UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act, 86 Fed. Reg. 28,828 (May 28, 2021)	)))	Docket No. EPA-HQ-OLEM-2021-0312 *Submitted via Regulations.gov and email* *July 29, 2021*

COMMENTS OF COMMUNITY IN-POWER & DEVELOPMENT ASSOCIATION, TEXAS ENVIRONMENTAL JUSTICE ADVOCACY SERVICES, OHIO VALLEY ENVIRONMENTAL COALITION, LOUISIANA BUCKET BRIGADE, CALIFORNIA COMMUNITIES AGAINST TOXICS, CLEAN AIR COUNCIL, COALITION FOR A SAFE ENVIRONMENT, AIR ALLIANCE HOUSTON, DEL AMO ACTION COMMITTEE, UTAH PHYSICIANS FOR A HEALTHY ENVIRONMENT, UNION OF CONCERNED SCIENTISTS, SIERRA CLUB, ENVIRONMENTAL INTEGRITY PROJECT, AND EARTHJUSTICE

The tragic cycle of chemical fires, explosions, and hazardous chemical releases at U.S. industrial facilities must finally end. No massive chemical catastrophe should ever occur. This is what EPA should ensure by issuing a strong new chemical disaster prevention rule. Fenceline communities, environmental and environmental justice groups, and scientists submit these comments to call for EPA to follow the science and new information and apply lessons learned in recent years on how to prevent chemical disasters and save lives.

EPA must finally solve this serious problem and bring the Risk Management Program ("RMP") into the twenty-first century by expeditiously issuing a strong new chemical disaster prevention rule that requires robust hazard reduction and risk prevention. Overall, the new rule must bolster frontline worker and union participation and training in incident prevention, investigation, and response requirements to bolster the safety of workers (including contractor employees) and community members. It is important for EPA to strengthen its regulations to advance environmental justice due to the serious, longstanding, and cumulative impacts for fenceline communities with multiple RMP facilities, who are disproportionately communities of color and low-income – including by assuring necessary protection and information for communities facing the worst threats and impacts. In the new rule, EPA should restore, strengthen, and expand essential requirements the agency previously issued for worker training, third-party audits, root cause analysis, deregistration analysis, emergency exercises, and safer chemicals, technologies, and practices. These changes are necessary to protect the lives of workers and the general public.

New information and analysis of hazards and incidents show a strong need for a new, robust chemical disaster prevention rule.

- The hazards and risk of a massive catastrophe due to an industrial chemical release are substantial –with 177 million people in worst-case scenario zones. EPA should recognize that the threat of dangerous and even catastrophic incidents is severe for communities near RMP facilities that have not had any incidents in recent years because of the lack of hazard elimination requirements for these facilities.
- The hazards and risks of chemical disasters are not shared equally nationwide. The more facilities there are in a community, the greater the threat and demonstrated harm from

chemical disasters are for community members – and there are many communities who have more than one facility, and a significant number of communities with a very high number of RMP facilities. For example, about 832 counties have five or more RMP facilities. Communities with some of the highest environmental burden already – such as toxic air pollution from industrial facilities – also have a large share of RMP facilities. And, disproportionate threats from RMP facilities and disproportionate harm from recent incidents in communities of color and low-income communities show that inequity requires a new chemical disaster prevention rule.

- The thousands of incidents that have occurred under EPA's existing rules show the regulations are not strong enough – when their purpose is to prevent such incidents. For example, over 142 incidents, on average, or one harmful disaster about every two and a half days, occurred during the last decade, due to EPA's inadequate regulation of industrial chemical facilities. There is no demonstrated decline in incidents in recent years, and even if there were, any one of the recent incidents that has happened – from Port Neches, Husky, and Philadelphia Energy Solutions, to West, Arkema, Biolabs and Chemtool – shows the need for stronger EPA rules. On July 27, as Commenters were preparing to file these comments, a fatal chemical disaster occurred in LaPorte, Texas, at an RMP petrochemical manufacturing facility, LyondellBasell Acetyls LLC – two people died and thirty people were hospitalized.[1]
- EPA's incident data dramatically undercounts the harm that incidents have caused to communities under the existing program, including during the last ten years. EPA must consider all harmful incidents, including those that caused toxic exposure and ecological harm, and account for the cumulative risk and impacts from multiple RMP facility exposure, as important indicators of the need for stronger prevention requirements.
- Differences in past incident rates by industry show the need for particularly strong regulations for certain sectors like petroleum refineries, and chemical manufacturers – but also illustrate a substantial, repeated threat in other sectors. Serious incidents that have occurred across many different sectors, in recent years, including farm and fertilizer and water supply facilities, show the need for stronger regulation more broadly, because it is not possible to predict based on past incident data alone which facilities require stricter regulation.[2]

It is important that EPA is seeking public comments during its review of the EPA Risk Management Program regulation revisions since 2017, to gather information and address new priorities, as directed by President Biden in Executive Order 13,990 – including "bolstering resilience to the

[1] P. DeBenedetto & K. Watkins, *2 Dead, 30 Hospitalized After 'Mass Casualty' Incident At LyondellBasell Chemical Plant Near La Porte*, Houston Pub. Media (July 27, 2021), https://www.houstonpublicmedia.org/articles/news/energy-environment/2021/07/27/404355/at-least-2-dead-after-leak-at-lyondellbasell-chemical-plant-in-la-porte/.

[2] EPA's RMP data are not fully accessible to the public, and the accessible information is not easy to analyze or understand without knowledge of the database relationships. Commenters have made their best attempt to present analysis for EPA's consideration and verification using the agency's expertise and knowledge. Commenters respectfully request that EPA perform its own analysis to update the numbers provided here using the most current database.

impacts of climate change and prioritizing environmental justice."[3] Now it is time for EPA to act to finally fulfill its legal duty to *prevent* chemical disasters in the United States, once and for all.

These comments address the following topics on which EPA has requested information:

- The inadequacy of the existing RMP rules, as shown by the urgent problem and threat of chemical disasters;
- The need to consider climate change risks and impacts and incorporate natural disaster or "natech" risk assessment and mitigation requirements into the regulations; and
- The importance of evaluating and expanding the application of environmental justice through a strong new, chemical disaster prevention rule.

These comments also provide information on solutions to solve the problem of chemical disasters based on the most current science, Chemical Safety Board ("CSB") recommendations, and regulatory examples from jurisdictions that have put in place stronger protections than EPA's existing federal RMP rule. We urge EPA to include the following core components in a new chemical disaster prevention rule:

1. Everyday disaster prevention requirements to provide environmental justice by identifying safer ways to operate and eliminating and reducing hazards for fenceline communities and workers wherever possible. EPA must strengthen and expand the 2017 Safer Technologies Alternatives Analysis ("STAA") requirements to more facilities – based on the hazards, the available Inherently Safer Technologies ("IST") methods, the need to protect fenceline communities, including communities with multiple sources who face the worst regular harm and are at the greatest risk of a catastrophe. EPA must require assessment and implementation of hazard reduction and elimination, following the lead of state and local regulator experts like California, New Jersey, and Contra Costa County and the recommendations of the Chemical Safety Board. EPA also should restore and strengthen additional prevention measures issued in 2017 that are well-supported by Chemical Safety Board recommendations and the most current information.

2. Climate and natural disaster planning and mitigation measures to ensure facilities do all they can to prevent the double impact from chemical disasters for communities in hurricane, flooding, extreme weather, and earthquake prone areas – like implementing back-up power and eliminating hazards caused by these catastrophes. The "double threat" from natech incidents looms large for communities near RMP facilities, especially for communities near the one-third of all facilities (3,856) in known climate risk areas.[4] This increased risk shows the need for all of the improvements discussed in these comments. It also shows the need for specific natech or natural disaster assessment and planning requirements and for natech mitigation requirements as part of a new chemical disaster prevention rule – including safer systems like hazard elimination or tank or piping redesign; vapor recovery systems; safer and

[3] 86 Fed. Reg. 28,828, 28,829 (May 28, 2021); Pres. Joe Biden, Exec. Order No. 13,990: Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, 86 Fed. Reg. 7037 (Jan. 25, 2021).
[4] Center for Progressive Reform et al., *Preventing "Double Disasters": How the U.S. Environmental Protection Agency can protect the public from hazardous chemical releases worsened by natural disasters* at 6 (July 2021), http://progressivereform.org/our-work/energy-environment/preventing-double-disasters/ ("UCS *et al., Preventing "Double Disasters*"").

more orderly shutdown/startup procedures; back-up power; fenceline monitoring; worker involvement and community notification.

3. Protection for more people and more communities from chemical disasters by expanding the program's coverage to more chemicals and hazardous facilities, including their distribution network.

4. Requirements to prepare before a disaster hits: Emergency response preparation and incident management requirements must expand first responder information and reaffirm emergency exercise requirements, require worker safety training, and give communities advance notification and information in multiple languages on facilities and hazards near them, before an incident begins. EPA should also require fenceline monitoring and leak detection and alerts to prevent and reduce harm at all of the RMP facilities where this would make a difference to protect public health and safety.

5. Design of the rules to assure compliance, enforceability, and accountability, through reporting, transparency, automatic liability and penalties, fast compliance deadlines, and strong implementation including in major source air permits under Title V. EPA should also create an anonymous safety and near-miss worker hotline and reports (with adequate worker information and training on this tool) to increase workers' ability to assure compliance and save lives.

The following comments and attachments provide more information. We appreciate EPA's careful consideration and evaluation of these comments.

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DETAILED COMMENTS

I. The Urgent Problem and Threat of Chemical Disasters Show the Need for a New Chemical Disaster Prevention Rule.

The new and most current evidence show that EPA must not only strengthen but also transform the Risk Management Program in fundamental ways. In addition to the important information EPA is gathering during the public sessions and this comment period, EPA should actively seek information from Chemical Safety Board investigators on incidents that have occurred during the last four years and from state and local government leaders who have already implemented partial policy solutions.[5]

A. Regulatory Failure During the Last Four Years

After EPA recognized the need to strengthen the RMP rules in 2017 due to thousands of incidents over the prior decade,[6] the last four years brought delay and then shocking retrogressive action to weaken those safety measures. Meanwhile, the problem of chemical disasters has continued and has

[5] *See* CSB Regulations on Accidental Release Reporting, 85 Fed. Reg. 10,074 (Feb. 21, 2020) (codified at 40 C.F.R. § 1604); *see also* CSB, *Incident Reporting Rule Submission Form*, https://www.csb.gov/incident-reporting-rule-submission-form/ (last visited July 19, 2021).

[6] Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act, 82 Fed. Reg. 4594 (Jan. 13, 2017) ("Chemical Disaster Rule").

worsened. New, stronger-than-ever action is needed from EPA in part because of its own failure and delay to issue and implement effective preventative measures for so long.

In recent years, the need for a transformation of the Risk Management Program to finally prevent chemical disasters has intensified. New information has come to light, illustrating the strong need for EPA to use its full legal authority to prevent chemical disasters by requiring the maximum protection possible under a new rule. It is important now for EPA to chart a new path that finally follows the science and prioritizes public health, worker safety, and the well-being of fenceline communities.

These comments will primarily focus on new information that demonstrates the need for a new, robust RMP rule and on components of the policy solution that the new rule must include to satisfy the Clean Air Act and fulfill this Administration's policy goals and commitments to the American people. But looking first at the path EPA previously took on this issue also will provide valuable information for the Agency to use in this rulemaking, when considered based on the new circumstances and in light of the new Administration's experience and important priorities.[7]

The Risk Management Program has denied adequate protection to communities for years. Although communities, workers, and health experts called for EPA to strengthen the RMP rules, first issued in 1990, EPA did not review or strengthen these until the very end of the Obama-Biden Administration.[8] The 2017 rule included important new safeguards that are necessary to include in a new chemical disaster prevention rule, but, unfortunately, was missing essential protections needed now, and its new prevention requirements were never implemented because of the prior administration's shocking bait-and-switch on community safety.[9]

The Trump EPA delayed the 2017 safety measures as one of its first acts – forcing fenceline communities to spend years in court trying to reinstate protections.[10] Ultimately, the D.C. Circuit court held that delay was illegal and that EPA had made a "mockery" of the Clean Air Act, and expedited its mandate to implement the "life-saving protections."[11] But, before that decision and the 2017 rule could be fully implemented, the Trump EPA rescinded all prevention measures in the 2017 rule and delayed and weakened emergency response requirements.[12]

The Trump EPA's 2019 rollback of the 2017 Chemical Disaster Rule was just as illegal as the D.C. Circuit found its delay rule to be. A judicial challenge to the 2019 rule is pending, filed by 13 fenceline community, environmental, environmental justice, and scientist organizations – and there are

[7] *See* Exec. Order No. 13,990 (Jan. 25, 2021).
[8] Chemical Disaster Rule, 82 Fed. Reg. 4594.
[9] The only 2017 amendments that did survive – the requirements for annual coordination with first-responders, public meetings after an incident, emergency response exercises – while positive and necessary steps, do not ensure any prevention of disasters. Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act, 84 Fed. Reg. 69,834 (Dec. 19, 2019) ("2019 Rollback Rule"). EPA also removed a deadline for emergency field exercises that made that provision basically meaningless as it is not enforceable and there is no incentive to comply. *Id.*
[10] Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act; Further Delay of Effective Date, 82 Fed. Reg. 27,133 (June 14, 2017) ("Delay Rule").
[11] *Air All. Houston et al. v. EPA*, 906 F.3d 1049, 1064-66 (D.C. Cir. 2018).
[12] 2019 Rollback Rule, 84 Fed. Reg. 69,834 (Dec. 19, 2019).

parallel challenges pending filed by the United Steelworkers and 18 state and local government petitioners.[13] Commenters appreciate EPA's recognition that it should not defend that rule in court, but instead it should begin this new rulemaking. Now, we call on EPA to treat this rulemaking with the highest priority and to complete action and require compliance with a robust new safety rule as expeditiously as possible.

This new rulemaking is likely to be the only chance in a generation for fenceline communities to receive the safety protections necessary to finally end the cycle of chemical disasters. It is essential for EPA to give the generation of children growing up near chemical facilities the protection they need. Commenters look to EPA to ensure that this rulemaking leads to a new rule that finally fulfills EPA's legal obligations and responsibility to protect public health, by including all of the essential components discussed in these comments and highlighted by communities and workers in the listening sessions. EPA should issue a rule that means no fenceline community will ever again have to live in fear of the next fire, explosion, or hazardous fall-out, shelter-in-place or evacuation order.

In this new rulemaking, EPA should review and incorporate the significant evidence that the Obama-Biden EPA gathered to recognize the need for stronger RMP rules, including the longstanding calls for action and strong policy solutions that the Coalition to Prevent Chemical Disasters and fenceline communities provided to EPA.[14] EPA also should review and consider the additional information that communities, workers, scientists, and health experts provided to show that the Trump rollback should not have been finalized.[15] Looking again at this information through the lens of the Biden-Harris Administration's priorities and in light of the more recent information now available will demonstrate that stronger RMP protections are even more needed than when EPA first embarked on RMP revision years ago.

In addition to evaluating the important information received during the listening session comment period, EPA cannot ignore and must consult all of the longstanding evidence, information on safer chemical and manufacturing alternatives, and requests for strong regulatory action that it has received over the years – going back a decade at this point. The fact that fenceline communities, environmental health and safety groups, scientists, workers, and first responders have been calling for stronger protection for so long illustrates that new, stronger solutions now are even more needed to make up for all of that lost time.[16] Looking at the prior record will show that there will be robust support from a broad set of stakeholders for a rule that prioritizes the public interest and the health of the most

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[13] *See Air All. Houston et al. v. EPA* (D.C. Cir. Nos. 19-1260 and consolidated cases); *see also* https://earthjustice.org/news/press/2019/trumps-epa-revoked-chemical-disaster-prevention-rules-now-groups-are-suing.

[14] *See, e.g.*, Coalition to Prevent Chemical Disasters, Comment Letter on Notice of Public Comment Period on "Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Proposed Rule," Docket Number EPA-HQ-OEM-2015-0725 (May 13, 2016) (attached).

[15] *See, e.g.*, 2018 Air Alliance Houston et al., Comment Letter on Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act, Proposed Rule, 83 Fed. Reg. 24,850 (Aug. 23, 2018) (attached). Air Alliance Houston et al., Petition for Reconsideration of Final Rule Entitled "Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act," 84 Fed. Reg. 69,834, EPA-HQ-OEM-2015-0725 (Feb. 18, 2020) (attached).

[16] *See, e.g.*, Sierra Club et al., Petition to Prevent Chemical Disasters to EPA Administrator Lisa Jackson (July 25, 2012), EPA-HQ-OEM-2015-0725-0249 (attached).

affected and most exposed people, and that requires regulated facilities to do all they possibly can to prevent chemical disasters.

EPA also should fully consider the 2018 D.C. Circuit decision vacating EPA's Delay Rule and the record in that case. To follow that decision here, it is important for EPA to fulfill its statutory responsibility, exercise its authority rationally to protect public health and safety, and set deadlines to assure compliance with the new chemical disaster prevention rule as expeditiously as practicable.[17]

The agency should also look again, in a new light, at the recommendations the U.S. Chemical Safety Board previously provided to EPA. EPA should adopt all of the CSB's recommendations on the RMP and treat its investigation reports and findings with significant weight, due to the ongoing problems that the CSB's recommendations would help solve,[18] and in view of the new information and guidance from the CSB since then (as discussed below).[19] The Act directs EPA to take CSB recommendations seriously and to respond to them promptly.[20] Although the CSB is in a difficult moment currently because it has so many open seats and insufficient funding,[21] EPA should seek informal consultation and new information from CSB investigator teams on the open investigations, and recent incidents, to ensure EPA has the best available information to use in this rulemaking.

B. Broad public exposure to catastrophic hazards requires strong disaster prevention measures.

EPA should strengthen the RMP rules to increase protection for public health and safety from the gravest chemical disasters – which would cause wide-ranging death and destruction. A staggeringly high number – 177 million people in the United States, over half of the American population – live daily in a

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[17] *Air All. Houston et al. v. EPA*, 906 F.3d 1049, 1066 (D.C. Cir. 2018) (decision attached); Community Petitioners' opening and reply briefs are also attached because they provide additional summaries of EPA's legal responsibility and the record as of that time and may be helpful to EPA.

[18] *See* CSB Comments in Response to EPA's Request for Information at 12 (Oct. 29, 2014), https://www.csb.gov/assets/1/6/epa_rfi2.pdf; 2016 CSB Comment to EPA on Proposed Rule (May 10, 2016), https://www.csb.gov/assets/1/6/csb_comments_epa-hq-oem-2015-0725_51020161.pdf; CSB Comments on Proposed Rollback Rule (July 20, 2018), https://www.csb.gov/assets/1/6/csb_comments_epa_rmp_20180720.pdf (attached); *see also infra* note 19.

[19] *See, e.g.*, CSB, *Organic Peroxide Decomposition, Release, and Fire at Arkema Crosby Following Hurricane Harvey Flooding*, Report No. 2017-08-I-TX (May 2018), https://www.csb.gov/arkema-inc-chemical-plant-fire-/ (attached); CSB Safety Alert (2018) (attached); U.S. Chem. Safety and Hazard Investigation Bd., *Safety Alert: 2020 HURRICANE SEASON: Guidance for Chemical Plants During Extreme Weather Events* (2020), https://www.csb.gov/assets/1/6/extreme_weather_-_final_w_links.pdf (attached); CSB Recommendations Specialist Amanda Johnson Testimony (June 16, 2021), https://www.regulations.gov/document/EPA-HQ-OLEM-2021-0312-0011.

[20] 42 U.S.C. § 7412(r)(6).

[21] *See* CSB, *Board Members*, https://www.csb.gov/about-the-csb/board-members/; Erwin Seba, *U.S. Chemical Safety Watchdog to Proceed, with Only One Board Member*, REUTERS (July 31, 2020), https://www.reuters.com/article/us-usa-trump-csb/u-s-chemical-safety-watchdog-to-proceed-with-only-one-board-member-idINKCN24W2IC; *see also* J. Morris & A. Maykuth, "The U.S. Chemical Safety Board Was Slashed by Trump. Its Backlog Is Piling Up," Center for Pub. Integrity, in partnership with Phila. Inquirer (Mar. 26, 2021), https://publicintegrity.org/environment/chemical-safety-agency-backlog-refinery-explosion/.

"worst-case scenario zone" for an industrial chemical catastrophe. [22] As EPA has acknowledged, the people who are disproportionately in these zones are people of color and low-income people.[23] Congress enacted section 112(r) to prevent a Bhopal-like disaster in the United States, and the hazards and extent of harm to human life and safety from inadequate implementation of this law are of the utmost severity.[24] From the time of the Bhopal tragedy in 1984 through the end of October 2003, according to the Bhopal Gas Tragedy Relief and Rehabilitation Department, compensation had been awarded to 554,895 people for injuries received and 15,310 survivors of those killed.[25]

Recent harmful incidents that almost turned into widespread, fatal catastrophes, like the incidents involving hydrofluoric acid at refineries in California, Pennsylvania, and Wisconsin,[26] show that EPA's rules are not doing enough to prevent this type of disaster. These recent examples and the number of harmful incidents that occur each year together show the need for stronger regulation to prevent toxic catastrophes and fulfill the Act's objective. [27] Strengthening the RMP to prevent such catastrophes would value the lives of and deliver essential health protection to more than half of all Americans.

There are approximately 11,760 chemical facilities regulated under EPA's currently inadequate Risk Management Program.[28] Of these, 1,891 are also major air pollution sources regulated under Title V of the Clean Air Act.[29] The RMP regulates facilities that use, store, or manage regulated substances at the promulgated threshold quantities – including 77 highly hazardous chemicals and 63 flammable chemicals.[30] EPA first promulgated the chemicals and thresholds list in 1994 – and has not added any

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[22] The worst-case scenario population exposure is not available to the public. EPA previously published the 177 million number. 2017 RIA at 94, EPA-HQ-OEM-2015-0725-0734; *see* US Census Bureau QuickFacts (U.S. population as of Apr. 1, 2020, was 331,449,281), https://www.census.gov/quickfacts/fact/table/US/PST045219.
[23] EPA, 2019 Regulatory Impact Analysis (RIA) at 89 & n.80, https://www.regulations.gov/document/EPA-HQ-OEM-2015-0725-2089 ("The analysis shows that minority and low-income populations are more likely to be in proximity to [RMP] facilities (and thus at greater risk) than other populations.").
[24] *See, e.g.*, 136 Cong. Rec. S16,985, S16,926-27 (Oct. 27, 1990), 1990 WL 164490 (legislative history states that the purpose of § 7412(r) "is to prevent accidents like that which occurred at Bhopal and require preparation to mitigate the effects of those accidents that do occur").
[25] Edward Broughton, The Bhopal disaster and its aftermath: a review, 4 Environmental Health at 3 (May 10, 2005), https://ehjournal.biomedcentral.com/articles/10.1186/1476-069X-4-6.
[26] CSB, Husky Refinery Factual Investigation Update (Dec. 2018), https://www.csb.gov/assets/1/20/husky_factual_update_-_2.pdf?16594; CSB, Husky Refinery Explosion and Fire on Apr. 26, 2018 Factual Investigation Update (Aug. 2018), https://www.csb.gov/assets/1/6/husky_factual_update.pdf?16317; CSB Phila. Energy Solutions Refinery Fire and Explosions on June 21, 2019, Factual Update (Oct. 16, 2019), https://www.csb.gov/assets/1/6/pes_factual_update_-_final.pdf; CSB, Final Report on ExxonMobil Torrance Refinery Fire and Explosion on Feb. 18, 2015 (May 3, 2017), https://www.csb.gov/exxonmobil-refinery-explosion-/.
[27] EPA RMP defines catastrophic release as an emission of a substance that presents "imminent and substantial endangerment to public health and the environment" and injury as "any effect on a human… that requires medical treatment or hospitalization." 40 C.F.R. §68.3.
[28] EPA, May 2021 RMP (Non-OCA) Database (facilities list, with duplicates of EPA Facility ID removed, and facilities with a deregistration date removed).
[29] EPA, May 2021 RMP (Non-OCA) Database (facilities list, with duplicates of EPA Facility ID removed, and facilities with a deregistration date removed, with "CAA_TitleV" identified as true).
[30] 40 C.F.R. § 68.130.

chemicals to the list since then, even though many chemical process safety incidents have occurred at non-regulated facilities.[31]

EPA's current RMP data appear to show that regulated facilities currently use, store, or manage a total of 101.75 billion pounds of hazardous substances.[32] This includes 125.9 million pounds of hydrogen fluoride – which is fatal for miles if released.[33] The Table of Total Process Chemicals in the Appendix shows the total of all process chemicals currently used, stored, or managed at existing RMP facilities.[34]

These numbers are mind-boggling when millions of people are living, playing, going to school, and working near so many of these facilities. These chemicals are known to cause death, injury, acute health hazards, and can contribute to serious long-term health problems like cancer.[35] They are highly hazardous chemicals regulated because of the grave harm exposure can cause to people. And releases of these chemicals into the air can also cause serious harm to and can destroy ecological resources on which people rely – by contaminating water, killing wildlife and plants, destroying farms and community gardens, and making the human environment unlivable. The huge hazards regulated under the RMP provide a strong reason for robust, new prevention measures – before any new incidents occur with these hazardous chemicals.

The information on the number or locations of people in the worst-case scenario zones near particular facilities is not publicly available. Most Americans are in the dark about their personal exposure to RMP facilities and chemical incidents until after they happen, when it is too late. EPA has not informed or shared a public list of the communities where the 177 million Americans at greatest risk live. So, most people who are at the greatest risk—and would die or face injury during a worst-case scenario RMP incident—do not know they are in this group, that the risk exists, or what, if anything, they should do if this type of incident begins in their community. It is essential for EPA to protect the public's health and the public's right to know about the risks they face and for EPA to evaluate and strengthen protection based on the hazards, including by eliminating the worst hazards to the greatest extent possible. The public has neither the information nor the power to protect themselves.

EPA data do show, however, that the existing hazards are likely to be especially severe in particular cities and communities, based on the number of RMP facilities within the community – and

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[31] *See* EPA, List of Regulated Substances and Thresholds for Accidental Release Prevention, Final Rule, 59 Fed. Reg. 4478 (Jan. 31, 1994) (later promulgations only removed chemicals from the list) (summarizing examples of hazardous chemical incidents at non-RMP facilities).

[32] Table of Total Process Chemicals at Active RMP Facilities (May 2021 EPA RMP (Non-OCA) Database (Process Chemicals – sum total at all non-deregistered facilities)). A summary of the method here was to link Process Chemicals via the Facilities Table and Chemicals Table according to unique EPA Facility ID and Facility ID, respectively, according to the Last Receipt Date of the RMP, and then sum the total quantity by chemical.

[33] Table of Total Process Chemicals at Active RMP Facilities (May 2021 EPA RMP (Non-OCA) Database (Process Chemical quantities at non-deregistered facilities – filtered for hydrogen fluoride and summed)).

[34] Table of Total Process Chemicals at Active RMP Facilities (May 2021 EPA RMP (Non-OCA) Database (Process Chemical quantities at non-deregistered facilities, summed by chemical)).

[35] *See, e.g.*, toxicology information for listed RMP chemicals from EPA's IRIS program and Cal. EPA's Office of Environmental Health Hazard Assessment, https://www.epa.gov/iris; https://oehha.ca.gov/chemicals.

the resulting amount of regulated RMP chemicals used, stored, or managed at active RMP facilities.[36] These data illustrate that a subset of communities likely have an extremely high volume of these hazardous substances – and that there is a particular need to issue strong new prevention measures so that communities with the highest volumes of these hazards can get relief from regular disasters and avoid a massive catastrophe.

There are also major hazards at facilities that EPA does not regulate at all under the existing RMP or only regulates in part. Ammonium nitrate (AN) is one example of a chemical that causes huge hazards, yet EPA has failed to list it as an RMP chemical even after the CSB has called for EPA to do so for years, following the West, Texas tragedy in 2013.[37] The massive chemical explosion in Beirut on August 4, 2020 that killed 220 people and injured more than 6,500 in a very short period of time, is a recent example of the kind of incident showing that ammonium nitrate is a serious unregulated hazard.[38] In August 2020, the CSB Chair highlighted the ongoing threat posed due to EPA's failure to regulate ammonium nitrate – and the fact that it is used near homes, schools, and hospitals in the United States poses a serious threat of death and injury.[39]

The hazards from chemicals at existing RMP facilities and at other facilities that EPA should regulate are good reason, alone, for EPA to strengthen the rules. The goal of the RMP as directed by the statute (section 112(r)(7)) is prevention – and the hazards give strong reason to assure robust prevention measures before more incidents occur. The point of this provision, as the Act and legislative history show, is for EPA to implement the necessary measures before deadly incidents occur. This is not like other parts of the Clean Air Act that regulate air pollution by setting levels that are allowable and levels that are illegal. This is a program that is supposed to prevent *all* highly hazardous releases due to the death, injury, and harm to public health and welfare that they cause. And it is time for EPA to issue rules that fulfill that purpose.

C. The existing RMP rules have failed to prevent thousands of chemical disasters -- showing the need for strong new rules.

Although the Risk Management Program is supposed to prevent all hazardous chemical incidents, it has failed to achieve this objective and serious harm has occurred as a result. Any one incident involving hazardous chemicals would be compelling evidence showing the need for stronger rules because this is a program where no releases are ever supposed to occur. But the evidence shows thousands of incidents in recent years, not just one. There is an extraordinary number of harmful chemical incidents under EPA's existing RMP rules. These problems illustrate that the rules alone are insufficient to avoid harm and there is a strong need for more robust prevention and emergency response requirements.

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[36] Table of Total Active RMP Facilities by CountyFIPS (May 2021 RMP (Non-OCA) Database) (attached). The method used was to remove all EPA Facility IDs where Deregistration Date was not null, and count the unique facility IDs in each CountyFIPS code (where the code was present).
[37] CSB West, Final Report on TX West Fertilizer Fire and Explosion at 243 (Apr. 17, 2013).
[38] *See, e.g.*, S. Al-Hajj *et al.*, Beirut Ammonium Nitrate Blast: Analysis, Review, and Recommendations, Front. Public Health (June 4, 2021), https://www.frontiersin.org/articles/10.3389/fpubh.2021.657996/full.
[39] Statement from CSB Chairman Katherine Lemos on Massive Explosion and Fire in Beirut (Aug. 2020), https://www.csb.gov/statement-from-csb-chairman-katherine-lemos-on-massive-explosion-and-fire-in-beirut/ (attached).

The fundamental premises of the Trump EPA's rollback are not supported by the current information on hazards and incidents under the RMP rules. The newly available information show there is a need for stronger rules that will target prevention of catastrophe at the facilities that pose the most serious hazards, based in part on the unacceptable number of incidents that occur each year. Recognizing the benefit of avoiding catastrophes at facilities that have *not* had recent incidents (as well as those that have) will show stronger prevention measures are worthwhile. In addition, the data should lead EPA to recognize the need to reduce the increased threat and known harm that is occurring more frequently in natech or natural disaster-prone areas, and to prioritize the health and safety of community members living and working near multiple RMP facilities, and near facilities with the most extraordinary hazards like hydrofluoric acid. The information now available should lead EPA, applying the President's policy priorities and values on public health, environmental justice, and climate change, to find that the current risks and impacts are untenable, and to recognize that EPA and facilities must do all they possibly can to protect communities from harm.

Because of the strong need to prevent an incident before it occurs, building stronger requirements and compliance assurance mechanisms into the rules is essential (as discussed below). While also important, increasing enforcement alone could not provide the same level of benefit. EPA enforcement after the fact failed to prevent the thousands of incidents under EPA's program in recent years – and would not be enough to prevent a catastrophe at a facility now, due to the weak requirements in the existing program. As one example, it took *six years* for EPA to achieve a consent decree resolving violations at the Shell Anacortes refinery that occurred in 2015 and sickened hundreds of people.[40] While that and every enforcement case is important, enforcement that takes years to achieve a penalty is insufficient to promptly resolve the problem of chemical disasters or to prevent a catastrophe.[41] The consent decree and final order entered in that case provides no evidence that it will prevent a similar future release.[42] In fact, in April 2021, the Northwest Clean Air Agency issued a notice of violation against the Shell Anacortes refinery for a release reported to be due to a hydrocarbon unit failure that "was similar" to the 2015 release.[43]

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[40] EPA penalizes Shell for Anacortes refinery release (Feb. 10, 2021), https://www.epa.gov/newsreleases/epa-penalizes-shell-anacortes-refinery-release.

[41] EPA's website showing allegedly recent RMP enforcement actions shows penalties issued three to six years after the incident. *See, e.g.*, Harcos Chemicals & MGP Ingredients (May 2020 order addressing an Oct. 21, 2016 release of chlorine gas causing shelter-in place, evaluation and 140 people injured seeking medial attention), https://www.justice.gov/usao-ks/pr/two-kansas-companies-fined-1-million-each-atchison-chlorine-gas-case; Torrance Refinery settlement (Jan. 2020 settlement agreement, five years after the 2015 refinery explosion and fire and near miss for a hydrofluoric acid release), https://www.epa.gov/newsreleases/us-epa-settlement-southern-california-refinery-improves-chemical-safety-torrance; HollyFrontier, El Dorado Kansas (2020 enforcement decree, addressing among other things, Sept. 2017 catastrophic release of naptha), https://www.epa.gov/newsreleases/epa-and-state-kansas-reach-agreement-hollyfrontier-alleged-clean-air-act-violations-its.

[42] *See* https://yosemite.epa.gov/OA/RHC/EPAAdmin.nsf/Filings/FA1104AE9832597F8525864E006E04DA/$File/Equilon%20Shell%20PSR_CAFO_Step2%20(1).pdf.

[43] AP, *Officials give notice to Shell refinery on emissions release*, The Seattle Times (Apr. 22, 2021 at 8:30 am), https://www.seattletimes.com/seattle-news/officials-give-notice-to-anacortes-shell-refinery-on-emissions-fine-may-follow/.

1. Thousands of recent incidents show the need for stronger preventative regulations.

- EPA's existing RMP rules have failed to prevent 1,497 harmful chemical disasters at RMP facilities during the most recent ten-year period (2006-2015) (or an average of 149 per year) for which incident reports are believed to be complete.[44] That is nearly the same as the count of incidents that EPA found caused harm (1,517, or about 150 per year) during the 10-year period of 2004-2013 that EPA analyzed before the 2017 rule.[45]
- During the most recent decade, 2011-2020, EPA has already received reports of over 1,175 harmful incidents – on average 117 per year – and reports from these years are not likely to be complete until 2025.[46]

For a program that is supposed to *prevent* highly hazardous releases, these are extraordinarily high numbers. The fact that an average of 149 chemical incidents continue to happen each year (at least 100 per year), under EPA's existing framework is compelling evidence that this program needs reform. Every incident shows the need for stronger, new regulatory action by EPA. Each of these incidents is more than just a number. EPA should take every incident seriously as evidence demonstrating the need for stronger rules. Each of the reportable harm incidents affected real people who should never have had to face a chemical disaster in the first place. These incidents caused harm – death, injury for workers or fenceline community members – and illustrate the risk of even greater danger. Many incidents also caused water or other contamination to the human environment that also shows the need for stronger rules. EPA should issue regulations that aim to reduce the chemical disasters per year to zero.

Importantly, EPA's prior analysis regarding a potential incident deadline is not correct based on the most currently available data. There has been no statistically significant decline in the most recent years for which reports are complete (from 2010-2015).[47]

Instead, an increase in chemical disasters occurred from 2010-15.[48] And, during the most recent five-year period for which there is complete RMP incident data: 2011-2015, the total number of harmful incidents was 710 and the annual average was 142 harmful incidents per year.[49]

Over 100 incidents per year have continued to occur every year (for which reports are complete).[50] While industry groups in the listening sessions continued to attempt to point to an alleged decline in incidents, the most current data available do not support the claim of a decline, nor do they show that the existing rules have solved the chemical disaster problem.

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[44] May 2021 EPA RMP (Non-OCA) Database Tbl6Accidents (with duplicates filtered out, no-human impact incidents filtered out, and filtered to show only incidents causing harm to people between 2011-2020).
[45] 82 Fed. Reg. at 4692 (tbl.19, showing a total of 1,517 reportable harm incidents from 2004-2013).
[46] May 2021 EPA RMP (Non-OCA) Database Tbl6Accidents (with duplicates filtered out, no-human impact incidents filtered out, and filtered to show only incidents causing direct harm to people or property between 2011-2020).
[47] Comments of the International Union, United Auto Workers on RMP Review at 6 (July 2021) (hereinafter "UAW July 2021 Comments").
[48] UAW July 2021 Comments, *supra* note 47 at 6-7 & Fig. 1 (summarizing May 2021 EPA RMP (Non-OCA) Database).
[49] UAW July 2021 Comments, *supra* note 47, at 5 (summarizing May 2021 EPA RMP (Non-OCA) Database).
[50] UAW July 2021 Comments, *supra* note 47, at 5; May 2021 EPA RMP (Non-OCA) Database).

Regardless, each incident and the people affected by each incident are the data EPA should be focusing on – not whether there were fewer incidents on one year compared to another. And, even if there were a decline by any measure in recent years, the substantial number of incidents each year – 149 on average during the last decade, and at least 100 per year – shows a strong need for more stringent safety measures.

Further, newly available data on incidents by county show that chemical disasters are occurring disproportionately in particular communities, and this inequity requires action. Communities in Houston, Dallas, and Port Arthur, TX, Cancer Alley, LA, New Castle, DE, Charleston, WV, Tampa, FL, for example, and more have faced repeated incidents and severe harm in recent years.[51]

[51] These numbers show incidents before the California Refinery Rule and Richmond and Contra Costa ordinances were enacted and took effect.

Table 1. Reported Harm Incidents Since 2004 in 20 Counties With Most Incidents[52]

CountyFIPS	County	State	Total
48201	Harris	TX	83
22005	Ascension	LA	57
22019	Calcaseiu	LA	52
48039	Brazoria	TX	47
22121	West Baton Rouge	LA	43
05139	Union	AR	39
48245	Jefferson	TX	29
06037	Los Angeles	CA	28
22047	Iberville	LA	27
10003	New Castle	DE	26
48167	Galveston	TX	23
06029	Kern	CA	19
12057	Hillsborough	FL	19
22089	St. Charles	LA	19
48355	Nueces	TX	19
49045	Tooele	UT	17
54051	Marshall	WV	16
17031	Cook	IL	14
06019	Fresno	CA	13
48057	Calhoun	TX	13
48113	Dallas	TX	13
54039	Kanawha	WV	13
06013	Contra Costa	CA	11
06077	San Joaquin	CA	11

And, the data on incidents by NAICS or industry sector code (showing reported human or ecological harm since 2004) also show that EPA must ensure strong new prevention measures cover these industries. The most current data available show that the chemical manufacturing sector and petroleum refinery and oil and gas sector, each have some of the largest shares of the reported harm incidents, 25.8% and 18.6%, respectively. While EPA previously found the pulp and paper sector to be in the top three for worst incident records, it appears that the farm supplies and industrial agricultural

[52] Source: EPA May 2021 RMP (Non-OCA) Database (showing incidents causing reported deaths, injuries, and other harm to people, property damage, and ecological damage). The minimum value of facility count FIPS was selected for each EPA facility ID. An event was considered a human impact event if at least one of the following minimum values was greater than zero: onsite or offsite deaths, onsite or offsite injuries (including hospitalization and medical care), onsite or offsite property damage, evacuations, or sheltering in place. If all of the above were zero, but at least one of the following was indicated as "yes," the event was considered to be an eco-damage only event: Fish or animal kills, minor defoliation, major defoliation, water contamination or "other ecological damage." Human impact events were aggregated by county. Eco-damage only events were aggregated by county and the two were added together.

sector (including fertilizer and pesticide production) must be recognized as one of the sectors with the worst incident records (15.7%). Water supply and sewage treatment also has a substantial percentage (5.9%) of the reported harm incidents. These incident data support the need for EPA to strengthen the regulations, and in particular to require hazard reduction and elimination because of the broad range of substantial incidents across these sectors.

Table 2. RMP Reported Harm Incidents Since 2004 in 5 Industry Sectors With Most Incidents, by NAICS Code[53]

NAICS Industry Description	Incident Total	% of Total
Chemical and Plastics Manufacturing and Wholesale[54]	626	25.8%
Petroleum Refineries, Oil and Gas[55]	452	18.6%
Farm Supplies, Including Fertilizer and Pesticide Production, Wholesalers, Warehousing and Storage[56]	381	15.7%
Water Supply, and Sewage Treatment[57]	143	5.9%
Pulp and Paper[58]	73	3.0%

Further, the available information on harmful incidents at regulated facilities likely underestimates the threat and the harm to communities and workers under the existing rules.

Due to the incident reporting delay, EPA's own database undercounts the most recent incidents. That is because even though there is a 6-month deadline to report incidents, some facilities ignore or miss that required deadline, and only update their accident history at the 5-year RMP update deadline.[59]

The newest EPA RMP database provides new evidence proving that delay is occurring. It shows that there was delayed incident reporting so additional incidents were added to the database in earlier years, between the 2019 rule and the Sept. 2019 Database, and since then in the May 2021 Database.[60]

[53] Source: EPA May 2021 RMP (non-OCA) Database (showing incidents causing reported deaths, injuries, and other harm to people, property damage, and ecological damage). The method for this was identical to what was done for county (*see supra* note 51), with the exception that NAICS code was used instead of county.
[54] NAICS codes: 32518, 32511, 325199, 325188, 32519, 325211, 32519, 325998 (Inorganic and Organic Chemical Manufacturing, Petrochemical Mfg, Plastics & Resins & Rubber Mfg & Chemical Wholesalers).
[55] NAICS codes: 32411, 21112, 22121, 21111, 211111, 42271, 325192, 2113, 42471, 42272, 42472, 48691 (Petroleum Refineries, Oil and Natural Gas production, distribution, wholesale, storage).
[56] NAICS codes: 42291, 49312, 325311, 42491, 32532, 325312, 325314 (Farm Supplies, Wholesalers, Warehousing and Storage, Refrigerated Warehousing and Storage, Fertilizer & Pesticide Production[56]). Note that adding poultry, meat, frozen and other food processing would substantially increase these totals.
[57] NAICS codes: 22131, 22132 (Water Supply and Irrigation Systems, Sewage Treatment).
[58] NAICS codes: 32211, 322121, 32213 (Pulp mills, Paper, Paperboard).
[59] UAW July 2021 Comments, *supra* note 47, at 5-6 (citing EPA 2019 Regulatory Impact Analysis).
[60] UAW July 2021 Comments, *supra* note 47, at 5-6 (Comparison of Number of Impact Accidents Reported in EPA's 2019 Regulatory Impact Analysis with the Number Identified from the September 2019 Database and the May 2021 Database).

Although previously EPA believed that delay in reporting would not lead to significant under-counting, it is now clear that speculation was wrong.

The latest information illustrates that significant delay and thus under-reporting occurred in each of EPA's previous assessments of the incident data, so EPA must recognize this and review the most current data available in light of that reporting delay. [61] The reported incidents rose after the 5-year RMP plan deadlines passed in 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, and 2019.[62] And the trend in delayed reporting means that the incident data for the years 2016 and beyond, while already high numbers, are likely to rise even more as more 5-year RMP updates come due this year and in the years to come. The under-reporting percentage has ranged from 1.56% to 28.32%, so it is hard to predict by how much the most recent years will increase. But the evidence is clear that EPA cannot treat data from 2016-2021 as complete incident information because there can be no doubt that the recent incident data will increase as delayed reports come in.

And, as discussed next, the "reportable harm" incidents that EPA has evaluated, and that Commenters analyzed for the counts above, does not include some of the incidents that actually caused harm or measure some of the harm caused: toxic exposure and ecological damage, even though this indicates harm to public health and well-being.

2. EPA must evaluate and recognize the need to prevent the harm of toxic exposure from chemical disasters.

EPA's incident data includes no measure or even recognition of the toxic exposure for people in their homes and neighborhoods whose harm was not counted, even if they felt sick, because they did not go to a hospital. There is also no measure in EPA's database of the ongoing repeated and cumulative exposure for community members who have faced multiple fires, explosions, and toxic releases in their community – as in places like the Houston Ship Channel, Port Arthur, Texas, Cancer Alley in Louisiana, West Virginia, and many other RMP hot spots where incidents unfortunately happen like clockwork. The lack of data on this exposure is in great part due to a lack of air monitoring or any health impact assessment or public health survey by EPA, the CSB, and local governments as part of emergency response and investigation of these incidents.

The fact that there is limited data on toxic exposure does not justify ignoring this harm when EPA knows it is there and just has failed to measure or attempt to estimate it. For example, the CSB found that it could not make findings on health effects from toxic exposure due to a lack of available

[61] UAW July 2021 Comments, *supra* note 47, at 4-6. EPA previously admitted in 2019 and 2020 that there is a delay in reporting – but speculated that this would lead to only a slight increase in reported incidents (Denial of Recon at 11; 2019 Regulatory Impact Analysis at 38-39 n.30, https://www.regulations.gov/document/EPA-HQ-OEM-2015-0725-2089).

[62] UAW July 2021 Comments, *supra* note 47, at 5 (Comparison of Number of Impact Accidents Reported in EPA's 2019 Regulatory Impact Analysis with the Number Identified from the September 2019 Database and the May 2021 Database) (showing that early reports of incidents from 2011-2019 were incomplete, compared to later database versions).

data but that "[s]ome emergency responders and members of the local community were concerned about potential health effects from the vapor cloud emitted by decomposing organic peroxide."[63]

EPA should regulate based on the recognition that every incident that included an air release near where people live, work, play or go to school likely included some unquantified hazardous exposure for people nearby, as news reports and public complaints illustrate. EPA should follow the Precautionary Principle and take a protective approach to save lives and prevent injuries. For example, a series of two explosions at Port Neches in Texas injured three people in November 2019 and caused a vapor cloud that ignited and caused damage including to houses offsite. The explosions disturbed the residents' lives and forced residents within a half mile of the facility to evacuate and there was a shelter-in place order. Schools had to close to clean up debris and repair school buildings. This appears to have been a preventable incident because the monitors that were installed at the facility did detect increased 1,3-butadiene emissions in the months leading up to the explosions – but so far there is no quantified information on the total exposure before, during or immediately following the incident.[64]

At least every incident that had a shelter-in-place or evacuation order must be recognized as a likely toxic exposure incident for some people – as it is impossible in these circumstances for everyone in the area to avoid all exposure to air. Some communities, like Charleston, WV (surrounded by mountains and a river) and Manchester in Houston (locked by train tracks), have little or no escape route, and the only reason they are sheltering is not because it is safe, but because there is nowhere to go.[65] EPA cannot rationally ignore toxic exposure as additional harm from incidents. In EPA's air office and IRIS program there are health scientists who regularly assess the acute risk from hazardous air pollution. Even if there are no immediate injuries, exposure to hazardous chemicals increases the risk of health effects in the short-term and long-term.

3. EPA must evaluate and seek to prevent ecological harm from chemical disasters to prevent this harm.

Incidents that caused reported ecological harm show the need for stronger prevention measures to avoid harm to waterways, wildlife, habitats, and natural resources in their own right. EPA should also recognize these are harmful incidents that should be prevented because harming the human environment hurts communities who rely on these natural resources for their health and quality of life.

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[63] *See, e.g.*, CSB, *Organic Peroxide Decomposition, Release, and Fire at Arkema Crosby Following Hurricane Harvey Flooding*, Report No. 2017-08-I-TX, at 115 (May 2018), https://www.csb.gov/arkema-inc-chemical-plant-fire-/ (attached).

[64] Kiah Collier, *Ahead Of Explosion, Port Neches Plant Reported An Increase Of Rogue Emissions Of Explosive Gas*, HOUSTON PUBLIC MEDIA (Jan. 30, 2020), https://www.houstonpublicmedia.org/articles/news/2020/01/30/358950/ahead-of-explosion-port-neches-plant-reported-an-increase-of-rogue-emissions-of-explosive-gas/; Merrit Kennedy, *Massive Explosion Rips Through Texas Chemical Plant*, NPR (Nov. 27, 2019), https://www.npr.org/2019/11/27/783263942/massive-explosion-rips-through-texas-chemical-plant; CSB, *Fires and Explosions at TPC Group Port Neches Operations Facility, Incident Date: Nov. 27, 2019, No. 2020-02-I-TX, Factual Update* (Oct. 29, 2020), https://www.csb.gov/assets/1/17/tpc_factual_update_10-29-2020.pdf?16614 (attached).

[65] *See, e.g.*, *A Disaster In the Making* (Apr. 3, 2018), https://earthjustice.org/features/toxic-catastrophes-texas-national-chemical-disaster-rule (see the story of Pam Nixon, WV); *see also* Decl. of Juan Parras, Texas Environmental Justice Advocacy Services (2017) (attached).

EPA's prior assessments of the data on incidents that caused ecological harm were based on what EPA called reportable harm incidents – *i.e.*, incidents that facilities must report pursuant to 40 C.F.R. § 68.42 every five years, and within six months of an incident pursuant to section 68.195, due to harm caused.[66] But new analysis of the current RMP data on incidents shows that EPA appeared to focus only on incidents that caused direct human impact (death, injury, shelter-in-place, evacuations) or property damage. There are more incidents in the database from those years that were "reportable" under this rule, than EPA counted. It appears that the only way it could get the incident numbers down to those that it has assessed in the past (such as in the 2019 Regulatory Impact Analysis) was to ignore incidents that were reported under section 68.42 due to "environmental damage" only.[67] If EPA looks at the full reported harm from incidents in recent years, including harm to the environment without direct human impact or property damage, EPA will recognize that a larger number of harmful incidents have occurred.

Accounting for incidents that caused ecological harm – such as water contamination, defoliation, or fish or wildlife kills – is important and will show there are additional incidents in recent years that were reported as causing only that type of harm. Commenters found approximately another 111 incidents in the database since 2004 showing just this kind of harm (where harm to people or property was not reported) but may have missed some of these incidents. EPA should perform a comprehensive search of its database to account for all reported harm, including environmental damage. Evaluating these incidents would be a more accurate indication of the harmful incidents under the existing rules and would show the problem is larger than EPA has previously admitted.

The statute directs EPA to assure its rules protect public health "and the environment," so accounting for incidents causing ecological harm is necessary to fulfill that objective.[68] Including these incidents is also important because a release that contaminated waterways, killed fish or other wildlife, or caused defoliation and harm to trees, farms, or gardens is also harm to people who depend on these ecological resources – in addition to being actual harm to the environment that EPA should not ignore. As this EPA has recognized the need to protect natural resources and advance environmental justice, EPA cannot ignore the importance of preventing harm to the human environment – waterways, wildlife, and natural resources – in communities affected by chemical disasters.

EPA should also account for the fact that known ecological damage is a relevant proxy likely also indicating toxic exposure for people who lived, worked, or visited the area near the facility during and after the incident. This is another reason why EPA should count and recognize the need to prevent the additional incidents that caused ecological harm.

4. EPA must take seriously the incidents for which no harm was reported.

There appear to be hundreds of incidents in the RMP database during the last decade alone where no harm was reported, and a total of about 1,108 reported incidents since 2004 where no harm was

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[66] *See, e.g.*, 2019 Regulatory Impact Analysis at 37 (summarizing data then available on "Reportable (Impact) Accidents") https://www.regulations.gov/document/EPA-HQ-OEM-2015-0725-2089.
[67] 40 C.F.R. § 68.42 includes a requirement to report "environmental damage" offsite.
[68] *See, e.g.*, 42 U.S.C. § 7412(r)(7)(B)(ii); *see also* § 7412(r)(3) (requiring EPA to regulate substances "which, in the case of an accidental release, are known to cause or may reasonably be anticipated to cause death, injury, or serious adverse effects to human health or the environment").

reported but releases happened.[69] Even assuming no harm occurred – all of these incidents are examples of near-misses for death, injury, toxic exposure, and ecological damage. Each incident must be recognized as a close call, barely avoiding potentially catastrophic hazardous chemical releases – because EPA has the information showing the worst-case scenario events at those facilities and those data will show that is true. Further, as harm like toxic exposure is not documented, EPA cannot assume these are truly no-impact incidents. EPA must take all reported incidents seriously as an additional indicator of the broader extent of the problem that its program must fix.

5. EPA should gather information and evaluate near misses.

EPA has not previously counted near-miss incidents, but they are well-known to occur. EPA should collect information on such incidents from facilities and workers as part of this rulemaking. EPA also should require documentation and reporting of these incidents as part of the new rule, and should include a near-miss anonymous reporting hotline and worker training that helps to avoid harmful incidents, errors, or omissions in operating procedure, and ensures facilities and EPA learn from these incidents in the future.

6. EPA should evaluate information on incidents at non-RMP facilities.

In addition, new information on the most recent chemical incidents at facilities that are not regulated at all or are regulated only partially by the RMP Program shows the need to expand coverage of the rules to more facilities and more chemicals, and to reduce the chemical thresholds for RMP coverage. There is a long list of chemical hazard incidents in recent years that were not covered at all or only partially covered.[70]

7. EPA should gather and evaluate new information from the Chemical Safety Board.

The CSB has collected incident information pursuant to a new reporting rule: 40 C.F.R. § 1604. The CSB's rule took effect March 23, 2020, and requires reporting to the CSB of any accidental release within 8 hours (or if reporting to the National Response Center ("NRC"), a report identifying that submission within 30 minutes of sending to the NRC).[71] The CSB has over one year's worth of incident reports now – and although it recognizes the reports are public information, it has not released any of this information to the public.[72] EPA should request this information from the CSB and use it to supplement the EPA RMP reports that EPA has from 2020-21, as those are likely underreported. The Memorandum of Understanding between CSB and EPA provides for information-sharing, and EPA should be able to receive and analyze information on incidents and investigations not available to the public.[73]

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[69] Because the rule only requires reporting of incidents that cause harm discussed in § 68.42, this number is likely a significant underestimate.

[70] *See* List of Recent Chemical Hazard Incidents as of Spring 2021, created by the Coalition to Prevent Chemical Disasters (2021) (attached); *see also* Additional Information on Recent Chemical Hazard Incidents as of Spring 2021, created by Earthjustice (attached) (showing some covered and some non-covered incidents).

[71] 40 C.F.R. § 1604.3; *see also* https://www.csb.gov/incident-reporting-rule-submission-form/.

[72] The rules require a FOIA request which are notoriously long to process. 40 C.F.R. § 1604.6.

[73] Memorandum of Understanding Between EPA and CSB on Chemical Incidents (Mar. 19, 1999), https://www.epa.gov/sites/production/files/2013-10/documents/csbepa.pdf.

Table 3. Ongoing CSB Investigations[74]

Facility Name	Type of Incident	Location	Incident Date	Chemicals	RMP-covered?
Chemtool Inc.	Fire	Rockton, Ill	June 14, 2021	Unknown	Does not appear to be covered.
Yenkin-Majestic Paint and OPC Polymers Corporation	Explosion and Fire	Columbus, OH	Apr. 8, 2021	Maleic anhydride, phthalic anhydride, xylene, and mineral spirits	Does not appear to be covered.
Foundation Food Group	Chemical Release	Gainesville, GA	Jan. 28, 2021	Liquid nitrogen	Does not appear to be covered.
Optima Belle LLC	Explosion and Fire	Belle, WV	Dec. 8, 2020	Chlorinated dry bleach powder	Yes
Wacker Polysilicon	Chemical Release	Charleston, TN	Nov. 13, 2020	Hydrochloric acid	Yes
Evergreen Packaging Mill Chemical	Fire	Canton, NC	Sept. 21, 2020	Not sure but incident happened because of a fire during scheduled maintenance	Yes
Bio Lab	Chemical Release	Conyers, GA	Sept. 14, 2020	Chlorine	Does not appear to be covered.
Bio Lab	Chemical Fire and Release	Lake Charles, LA	Aug. 27, 2020	Chlorine	Does not appear to be covered
Wendland 1H Well	Explosion	Burleson County, TX	Jan. 29, 2020	Not sure but seems like "an unexpected amount of natural gas entered the well and ignited"	Unclear

[74] Link to Current CSB Investigations: https://www.csb.gov/investigations/current-investigations/?Type=1.

Facility Name	Type of Incident	Location	Incident Date	Chemicals	RMP-covered?
Watson Grinding	Explosion and Fire	Houston, TX	Jan. 24, 2020	A spark ignited a propylene leak	Unclear
TPC Group	Explosion and Fire	Port Neches, TX	Nov. 27, 2019	1,3-butadiene and raffinate-1	Yes
Philadelphia Energy Solutions (PES) Refinery	Philadelphia Energy Solutions (PES) Refinery	Philadelphia, PA	June 21, 2019	HF	Yes
AB Specialty Silicones, LLC	Explosion and Fire	Waukegan, IL	May 3, 2019	Silicon hydride emulsion, XL 10 which can produce hydrogen gas when in contact with acids or bases	Unclear
KMCO LLC	Fire and Explosion	Crosby, TX	Apr. 2, 2019	Isobutylene	Yes
Intercontinental Terminal Company (ITC) Tank	Fire	Deer Park, TX	Mar. 17, 2019	Naphtha-butane	Yes
Kuraray America	Explosion	Pasadena, TX	May 19, 2018	Ethylene vinyl-alcohol copolymers	Yes
Husky Energy Refinery	Explosion and fire	Superior, WI	Apr. 26, 2018	HF	Yes
Didion Milling Co.	Explosion and fire	Cambria, WI	May 31, 2017	Combustible dust	Yes
Loy Lange Box Company	Explosion	St. Louis, MO	Apr. 3, 2017	Unclear	Unclear
Sunoco Logistics Partners	Fire	Nederland, TX	Aug. 12, 2016	Unclear	Yes

And, the CSB has now added another investigation after the fatal chemical release at LyondellBasell in LaPorte.[75]

[75] E. Foxhall & H. Dellinger, *Details emerge as investigators seek cause of deadly La Porte chemical leak,* Houston Chron. (July 29, 2021), https://www.houstonchronicle.com/news/houston-texas/environment/article/Details-emerge-in-deadly-La-Porte-chemical-leak-16347530.php (see staff graphic: Chemical incidents under investigation).

8. EPA should gather and evaluate new information from the National Response Center.

The NRC collects initial incident reports that EPA should also consult for at least the last 5 years– in view of the delay in RMP incident reporting.[76] As the Memorandum of Understanding between the CSB and EPA makes clear, EPA generally receives those reports.[77] EPA has the ability to check which facilities are RMP facilities and should not put the burden of collecting and evaluating these data on the public. Some of these incidents also show hazardous chemical threats at facilities that are not currently regulated by the RMP, and thus are worth evaluating as well for ways in which EPA should expand coverage of the program.

D. As climate change worsens severe weather and natural disasters, the growing natech or "double disaster" threat requires EPA action tailored to address this problem.

Newly available information on the growing threat of climate- change-driven natech incidents – or "double disasters" from a chemical facility not preparing adequately for natural disasters – requires stronger EPA rules.

EPA's new rule must address the impact of climate change and "natech" risks—"disasters that arise from the coincident effects of a natural hazard, like a storm or earthquake, and the failure or disruption of technological infrastructure, such as chemical plant spills, releases, and explosions."[78] Natural disasters are a common contributing factor to chemical incidents due to facilities' inadequate preparation for foreseeable risks.[79]

When industrial facilities fail to adequately prepare for natural disasters, they can release hazardous chemicals, catch fire, or explode. Furthermore, extreme weather conditions often lead to more frequent shutdowns and startups. Accidents can happen during start-ups if caution is not taken. For example, when Texas experienced extremely low temperatures in February of 2021 during the winter storms Uri and Viola, many petrochemical and RMP facilities shut down after losing power.[80] As a result, about 194 facilities released at least 3.5 million pounds of toxic chemicals – likely including some RMP facilities, although data are not available breaking this down – and there were hundreds of thousands of pounds released in the Houston area alone.[81] As of February 21, 2021, the Texas

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[76] U.S. Coast Guard Nat'l Response Ctr., Reports from 2021, 2020, 2019, 2018, 2017, 2016, https://nrc.uscg.mil/ (attached).

[77] Memorandum of Understanding Between EPA and CSB on Chemical Incidents (Mar. 19, 1999), https://www.epa.gov/sites/production/files/2013-10/documents/csbepa.pdf.

[78] UCS *et al., Preventing "Double Disasters* at 3.

[79] CSB, Final Arkema Investigation Report at 122-23 (2018), http://www.csb.gov/file.aspx?DocumentId=6068.

[80] U.S. EPA, Winter Storms Uri and Viola, https://response.epa.gov/site/site_profile.aspx?site_id=15082.

[81] E. Douglas, Texas plants released nearly as much pollution during winter storm as during Hurricane Laura, Tex. Trib. (Feb. 24, 2021), https://www.texastribune.org/2021/02/24/texas-winter-storm-pollution-emissions/; *see also* K. Watkins, Houston-Area Refineries, Plants Emitted Thousands Of Pounds Of Additional Air Pollution During The Winter Freeze: State documents show facilities released some 700,000 pounds of excess air pollutants last week, as they faced electrical outages and equipment failures due to the severe winter weather, Houston Pub. Media (Feb. 24, 2021), https://www.houstonpublicmedia.org/articles/news/energy-environment/2021/02/24/392215/houston-area-facilities-emitted-thousands-of-pounds-of-additional-air-pollution-during-the-winter-freeze/.

Commission on Environmental Quality reported that 74 petrochemical facilities were partially shutdown, fully shutdown, or idling, and five were starting up.[82] Weeks later, EPA documented that on March 9, 2021, there were still 32 impacted petrochemical facilities that partially or fully shut down, and 48 that were starting up.[83] As of March 9, 2021, EPA stated that it had received a total of 114 National Response Center (NRC) reports in EPA's Area of Responsibility (AOR) related to Winter Storms Uri and Viola, that were air releases; it did not distinguish between releases from RMP facilities and other facilities.[84] EPA also received reports of refineries and other facilities reporting "force majeure" requests to avoid enforcement due to "emissions exceedances."[85] At refineries, that are RMP facilities, all of these should be recognized as near misses for immediately life-threatening fires, explosions, and releases of RMP chemicals at these facilities. Most of these events seem to represent near-misses for larger chemical disasters.

The result of natech incidents, including explosions, dires, and the release of hazardous chemicals, lead to cumulative and compounding consequences to the health and safety of facility workers and public, including toxic chemical exposure. Natech disasters can cause significant harm to workers and communities. As another major example, in the wake of Hurricane Harvey, many chemical releases, explosions, and fires occurred at industrial facilities. As a result of Hurricane Harvey and these chemical disasters, communities suffered spikes in unhealthy levels of ozone; releases of toxic air pollutants that can cause cancer, neurological harm, and trouble breathing; and releases of contaminants, including hundreds of thousands to millions of pounds of air pollutants.[86]

Climate change is intensifying and makes storms and extreme weather more severe. The 2021 winter storms in Texas and the extreme, record-breaking heat in the Northwest were the result of climate change. And, every year, the regular hurricane season grows more extreme, showing that stronger protection is required to mitigate and prevent harm from chemical facilities in communities exposed to these threats.

Newly available information shows that, as climate change intensifies, RMP and other chemical facilities are in areas that are increasingly at risk of natural disasters and natech incidents. About one third of the chemical facilities that the RMP regulates (or 3,856) are in areas exposed to an increased risk of natural disasters, including wildfire, storm surge, flooding, and sea level rise, as found in *Preventing "Double Disasters*," a policy brief prepared by UCS, CPR, and Earthjustice.[87]

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[82] Winter Storms Uri & Viola, EPA Report #5 (Feb. 21, 2021), https://response.epa.gov/sites/15082/files/Winter%20Storms%20Report%205%2002212021.pdf.
[83] Winter Storms Uri & Viola, EPA Report #21 (Mar. 9, 2021), https://response.epa.gov/sites/15082/files/Winter%20Storms%20Report%2021%2003092021.pdf.
[84] Winter Storms Uri & Viola, EPA Report #24 (Mar. 13, 2021), https://response.epa.gov/sites/15082/files/Winter%20Storm%20Report%2025%2003132021.pdf.
[85] *See, e.g.*, Winter Storms Uri & Viola, EPA Report #13 (Mar. 1, 2021), https://response.epa.gov/sites/15082/files/Winter%20Storms%20Report%2013%2003012021.pdf.
[86] Air Alliance Houston et al., Comments on Proposed Rollback Rule at 14-17 (Aug. 23, 2018), https://www.regulations.gov/comment/EPA-HQ-OEM-2015-0725-1969.; *see also, e.g.*, HARC, Summarizing Hurricane Harvey's Environmental Impacts (2017), https://harcresearch.maps.arcgis.com/apps/MapSeries/index.html?appid=d6b0a3d762ec46ef8ea676f1008f7028/ (for details cited, click on: Air – ozone and toxics, Health & Safety, and About).
[87] UCS *et al.*, *Preventing "Double Disasters"* at 7.

Academic researchers in recent years have also spotlighted this serious problem. For example, one report identified 872 highly hazardous chemical facilities within 50 miles of the hurricane-prone U.S. Gulf Coast, with over 4.3 million people, 1,717 schools, and 98 medical facilities in near proximity (within 1.5 miles).[88] These numbers are underestimates because the available data is outdated. The cold snap in Texas in February 2021 and heat wave in the Pacific Northwest in July 2021 illustrate that the risks are broader than previously identified. In the Pacific Northwest, less data is available, but there is at least one example from the few days of extreme heat, where a chemical plant lost power and there was a concern about the potential for a major ammonia release at the RMP-covered Dyno chemical plant in Oregon.[89]

EPA's existing RMP does not include any explicit requirement to assess or plan for natech or natural disaster threats, or to implement mitigation requirements to protect the public during these events. As hurricanes, high winds, flooding, and other severe weather are predictable and well-documented by science and recent years of experience, EPA must take this issue seriously and require regulations that protect people from the grave additional danger of chemical disasters during severe storms. With so many RMP facilities facing the extra risk of a chemical release, fire, or explosion that natural disasters or severe weather can create directly or due to loss of electrical power, it is essential for EPA to ensure that facilities are required to assess and address natech incidents. Therefore, a new chemical disaster prevention rule must implement appropriate mitigation requirements that specifically address climate change and natural disasters, as further discussed below. The CSB Chair has highlighted the need for action to address extreme weather.[90]

Without a new chemical disaster prevention rule that includes natech requirements, communities living near RMP facilities and in climate and natural disaster risk areas will continue to suffer harm from preventable natech disasters.[91] The new chemical disaster prevention rule must require regulated facilities to protect workers and communities from the devastating impacts of natech disasters, as discussed later in these comments.

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[88] S. Anenberg & C. Kalman (Milken Inst. of Pub. Health, Geo. Wash. Univ.), Extreme Weather, Chemical Facilities, and Vulnerable Communities in the U.S. Gulf Coast: A Disastrous Combination (Apr. 16, 2019), https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2019GH000197.

[89] Scott Learn, *Oregon's Largest Fertilizer Plant Dyno Nobel Has Low Explosion Risk, Firefighters Say*, OREGONVILLE (Apr. 25, 2013), https://www.oregonlive.com/environment/2013/04/oregons_largest_fertilizer_pla.html.

[90] *Statement from CSB Chairman Katherine Lemos on the Lessons from Hurricane Harvey Following Recent Extreme Weather in Houston* (Mar. 4, 2021), available at: https://inspectioneering.com/news/2021-03-04/9560/statement-from-csb-chairman-katherine-lemos-on-the-lessons-from-hurricane-harvey.

[91] Comment submitted by Earthjustice on behalf of Air Alliance Houston et al. at 21-29, Section I.F (Aug. 23, 2018), https://www.regulations.gov/comment/EPA-HQ-OEM-2015-0725-1969 ("Harms to Public Health and Safety Caused by Chemical Disasters"); *see also* R. White, EJHA, Coming Clean et al., Life at the Fenceline: Understanding Cumulative Health Hazards in Environmental Justice Communities at 2-5 (Sept. 2018), Environmental Justice Health Alliance, Coming Clean, Campaign for Healthier Solutions, https://new.comingcleaninc.org/assets/media/documents/Life%20at%20the%20Fenceline%20-%20English%20-%20Public.pdf.

E. Fenceline communities need EPA action to issue a strong new rule that ends the chemical disaster problem and resulting environmental injustice.

Equity requires strong new action. Impacts and threats from chemical disasters are compounded for communities with multiple RMP facilities, for communities with significant existing environmental and health burdens, and for communities with significant environmental justice concerns. EPA should prioritize strengthening this rule in part due to the unjust threats and impacts of chemical disasters. Overall, the communities with the most facilities and the worst experience of incidents and threats greatly need more regulatory protection for their health and safety.

Data show that RMP facilities are not spread equally across the country. Some communities have a much larger number of facilities. A fundamental factor that EPA should evaluate to show the need for stronger rules is the number of communities with more than one RMP facility.

Seventy counties, or 2.2% of all counties in the U.S., have 20% of all the RMP facilities in the U.S.[92] For example, there are at least 205 active RMP facilities in Harris County, Texas alone, and at least 109 in Los Angeles, CA. Other counties with the highest numbers of active RMP facilities, *i.e.*, twenty-five or more, include:

- Cook County, IL (Chicago), Dallas County, TX, Tarrant County, TX (Fort Worth), Jefferson County, TX (Port Arthur), Wayne MI (Detroit), Maricopa County, AZ (Phoenix), Bexar County, TX (San Antonio) Calcasieu, LA (Lake Charles), Duval County, FL (Jacksonville), Mobile County, AL, Polk County, FL (Lakeland), Orange County FL (Orlando), Fulton County, GA (Atlanta), and Tulsa County, OK.

The database shows that about 832 counties have five or more facilities, and about 1,349 have one to four.[93]

Newly available data show that the more facilities there are in a community, the more harm has occurred, and the more ongoing risk is present. People who live in communities with multiple RMP facilities face more incidents, more short and long-term health impacts, and a greater risk of chemical disasters.[94] As the number of RMP facilities increases in a community, the number of harmful incidents increases, and the harm increases.[95] Indeed, eight of the open CSB investigations involve chemical disasters in Texas, most in the Houston-Port Arthur area, as the *Houston Chronicle*'s graphic shows.[96]

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[92] The 70 counties with 20 or more active facilities contain a total of 2,375 facilities, or 20% of the total 11,764 active facilities (as of May 2021 RMP Database). There are about 3,141 counties and significant equivalents. U.S. Geological Survey CoreFacts (Apr. 3, 2008), https://www.usgs.gov/media/audio/how-many-counties-are-there-united-states.

[93] Active RMP Facilities by County FIPS (as of May 2021 RMP Database).

[94] UAW July 2021 Comments, *supra* note 47, at 11-13 & Figs. 8-10 (analyzing data from facilities and incidents in the same zip codes) ("Correlation analysis found a statistically significant relationship between the number of RMP-covered facilities that operated in the zip code for some part of the time between 2004 and 2015 and the number of impact accidents that occurred in a zip code during that time.").

[95] *Id.*

[96] E. Foxhall & H. Dellinger, *Details emerge as investigators seek cause of deadly La Porte chemical leak*, Houston Chron. (July 29, 2021), https://www.houstonchronicle.com/news/houston-

Therefore, fenceline communities with multiple RMP facilities have a particularly great and urgent need for stronger rules.

Commenters have provided maps visually showing the disproportionate and severe hazards for example communities around the U.S.[97] As these maps illustrate, RMP facilities are often located in communities that also have other high environmental health burdens, like cancer risk from toxic air pollution.[98] This multiplied impact shows a particular need to strengthen protection from chemical disasters, because many communities near RMP facilities are already facing high cumulative impacts from pollution.

New information especially highlights the inequity caused by EPA's failure to effectively regulate RMP facilities and prevent chemical disasters. Analysis of the most current RMP data shows that people who live closest to RMP facilities, and who face more incidents, injuries, and harm from chemical disasters are disproportionately people of color or low-income people.[99] This represents substantial, unjust harm[100] and EPA must not allow this inequity to stand.

EPA must require stronger chemical disaster prevention rules that assure protection nationwide and especially for people who need this protection the most: people with multiple RMP facilities in their community, people already facing other types of environmental health burdens like cancer risk from air pollution, and people of color and low-income people who face multiple layers of injustice including disproportionate chemical disasters and risks. EPA should listen to the advice of the National Environmental Justice Advisory Council, which has repeatedly urged EPA to strengthen, not weaken, the RMP rules.[101]

II. EPA Must Use Its Full Authority to Protect Public Health and End Chemical Disasters, Prioritizing Safety and Prevention as the Act directs.

EPA has a tremendous responsibility and legal obligation to finally get the RMP rules right. The so-called "Bhopal provision" of the Clean Air Act, section 112(r), 42 U.S.C. § 7412(r),[102] provides EPA

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texas/environment/article/Details-emerge-in-deadly-La-Porte-chemical-leak-16347530.php (see staff graphic: Chemical incidents under investigation).

[97] *See* Maps (created by Ava Farouche, Earthjustice) (July 2021) (attached).
[98] *See* Maps (created by Ava Farouche, Earthjustice) (July 2021) (attached).
[99] UAW July 2021 Comments, *supra* note 47, at 9-11 & Figs. 5-7
[100] *See, e.g.*, R. White, UCS, *The Impact of Chemical Facilities on Environmental Justice Communities* (Aug. 2018) (attached).
[101] NEJAC Letter to Adm'r Wheeler re: Recommendation to preserve the Chemical Disaster Safety Rule (May 3, 2019), https://www.epa.gov/sites/default/files/2019-08/documents/nejac-recommendations-risk-management-programs-may-3-2019.pdf; NEJAC to Adm'r Jackson (Mar. 14, 2012), https://www.epa.gov/sites/default/files/2015-02/documents/2012-preventing-chemical-plant-disasters.pdf (recommending that "EPA use its authority under the 1990 Clean Air Act, Section 112(r), to reduce or eliminate these catastrophic risks, where feasible, by issuing new rules and guidance").
[102] *See, e.g.*, 136 Cong. Rec. S16,985, S16,926-27 (Oct. 27, 1990), 1990 WL 164490 (legislative history states that the purpose of § 7412(r) "is to prevent accidents like that which occurred at Bhopal and require preparation to mitigate the effects of those accidents that do occur").

with authority that it must use to provide, as Dr. Carlton Waterhouse described it, "the maximum protection possible" from chemical disasters.[103]

Section 112(r) of the Clean Air Act, 42 U.S.C. § 7412(r), entitled "Prevention of Accidental Releases," directs EPA to regulate facilities that use or store extremely dangerous chemical substances to prevent explosions, fires, plumes of poisonous gases, and other "accidental releases" that can cause catastrophic harm to human health and the environment. As the D.C. Circuit affirmed in 2018, section 7412(r) establishes that "[i]t shall be the objective of the regulations and programs authorized under this subsection to prevent the accidental release and to minimize the consequences of any such release" of highly hazardous substances.[104] Further, the title of section 7412(r)(7) is synonymous with its purpose: "accident prevention," centering *prevention* of highly hazardous chemical releases as the guiding star and central requirement of the regulations this provision directs and authorizes EPA to promulgate.

In particular, the Act requires EPA to promulgate regulations that provide, "to the greatest extent practicable, for the prevention and detection of accidental releases . . . and for response to such releases."[105] In addition, "[i]n order to prevent accidental releases of regulated substances," section 7412(r) directs and authorizes EPA to "promulgate release prevention, detection, and correction requirements which may include monitoring, record-keeping, reporting, training, vapor recovery, secondary containment, and other design, equipment, work practice, and operational requirements."[106] EPA's RMP regulations must have an effective date "assuring compliance as expeditiously as practicable."[107]

The Act also creates an independent U.S. Chemical Safety Board and directs EPA to respond to its regulatory recommendations within 180 days by "indicat[ing] whether the Administrator will—initiate a rulemaking or issue such orders as are necessary to implement the recommendation in full or in part, pursuant to any timetable contained in the recommendation" or decline to do as recommended and issue a statement of reasons for any such determination.[108]

Congress enacted these provisions in section 7412(r) "in response to a number of catastrophic chemical accidents occurring worldwide that had resulted in public and worker fatalities and injuries, environmental damage, and other community impacts."[109] Congress aimed to prevent the type of "catastrophic failure" and "tragedy, of unimaginable dimension" that occurred when a chemical facility released a cloud of methyl isocyanate into Bhopal, India in 1984, killing and injuring thousands of

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[103] June 16, 2021 Virtual RMP Listening Session Zoom Captioned Transcript at 2 (Dr. Carlton Waterhouse, Deputy Assistant Administrator), EPA-HQ-OLEM-2021-0312-0011.
[104] 42 U.S.C. § 7412(r)(1); *see Air Alliance Houston v. EPA*, 906 F.3d 1049, 1050. An "accidental release" is "an unanticipated emission of a regulated substance or other extremely hazardous substance into the ambient air from a stationary source." 42 U.S.C. § 7412(r)(2)(A).
[105] 42 U.S.C. § 7412(r)(7)(B).
[106] *Id.* § 7412(r)(7)(A).
[107] *Id.*; *see also id.* § 7412(r)(7)(B) (requiring EPA to assure regulations are applicable to a stationary source no later than 3 years after the date of promulgation, or 3 years after the date on which a regulated substance present at the source is more than threshold amounts).
[108] *Id.* § 7412(r)(6)(I).
[109] 81 Fed. Reg. 13,638, 13,645 (Mar. 14, 2016).

people.[110] The purpose of section 7412(r) "is to prevent accidents like that which occurred at Bhopal and require preparation to mitigate the effects of those accidents that do occur."[111]

As the D.C. Circuit held, "[s]ection 7412(r)(7) is a comprehensive accident prevention regime affording EPA broad discretion as to regulatory tools, albeit with multiple requirements."[112] The Act's "plain text makes clear that Congress is seeking meaningful, prompt *action* by EPA to promote accident prevention."[113] Further, to lawfully regulate under this provision, EPA must ensure that it considers and advances section 7412(r)(7)'s statutory objectives, summarized by the D.C. Circuit as:

(1) To "prevent accidental releases,"
(2) To "protect human health and the environment," and
(3) To "include procedures and measures for emergency response after an accidental release."[114]

The Biden EPA can and should take a new position from the Trump EPA on issues relevant to this rulemaking because doing so is needed to satisfy section 7412(r)(7) based on the evidence before the agency. An agency need not justify a change in position with reasons more substantial than those required to adopt the initial policy.[115] Rather, the agency must merely "provide [a] reasoned explanation for its action," which "would ordinarily demand that it display awareness that it *is* changing position."[116] A "reasoned explanation"[117] for amending a rule includes that an agency "reasonably believed [the amended rule] would be more reliable, more effective, and safer than the original rule."[118] Additionally, "[a] change in administration" can provide part of the "perfectly reasonable basis for an executive agency's reappraisal of the . . . benefits of its programs and regulations."[119]

As the D.C. Circuit recognized in vacating the RMP Delay Rule, to change course "EPA need not show that 'the reasons for the new policy are *better* than the reasons for the old one.'"[120] Rather, "it must provide 'a reasoned explanation . . . for disregarding facts and circumstances that underlay or were engendered by the prior policy,'" and follow the Act.[121]

EPA has two compelling "reasoned explanation[s]" for strengthening the RMP rule. First, new data show that a stronger rule "would be more reliable, more effective, and safer than the original

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[110] S. Rep. No. 101-228, at 134 (1989), *reprinted in* 1990 U.S.C.C.A.N. 3385, 3519 (also citing accidental release at Union Carbide in West Virginia that sent hundreds of workers and residents to seek medical care).
[111] 136 Cong. Rec. S16,985, S16,926-27 (Oct. 27, 1990), 1990 WL 164490; *see also* S. Rep. No. 101-228, at 143, 1990 U.S.C.C.A.N. 3528 ("Sudden, catastrophic events that result in the release of extremely hazardous substances are a significant (and perhaps, increasing) threat to public health and safety in the United States.").
[112] *Air All. Houston v. EPA*, 906 F.3d 1049, 1063.
[113] *Id* at 1064.
[114] *Id.* (quoting § 7412(r)(1), (r)(7)(A), (r)(7)(B)).
[115] *F.C.C. v. Fox Television Stations, Inc.*, 556 U.S. 502, 514 (2009).
[116] *Nat'l Ass'n of Home Builders v. EPA*, 682 F.3d 1032, 1038 (D.C. Cir. 2012) (quoting *Fox*, 556 U.S. 515).
[117] *Fox*, 556 U.S. at 515,
[118] *Nat'l Ass'n of Home Builders*, 682 F.3d at 1039.
[119] *Id.* at 1043 (internal citation omitted); *see Chevron, U.S.A., Inc. v. NRDC.*, 467 U.S. 837, 865 (1984) ("[A]n agency to which Congress has delegated policy-making responsibilities may, within the limits of that delegation, properly rely upon the incumbent administration's views of wise policy to inform its judgments.").
[120] *Air All. Houston v. EPA*, 906 F.3d 1049 (citing *Fox*, 556 U.S. at 515-16).
[121] *Air All. Houston v. EPA*, 906 F.3d 1049 (citing *Fox*, 556 U.S. at 515-16).

rule."[122] EPA must consider newly available evidence on recent, frequent chemical disasters; the worsening problem of natech or "double disasters" due to increasing climate risks; and the disproportionate impact of chemical disasters on communities of color, low-income communities, and communities exposed to multiple RMP facilities. A new rule must include strong disaster prevention measures including requirements for safer chemical and technology alternatives, incident management and emergency preparedness and response, accountability and enforceability, and climate risk and natural disaster planning and mitigation, as well as expanded chemicals and facility coverage. Such a rule would necessarily be "more reliable, more effective, and safer than the original rule," [123] which has failed to prevent thousands of chemical disasters. In fact, a stronger rule would represent a change in course that is not only rational but also legally required and that would achieve the statutory objective of preventing chemical disasters.[124]

Second, the administration changed since the chemical disaster rule as promulgated. As shown in the new administration's Executive Order 13990, this President and EPA Administrator recognize important, different policy priorities from the prior Administration, placing greater value on public health and safety, environmental justice and environmental protection, science, and worker safety than the prior Administration.[125] Applying these policy priorities here should lead to a significantly stronger rule that recognizes greater benefits from health protection than the prior Administration admitted. Additionally, it should lead to a rule that acknowledges that it is appropriate for industry to invest in incident prevention and thus bear the necessary cost of saving lives and protecting health rather than allow community members to face harm that they are unable to prevent. And, importantly, these policy priorities are not only relevant factors for the agency to consider in regulating, but also more closely align with the objective of the Act itself than weakening the rules did. Again, this makes the agency's change in course not only rational but also lawful and necessary -- and would return EPA to the original path of safety on which the agency started years ago.

Due to the significant evidence before the agency now, and consistent with the Act's substantive and procedural requirements, EPA must substantially strengthen the RMP rules. It is expected that EPA will change course from the policy decisions of its predecessor administration, where evidence and the statuet support this need. As Judge Wilkinson explained years ago:

> *There is nothing necessarily wrong with this sort of seesaw. No one expects agency views to be frozen in time or to be immune from electoral mandates that will predictably result in alterations and modifications of agency rules and regulations. . . . [T]he APA contemplates what is essentially a hybrid of politics and law—change yes, but only with a measure of deliberation and . . . some fair grounding in statutory text and evidence*.[126]

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[122] *Nat'l Ass'n of Home Builders*, 682 F.3d at 1039; *see also Fox*, 556 U.S. at 515.
[123] *Nat'l Ass'n of Home Builders*, 682 F.3d at 1039.
[124] *See* 42 U.S.C. § 7412(r).
[125] *See Nat'l Ass'n of Home Builders*, 682 F.3d 1032 at 1043 (noting that a change in administration is a reasonable basis for an agency to change position).
[126] *N.C. Growers' Ass'n v. United Farm Workers*, 702 F.3d 755 (4th Cir. 2012). (Wilkinson, J., concurring in a decision that an agency action could not be upheld not because it changed course but because the agency had violated core notice-and-comment requirements).

A change here is warranted after the careful deliberation the agency now has in progress. Substantial evidence shows the need for stronger rules and would fulfill section 7412(r)(7)'s prevention objective and comply with the Clean Air Act's procedural requirements.[127]

A robust new chemical disaster prevention rule would also be consistent with the D.C. Circuit's affirmation that, "EPA retains authority under Section 7412(r)(7) to substantively amend the programmatic requirements of [the RMP program rules] and pursuant to that authority, revise its effective and compliance dates, subject to arbitrary and capricious review."[128]

A new rule would be particularly well-supported and justifiable if, as directed by 42 U.S.C. § 7412(r)(6)(I), it gives significant weight to CSB recommendations, including the most current safety alerts and investigation reports. A strong new chemical disaster prevention rule that implements these recommendations would be an appropriate, affirmative "respon[se]" to such recommendations.[129]

Finally, in applying its statutory authority, EPA should reject industry commenters' requests to prioritize their low or zero compliance cost preferences and short-term financial profit above public health and safety. In rejecting their focus on economic cost, EPA should recognize the full, anticipated quantifiable *and unquantifiable* benefits of new regulatory requirements intended to save lives, prevent injury, and protect communities living under a constant threat of chemical disasters. Notably, the Act does not refer to cost at all, nor does it authorize EPA to use cost as a justification for failing to save lives or to prevent injuries, shelter-in-place orders, evacuations, toxic exposure, or harm to public welfare. Regardless, preventing incidents and reducing harm in the event of an incident would save economic and immeasurable human costs. The Act also does not require EPA to fully quantify all benefits from safety measures. Quantifying the full benefits from safety measures in financial terms is impossible because the lives of workers, first-responders, and community members are priceless, but EPA can and should recognize more of the benefits from preventing chemical disasters (as discussed below), based on newly available information.

Instead of prioritizing industry's preference in continuing the status quo under which fatal, devastating incidents have occurred repeatedly, EPA must fulfill the statutory objectives of preventing disasters and minimizing harm to public health and safety, which are the plain textual requirements of sections 7412(r)(1) and 7412(r)(7).

III. Specific Types of Regulatory Changes Are Necessary to Protect the Health of Fenceline Communities, Workers and First-Responders.

A. Prevention of Chemical Disasters

1. Elimination and reduction of hazards: implementing inherently safer technology (IST), chemicals or systems

It is critical in this rulemaking for EPA to take a new look at the methods currently available to eliminate and reduce hazards, e.g., through a hierarchy of controls analysis and hazard reduction plan,

[127] *See* 42 U.S.C. § 7607(d).
[128] *Air All. Houston v. EPA*, 906 F.3d at 1066.
[129] 42 U.S.C. § 7412(r)(6)(I).

because new information is available on this. It is the only guaranteed way to prevent catastrophic chemical disasters at existing chemical facilities. This method, therefore, must be a core component of EPA's new rule because the Act requires EPA to issue rules that fulfill the core "prevention" objective of section 7412(r), and 7412(r)(7).

While EPA has both recognized the value of this method and then rejected it in the past based on incomplete data, the most current information available shows that the agency should require it in a new rule.

First, there continues to be strong support for this method from EPA's sister agency, the Chemical Safety Board, whose recommendations the Act requires the agency to take seriously. Based on incident investigations, the Chemical Safety Board has repeatedly recommended that EPA require implementation of IST, as CSB investigator Amanda Johnson testified in the first listening session, summarizing significant open CSB recommendations on this issue.[130] Yet, so far EPA has not done so.

Second, the Trump EPA's attempted analysis to discount the efficacy of this approach (which the Obama-Biden EPA had recognized was valuable) was not reliable and will not hold up under a review for scientific integrity by the current EPA. The Trump EPA distorted incident data from states that had implemented IST. In addition to all of the problems with how that analysis looked at incidents (including by ignoring harmful incidents, refusing to recognize the delay in reporting, and more, as discussed above), that analysis had a central, fatal flaw. The raw number of incidents in states that have implemented IST or not is not the only or even appropriate metric to use to assess the efficacy of this approach, especially when different states have different types of facilities with varying IST methods available. Instead, more relevant metrics include, e.g., changes in processes, and if an incident occurred, what actually happened in terms of the amount and duration of a release, and any resulting harm.

Relevant new information showing the success of this type of requirement in state and local jurisdictions is available and discussed below. But, this should not be necessary for EPA to follow the lead of these other agencies. That is because, by definition, requiring assessment and implementation of inherently safer ways to operate *will automatically assure that a facility is less hazardous.* And, requiring an assessment of improvements due to implementation of IST would improve the available information for the facility, the EPA, and the public to use in implementing the rules and strengthening safety measures.

Eliminating and reducing hazards has the maximum possible guaranteed efficacy because "what you don't have, can't leak."[131] Thus, taking the most dangerous chemical away in the first place – whether that's hydrofluoric acid, chlorine, or another chemical – guarantees that the community will never face the deadly impacts of a release of that chemical. These are both chemicals that in some instances workers and facilities have recognized are too dangerous to use and begun to phase out –

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[130] Johnson testimony for CSB (June 16 session) (citing CSB recommendations), https://www.regulations.gov/document/EPA-HQ-OLEM-2021-0312-0011.

[131] Paul Amyotte & Faisal Khan, *The Role of Inherently Safer Design in Process Safety*, 99 CANADIAN J. OF CHEM. ENG'RG. 853, 869 (Dec. 15, 2020) (quoting Prof. Trevor Kletz) (attached).

making the communities near them 100% safe from these chemical releases, forever.[132] EPA has heard significant testimony highlighting the ability for refineries to phase out use of HF – and new information from industrial facilities doing just that illustrates that this is an important example of what EPA's rules should require.[133] Similarly, reducing the use of a hazardous process, or making another IST change has an immediate, guaranteed result of reducing harm by the same amount, and making the facility that much safer.

These comments provide the most current information that we could find, demonstrating the value of hazard elimination and reduction, including through assessing and implementing inherently safer technologies, chemicals, and systems. As publicly available information is limited, EPA should seek additional information on this directly from safety experts and from the state and local jurisdictions themselves.

The following state and local jurisdictions have implemented a version of IST requirements:

- Contra Costa County (1998)
- Richmond, CA (2013)
- New Jersey (1988)
- California, in its refinery rule (Cal.ARP Program 4) (Oct. 1, 2017).
- Jefferson County, KY Air Pollution Control District (May 2021)

(All are attached in Appendix).

Table 4. State and Local Jurisdictions' Inherently Safer Requirements to Eliminate or Reduce Hazards (i.e., methods to reduce potential consequences)	
California	**IST:** "an approach to safety that focuses on eliminating or reducing the hazards . . ., permanent and inseparable from the material or operation. . . compared to a process with only passive, active, and procedural safeguards." CAL. CODE REGS. tit. 19, § 2735.3(cc). "to reduce each hazard to the greatest extent feasible" and "effectively reduce remaining risks" using other safeguards. § 2762.13.

[132] *See, e.g.*, USW, *A Risk Too Great* (2013), https://www.usw.org/workplaces/oil/oil-reports/A-Risk-Too-Great.pdf. The Chevron Salt Lake City refinery has now phased out use of hydrofluoric acid and shifted to use of a liquid alkylation technology known as ISOALKY developed by Chevron and licensed to Honeywell. *See* A. Doyle, Safer and more efficient alkylation process now at commercial scale, The Chem. Eng'r (May 5, 2021), https://www.thechemicalengineer.com/news/safer-and-more-efficient-alkylation-process-now-at-commercial-scale/; *see also* Chevron and Honeywell Announce Start-up of World's First Commercial ISOALKY™ Ionic Liquids Alkylation Unit (Apr. 13, 2021), https://www.chevron.com/stories/chevron-and-honeywell-announce-start-up-of-isoalky-ionic-liquids-alkylation-unit. And, an Oklahoma refinery is also in the process of phasing out HF and shifting to KBR Solid Acid Alkylation Technology. *See* CVR Energy Proceeds with KBR on Second Phase Scope for Alkylation Revamp Project (Feb. 4, 2021), https://www.prnewswire.com/news-releases/cvr-energy-proceeds-with-kbr-on-second-phase-scope-for-alkylation-revamp-project-301221805.html.

[133] *See supra* note 132.

Contra Costa/Richmond*	**IST:** "feasible alternative . . . meant to eliminate, minimize, or reduce the risk of a major chemical accident or release by modifying a process rather than adding external layers of protection." Contra Costa County, Cal., Ordinances ch. 450 § 8.014(g). "root cause analysis"; "select and implement each inherently safer system . . . to the greatest extent feasible and as soon as administratively practicable. . . not [] based solely on evidence of reduced profits or increased costs." § 8.016(i).
New Jersey	**IST:** minimize or eliminate the potential for an Extraordinarily Hazardous Substance release. N.J. ADMIN. CODE § 7:31-1.5(a). • Reducing the amount of EHS material that potentially may be released; Substituting less hazardous materials; using EHSs in the least hazardous process conditions or form; and designing equipment and processes to minimize the potential for equipment failure and human error. N.J. ADMIN. CODE § 7:31-4.12. • Feasibility **Risk reduction:** identifies the risk reduction measures, recommends corrective actions, and provides for scheduling and implementation of remedial actions. N.J. ADMIN. CODE § 7:31-1.5(a). • "recommendations resulting from the [incident] investigation to prevent a recurrence." § 7:31-4.1(c). • "feasible risk reduction measures" and justifications.§ 7:31-4.2. • "recommendations to reduce risks"; remedial actions and alternatives to correct the deficiencies. § 7.31-9.5.
Massachusetts	**Toxics Use Reduction:** "reduce, avoid, or eliminate the use of toxic or hazardous substances . . ., so as to reduce . . ., without shifting risks . . . ." 310 MASS. CODE REGS. 50.10: • "Input substitution, product reformulation, production unit redesign or modification, production unit modernization, improved operation and maintenance of production unit equipment and methods, recycling, reuse, or extended use of toxics." *Id.* • Requirements for developing toxics use reduction plans, *id.*50.40-50.49: o Notify and solicit comments from employees o Policy to encourage reduction o "[E]valuate the technical feasibility" • "a statement of facility-wide management policy regarding toxics use reduction." MASS. ANN. LAWS CH. 21I, § 11.

* Contra Costa and Richmond Ordinances are identical except that Richmond includes "petroleum refinery."[134]

All of the above requirements are stronger than the EPA 2017 RMP Amendments' provisions and stronger than the EPA 2019 RMP rule which included no IST provisions at all. The State of

[134] *See* Richmond ordinance § 6.43.050(w) and 6.43.080.

Washington is in the process of passing a rule similar to California's.[135] An additional county (Jefferson Co., Kentucky) also recently implemented a version of the IST language – making that Kentucky county's rules stronger than the 2019 RMP rule, though not strong enough as it does not add any protections from existing facilities.[136]

The EPA 2019 RMP Rollback Rule included no requirements to eliminate or reduce hazards at all. The EPA 2017 RMP Amendments required a safer technologies alternatives analysis, but that provision was not strong enough.[137] It only required the analysis for facilities in the three industry sectors with the worst accident records (NAICS codes 322, 324, and 325: petroleum refineries, chemical manufacturers, and pulp/paper manufacturing). And, it did not require any implementation of safer alternatives found, no matter how feasible. But EPA's original recognition of the value of this type of requirement continues to be reliable, and EPA should return to and update this finding based on the most current information now available.[138]

Based on the information now available on IST and on the serious hazards and worst case scenarios that fenceline communities face, EPA should issue stronger and more expansive hazard reduction requirements in the new RMP rule to prioritize disaster prevention and public health and safety. Rather than basing the need for this provision solely or in part on recent incident data as EPA did in 2017 (which did not ensure protection from enough hazardous facilities), EPA should require this assessment for all RMP facilities based on the serious dangers from the chemicals regulated under this program, and the need to require facilities to do all that is possible to prevent hazardous releases.

If EPA determines that tiered protection should be implemented, at a minimum, it is essential for EPA to require IST assessment and implementation protection for the following types of facilities to protect nearby fenceline communities near:

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[135] J. Allison, *State working to update oil refinery safety rules* (June 2, 2019), https://www.goskagit.com/news/local_news/state-working-to-update-oil-refinery-safety-rules/article_81976a21-ad9a-54e3-bd0e-bc9f043d32cf.html.

[136] Jefferson Co. Ky requires consideration of "inherently safer technology or design" which means "risk management measures that minimize the use of regulated substances, substitute less hazardous substances, moderate the use of regulated substances, or simplify covered processes in order to make accidental releases less likely, or the impacts of such releases less severe (Jefferson County, Ky., Regulation 5.15 § 1.1.22). The county requires new petroleum refineries, chemical plants and pulp and paper mills to "consider, in the following order of preference inherently safer technology or design, passive measures, active measures, and procedural measures" (Jefferson County, Ky., Regulation 5.15 § 4.2.3.8.1) and to determine the practicability by April 21, 2025 (Jefferson County, Ky., Regulation 5.15 § 4.2.3.8; Jefferson County, Ky., Regulation 5.15 § 1.2.4.3).

[137] 2019 Rollback Rule, 84 Fed. Reg. 69,834; Chemical Disaster Rule: Safer technologies alternatives analysis: Required petroleum refining, chemical manufacturing, and pulp and paper milling industries to conduct an assessment of safer technologies or alternatives to their hazardous processes that could be used to reduce the risk of disaster. (Former § 68.67(c)(8)).

[138] In 2017, EPA found "there is a benefit in requiring that some facilities evaluate whether they can improve risk management of current hazards through potential implementation of [inherently safer technologies] or risk management measures that are more robust and reliable." 81 Fed. Reg. 13,638, 13,663-68; *see also* 82 Fed. Reg. 4629; *see also* 2017 Response to Comments at 132-33 (describing National Academy of Sciences' finding after examining the 2008 BayerCropScience accident in West Virginia "that inherently safer process assessments can be valuable").

- **Facilities in sectors with known available hazard elimination or reduction methods (IST).** All facilities in industry sectors for which there is a known safer method or hazard elimination method available should be required to assess and implement this at their site, following the lead of similar facilities who have already done this. Important examples include facilities like Chevron that has phased out the use of hydrofluoric acid at its Salt Lake City, UT petroleum refinery and water treatment plants that have stopped using chlorine.[139] See the new report prepared by Paul Orum listing examples, as well as significant information provided in EPA's prior docket.[140] Wherever there are significant examples of some facilities making this kind of change to improve safety by eliminating or reducing hazards, it is important to require all similar facilities to evaluate and implement a similar change to the greatest extent feasible.
- **Facilities in natech or high climate risk and other natural disaster risk areas.** There is a strong reason to trigger the protection of IST assessment and implementation for communities facing an increased threat of harm from facilities sited in places for which there is available scientific data showing a higher risk of hurricanes, floods, high winds, wildfire, earthquakes, and other severe weather, or in places that have recently had such severe weather during the last 4 years. In *Preventing "Double Disasters,"* UCS found at least 3,856 facilities, or one-third of all existing facilities, are in areas with high climate risks.[141] Information on earthquake risks is also available and the risks are particularly well known in places like Utah and California. EPA should consult all data that it has and require facilities to perform an assessment based on the best available information on their locations, to ensure facilities in natural disaster risk areas must perform and implement IST.
- **Facilities in communities with more than one RMP facility.** Based on the increased hazards in communities with more than one RMP facility, and due to the increased harm shown from prior incident data,[142] there is a strong reason to trigger the protection of IST assessment and implementation for communities with more than one facility in the same or nearby zip codes, the same county, or within a nearby radius of one another.
- **Facilities that are using, storing, or managing the highest quantity and highest toxicity of regulated chemicals.** EPA should require this for the facilities that create the greatest hazards due to the volume or toxicological risk caused by their use, management, or storage of certain chemicals – based on the information that only facilities and EPA have. EPA should use the reported chemicals on site and the worst-case scenario data reported to ensure that every facility that could cause death or injury from the release of chemicals on site is required to perform and implement IST.
- **Incident trigger.** EPA should ensure that the most accident-prone facilities assess and employ IST. The incident data show that petroleum refineries and chemical or petrochemical manufacturing sectors are particularly prone to incidents and also have some of the greatest

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[139] *See supra* note 132.

[140] Paul Orum, Comment on EPA's Risk Management Planning Program, Docket ID No. EPA-HQ-OLEM-2021-0312 (June 16, 2021), at 6-7, EPA-HQ-OLEM-2021-0312-0014; *see also* Coalition to Prevent Chemical Disasters 2016 comments at 6-7 (citing examples of shifting to less dangerous chemicals, including shifts away from chlorine) (attached).

[141] *Double Disaster* Report at 6, https://cpr-assets.s3.amazonaws.com/documents/preventing-double-disasters-final.pdf; *see* List of Identified Climate Risk RMP facilities (July 2021), compiled by UCS, attached in Appendix, *available at* Kalman, Casey, 2021, "Risk Management Plan (RMP) Estimated Climate Risks", https://doi.org/10.7910/DVN/J1V1NA, Harvard Dataverse, V1.

[142] *See, e.g.*, UAW July 2021 Comments, *supra* note 47, at 11-13 & Figs. 8-10.

hazards, and so they must be included in a new IST provision. But EPA should not limit this provision only to a small subset of industry sectors because there is strong reason, as summarized above, to issue more expansive IST requirements that prevent incidents at highly hazardous facilities that have not had recent incidents but would cause death and injury if they were to have one. In addition, EPA could and should require this for all facilities that have had a reportable incident in the last 10 years, causing *any type of harm* to people, property, or ecological harm (which is an indicator of unmeasured harm to public health and welfare). The rule should include an "accident trigger," requiring IST assessment and implementation for any facility that has a reportable harm incident after implementation of the new rule. This would provide an added incentive for facilities to prevent incidents, and to perform this early, so that they could know what action they might need to take if the requirement were triggered.

The Contra Costa Industrial Safety Ordinance Annual Report from February 2021 shows the substantial decline in major chemical accidents and releases at the three refineries and three chemical facilities in its jurisdiction, since it implemented its rules.[143] The success in this county provides definitive evidence that its rules not only have reduced hazards but also prevented incidents completely. This report is newly available evidence that EPA has not previously considered.

Although years ago, when EPA looked at the California Refinery Accident Prevention Program, no implementation had yet occurred, the California refinery rule has now been partly implemented – with 50% of refineries required to implement the inherently safer requirements by October 1, 2020. Information on changes made pursuant to this program are not currently publicly available – but the facilities and California EPA should be able to provide this information. EPA should expeditiously seek information from California on changes made under this program, showing that refineries in California have started to remove hazards. Chemical incidents have declined at California refineries since the 2017 rules were implemented – even though full compliance has not yet been required for all provisions.[144]

There is also significant evidence available from New Jersey's program – showing that 45 of the facilities covered by its IST rules (more than half) implemented a total of 205 IST measures.[145] Commenters do not have the most current information available from New Jersey – so EPA should request new information from the state on changes made and the success of this program in recent years.

In addition to the information available on implementation of these stronger rules, Professor Paul Amyotte has also released new research illustrating the value of this method, which is based on four main principles: minimization, substitution, moderation, and simplification – when used as part of process hazard analysis.[146] One of these studies evaluated the effectiveness of the Contra Costa County ordinance – finding that it has had benefits in removing hazards and improving safety – for example, in

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[143] Contra Costa Indus. Safety Ord. Annual Perf. Rev. & Eval. Report at 17 (Feb. 5, 2021), https://cchealth.org/hazmat/pdf/iso/iso-report.pdf (attached).

[144] UAW July 2021 Comments, *supra* note 47, at 7-9 (showing reduced incidents and harm at California refineries in recent years from May 2021 RMP database).

[145] NJDEP comments dated June 28, 2018, EPA-HQ-OEM-2015-0725-0973; *see also* Inherently Safer Technology (IST) Implementation Summary (Jan. 15, 2010), EPA-HQ-OEM-2015-0725-0412.

[146] K. Rayner Brown et al., *Inherently safer design protocol for process hazard analysis*, 149 PROCESS SAFETY & ENVTL PROT. 199 (May 2021) (attached); *see also* Paul Amyotte & Faisal Khan, *The Role of Inherently Safer Design in Process Safety*, 99 CANADIAN J. OF CHEM. ENG'RG. 853, 869 (Dec. 15, 2020) (attached).

thirty CCHS incident investigations, there were 227 recommended corrective actions, including administrative (75%), active engineered (11%), passive engineered (5%) and inherently safer design (8%).[147] As this research shows, providing example-based guidance of inherently safer methods to address particular hazards is likely to increase the effectiveness of even this already strong program.[148] Therefore, EPA should implement the most protective regulatory language – drawing on that from Contra Costa's Industrial Safety Ordinance and the California refinery rules – and strengthen the language by issuing a new chemical disaster prevention rule that follows these recommendations. Because, as research shows, making examples of hazard elimination and reduction methods available can improve the effectiveness of IST assessments, EPA should create a clearinghouse of information on IST by industry sector, and should require reports of the results of IST assessments and implementation to be made directly to EPA, and publicly available.

President Biden has long supported requiring strong prevention measures – including IST. EPA should now implement what President Biden has recognized is the most rational and health-protective policy: "I believe that requiring chemical facilities to transition to safer technologies whenever it is practical should be a priority that we establish. Doing this would completely and permanently eliminate the threat to millions of Americans."[149]

Finally, it is important to highlight the growing cybersecurity threat to industrial facilities, illustrated by recent cyberattacks on U.S. energy facilities and infrastructure.[150] Eliminating chemical hazards and reducing risks present at industrial chemical facilities will not only prevent disasters in the event of an "accident," but will also prevent and reduce harm in the event of an intentional act. As EPA has previously considered potential security concerns connected to the RMP facilities as a source of risk for a chemical release, if EPA continues to consider those to be present it should use those as an additional reason to require strong hazard elimination measures in the new RMP rule.

2. Additional Necessary Prevention Measures

Commenters also support inclusion in the proposed rule of the other well-supported prevention measures that EPA had previously recognized were needed, but rescinded in 2019, as shown in the below chart.[151] In each instance, EPA should further strengthen these requirements by taking the stronger language from state and local rules – in California and Contra Costa County – as a starting point. For example, the strong worker involvement requirements in the California rule, that have now

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[147] Lauren Turner et al., *Hierarchy of controls in Contra Costa Health Services (CCHS) incident investigations*, PROCESS SAFETY PROGRESS (Apr. 3, 2021) (attached).
[148] *Id.* at 8.
[149] *See* Sen. Joe Biden, Senate Committee on the Environment & Public Works Hearing on Inherently Safer Technology in the Context of Chemical Site Security (June 21, 2006), *available at* https://www.hsdl.org/?abstract&did=36394.
[150] *See, e.g.*,S. Neuman, *What We Know About the Ransomware Attack on a Critical U.S. Pipeline, Houston Public Media, NPR* (May 11, 2021, 9:33am), https://www.houstonpublicmedia.org/articles/news/energy-environment/2021/05/11/397892/what-we-know-about-the-ransomware-attack-on-a-critical-u-s-pipeline/; *see also* Air Alliance Houston et al. Comments of Aug. 23, 2018 at 130 & n.355.
[151] *See, e.g.*, 82 Fed. Reg. 4597-98, 4600, 4683-84 & tbl.4; *see also* 81 Fed. Reg. 13,640-41, 13,642, 13,648-49, 13,655-56, 13,663, 13,671-73, 13,674-75, 13,677-78; *see also* Air Alliance Houston *et al.* Comments of 2018, https://www.regulations.gov/comment/EPA-HQ-OEM-2015-0725-1969; *see also* Opening and Reply Briefs of Community Petitioners (attached); Air Alliance Houston *et al.*, Pet'n for Recon.

been fully implemented, illustrate the value of increased employee safety training and worker involvement in all requirements. The Chemical Safety Board's investigation reports and newly available information on incidents since that prior rule also show the need for these requirements – and EPA should reiterate its prior findings, and expand on these requirements, relying on the most current information available.[152] EPA should also require compliance reports to EPA, as discussed in the last part of these comments.

Table 5. Requirements rescinded by Trump EPA that were in 2017 Obama EPA rule	**2017 regulatory provision**	**Restore and expand**
Employee safety training requirements - Expanded the safety training requirements to include supervisors and all others involved in operation of a covered process.	§§ 68.54, 68.71	EPA should expand employee safety training and include training on all new RMP requirements to fully involve workers in RMP planning and implementation; require compliance report to EPA (as discussed below).
Process Safety Information - Requirement to keep process safety information up to date	§ 68.65	Restore and require compliance report to EPA (as discussed below).
Incident Investigation Requirements - Revised the incident investigation process to require a 12-month deadline for investigations to be completed and produce a report of findings; required schedule for addressing recommendations.	§§ 68.60(d)(7), 68.81(d)(7)	Restore and strengthen, following California refinery rule incident investigation requirements (and require compliance report to EPA, as discussed below).
Third-Party Compliance Audit - Required facilities to have an independent third party do their next compliance audit (every 3 years), if either: (a) they had an accidental release that caused harm or (b) the (state) agency implementing the RMP program identified conditions at the	§§ 68.58(f), 68.58(g), 68.58(h), 68.59, 68.79(f), 68.79(g), 68.79(h), and 68.80	Restore and require compliance report to EPA (as discussed below).

[152] *See, e.g.*, 81 Fed. Reg. at 13,646-54; 82 Fed. Reg. 4675 (describing the need for audit requirements); EPA found third-party compliance audits necessary because, despite prior self-auditing requirements, "[i]ncident investigations often reveal that these facilities have deficiencies in some prevention program requirements." 81 Fed. Reg. 13,654-62 (providing examples and noting "CSB identified a lack of rigorous compliance audits as a contributing factor behind the March 23, 2005[,] explosion and fire at the BP Texas City Refinery"); 81 Fed. Reg. 13,686 (explaining updates are needed to help facilities "to better comply" and because "necessary" for process hazard analysis).

Table 5. Requirements rescinded by Trump EPA that were in 2017 Obama EPA rule	2017 regulatory provision	Restore and expand
source that could lead to an accidental release.		
Audit all Covered Processes - Revised the Risk Management Program to ensure facilities audit "each covered process" and not just a sample of processes.	§§ 68.50, 68.67(c)(2)	Restore and require compliance report to EPA (as discussed below).
Process Hazard Analysis - Revised hazard analysis review and process to require consideration of findings from incident investigations.	§§ 68.50, 68.67(c)(2)	Restore and expand to add natech requirements (as discussed below), and require compliance report to EPA (as discussed below).
Root Cause Analysis - Required a "root cause analysis" as part of all incident investigations, to ensure sources identified all facts that led to the release.	§§ 68.60(d)(7), 68.81(d)(7);	Restore and require compliance report to EPA (as discussed below).
Near Miss Investigations - Required facilities to investigate near misses, including fires, explosions, or other dangerous situations that could have led to release of a listed chemical but did not ("near miss").	§ 68.60	Restore and require prompt reports to EPA of all near misses.
Investigation after Process Destroyed or Decommissioned - Required facilities to investigate accidents where the affected process was decommissioned or destroyed during a disaster (currently these are not investigated), and to meet all applicable reporting requirements before deregistration.	§§ 68.60, 68.190	Restore and require compliance report to EPA (as discussed below).

B. Climate Risk and Natural Disaster Planning and Mitigation to Prevent and Reduce Harm from Natech Incidents or "Double Disasters"

Significant new evidence and analysis illustrates the need and importance of including natech requirements in the RMP rule, as described in *Preventing "Double Disasters*," a policy brief prepared

by UCS, CPR, and Earthjustice.[153] The new rule must tailor all requirements discussed in these comments to natech incidents and also include additional requirements addressing the unique challenges natech incidents pose.

At a minimum, the new rule must require RMP facilities to consider climate change and natural disasters in every aspect of risk management. As part of process hazard analysis and risk management plans, facilities must be required to:

(1) assess natech risks as part of the process hazard analysis and include natech risks in release prevention and emergency response trainings for workers; and
(2) adopt natech incident prevention measures that must include chemical release prevention and incident management practices that can withstand climate- and natural disaster-related hazards: (a) facility changes, including inherently safer technology for hazard elimination and tank design changes, such as floating roof tanks; [154] (b) back-up power and maintenance and repair of infrastructure; (c) changes to startup and shutdown procedures, including enhanced preparation and emergency procedures before, during, and after natural disasters to reduce releases and hazards during shutdown and restart;[155](e) requirements to conduct the community-level emergency response discussed below to prepare for and during natech incidents; (f) real-time fenceline monitoring collection and reporting during or immediately after natural disasters.[156]

And, EPA must expand RMP coverage to include more facilities in areas prone to natural disasters.[157]

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[153] *See* UCS *et al.*, *Preventing "Double Disasters"* at 12-18.
[154] *See, e.g.*, CSB Comment Letter to EPA at 6 (July 20, 2018), https://www.csb.gov/assets/1/6/csb_comments_epa_rmp_20180720.pdf; CSB Comment Letter to EPA at 4-5 (May 10, 2016), https://www.regulations.gov/comment/EPA-HQ-OEM-2015-0725-0428; CSB Comment Letter to EPA at 13-17 (Nov. 5, 2014), https://www.regulations.gov/comment/EPA-HQ-OEM-2014-0328-0689; see also e.g., CSB, Tesoro Refinery Investigation Report (May 2014), available at https://www.csb.gov/tesoro-refinery-fatalexplosion-and-fire/; CSB, Chevron Final Report at 17 ("Using inherently safer design concepts to eliminate the hazard . . . will prevent future similar failures in refineries."); CSB, Interim Investigation Report: Chevron Richmond Refinery Fire at 45 (Aug. 2012), https://www.csb.gov/chevron-refinery-fire/ ("Chevron Interim Report") ("Chevron and other process plant's implementation of inherently safer systems to the greatest extent feasible would provide a higher degree of protection from incidents like the one that occurred on August 6, 2012.").
[155] EPA, Enforcement Alert: Risk of Chemical Accidents During Process Startup (Feb. 2021), https://www.epa.gov/sites/production/files/2021-02/documents/ncistartupsafety-enforcementalert.pdf; CSB, Safety Digest: CSB Investigations of Incidents during Startups and Shutdowns (2018), https://www.csb.gov/assets/1/17/csb_start_shut_02.pdf?16301; CSB, 2020 Hurricane Season: Guidance for Chemical Plants During Extreme Weather Events (2020), https://www.csb.gov/assets/1/6/extreme_weather_-_final_w_links.pdf; CSB, Safety Bulletin: After Katrina: Precautions Needed During Oil and Chemical Facility Startup, No. 2005-01-S (Sept. 2005), https://www.csb.gov/after-katrina-special-precautions-needed-during-oil-and-chemical-facility-startup/; CSB, After Harvey: Precautions Needed During Oil and Chemical Facility Startup (2017), https://www.csb.gov/assets/1/20/csb_harvey2017_05.pdf; CSB, Safety Digest: CSB Investigations of Incidents during Startups and Shutdowns (2018), https://www.csb.gov/assets/1/17/csb_start_shut_02.pdf?16301.
[156] For more information, *see* UCS *et al.*, *Preventing "Double Disasters."*
[157] CSB, *Organic Peroxide Decomposition, Release, and Fire at Arkema Crosby Following Hurricane Harvey Flooding*, Report No. 2017-08-I-TX (May 2018), https://www.csb.gov/arkema-inc-chemical-plant-fire-/

These measures are based on reports and recommendations from the EPA's Office of Inspector General and Office of Enforcement and Compliance Assurance,[158] the U.S. Chemical Safety and Hazard Investigation Board,[159] and the Center for Chemical Process Safety, [160] all of which have acknowledged the need to assess, prevent, and mitigate natech risks.[161]

In designing natech-specific risk management and mitigation measures, EPA should look to the implementation of successful state regulations. Some states have already required facilities to evaluate and plan for natech risks. For example, California's Accidental Release Prevention ("CalARP") Program already requires certain facilities to submit information on prevention programs with information on the "types of natural and human caused external events," Cal. Code Regs. tit. 19**,** § 2745.7(q)(1), including "seismic events," § 2760.2(c)(8). Further, the California Refinery Rule, Contra Costa County ordinance, and New Jersey IST requirements (discussed above) all provide examples of rules for hazard elimination or reduction, that are especially important to implement in natech-prone areas.

International bodies have also acknowledged the need to assess, mitigate, and prevent natech disasters.[162] The EU's Seveso III Directive also requires operators to consider natural disasters in multiple aspects of risk management. For example, operators must identify "domino effects"—that is, "all lower-tier and upper-tier establishments or groups of establishments where the risk or consequences of a major accident may be increased because of the geographical position and the proximity of such establishments, and their inventories of dangerous substances."[163] Operators who have identified such

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(attached); CSB, *Investigation Report: West Fertilizer Company Fire and Explosion*, No. 2013-02-I-TX (Apr. 2013), https://www.csb.gov/west-fertilizer-explosion-and-fire-/.

[158] EPA, Enforcement Alert: Risk of Chemical Accidents During Process Startup (Feb. 2021), https://www.epa.gov/sites/production/files/2021-02/documents/ncistartupsafety-enforcementalert.pdf.

[159] *See supra* notes 155-157.

[160] *See* EPA Office of Inspector General, EPA Needs to Improve Its Emergency Planning to Better Address Air Quality Concerns During Future Disasters, Report No. 20-P-0062 (Dec. 16, 2019), https://www.epa.gov/office-inspector-general/report-epa-needs-improve-its-emergency-planning-better-address-air-quality; CSB, 2020 Hurricane Season: Guidance for Chemical Plants During Extreme Weather Events (2020), https://www.csb.gov/assets/1/6/extreme_weather_-_final_w_links.pdf; Ctr. for Chem. Process Safety (CCPS), Am. Inst. of Chem. Engrs, CCPS Monograph: Assessment of and planning for natural hazards (2019), https://www.aiche.org/sites/default/files/html/536181/NaturalDisaster-CCPSmonograph.html.

[161] *See* EPA Office of Inspector General, EPA Needs to Improve Its Emergency Planning to Better Address Air Quality Concerns During Future Disasters, Report No. 20-P-0062 (Dec. 16, 2019), https://www.epa.gov/office-inspector-general/report-epa-needs-improve-its-emergency-planning-better-address-air-quality; CSB, 2020 Hurricane Season: Guidance for Chemical Plants During Extreme Weather Events (2020), https://www.csb.gov/assets/1/6/extreme_weather_-_final_w_links.pdf; Ctr. for Chem. Process Safety (CCPS), Am. Inst. of Chem. Engrs, CCPS Monograph: Assessment of and planning for natural hazards (2019), https://www.aiche.org/sites/default/files/html/536181/NaturalDisaster-CCPSmonograph.html.

[162] Natech Hazard and Risk Assessment (2017) – UNISDR; Implementation Guide for Man-Made and Technological Hazards (2014) – UNISDR. *See also* Cai and Marson (2021) A regional Natech risk assessment based on a Natech-prone facility network for dependent events; Advances and Gaps in Natech Quantitative Risk Analysis (2020); Risk analysis in Natech events: State of the art (2020); Asia-Pacific Regional Framework for NATECH (Natural Hazards Triggering Technological Disasters) Risk Management (2020).

[163] Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive

"domino effects" must "take account of the nature and extent of the overall hazard of a major accident in their [prevention policy], safety management systems, safety reports and internal emergency plans, as appropriate" and "cooperate in informing the public and neighbouring sites that fall outside the scope of this Directive, and in supplying information to the authority responsible for the preparation of external emergency plans."[164] Key here, the safety report must also include a "detailed description of the possible major-accident scenarios" and the conditions under which they could occur, including "natural causes, for example earthquakes or floods."[165] Germany has also issued two rules requiring operators of industrial facilities to address natech risks.[166]

Preventing "Double Disasters" provides more detail on the natech problem and these solutions.[167] We attach and incorporate that policy brief here and call for EPA to consider and implement all solutions it discusses.

C. EPA Must Expand the Coverage of the RMP to Protect More People by Expanding Chemical Coverage and Facility Coverage.

Present and past incidents of hazardous chemical release indicate that EPA's current chemical and facilities coverage is incomplete and insufficient. Therefore, EPA must expand the list of hazardous chemicals and facilities regulated under the RMP. Additionally, the threshold quantities (TQ) of many of the regulated hazards are unreasonably high. The high TQ exempts many facilities from RMP requirements, leading to accidents that could have been mitigated.

1. EPA must expand the coverage of facilities so that a facility covered in part under the RMP must be covered in full.

When incidents have occurred at facilities that are only partially covered and have caused fires and explosions involving the rest of the facility, this has shown that EPA must expand coverage so any facility covered in part is fully covered by the RMP rules.

To do so, EPA should ensure any facility that stores or uses a chemical regulated under the RMP must follow RMP requirements for all processes and all equipment and must ensure that all hazardous chemicals at the site are accounted for – including any that could cause risk, fire, explosion or release o of the RMP covered chemicals.[168] When a facility is already using a hazardous chemical in part of the facility, not covering the rest of the facility brings absurd results. The effectiveness of RMP is dramatically undermined or even negated.

96/82/EC, 2012 (L197/1) 8, *available at* https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32012L0018&from=EN.

[164] *Id.* at 9.

[165] *Id.* at 27.

[166] TRAS 310: Vorkehrungen und Maßnahmen wegen der Gefahrenquellen Niederschläge und Hochwasser [Technical Rule on Installation Safety 310: Precautions and Measures against the Hazard Sources of Precipitation and Flooding Short Version], Dec. 15, 2011 (Ger.).

[167] UCS *et al.*, *Preventing "Double Disasters"* at 6.

[168] *See* CHEM. SAFETY BD., EXXONMOBIL TORRANCE REFINERY 50 (2015) (requiring risk assessments only for units within 50 feet of the intended ESP location).

The infamous 2013 West, Texas fertilizer plant explosion and the 2017 Arkema fire are two of the most well-known examples of facilities that were only partially covered by EPA's rules.[169] As another example, a fire that happened at a storage building at a chemical facility forced workers to evacuate.[170] And on July 27, 2021, another fatal chemical disaster occurred in LaPorte, Texas, at an RMP petrochemical manufacturing facility, LyondellBasell Acetyls LLC, that appears to have been only covered in part.[171] The CSB deployed a team to respond to this incident.[172] At least some of the chemicals reported to have been involved in this incident do not appear to be RMP-covered chemicals, showing that EPA must expand coverage (as further discussed below).

And, although a facility may be covered under RMP because of HF, if the wider facility is not covered, there are potential dangers of grim hazards. Such potential can be seen by several of the near misses of HF tanks in refineries.[173] A recent explosion at the Pryor gas well killed five workers.[174] CSB, among many things, lamented that the RMP does not cover the oil drilling process – and EPA should change this.[175] Incidents for which CSB is currently conducting investigations show that facilities that are covered under the RMP *and* those that are not covered under the RMP still are at risk of dangerous accidents.[176]

Two important ways to ensure broader coverage of RMP facilities, as well as to expand coverage to more facilities and thus to protect more people, are: adding more chemicals to the RMP list, and lowering the threshold quantities for coverage, as discussed next.

2. EPA must expand the list of chemicals covered to include more highly hazardous substances, including ammonium nitrate, and facilities that use these.

There are major gaps in the RMP because this program does not regulate all of the highly hazardous chemicals that, if released, could cause death, injury, toxic exposure, and other harm.

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[169] CSB, Investigation Report, Organic Peroxide Decomposition, Release, and Fire at Arkema Crosby Following Hurricane Harvey Flooding (Aug. 29, 2017), Report No. 2017-08-I-TX (May 2018), https://www.csb.gov/arkema-inc-chemical-plant-fire-/; CSB, Investigation Report, West Fertilizer Company Fire and Explosion (Apr. 17, 2013), Report No. 2013-02-I-TX, https://www.csb.gov/west-fertilizer-explosion-and-fire-/.

[170] *Fire Forces Evacuation of Dow Chemical Plant in Louisiana*, POWDER BULK SOLIDS (Apr. 29, 2018), https://www.powderbulksolids.com/wire-cloth/fire-forces-evacuation-dow-chemical-plant-louisiana.

[171] P. DeBenedetto & K. Watkins, *2 Dead, 30 Hospitalized After 'Mass Casualty' Incident At LyondellBasell Chemical Plant Near La Porte*, Houston Pub. Media (July 27, 2021), https://www.houstonpublicmedia.org/articles/news/energy-environment/2021/07/27/404355/at-least-2-dead-after-leak-at-lyondellbasell-chemical-plant-in-la-porte/; https://rtk.rjifuture.org/rmp/facility/100000158553.

[172] https://www.csb.gov/csb-deploying-to-lyondellbasell-incident/.

[173] *See, e.g.*, CSB, *Philadelphia Energy Solutions (PES) Refinery Fire and Explosions* (June 21, 2019), https://www.csb.gov/philadelphia-energy-solutions-pes-refinery-fire-and-explosions-/ (injuring five workers); Danielle Kaeding, *3 Years After an Explosion Rocked Wisconsin's Only Refinery, Superior Is Still Waiting For Answers*, WI. PUB. RADIO (Apr. 28, 2021), https://www.wpr.org/3-years-after-explosion-rocked-wisconsins-only-refinery-superior-still-waiting-answers (injuring thirty-six workers).

[174] CSB, Investigation Report: Gas Well Blowout and Fire at Pryor Trust Well 1H-9 13 (2019), https://www.csb.gov/pryor-trust-fatal-gas-well-blowout-and-fire/.

[175] *Id.*

[176] *See* Table 3, above, showing Ongoing CSB Investigations.

Recent incidents illustrate the need for an expansion in the list of chemicals covered.[177] Another example incident occurred just days ago at the Dow Bayport chemical plant in La Porte, TX, causing a shelter-in-place and evacuation order in the Houston area involving the non-RMP covered chemical hydroxyethyl acrylate.[178] Then, on July 27, 2021, a fatal chemical incident involved additional chemicals that appear not to be covered.[179]

A major area of reform is the inclusion of reactive chemicals. Lack of regulation in this regard has led to accidents resulting from these chemicals. For example, in 2017, a reactive accident caused by organic peroxides led to a fire at Arkema in Crosby, Texas.[180] Another incident occurred because of stored ammonium nitrate, another reactive chemical not covered under the RMP.[181] Nitrous oxide is yet another reactive chemical that is not covered under the RMP.[182] The incident at Airgas killed one worker.[183] Incidents elsewhere, like the catastrophe in Beirut in 2020, also illustrate the need for stronger RMP regulation of ammonium nitrate and other reactive chemicals.[184]

Related to reactive chemicals are flammable chemicals that are not covered because they fall outside of the RMP-covered flammability rating.[185] CSB has already recommended multiple times that EPA expand the current RMP to include reactive hazards, including ammonium nitrate.[186] Most

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[177] *Id.*; *see also* CSB, *T2 Laboratories Inc. Reactive Chemical Explosion* (Sept. 15, 2009), https://www.csb.gov/t2-laboratories-inc-reactive-chemical-explosion/ (killing four and injuring thirteen).

[178] https://www.click2houston.com/news/local/2021/07/21/shelter-in-place-issued-for-la-porte-following-process-upset-at-dow-chemical-facility-office-of-emergency-management-says/.

[179] P. Benedetto & K. Watkins, Houston Pub. Media (July 27, 2021), https://www.houstonpublicmedia.org/articles/news/energy-environment/2021/07/27/404355/at-least-2-dead-after-leak-at-lyondellbasell-chemical-plant-in-la-porte/ ("Harris County Fire Marshal Laurie Christensen identified the chemicals as methyl iodide, hydrogen iodide, and methyl acetate-- a chemical acid used in food-grade vinegar that can cause severe burn, and is harmful if swallowed, toxic if inhaled, and harmful to the skin, she said.").

[180] CSB, ORGANIC PEROXIDE DECOMPOSITION, RELEASE, AND FIRE AT ARKEMA CROSBY FOLLOWING HURRICANE HARVEY FLOODING 13 (2018); *see also* CSB, FACTUAL UPDATE: FIRES AND EXPLOSIONS AT TPC GROUP PORT NECHES OPERATIONS FACILITY 11 (2018) (injuries to three resulting from explosion of butadiene-based polymer).

[181] CSB, INVESTIGATION REPORT: TOXIC CHEMICAL RELEASE AT THE DUPONT LA PORTE CHEMICAL FACILITY 64 (2018); *see also* CSB, INVESTIGATION REPORT: WEST FERTILIZER COMPANY FIRE AND EXPLOSION 57–58 (2016) (killing fifteen and injuring more than 260).

[182] CSB, NITROUS OXIDE EXPLOSION: INVESTIGATION REPORT 9–10, 92 (2016). This explosion was certainly not the only one that occurred due to nitrous oxide. *See id.* at 23–35 (listing nitrous oxide explosion incidents that happened from 1973).

[183] *Id.* at 9.

[184] *See supra* note 38; *see also* Giorgia Guglielmi, *Why Beirut's Ammonium Nitrate Blast Was So Devastating*, NATURE (Aug. 10, 2020), https://www.nature.com/articles/d41586-020-02361-x; *Statement from CSB Chairman Katherine Lemos on Massive Explosion and Fire in Beirut*, CHEM. SAFETY. BD., https://www.csb.gov/statement-from-csb-chairman-katherine-lemos-on-massive-explosion-and-fire-in-beirut/.

[185] *See, e.g.*, CSB, INVESTIGATION REPORT: CARIBBEAN PETROLEUM TANK TERMINAL EXPLOSION AND MULTIPLE TANK FIRES: FINAL REPORT 58 (2009). The facility was not covered under the EPA RMP rule because it is a bulk petroleum storage tank terminal storing NFPA 704, Class 3 flammable liquids.

[186] 2016 CSB Comment, https://www.csb.gov/assets/1/6/csb_comments_epa-hq-oem-2015-0725_51020161.pdf; *see also* Summary of CSB Explosive and Toxic Incident Recommendations, 1988-2013 (Recommendation

significantly, CSB completed a study on accidents caused by reactive chemicals, and published it in 2002.[187] This study found that between 1980 and 2001, 167 incidents involved uncontrolled chemical reactivity.[188] Even after the publication of the report, incidents involving such reactive chemicals[189] have continued to occur, as shown above.

On June 16, Amanda Johnson, Recommendations Specialist with the CSB reiterated CSB's repeated recommendation to the EPA to expand the RMP to "catastrophic [reactive] hazards that seriously impact the public."[190] This is a recurring problem in incidents, harming workers and the public for years. EPA must stop the trend by expanding RMP coverage.

Other state rules and regulations offer additional guidance on chemicals EPA should add to the RMP program. The most extensive of such lists is the CalARP rule[191] as well as its local ordinances.[192] California rules and ordinances adopt the Emergency Planning and Community Right-To-Know Act (EPCRA) list from 40 C.F.R. § 355, which establishes emergency response planning requirements for facilities that store or use extremely hazardous substances regulated under this part.[193] California rules also regulate MCMT and sulfuric acid, two of the chemicals that are not covered under the EPA RMP rule but have caused incidents. EPA should add all of these to the RMP.

Another notable state regulation is the New Jersey Toxic Catastrophe Prevention Program (TCPA).[194] Most significantly, the New Jersey Code also includes reactive chemicals in their regulated hazardous substance list.[195] When the New Jersey TCPA was first passed, it included only regulated eleven compounds, thought to have "the most potential for causing a Bhopal-like disaster."[196] However,

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number 2001-H-XX-R3, https://www.csb.gov/assets/1/20/summary_excel_for_boxer_office.pdf?14970; Comment submitted by Vanessa Allen Sutherland, Chairperson and Member et al., CSB 7 (May 10, 2016), EPA-HQ-OEM-2015-0725-0428; CSB, Comment submitted by Rafael Moure-Eraso, PhD, CIH, Chairperson, on EPA's Request for Information 4–9 (Oct. 29, 2014), EPA-HQ-OEM-2014-0328-0689; CSB, Testimony of Rafael Moure-Eraso, PhD Chairperson of U.S. Chemical Safety Board, Before the U.S. Senate Committee on Environment and Public Works 9 (June 27, 2013), EPA-HQ-OEM-2015-0725-0272; CSB, HAZARD INVESTIGATION: IMPROVING REACTIVE HAZARD MANAGEMENT 84 (2007); CSB, ORGANIC PEROXIDE DECOMPOSITION, RELEASE, AND FIRE AT ARKEMA CROSBY FOLLOWING HURRICANE HARVEY FLOODING 102 (2018); CSB, INVESTIGATION REPORT: T2 LABORATORIES, INC. RUNAWAY REACTION 36 (2018); CSB, INVESTIGATION REPORT: WEST FERTILIZER COMPANY FIRE AND EXPLOSION 183 (2016).

[187] CSB, HAZARD INVESTIGATION: IMPROVING REACTIVE HAZARD MANAGEMENT (2002).

[188] *Id.* at 5.

[189] U.S. CSB, Comment submitted by Rafael Moure-Eraso, PhD, CIH, Chairperson, on EPA's Request for Information 5–6 (Oct. 29, 2014), EPA-HQ-OEM-2014-0328-0689.

[190] CSB, Testimony of Amanda Johnson, Recommendations Specialist of U.S. Chemical Safety Board, Before the EPA Listening Session on the RMP Rule 15 (June 16, 2021), EPA-HQ-OLEM-2021-0312-0011.

[191] CAL. CODE REGS. Tit. 19, Appendix A & B.

[192] Contra Costa County, Cal., Ordinances ch. 450-8, § 14(i); Richmond County, Cal., Ordinances ch. 6.43, § 6.43.050(i)(1). Both ordinances were adopted to "expand[] the application of certain provisions of the Federal and State accidental release prevention programs to processes not covered by the Federal or State accidental release prevention programs." Contra Costa County, Cal. ch. 450-8, § 4(7); Richmond County, Cal., Ordinances ch. 6.43, § 6.43.030.

[193] 40 C.F.R. 533 Appendix A.

[194] N.J. ADMIN. CODE § 7:31-6.3, tbl.I.

[195] *Id.*

[196] John J. Pisano, *Toxic Catastrophe - Chemical Spills, Releases*, 9 SETON HALL LEGIS. J. 659, 659 (1986).

with time, NJ added reactive hazard substances and liquified petroleum gas in 2003 based on accidents that were caused by reactive hazard substances.[197] In 2009, the Department added organometallics to the list because it deemed that the CSB provided "sufficient information to justify" the inclusion of the class in order to "reduce the risk of a catastrophic release."[198]

Another potential source in reforming the list of regulated hazardous chemicals is other agencies that regulate hazardous chemicals to protect the health of workers, such as OSHA's PSM program[199] or OSHA's list of air contaminants.[200] Unifying the list of hazardous chemicals under OSHA PSM and EPA RMP may be beneficial in providing some clarity and consistency in regulations as well as improving protection for communities outside of the fenceline who are not directly protected by the OSHA rules.

Commenters have attached a "Chemical List" showing the approximately 395 chemicals regulated by California, New Jersey, and the OSHA PSM that are not listed RMP chemicals – and showing the lower thresholds at which some chemicals are regulated in these jurisdictions.[201] This spreadsheet shows that there are 20 chemicals regulated by at least two of these jurisdictions that EPA's RMP does not regulate, and 4 chemicals regulated by all three of these jurisdictions that EPA's RMP does not regulate: methyl bromide, methyl vinyl ketone, propargyl bromide, and tellurium hexafluoride.[202] EPA should list these as RMP chemicals, relying on the evidence and determinations made by these sister regulatory agencies.

Finally, EPA should evaluate recent incidents like BioLab in Westlake, Louisiana, and Chemtool in Rockton, IL, and other similar non-RMP facility chemical hazard incidents, to see why those facilities are not covered by the RMP.[203] There are primarily news reports available on these incidents now – but

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[197] Adoption of Toxic Catastrophe Prevention Program 37 (July 7, 2003), https://www.nj.gov/dep/enforcement/tcpa/downloads/tcpareaf.pdf.
[198] Adoption of Toxic Catastrophe Prevention Program (Mar. 16, 2009), https://www.nj.gov/dep/rules/adoptions/adopt_090316a.pdf.
[199] 29 C.F.R. § 1910.119.
[200] 29 C.F.R. § 1910.1000.
[201] Chemical List Comparing RMP Chemicals to Other Jurisdictions' Chemicals and Threshold Quantities (created by Earthjustice) (attached in Appendix).
[202] *See id.* (chemicals highlighted in orange are regulated by at least two of the other jurisdictions, and chemicals highlighted in green are highlighted by at least three of the other jurisdictions, but not listed under EPA's current Risk Management Program rules). The following chemicals are regulated by at least two of these other jurisdictions, but not the RMP: allyl chloride, bromine chloride, bromine pentafluoride, butyl hydroperoxide, carbonyl fluoride, chlorine pentafluoride, chlorine trifluoride, 1-chloro-2,4-dinitrobenzene, chloropicrin, cumene hydroperoxide, cyanogen chloride, cyanuric fluoride, diazomethane, dibenzoyl peroxide, dichloroacetylene, diispropyl peroxydicarbhonate, ethyl nitrite, hexafluoroacetone, hydrogen bromide, ketene, methacrylaldehyde, methacryloyl chloride, methacryloyloxyethyl isocyanate, Methyl fluoroacetate, Methyl fluorosulfate, Methyl iodide, Nitrogen Dioxide, ozone, Pentaborane, Perchloryl fluoride, Phosphorus trifluoride, Phosphoryl chloride, sarin, Selenium hexafluoride, Stibine, Sulfur pentafluoride, Tetrafluorohydrazine, Thionyl chloride, Trichloro(Chloromethyl)Silane, Trichloro(Dichlorophenyl)Silane, Trimethoxysilane. *Id.*
[203] Rachel Adams-Heard & Kevin Crowley, *Chemical Plant That Caught Fire After Hurricane Lays Off Workers*, BLOOMBERG (Oct. 1, 2020), https://www.bloomberg.com/news/articles/2020-10-01/chemical-plant-that-exploded-after-hurricane-lays-off-workers; Brett Chase, *After Rockton Chemical Explosion, Protecting Rock*

the CSB is investigating and EPA should seek information and the final investigation reports on these incidents from the CSB.[204] If it was because of chemicals not regulated, that shows the need to add more chemicals. If it was because they used chemicals in volumes under EPA's threshold quantities for regulations, that shows the need to reduce those thresholds. These are just two examples – there are also many other recent incidents that occurred at facilities that do not appear to be covered by the RMP – including over 90 since 2020, and about 40 so far in 2021, at least three of which the Chemical Safety Board is investigating.[205] EPA should review the information available on these incidents and determine whether they show the need to add more chemicals to the RMP list or lower the threshold quantity.

3. EPA must lower the threshold quantity (TQ) for coverage of the regulated hazardous chemicals.

The above-mentioned stricter rules not only regulate more chemicals than the national EPA list under 40 C.F.R. 63 but also regulate highly hazardous chemicals at much lower threshold quantities. EPA should review the other jurisdictions' regulated threshold quantities and reduce the federal RMP TQs accordingly.[206] For example, the danger present because of the high threshold quantities is illustrated by the Packaging Corporation of America Explosion. Even though this facility uses hydrogen sulfide and methyl mercaptan, both of which are covered by the EPA RMP, it used these chemicals at a lower concentration than the 10,000 lbs. threshold.[207] The processes within the facility that used these chemicals therefore were not regulated under the RMP. The explosion killed three and injured seven.[208] Another chemical that is covered under the RMP but still causing numerous accidents and explosions is ammonia.[209] While EPA's TQ for anhydrous ammonia is 20,000 lbs., California rules cap allowable ammonia at 500 lbs. and New Jersey at 5,200 lbs.

River from Oil Handed to Plant Owner, CHI. SUN TIMES (June 25, 2021, 12:45 PM), https://chicago.suntimes.com/2021/6/25/22549407/chemtool-chemical-plant-explosion-lubrizol-aftermath-rock-river-pollution-oil-rockton-illinois-epa.

[204] CSB, *Bio Lab Chemical Fire and Release*, https://www.csb.gov/bio-lab-chemical-fire-and-release-/.

[205] *See* Table 3, *supra* (listing ongoing CSB investigations); *see also* List of Recent Chemical Hazard Incidents as of Spring 2021, created by the Coalition to Prevent Chemical Disasters (2021) (attached); Additional Information on Recent Chemical Hazard Incidents as of Spring 2021 (created by Earthjustice, July 2021).

[206] *See* Chemical List Comparing RMP Chemicals to Other Jurisdictions' Chemicals and Threshold Quantities (created by Earthjustice) (attached in Appendix).

[207] CSB, NON-CONDENSABLE GAS SYSTEM EXPLOSION AT PCA DERIDDER PAPER MILL 72 (2017).

[208] *Id.* at 21.

[209] *See, e.g.*, Malena Ward, *At Least 20 Treated After Ammonia Leak at Lexington Tyson Plant*, KEARNEY HUB (Sept. 4, 2018), https://kearneyhub.com/news/local/at-least-treated-after-ammonia-leak-at-lexington-tyson-plant/article_1fce217a-b0a4-11e8-a4aa-7f62b8ac43b2.html (evacuating a beef packing plant); Neil Johnson, *WI Ammonia Leak Hospitalizes 15 People*, FIREHOUSE (July 30, 2018), https://www.firehouse.com/rescue/hazardous-materials/news/21015508/darien-wi-birds-eye-food-packaging-plant-ammonia-leak-firefighters (injuring fifteen workers); Luis Hernandez, *Ammonia Spill at Tulare Cheese Plant Sends Two to Visalia Hospital*, VISALIA TIMES DELTA (June 23, 2018), https://www.visaliatimesdelta.com/story/news/2018/06/23/ammonia-spill-tulare-saputo-plant-sends-two-visalia-hospital/728600002/ (injuring two workers); Sarah Brookband, Cheryl Vari & Cameron Knight, *Winton Hills, St. Bernard Were Put Under Shelter-In-Place Order After Ammonia Leak Tuesday*, CINCINNATI.COM (June 12, 2018), https://www.cincinnati.com/story/news/2018/06/12/ammonia-leak-prompts-shelter-place-call/693604002/ (placing shelter-in-place order); *Tyson Foods Plant Evacuated After Fire, HazMat Incident*, POWDER & BULK SOLIDS (Apr. 19, 2018), https://www.powderbulksolids.com/wire-cloth/tyson-foods-

D. EPA Must Improve Incident Management and Emergency Preparedness and Response to Reduce and Prevent Harm.

While strong prevention measures like hazard reduction are the most essential component – because the 149 incidents per year, on average, simply need to end – Commenters also highlight the need to strengthen incident management and emergency preparedness and response measures to lessen and avoid harm in the event a problem of some kind does occur. The public has a need and a right to know if a local industrial facility is at risk of releasing a chemical that could be life-threatening. These requirements are critical to saving the lives of workers and fenceline communities, as well as limiting environmental damage. These requirements are also necessary to advance EPA's environmental justice objective, to ensure facilities and EPA do all they possibly can to protect workers and fenceline communities who have faced incident after incident without any corrective action or assistance, and to ensure that communities have the tools and information they need to prepare if there is a dangerous incident. The new chemical disaster prevention rule must adopt the following measures:

- **Require RMP facilities to evaluate and fix aging infrastructure** by maintaining, repairing, or replacing pipes and other equipment and infrastructure as necessary to ensure the most effective incident management and emergency response, and ensuring a regular repair and maintenance schedule. Damage to an RMP facility's infrastructure, such as its power supply, water supply, or telecommunications, could cause or exacerbate a chemical disaster and delay the facility's emergency response. **Relatedly**, **back-up power is an essential component of a protective rule.** The new chemical disaster prevention rule must require RMP facilities to have functioning backup power generators, microgrids, and other available forms of additional on-site power to ensure full backup power capacity needed for safety reasons. The Arkema disaster demonstrated the consequences of a failed backup generator: when the generator failed, nine chemical containers holding 500,000 pounds of volatile organic peroxides caught on fire.[210] The rule must also require RMP facilities to report on the reliability of their backup power and infrastructure. For example, under the EU's Seveso III Directive, member states must require operators of certain facilities to produce a safety report "demonstrating that adequate safety and reliability have been taken into account in the design, construction, operation and maintenance of any

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plant-evacuated-after-fire-hazmat-incident; *Ammonia Leak Disrupts Production at Butterball Plant*, WATTPOULTRY.COM (Nov. 6, 2017), https://www.wattagnet.com/articles/32529-ammonia-leak-disrupts-production-at-butterball-plant; *Fire Forces Evacuation of Unilever Ice Cream Plant*, POWDER & BULK SOLIDS (Oct. 25, 2017), https://www.powderbulksolids.com/wire-cloth/fire-forces-evacuation-unilever-ice-cream-plant; Chicago Tribune Staff, *7 People Taken To Hospital After Ammonia Leak At Streamwood Food Plant: Officials*, CHI. TRIBUNE (June 6, 2017), https://www.chicagotribune.com/suburbs/elgin-courier-news/ct-streamwood-hazmat-0607-20170606-story.html; Erica Shaffer, *Ammonia Leak Forces Tyson Foods Plant Evacuation*, MEAT + POULTRY (May 18, 2017), https://www.meatpoultry.com/articles/16398-ammonia-leak-forces-tyson-foods-plant-evacuation.

[210] UCS, Community Impact: Chemical Safety, Harvey, and Delay of the EPA Chemical Disaster Rule at 4 (Oct. 17, 2017), http://www.ucsusa.org/HarveyRMP.

installation, storage facility, equipment and infrastructure connected with its operation which are linked to major-accident hazards inside the establishment."[211]

- **Require RMP facilities to conduct fenceline monitoring and leak detection and repair, and to report on the data and leaks in real time to workers and fenceline communities**. If the data or leaks are concerning, the facility must send community text and cell phone alerts in multiple languages with a clear message about the risk and information on how to prepare in case of an emergency. RMP facilities must also be required to take corrective action if the data or leaks come within a range of levels that may harm public health. Real-time data and reports will enable the facility, first responders, workers, and fenceline communities to respond more quickly and effectively to risks or disasters.

The Clean Air Act authorizes EPA to interpret and disseminate real-time monitoring data collected at the fenceline of RMP facilities.[212] Real-time data collection and reporting is also consistent with Section 222(b)(ii) of Executive Order 14008 (Jan. 27, 2021), which requires that "The Administrator of the Environmental Protection Agency shall, within existing appropriations and consistent with applicable law: [...] (ii) create a community notification program to monitor and provide real-time data to the public on current environmental pollution, including emissions, criteria pollutants, and toxins, in frontline and fenceline communities—places with the most significant exposure to such pollution." Some facilities already conduct and report fenceline monitoring data in real time. EPA has required this in consent decrees for certain refineries and chemical plants.[213] Maine, for example, requires continuous fenceline emissions monitoring of aboveground petroleum storage tanks.[214] Local regulations in Los Angeles for petroleum refineries require open-path monitoring with real-time

[211] Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC, 2012 (L197/9), *available at* https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32012L0018&from=EN.

[212] 42 U.S.C. §§ 7412(r)(7)(A), (B), 7413, 7414.

[213] *EPA's Fenceline Monitoring Program,* AM. FUEL & PETROCHEMICAL MFRS., https://www.afpm.org/sites/default/files/issue_resources/Fenceline-Monitoring-for-Benzene-B-FAQ.pdf; *Petroleum Refinery Sector Rule (Risk and Technology Review and New Source Performance Standards)*, EPA, https://www.epa.gov/stationary-sources-air-pollution/petroleum-refinery-sector-rule-risk-and-technology-review-and-new; *Tracking Emissions Using New Fenceline Monitoring Technology*, EPA (June 18, 2018), https://www.epa.gov/sciencematters/tracking-emissions-using-new-fenceline-monitoring-technology. EPA's enforcement office has a number of examples of real-time fenceline monitoring required in consent decrees. *See, e.g.*, 2017 Exxon Mobil enforcement consent decree included an organic chemical manufacturing plant, required fenceline monitoring. https://www.epa.gov/enforcement/exxon-mobilcorporationexxonmobil-oil-corporation-clean-air-act-settlement. Norco is a chemical plant, where EPA required fenceline monitoring. https://www.epa.gov/enforcement/shell-chemical-lp-norco-louisiana-clean-air-act-settlement. Shell Deer Park, chemical plant in Houston, TX – required fenceline monitoring, https://www.epa.gov/enforcement/shell-deer-park-settlement. Flint Hills, chemical plant in Port Arthur – required flare fenceline monitoring improvements. https://www.epa.gov/enforcement/flint-hills-resources-port-arthur-clean-air-act-settlement; Dyno Nobel, Del. – chemical plant, civil enforcement, but notes that criminal plea implemented fenceline monitoring for ammonia. https://www.epa.gov/enforcement/dyno-nobel-informationsheet.

[214] *See* ME. STAT. tit. 38, § 590 (2021).

alerts.[215] EPA has required industry-wide fenceline monitoring for benzene from petroleum refineries since 2015 using passive samplers – and there is strong justification to add real-time, open-path monitoring under the RMP in addition to that technique because passive samplers (while important and valuable) do not allow for real-time alerts when there is a spike in emissions.[216]

- **Reaffirm emergency exercise requirements, including clear, expeditious deadlines, to ensure the success of a facility's emergency response**. As EPA acknowledged in the 2017 Chemical Disaster Rule, field exercises ensure accurate and complete emergency contact information and enable coordination between a facility, emergency responders, workers, and fenceline communities.[217] EPA retained emergency response exercise requirements in 2019 and should ensure these requirements continue. Unfortunately, EPA delayed the requirements and removed the compliance deadline completely for field exercises.[218] Without a compliance deadline, the provision to conduct emergency field exercises is purely symbolic. Because it cannot be enforced, it is an empty requirement. EPA must not delay exercises and must satisfy the Act's requirements to make all compliance deadlines "as expeditiously as practicable."[219] Five- to ten-year deadlines as EPA issued previously allow more time than necessary to comply and would allow another generation of children to grow up without even the protection of a basic emergency response exercise at the facility near them. The communities with the most facilities need prompt emergency response exercises the most. If more time is needed in some areas, EPA could and should simply provide for a tiered compliance timeline starting with the most hazardous and the most accident-prone facilities as the most urgent.

- **Require robust worker training in hazard mitigation, process safety, and emergency response procedures.** Both prevention and emergency response measures, worker safety trainings are critical to saving lives, ensuring worker safety, and minimizing the impact of a hazard or disaster on workers, fenceline communities, and the environment. Facilities must be required to provide robust, frequent worker training (to all employees, including supervisors and not limited to operators) and information on implementation of all requirements in the new chemical disaster prevention rule, especially and including emergency response, and including "climate and natural disaster risks and how they may impact hazardous chemical processes, onsite emergency responses, and worker health and safety."[220]

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[215] *See* S. Coast Air Qual. Mmgt. Dist. Rule 1180 (Dec. 2017); Rule 1180 Refinery Fenceline Air Monitoring Plan Guidelines (Dec. 2017), http://www.aqmd.gov/docs/default-source/rule-book/support-documents/1180/rule-1180-guidelines.pdf. Some EPA enforcement consent decrees also have required real-time fenceline monitoring and reporting at refineries and chemical plants. *See, e.g.*, Shell Norco CD, EPA (2018), https://www.epa.gov/sites/production/files/2018-02/documents/shellchemicallp021218-cd.pdf.

[216] Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards, 80 Fed. Reg. 74,965, 75,178 (Dec. 1, 2015) (codified at 40 C.F.R. pt.63 subpart CC).

[217] *See* 82 Fed. Reg. 4594, 4659.

[218] *See* 82 Fed. Reg. at 4659 (requiring field exercises at least once every ten years); 84 Fed. Reg. at 69,840 (removing the minimum frequency requirement for field exercises).

[219] 42 U.S.C. § 7412(r)(7)(B).

[220] UCS *et al.*, *Preventing "Double Disasters"* at 15. *See, e.g.*, CalARP, Cal. Code Regs. tit. 19, § 2765.2(a)(3) (requiring an emergency response program to include training for all employees in relevant procedures).

- **Community Information Access.** Community members are unable to respond effectively in an emergency without basic information on the hazards and emergency response plan. Fenceline community members need information *before* an incident occurs. Advance community notification from EPA to communities in RMP facility impact zones would be an effective, new approach to ensure that information is targeted to the community members who need and want this. Community members should not have to ask a facility for information that it does not want to provide. Nor should community members have to try to find a Freedom of Information Act (FOIA) reading room to access information they do not even know exists. Therefore, EPA should arrange for advance notification to people in an RMP impact area, through their cell phones, with a phone number or website that the affected community members can use to easily access specific information on hazards and emergency response relevant to them. This type of systematic alert notification exists in only some jurisdictions,[221] and it is essential for all communities, including those in the Gulf and in high climate-risk or natech areas to have this through an EPA-provided alert system. Having this information before an incident occurs would allow community members to prepare and understand when a community alert goes out. The advance community notification and community alerts in response to an incident must each be available in all relevant languages for the community, to ensure equitable access to this information.[222] Improving implementation of the RMP through the Clean Air Act Title V program (as further discussed below) would both assure compliance and would also increase public information for community members near the approximately 1,891 RMP facilities that are also major air pollution sources.

E. Compliance-Focused Rule Design, Accountability and Enforceability

The importance of strong compliance-focused design could not be more important than here, in the Risk Management Program where people can die if facilities do not comply. Therefore, in writing this rule, EPA should build in sufficient reporting, monitoring, and automatic penalties so that it is easy for anyone – including EPA, state and local governments, workers, and community members— to be able to tell at any time whether a facility is meeting the regulatory requirements or is in violation. This is a program where the goals need to be met fully and continuously, which requires strong compliance, accountability, and enforceability to be built in from the start.

Former EPA official and enforcement expert Cynthia Giles has recently published new papers detailing the value of this approach, after finding widespread noncompliance under the Clean Air Act and other environmental statutes.[223] As her research found in spring 2020, "noncompliance with environmental rules is worse than you think" – finding that "[s]ignificant [environmental law] violation

[221] *See, e.g.*, Contra Costa Health Services, Hazardous Materials Incident Notification Policy, https://cchealth.org/hazmat/pdf/incident_notification_policy.pdf (describing Community Warning System).
[222] *See* EPA Order 1000.32, Compliance with Executive Order 13166: Improving Access to Services to Persons with Limited English Proficiency; Exec. Order 13,166; https://www.epa.gov/ogc/assisting-people-limited-english-proficiency.
[223] C. Giles, Harvard Univ. Envt'l & Energy Law Program, Next Generation Compliance: Environmental Regulation for the Modern Era (2020), https://eelp.law.harvard.edu/2020/09/next-generation-compliance-environmental-regulation-for-the-modern-era/.

rates of 50% to 70% are not unusual."[224] These data show that strengthening the compliance design of the RMP rule will be an important way to improve health and safety by providing the incentive to comply and prevent incidents and harm resulting from failures to comply.

Currently, EPA has limited resources but even with a massive infusion of funds, EPA still could only engage in active enforcement each year at some of the 11,760 existing RMP facilities. And, as discussed earlier, enforcement of the existing rules, alone, has failed to address serious problems in a timely way or to prevent future problems. Writing compliance-design focused rules will increase compliance without any further action from EPA, serve the core goal of preventing incidents before they occur, and provide more information EPA can use to assist in enforcement where this is needed.

For facilities that have repeated problems, including in the chemical, petroleum refinery, and petrochemical sectors, stronger compliance design is especially important. There seems to be little or no incentive for these facilities to make the investment, to take the time, to involve workers, or to make other process safety changes needed to avoid these problems. These facilities are ticking time bombs and yet they are only reporting RMPs to EPA every five years. Increased reporting, automatic liability admission, and penalty requirements, as well as stronger mechanisms for workers and communities to evaluate and assist in assuring compliance, are especially needed to end the cycle of incidents in these sectors.

For the subset of facilities that have not had incidents during the last five to ten years, strong compliance design is also important. Without adequate compliance reports, worker near-miss reporting, and permit implementation, EPA may not be able to see early warnings of problems at facilities where it might not otherwise anticipate an incident occurring.

Therefore, to fulfill the goal of assuring strong compliance design in the new rule, EPA should require more frequent reporting, increased monitoring, automatic liability admission, corrective action, and penalty requirements, and increased transparency and review during the permit process, as well as third-party auditing. In particular:

- **More frequent compliance reporting** is needed because five years is far too long to go without any compliance updates to EPA or the public. In addition to restoring the important third-party compliance audit requirements that the CSB recommended and EPA previously recognized are needed,[225] EPA should require electronic, semi-annual compliance reports to EPA regarding compliance with all components of the rules – including the requirement to coordinate annually with first-responders, the requirement to perform emergency response exercises, the requirement to report incidents, and other new requirements that EPA should add in this rule, like IST requirements. EPA should require near-miss reporting to improve information and increase the incentive to learn from and avoid similar, serious problems. EPA should require reporting of IST and natech assessments to gather information, and of implementation, to assure compliance and

[224] C. Giles, Harvard Univ. Envt'l & Energy Law Program, Next Generation Compliance: Environmental Regulation for the Modern Era, Part 2: Noncompliance with Environmental Rules Is Worse Than You Think at 3, (Apr. 27, 2020), http://eelp.law.harvard.edu/wp-content/uploads/Cynthia-Giles-Part-2-FINAL.pdf.
[225] *See* 82 Fed. Reg. 4675 (40 C.F.R. §§ 68.58, 68.79); *see also* 81 Fed. Reg. 13,654-62 (citing CSB findings on lack of rigorous compliance audits as contributing factor behind the 2005 BP Texas City refinery explosion and fire).

improve the information available to EPA on hazard elimination and IST and natech mitigation implementation. Semi-annual compliance reports are required for all major air pollution sources under Title V. EPA has an electronic system in place for these reports – and that system has already received 56,214 submissions since 2012.[226] Any facilities that use, store, or manage highly hazardous chemicals should have full ability to submit regular compliance reports under the new RMP rule. Going through the reporting process is an important compliance check for the facility and requiring this regularly would likely increase compliance and provide earlier information to EPA of any problems with compliance. As EPA's air office has recognized, electronic reporting can advance compliance and protection of the environment, simplify reporting and make more accurate data available more quickly to EPA, air agencies, and the public.[227]

- **EPA should also require process monitoring, real-time fenceline air monitoring, and leak detection** at facilities with the most hazardous chemicals on-site, with real-time monitoring reports online and directly to EPA. For facilities like chemical manufacturers and petroleum refineries that have known problems with fugitive emissions and leaks, and especially where such a release could be deadly in a short amount of time, monitoring for releases is an important way to assure compliance by providing immediate information to the facility that there is a problem and to EPA and the public. In addition to improving compliance, fenceline and other monitoring can also provide an early warning about an incident that can save lives – and that is why it is important also to require advance community notifications and alerts in multiple languages, as discussed earlier in these comments. Monitoring of various types is widely available and local jurisdictions and EPA have required real-time, open-path monitoring at some sources like petroleum refineries and chemical or petrochemical manufacturers in enforcement cases, providing a pathway and example for requiring this under a new chemical disaster prevention rule.[228]

- **An automatic liability admission and penalty for failing to meet any requirements of the rules, including reporting requirements.** The delay in reporting incidents is an example showing why automatic requirements are needed. The lag in reporting incidents shows that many facilities are not satisfying the 6-month incident reporting deadline in 40 C.F.R. § 68.195, yet there appears to be little or no consequence for these failures and for this delay. Failing to get this information in a timely way may prevent EPA from performing a relevant inspection and requiring corrective action and may lead to serious harm. Requiring a facility to admit the problem and pay an immediate penalty would provide a stronger incentive not to commit the problem. Adding an automatic penalty for other requirements, including annual coordination with first responders, emergency response exercises, and the new IST, natech, and other requirements EPA should put in place in a new rule will have similar benefits.

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[226] *See* CEDRI, *Compliance and Emissions Data Reporting Interface*, EPA, https://www.epa.gov/electronic-reporting-air-emissions/cedri.
[227] EPA, Petroleum Refinery Sector NESHAP, Final Rule, 80 Fed. Reg. 75,178, 75,185 (Dec. 1, 2015) (explaining addition of electronic reporting of performance tests to EPA).
[228] *See supra* note 213.

- **Escalation of the penalty** for failure to admit liability and pay within 5 days of a violation will further increase the incentive to comply and to correct a problem in a timely way. Having more timely information and more immediate corrective action will improve safety.

- **Stronger worker involvement, stop-work authority, and anonymous near-miss reporting hotline.** The California refinery rule provides language and a strong record of how useful worker involvement provisions are to prevent disasters and assure compliance. For example, the California refinery rule's employee stop work authority is especially important language that EPA should require in the new RMP rule, to fulfill the statutory chemical disaster prevention objective and to assure compliance.[229] California's rule authorizes all employees (including contractors) to recommend to the operator in charge of a unit that an operation or process be partially or completely shut down, based on a process safety hazard. And importantly, it authorizes the qualified operator in charge of a unit to shut down an operation or process immediately to protect safety.[230] Adding this type of requirement would implement a core CSB recommendation.[231] Allowing employees to stop a chemical process when they determine this is needed to protect safety would empower workers to help assure compliance and save lives. EPA should also require prompt reports of all stop-work authority used so that EPA and the public are aware and can evaluate if additional quick action is needed to support the workers, assure compliance and save lives.

  In addition, EPA should provide a hotline that allows for anonymous near-miss and safety reporting directly to the agency for workers, contractors, and anyone else with relevant information. There are ample examples of this tool.[232] This would be a valuable service that EPA could and should provide to workers, and to community members to help track and ensure prompt action wherever there is a potential problem. Creating a direct hotline to EPA that is anonymous and protects workers from any concern about retaliation would help ensure that even if there is a delay in incident reporting (as is clear from the RMP database records), EPA would get fast information whenever someone with knowledge wants to quickly provide this. EPA should ensure public reporting of information received through this hotline (while protecting the identities of reporters), including information on action, if any, that EPA took to investigate and respond to the concern raised by a hotline caller. And, EPA should also require worker education

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[229] *See* CAL. CODE REGS. Tit. 19, § 2762.16(f): authority of all employees, to refuse to perform a task where doing so could reasonably result in death or serious physical harm.

[230] *Id.*

[231] CSB Comments in Response to EPA's Request for Information at 12 (2014), https://www.csb.gov/assets/1/6/epa_rfi2.pdf (attached) ("the CSB supports EPA's consideration of the development and implementation of a stop-work authority that authorizes workers to stop work where they identify imminent risks or dangerous activities"), EPA-HQ-OEM-2014-0328-0689.

[232] *See, e.g.*, See FAA Aviation Reporting System; National Firefighters www.firefighternearmiss.com; CIRAS (Confidential Incident Reporting and Analysis System), the confidential reporting system for the British railway industry; CHIRP (Confidential Human Factors Incident Reporting Programme / Confidential Hazardous Incident Reporting Programme), British aviation and maritime industries; CROSS (Confidential Reporting on Structural Safety), structural and civil engineering industry; BSEE, Director's Corner (Feb. 18, 2014), http://www.bsee.gov/Safety/Directors-Corner/; BSEE, Press Release, BSEE and BTS to Host Public Meetings to Discuss Near-Miss Reporting System (Mar. 31, 2014), http://www.bsee.gov/BSEE-Newsroom/Press-Releases/2014/BSEE-and-BTS-to-Host-Public-Meetings-toDiscuss-Near-Miss-Reporting-System/; http://www.firefighternearmiss.com/About.

on this tool and on stop-work authority as part of expanded worker safety training, to help workers be more effective at assuring compliance and helping to save lives and prevent injuries.

- **Full implementation in Title V air permits.** EPA also should ensure that people near RMP facilities that are also major sources of air pollution receive the full benefit of the Title V Clean Air Act operating permit process. Currently, for major sources subject to Title V – of which there are nearly 1,900 – EPA's rules do not treat the RMP like any other applicable Clean Air Act requirement. Title V of the Clean Air Act requires permitting authorities to incorporate all applicable Clean Air Act requirements in terms and conditions and requires reporting and monitoring necessary to assure compliance with these requirements.[233] "Applicable requirements" include all standards, emissions limits, and requirements of the Clean Air Act.[234] Title V's intent is to "substantially strengthen enforcement of the Clean Air Act" by "clarify[ing] and mak[ing] more readily enforceable a source's pollution control requirements."[235] As EPA explained when promulgating its Title V regulations, a Title V permit should "enable the source, States, EPA, and the public to understand better the requirements to which the source is subject, and whether the source is meeting those requirements."[236]

  The RMP is an applicable Clean Air Act requirement. Yet, EPA's existing RMP rule, 40 C.F.R. § 68.215, does not treat it like all other such requirements. Instead, the rule provides that only a minimal statement and compliance certification (or compliance schedule) are required to be included in the permit.[237] The rule even allows issuance of a permit to a facility that will have to comply with the RMP that does not include those basic requirements if the permit is issued "prior to the deadline for registering and submitting the RMP." These requirements are insufficient to assure compliance with a program that is intended to protect the lives and safety of fenceline communities and workers.

  EPA should revise this rule (40 C.F.R. § 68.215) to require the RMP rules to be treated just like any other Clean Air Act requirement for facilities regulated by Title V of the Clean Air Act. Doing that should mean that the new RMP rule and the facility's Risk Management Plan would be included in the Title V permit application and incorporated into the Title V operating permit for major air pollution sources. An air permitting authority would include terms or conditions for

[233] 40 C.F.R. § 7661c(a); 40 C.F.R. §§ 70.6(a)(1), (c)(1).
[234] 40 C.F.R. § 70.2.
[235] S. Rep. No. 101-228 at 347, 348 (1990), *as reprinted in* A Legislative History of the Clean Air Act Amendments of 1990 (1993), at 8687, 8688.
[236] Operating Permit Program, Final Rule, 57 Fed. Reg. 32,250, 32,251 (July 21, 1992).
[237] 40 C.F.R. 68.215: "Permit content and air permitting authority or designated agency requirements (a) These requirements apply to any stationary source subject to this part 68 and parts 70 or 71 of this chapter. The 40 CFR part 70 or part 71 permit for the stationary source shall contain: (1) A statement listing this part as an applicable requirement; (2) Conditions that require the source owner or operator to submit: (i) A compliance schedule for meeting the requirements of this part by the dates provided in §§ 68.10(a) through (f) and 68.96(a) and (b)(2)(i), or (ii) As part of the compliance certification submitted under 40 CFR 70.6(c)(5), a certification statement that the source is in compliance with all requirements of this part, including the registration and submission of the RMP. … (c) For 40 CFR part 70 or part 71 permits issued prior to the deadline for registering and submitting the RMP and which do not contain permit conditions described in paragraph (a) of this section, the owner or operator or air permitting authority shall initiate permit revision or reopening according to the procedures of 40 CFR 70.7 or 71.7 to incorporate the terms and conditions consistent with paragraph (a) of this section."

monitoring and reporting that are necessary to assure compliance with the rule and plan (or simply include the monitoring and reporting EPA adds in the new RMP rule as terms and conditions in the permit). EPA would retain the authority to review and determine whether to object to a permit for failure to incorporate the RMP rule and plan, as for any other applicable requirements.

Having the new RMP rule (with stronger requirements and mitigation measures) and the facility's RMP plan incorporated into the permit would elevate the importance of complying with these requirements, by treating them with the same attention that every other Clean Air Act requirement is given in the Title V permitting process. Fully incorporating the RMP requirements under Title V would increase protection for communities by increasing transparency for the requirements applicable to a facility, and thus increasing the incentive for facilities to comply. It would make the RMP requirements more understandable and more enforceable by community members and local governments. It would allow community members to comment on and seek an EPA objection if the RMP was not fully implemented in the permit. EPA could require incorporation into the permit of only the non-OCA portions of the plan and maintain the unique requirements for restricted access to the OCA portions as the statute requires.

This change would have significant benefits at the subset of facilities covered by both the RMP and Title V and would require no more expertise than air permitting agencies already use to process Title V permits. Air permitting agencies would not be writing or evaluating the RMP rules or risk management plans (just as air permitting authorities are not required to write or evaluate EPA air toxics rules or new source performance standards), but would simply be ensuring these are incorporated into the Title V permit. Air permitting authorities and facilities would simply have to add the RMP rule and plan to the list of other applicable clean air requirements under Title V and treat them the same way, for facilities subject to both Title V and the RMP.

Including the RMP fully in Title V permits would give air permitting authorities more information and ability to assist with oversight of compliance, including by adding additional monitoring or reporting where there is need to do so to assure compliance. And, it would also allow air permitting authorities to simply implement the RMP rule and plan like other EPA clean air rules, and state implementation plans without adding any requirements if not needed. Of course, the stronger and clearer the requirements EPA issues in a new RMP rule and the more guidance EPA offers to assist permitting agencies as needed, the smoother it would be for air permitting authorities to implement this through Title V. Implementation under Title V would occur gradually, as facilities submit new or renewed Title V permit applications. Air permitting authorities would still have a targeted role under Title V similar to other CAA requirements, focused on incorporating the RMP plan and necessary terms and conditions into the Title V permit, while EPA would retain the ultimate power to review or object to both the original RMP and the proposed Title V permit (as it does now).

While EPA has refused to incorporate the 112(r)(1) general duty into Title V permits because only EPA has the ability to enforce that duty, the same is not true for the RMP rules. States, local governments, workers, and community members are able to enforce the RMP rules. So ensuring

that they are fully incorporated into the Title V permit advances that goal and is consistent with Title V and with the differences between 112(r)(1) and the regulations under 112(r)(7).

Based on its experience seeing the significant problems under the existing RMP rule, and the need for stronger compliance assurance to be built into the rules, EPA should reevaluate the old permitting rule (40 C.F.R. § 68.215) and recognize that stronger implementation is needed under Title V. Applying only to a subset of RMP facilities, this would be a tailored approach to strengthen compliance at some of the most hazardous RMP facilities that are also major air sources subject to Title V (about 1,891 in the May 2021 RMP Database). Importantly, it would apply to the industry sectors with the highest accident rates, e.g.,: petroleum refineries, chemical manufacturers, and pulp and paper mills – most of which are major air sources subject to Title V.

Making this change would advance the prevention objective of section 112(r) and the goal of making the Title V permit the primary Clean Air Act blueprint or unified compliance guide for all sources, state permitting authorities, and the public. Without this change, the RMP will continue to be a neglected, harder to enforce, lower compliance program – which is directly contrary to the goal of Clean Air Act 112(r) – to protect health and safety from chemical fires, explosions, and other highly hazardous accidental releases, and to prevent Bhopal-like catastrophes from happening in the U.S.

CONCLUSION

This rulemaking could not be more important or more urgent. EPA's action here will determine whether fenceline communities, workers, and first-responders receive health and safety protection from industrial chemical disasters that are preventable. EPA has a tremendous responsibility and obligation to finally end chemical disasters at industrial facilities in the United States and to bolster the important regulatory framework to stand vigilant in avoiding a future chemical catastrophe.

We appreciate EPA's action to start this rulemaking by collecting information from the public in virtual listening sessions and thank Dr. Waterhouse and all staff who joined and coordinated these sessions. These were well-run and were more accessible than the usual public hearings, because EPA held them virtually, provided significant information in advance of and during the sessions to help guide participants, offered video and phone access, and included interpretation services throughout. It is always challenging for the public to participate in this kind of session and especially to do so in a pandemic during working hours. We hope EPA will seek feedback on ways this type of session could be improved in the future. But we want to share great appreciation and thanks to the agency for starting off on the right foot in this rulemaking with these public sessions. As EPA staff work on this rule, please keep at the front of your minds the faces, stories, and lived experience of the workers and the many members of fenceline communities who testified at the listening sessions this year and in prior years.[238]

Finally, please remember that EPA's new rule will be a test of this Administration's commitments to public health, environmental justice, and worker safety. We are now counting on EPA to design and issue a new chemical disaster prevention rule that follows the science and the Clean Air

[238] *See also* Public Hearing Transcripts from 2016, 2018, *available in* https://www.regulations.gov/docket/EPA-HQ-OEM-2015-0725.

Act, is stronger than ever before, and finally assures fenceline communities the maximum possible protection for health and safety.

Thank you for your time and consideration of these comments. For additional information, please contact any of the above-listed organizations, or Emma Cheuse, Senior Attorney, echeuse@earthjustice.org, or Deena Tumeh, dtumeh@earthjustice.org,[239] at Earthjustice, (202) 667-4500 (ext. 5220).

Cc: EPA Office of Environmental Justice

[239] Admitted only in California. Supervised by Emma Cheuse, a member of the D.C. Bar.

LIST OF DOCUMENTS ATTACHED AS APPENDIX

(listed in order of appearance in petition)

1. Center for Progressive Reform, Union of Concerned Scientists, and PR, Earthjustice, *Preventing "Double Disasters": How the U.S. Environmental Protection Agency can protect the public from hazardous chemical releases worsened by natural disasters* at 6 (July 2021), http://progressivereform.org/our-work/energy-environment/preventing-double-disasters/.
2. *Air Alliance Houston et al. v. EPA*, 906 F.3d 1049, 1066 (D.C. Cir. 2018).
3. Coalition to Prevent Chemical Disasters, Comment Letter on Notice of Public Comment Period on "Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act, Section 112(r)(7); Proposed Rule," Docket Number EPA-HQ-OEM-2015-0725 (May 13, 2016).
4. Air Alliance Houston et al., Comments on Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act, Proposed Rule, 83 Fed. Reg. 24,850, Docket No. EPA-HQ-OEM-2015-0725 (Aug. 23, 2018), https://www.regulations.gov/comment/EPA-HQ-OEM-2015-0725-1969.
5. Air Alliance Houston *et al.*, Petition for Reconsideration of Final Rule Entitled "Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act," 84 Fed. Reg. 69,834, EPA-HQ-OEM-2015-0725 (Feb. 18, 2020).
6. Sierra Club *et al.*, Petition to Prevent Chemical Disasters to EPA Administrator Lisa Jackson, EPA-HQ-OEM-2015-0725-0249 (July 25, 2012).
7. Community Petitioners' Opening Brief, *Air Alliance Houston et al. v. EPA*, 906 F.3d 1049, 1066 (D.C. Cir. 2018).
8. Community Petitioners' Reply Brief, *Air Alliance Houston et al. v. EPA*, 906 F.3d 1049, 1066 (D.C. Cir. 2018).
9. CSB, Comments in Response to EPA's Request for Information at 12 (Oct. 29, 2014), https://www.csb.gov/assets/1/6/epa_rfi2.pdf.
10. CSB, Comments on Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act, Proposed Rule, 83 Fed. Reg. 24,850, Docket No. EPA-HQ-OEM-2015-0725 (May 10, 2016), https://www.csb.gov/assets/1/6/csb_comments_epa-hq-oem-2015-0725_51020161.pdf.
11. CSB, Comments on Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act, Docket No. EPA-HQ-OEM-2015-0725 (July 20, 2018), https://www.csb.gov/assets/1/6/csb_comments_epa_rmp_20180720.pdf.
12. CSB, *Organic Peroxide Decomposition, Release, and Fire at Arkema Crosby Following Hurricane Harvey Flooding*, Report No. 2017-08-I-TX (May 2018), https://www.csb.gov/arkema-inc-chemical-plant-fire-/.

13. CSB, *Safety Digest: Preparing Equipment and Instrumentation for Cold Weather Operations* (2018), https://www.csb.gov/assets/1/17/csb_winterization_safety_digest.pdf?16379.

14. U.S. Chem. Safety and Hazard Investigation Bd., *Safety Alert: 2020 HURRICANE SEASON: Guidance for Chemical Plants During Extreme Weather Events* (2020), https://www.csb.gov/assets/1/6/extreme_weather_-_final_w_links.pdf.

15. Table of Total Process Chemicals at Active RMP Facilities (Source: May 2021 EPA RMP (Non-OCA) Database) (created by Earthjustice).

16. Table of Total Active RMP Facilities by CountyFIPS (May 2021 RMP (Non-OCA) Database) (created by Earthjustice).

17. P. DeBenedetto & K. Watkins, 2 Dead, 30 Hospitalized After 'Mass Casualty' Incident At LyondellBasell Chemical Plant Near La Porte, Houston Pub. Media (July 27, 2021), https://www.houstonpublicmedia.org/articles/news/energy-environment/2021/07/27/404355/at-least-2-dead-after-leak-at-lyondellbasell-chemical-plant-in-la-porte/.

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