsafe levels of PCE, in violation of TSCA's requirement to fully eliminate the chemical's unreasonable risks. EPA has the authority to strengthen the rule without delaying its finalization, by phasing out more uses of PCE and promoting the use of safer alternatives. TSCA requires, and impacted communities and populations deserve, no less.

If you have any questions about these comments, please contact Jonathan Kalmuss-Katz at Earthjustice (jkalmusskatz@earthjustice.org).

Respectfully submitted,

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Toxic-Free Future

[217] 88 Fed. Reg. at 39,723.
[218] Next Gen Compliance at 51.
[219] *See* Economic Analysis at ES-6.
[220] *Id.*