

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Accidental Release Prevention)
Requirements: Risk Management)
Programs Under the Clean Air Act;)
Safer Communities by Chemical)
Accident Prevention; Proposed Rule, 87)
Fed. Reg. 53,556)

Docket No. EPA-HQ-OLEM-2022-0174

*Submitted via regulations.gov
October 31, 2022*

INTRODUCTION

Environmental Defense Fund (EDF) and Moms Clean Air Force (Moms)¹ respectfully submit the following comments in support of revitalized and strengthened Risk Management Program (RMP) regulations. A rigorous RMP rule is critical to preventing toxic chemical leaks, fires, and explosions—and to responding to those perilous incidents when they do occur. As the Environmental Protection Agency (EPA) works to finalize urgently-needed updates to the RMP Rule, we urge EPA to build on and strengthen the proposal, swiftly adopting the strongest possible risk management program to protect the fence-line and environmental justice communities, workers, and first responders most impacted by these hazardous and often life-threatening events.

Chemical fires, explosions, and hazardous chemical releases at domestic industrial facilities are far too common, especially in Black and brown and low-income communities where these facilities are disproportionately concentrated. Indeed, 14% of the coastal population of the Gulf States, and over 1,500 educational facilities and 98 medical facilities in the region, are located within 1.5 miles of highly hazardous chemical facilities.² Moreover, people of color represent nearly half of the people who live within one mile of RMP facilities.³ For these vulnerable and underserved communities, dangerous chemical incidents are routine. Earlier this year, a chemical

¹ Moms Clean Air Force is a community of over 1 million moms and dads united against air pollution—including the urgent crisis of our changing climate—to protect our children’s health. We support robust protections for workers, for frontline communities, and for the climate. We fight for Justice in Every Breath, recognizing the importance of equitable solutions in addressing air pollution and climate change. Many of our members reside in fence-line communities, including in the neighborhoods that surround the Risk Management Program facilities.

² Susan C. Anenberg & Casey Kalman, *Extreme Weather, Chemical Facilities, and Vulnerable Communities in the U.S. Gulf Coast: A Disastrous Combination*, 3 GeoHealth 122, 123 (2019), <https://doi.org/10.1029/2019GH000197>.

³ U.S. Env’t Prot. Agency, Regulatory Impact Analysis, Safer Communities by Chemical Accident Prevention Proposed Rule 85 (2022), <https://www.regulations.gov/document/EPA-HQ-OLEM-2022-0174-0093>.

explosion in Lake Charles, Louisiana, injured six workers and forced thousands of students to shelter in place at their schools.⁴ Just four months prior, an even more devastating explosion occurred a mere five miles away, causing injuries to at least 23 workers.⁵

Of the 9,406 fires, explosions, and chemical releases at domestic facilities captured by the U.S. Chemical Safety Board's (CSB) Incident Screening database between 2001 and October 10, 2018, 10% (978) occurred in Texas and 20% (1,890) occurred in the five Gulf Coast States.⁶ Approximately 40% of all CSB-documented industrial incidents led to injury or fatality among workers and/or the public.⁷ Moreover, according to EPA data, in a single 10-year period, more than half a million people were injured, killed, or forced to shelter in place or evacuate after a chemical release at an RMP facility.⁸

Compounding these already far too frequent disasters, climate change amplifies the risks of catastrophic natural hazard-triggered technical ("natech") disasters. According to a recent report published by the Center for Progressive Reform, Earthjustice, and the Union of Concerned Scientists on "double disasters," approximately one-third of RMP facilities are exposed to risks of wildfire, storm surge, flooding, and sea level rise, all of which are increasing drastically as the climate changes.⁹ Consequently, the risks to vulnerable communities from chemical fires, explosions, and hazardous chemical releases continue to grow.

The African American Mayors Association (AAMA), the only organization exclusively representing African-American mayors in the United States,¹⁰ recently tweeted in support of EPA's proposed Safer Communities by Chemical Accident Prevention Rule, explaining that it "would, among other[] things, enhance transparency for communities on safety decisions and provide greater protections for communities living near RMP facilities, many of which are underserved and overburdened by pollution."¹¹ AAMA further noted that "information access is important so that communities can effectively prepare for disasters" and that "[r]isk management planning is a public safety concern."¹²

⁴ Tristan Baurick, *Louisiana Plant's 'Egregious' Record Highlighted in National Push for New Chemical Safety Rules*, NOLA, Sep. 20, 2022, https://www.nola.com/news/environment/article_32d3ce7e-3911-11ed-9104-8b4781e88370.html.

⁵ *Id.*

⁶ Anenberg & Kalman, *supra* note 2 at 123.

⁷ *Id.*

⁸ Ctr. 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 4* (2021), <http://progressivereform.org/our-work/energy-environment/preventing-double-disasters/>.

⁹ *Id.*

¹⁰ African American Mayors Association, *About*, <https://www.ourmayors.org/About> (last accessed 10/31/2022).

¹¹ African American Mayors Association (@ourmayors), Twitter (Oct. 31, 2022), <https://twitter.com/ourmayors/status/1587071859111215110?s=46&t=bmKbsnPQ8gJhAZQhL67PIQ>.

¹² *Id.*

Strengthened RMP protections are urgently needed to advance environmental justice and address disproportionate, cumulative risks faced by communities. We urge EPA to listen to individuals and community groups from affected populations and prioritize their commentary in this important rulemaking.

Accordingly, these comments highlight the importance and urgency of adopting and implementing a more robust RMP rule to deliver the strongest possible protections for those who work in or live in the vicinity of RMP chemical facilities, including environmental justice communities, first responders, and our most socially vulnerable constituents. In particular, we recommend that EPA strengthen its proposal in the following ways:

- **Hazard Evaluations [Section I]:** In Section I, we provide recommendations to strengthen EPA's proposal related to hazard evaluation. In particular, we strongly support EPA's proposal to require facilities to consider climate-related natural hazards in their risk evaluations and recommend that EPA make this requirement explicit, expand it to all RMP facilities, and ensure the evaluation also accounts for start-up, shutdown, and malfunction (SSM) related emissions, which are significant and often associated with preparation for impacts from natural hazards. We likewise strongly support EPA's proposal to require back-up power for air pollution monitoring equipment and recommend that EPA strengthen the proposal by similarly requiring facilities to supply back-up power for affected processes. Finally, we recommend EPA strengthen its required siting evaluation by ensuring facilities are considering the potential for and impacts of cumulative pollution exposures, recognizing that communities often live in close proximity to many RMP facilities that pose elevated risks.

Related to our recommendations on RMP hazard evaluations, EDF offers new analysis on excess lifetime cancer risk from the cumulative inhalation exposure of 58 RMP substances, revealing large cancer risk hotspots around dense industrial areas due to overlapping risks from exposure to multiple hazardous air pollutants emitted by multiple facilities. EDF also offers new analysis of air emissions in the State of Texas Environmental Electronic Reporting System (STEERS), showing that startup, shutdown, and malfunction (SSM) emissions represent a substantial portion of toxic air pollution.

- **Prevention Procedures [Section II]:** In Section II, we recommend approaches to strengthen EPA's proposed prevention provisions, with focus on the proposed Safer Technology and Alternatives Analysis (STAA). We recommend that EPA apply the STAA requirements broadly at all RMP facilities, recognizing that while certain co-located facilities in specific NAICS codes present elevated risks, facilities outside those areas and codes likewise entail significant risks that could be mitigated through a STAA analysis. EDF presents new analysis of data from the 2020 Toxic Release Inventory (TRI) database

showing that releases of 58 chemicals regulated under both the RMP and TRI occur at diverse facilities outside of NAICS 324 and 325.

If EPA retains an approach focused on facilities it deems to face the highest risk, we urge EPA to 1) substantially expand the co-location radius, and 2) broaden the facilities included. In particular, we suggest EPA:

- extend requirements to paper manufacturers;
- ensure all facilities in NAICS codes 324 (Petroleum and Coal Products Manufacturing) and 325 (Chemical Manufacturing) are included or, at a minimum, ensure that *any* RMP facility co-located with a 324 or 325 facility be included; and
- consider additional risk factors beyond accident history (including climate risks and non-compliance history) in determining STAA applicability.

Finally, we recommend that EPA strengthen its proposal by requiring implementation of IST/ISD where practicable and mandate the transition away from the use of hydrofluoric acid without associated STAA requirements. EDF also submits new analysis of data from the 2020 Toxic Release Inventory (TRI) database showing that on-site releases of hydrogen fluoride occur at diverse facilities outside of NAICS code 324.

Related to non-compliance history, EDF is also submitting a new analysis of the extensive and pervasive non-compliance at RMP facilities (Attachments A and B), that would not be required to perform STAA under EPA's proposal. For example, EDF's analyzed ECHO data for 324 facilities that would not be required to perform STAA analysis under EPA's proposal and found 86 percent of these facilities have CAA, CWA, RCRA or SDWA violations and 82 percent have been the subject of formal enforcement actions in the last five years (with one facility subject to 261 enforcement actions in that timeframe). Related to EPA's proposed co-location radius, EDF is also submitting a new analysis of locational data provided by RMP facilities that shows that self-reported locational data is often inconsistent and can be inaccurate or unverifiable.

- **Employee Participation [Section III]:** We support EPA's proposed RMP revisions that prioritize broad worker (and contractor) participation and protection—including anonymous reporting procedures and “stop work authority”—and we ask EPA to apply these proposed revisions to all RMP operations. We also support reforms aimed at increasing and enabling worker and union participation, including RMP information distribution, RMP employee participation and training, and anti-discrimination measures.
- **Proposed Modifications and Amplifications to Emergency Response Requirements [Section IV]:** We support proactive and community-centric RMP emergency response requirements, including multilingual community notification for all program levels,

standardization of RMP emergency response procedures, and improved information access for first responders.

- **Information Availability [Section V]:** In Section V, we ask EPA to improve RMP transparency and accessibility by strengthening the RMP requirements regarding the availability of RMP information. First, we identify concerns with the proposed 6-mile radius for requesting chemical hazard information and the proposed 45-day cutoff for facilities to provide requested information. Second, we point out challenges members of the public may face if required to visit an EPA federal reading room to obtain RMP information. For these reasons, we ask EPA to create a consolidated electronic database that houses RMP information and is publicly available. We also request that EPA's revisions address information needs within the Agency, or more broadly across the federal government.
- **Regulatory Impact Analysis [Section VI]:** We find that EPA's draft regulatory impact analysis (RIA) generally supports the proposed rule and illustrates the feasibility of strengthening the RMP rule in several key ways. We comment that the breakeven analysis methodology employed by the RIA is conservative and likely underestimates the benefits of the RMP rule relative to its costs. We note that the RIA must take into account that disadvantaged populations are less equipped to respond to the impacts of chemical disasters. In addition, we point out areas where the RIA may underestimate the benefits of the proposed provisions.
- **RMP Program Coverage [Section VII]:** In Section VII, we ask EPA to expand RMP program coverage to include ammonium nitrate, along with other hazardous chemicals and facilities. We offer comparisons between the list of RMP-regulated substances and substances regulated by other EPA programs, including Tier II inventories and the Toxic Release Inventory (TRI) program. We also compare the list of RMP-regulated substances to the Occupational Safety and Health Administration's Process Safety Management (OSHA PSM) list of chemicals and New Jersey Toxic Catastrophe Prevention Act regulations, which—unlike the RMP—covers reactive chemicals. EDF also submits an analysis of historic TRI data on ammonium nitrate, finding that releases of ammonium nitrate were widespread and occurred across diverse industries.
- **Fenceline Monitoring [Section VIII]:** We ask EPA to include requirements for fenceline monitoring of RMP facilities and associated requirements and penalties to ensure accuracy, reliability, and availability of real-time monitoring data. We discuss the benefits and feasibility of fenceline monitoring. We also ask that EPA finalize an approach in this rule to make data from community monitors operated in close proximity to RMP facilities actionable. The Inflation Reduction Act provides extensive funding to support enhanced community monitoring and we encourage EPA to consider how these RMP requirements

could incorporate community monitoring data to better empower communities and strengthen the important outcomes this rule seeks to deliver.

- **Compliance with RMP Requirements [Section IX]:** We ask EPA to ensure facilities' compliance with RMP requirements, including by revising 40 C.F.R. § 68.215 to include the RMP Rules in Title V permitting under the Clean Air Act.

EPA'S LEGAL AUTHORITY TO UNDERTAKE THIS ACTION

As EPA recognizes in the proposal, the agency is plainly authorized to adopt these critical updates pursuant to Section 112(r) of the Clean Air Act as amended at 42 U.S.C. § 7412(r). Section 7412(r)(7) 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.” Further, the D.C. Circuit has held that “EPA retains authority under Section 7412(r)(7) to substantively amend the programmatic requirements of the Chemical Disaster Rule . . . subject to arbitrary and capricious review.”¹³ The D.C. Circuit explained that “Section 7412(r)(7) is a comprehensive accident prevention regime affording EPA broad discretion as to regulatory tools”¹⁴

Agencies have broad discretion to reconsider a regulation at any time so long as the changes in the policy are “permissible under the statute, . . . there are good reasons for [the new policy], and the agency believes [the new policy] to be better” than prior policies.¹⁵ In the instant rulemaking, EPA has offered both reasoned and compelling rationales for its proposal to abandon the approach under the prior administration, which unlawfully weakened protections under the RMP program.¹⁶ These reasons include, but are not limited to, the following:

- Accidental releases remain a significant concern to communities and cost society more than \$477 million yearly.¹⁷
- The 2019 reconsideration rule improperly relied on only an annual count of total accidents to address the low-probability, high-consequence nature of accidental releases.¹⁸ As commented by the UAW in July 2021, the 2019 Regulatory Impact Analysis significantly undercounted the number of impact accidents as compared to those reported in EPA's RMP database.¹⁹

¹³ Air All. Houston v. EPA, 906 F.3d 1049, 1066 (D.C. Cir. 2018).

¹⁴ *Id.*

¹⁵ Federal Communications Commission v. Fox Television Stations, Inc., 556 U.S. 502, 515 (2009) (emphasis omitted).

¹⁶ 87 Fed. Reg. 53,564-66 (Aug. 31, 2022).

¹⁷ *Id.* at 53,565.

¹⁸ *Id.*

¹⁹ United Auto Workers, Comments on Federal Register Notice Number 2021-11280, “Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act; Notice of Virtual Public Listening

- The 2019 reconsideration rule failed to acknowledge that mostly relying on relief like post-accident settlement entails significant transaction costs, delays, and uncertainty of obtaining necessary prevention improvements.²⁰

In the last ten years for which data is available, there have been 149 harmful chemical disasters per year, on average, including large-scale chemical releases, fires, and explosions.²¹ As discussed throughout this comment and illustrated by the extensive record for this rulemaking, the ongoing risk of life-threatening chemical disasters makes clear the urgent need for EPA to undertake this action.

COMMENTS

I. Hazard Evaluation Provisions

EPA seeks comments on a number of amplifications EPA has proposed to facilities' required hazard evaluation under the RMP regulations. Each of these is critically important and we offer specific recommendations on how provisions related to Power Loss (*See* Section IV.A.1.C), Climate Risk Assessment (*See* Section IV.A.1.b), and stationary source siting (*See* Section IV.A.1.d) can be further strengthened.

A. Power Loss (*See* Section IV.A.1.C)

Hazard mitigation and standby and back-up power systems are critical during emergency events. We support EPA's proposal to require air control or monitoring equipment associated with prevention and detection of unplanned releases from RMP-regulated processes to have standby or backup power.²² More generally, we agree with commenters asking EPA to require standby or back-up power for all equipment connected to RMP processes that may result in a chemical release. In many areas where RMP facilities are located, community microgrids could supply backup power and we encourage EPA to consider how facility backup power might rely on and reinforce community microgrids powered by renewables. Power outages and restarts can result in a variety of risks, including malfunctions, loss of functionality of lights and other safety equipment, temperature excursions, tank overflows, and dangerous chemical reactions. The 2017 Arkema incident illustrates the risks associated with power loss and 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.²³ The risks associated with power loss are exacerbated by natural hazards that can independently cause widespread power loss and precipitate a chemical disaster.

Sessions," Docket Number EPA-HQ-OLEM-2021-0312, 5-8, EPA-HQ-OLEM-2021-0312-0058, July 27, 2021, https://downloads.regulations.gov/EPA-HQ-OLEM-2021-0312-0058/attachment_1.pdf.

²⁰ 87 Fed. Reg. 53,565 (Aug. 31, 2022).

²¹ United Auto Workers, *supra* note 19.

²² 87 Fed. Reg. 53,571 (Aug. 31, 2022).

²³ Union of Concerned Scientists, Community Impact: Chemical Safety, Harvey, and Delay of the EPA Chemical Disaster Rule 4 (Oct. 17, 2017), <http://www.ucsusa.org/HarveyRMP>.

Robust back-up power systems, in conjunction with fence-line monitoring as discussed below, would provide significant crucial protections for workers, community members, and first responders.

B. EPA should require Climate Risk Assessment in its Assessment of Natural Hazards (See Section IV.A.1.b)

As discussed above, climate change exacerbates the already high risks of chemical disasters. EPA action must be tailored to address growing natech risks and assist communities in preparing for associated disasters. Nearly a third (31%) of RMP facilities are located in areas with natural hazards, such as wildfires and storm surges, that may be worsened by climate change.²⁴ We ask EPA to expand the current proposal to require natural hazards to be explicitly included in all hazard assessments and require RMP facilities to consider the hazards of releases that occur prior to and after natural hazards.²⁵

In 2017, following a series of chemical fires and catastrophic emissions release precipitated by Hurricane Harvey,²⁶ EDF examined the 2014 Risk Management Plan for the Arkema Chemical Plant.²⁷ Arkema sits in a floodplain in Crosby, Texas, and had been the site of flooding in the past, as well as previous incidents of fire and fugitive emissions.²⁸ Arkema's October 31, 2013, PHA identified concerns including floods (flood plain), hurricanes, power failure, and power surge.²⁹ EDF expressed concerns regarding the adequacy of Arkema's RMP, noting that although Arkema's plan identified flooding as an issue, the plan didn't include comprehensive worst case scenarios and didn't take sufficient steps to prepare for risk from extensive flooding.³⁰ Specifically, the Arkema plant did not have adequate preparation for severe flooding, loss of power, inundation and failure of backup generators, the combustion of unstable chemicals stored onsite, and toxic air emissions.³¹ The Houston Chronicle reported that "[e]ven internal documents gave employees minimal instruction — just one paragraph — for handling major floods, and there were no plans for floods exceeding three feet."³² The Arkema disaster demonstrates the importance of ensuring facilities, in their hazard evaluations, are explicitly considering the impacts of climate change and

²⁴ U.S. Gov't Accountability Off., GAO-22-104494, *Chemical Accident Prevention: EPA Should Ensure Regulated Facilities Consider Risks from Climate Change* 19 (2022), <https://www.gao.gov/products/gao-22-104494>.

²⁵ For example, a cause of dangerous post-natural disaster releases is the combustion of both vegetative debris and construction and demolition (C&D) debris in air curtain burners (acbs). See U.S. Env't Prot. Agency, *Managing Debris after a Natural Disaster: Evaluation of the Combustion of Storm-Generated Vegetative and C&D Debris in an Air Curtain Burner: Source Emissions Measurement Results* (2016), https://cfpub.epa.gov/si/si_public_record_report.cfm?Direntryid=335069&Lab=NHSRC&fed_org_id=1253&subject=Homeland%20Security%20Research&view=desc&sortby=pubdateyear&showcriteria=1&count=25.

²⁶ Laura Bloomer & Kate Konschnik, *Arkema Chemical Plant & the 2017 Risk Management Program Amendments 1* (2017), http://eelp.law.harvard.edu/wp-content/uploads/HARVARD-Arkema_RMP_WriteUp_FINAL_logo.pdf.

²⁷ Elena Craft, *EPA Safeguards and the Arkema Chemical Plant Disaster - Information You Should Know*, Aug. 31, 2017, EDF, <https://blogs.edf.org/climate411/2017/08/31/epa-safeguards-and-the-arkema-chemical-plant-disaster-information-you-should-know/>.

²⁸ Ctr. for Progressive Reform et al, *supra* note 8 at 5; Craft, *supra* note 27.

²⁹ Craft, *supra* note 27.

³⁰ Emma Platoff, *As Lawsuits Over Texas Chemical Disaster Add Up, Advocates Blame Arkema and Rules Regulating It*, *The Texas Tribune*, Mar. 30, 2018, <https://www.texastribune.org/2018/03/30/arkema-disaster-harvey-regulations-texas-crosby/>.

³¹ Ctr. for Progressive Reform et al, *supra* note 8 at 5.

³² Platoff, *supra* note 30.

illustrates that, absent such consideration, facilities may generally identify natural hazards but, unless expressly required to do so, that evaluation may not adequately account for the climate-related magnitude or severity of the hazard and so may not provide a sound foundation for planning.

Accordingly, we support EPA's proposal to require natural hazards to be explicitly included in the hazard reviews and process hazard analyses (PHAs) for Program 2 and Program 3 RMP-regulated processes. Considering both increasing natural hazard risks and the volume of RMP-regulated facilities (nearly 4,000) exposed to risks of wildfire, storm surge, flooding, and sea level rise,³³ we encourage EPA to expand these requirements to apply to all RMP facilities.

Further, RMP hazard reviews and PHAs should explicitly address natural hazard-induced shutdown, startup, and malfunction (SSM) risks. Process unit shutdowns and startups may be more hazardous than regular operations; the Center for Chemical Process Safety (CCPS) determined that process safety incidents occur five times as often during plant startup than during normal operations.³⁴ Both extreme weather conditions and natural hazards precipitate an increase in dangerous SSM events.

Moreover, these SSM events often lead to considerable fugitive emissions. A report by the Environmental Integrity Project in the wake of Hurricane Harvey found that seven industrial plants near the Texas coast, including the Arkema chemical plant in Crosby, Texas, reported that electrical outages caused by the storm triggered incidents and shutdowns releasing at least 255,598 pounds of air pollution.³⁵ In addition, the Chevron Phillips Chemical Plant in Cedar Bayou near residential neighborhoods in Baytown, Texas, reported releasing more than 745,229 pounds of air pollution, including 14 tons of benzene due to its "sitewide shutdown of Cedar Bayou Facilities in anticipation of tropical storm/hurricane" before Hurricane Harvey.³⁶

Further, an EDF analysis of air emissions in the State of Texas Environmental Electronic Reporting System (STEERS) found that there were 3,105 SSM events releasing just under 17 million pounds of hazardous air pollutants and other volatile organic compounds (VOCs) in 2020, with over 15 million pounds released due to unplanned events (Table 1). When compared to the 48 million pounds of stack and fugitive releases reported in the state of Texas in the 2020 TRI, SSM emissions represent a substantial portion of toxic air pollution.

³³ Ctr. for Progressive Reform et al, *supra* note 8 at 2.

³⁴ U.S. Chem. Safety and Hazard Investigation Bd., Safety Digest: CSB Investigations of Incidents During Startups and Shutdowns 1, https://www.csb.gov/assets/1/17/csb_start_shut_02.pdf?1630.

³⁵ Env't Integrity Project, Preparing for the Next Storm 3 (2018), <https://www.environmentalintegrity.org/wp-content/uploads/2018/08/Hurricane-Harvey-Report-Final.pdf>.

³⁶ Lise Olsen, *After Harvey, a 'Second Storm' of Air Pollution, State Reports Show*, Houston Chronicle, Mar. 31, 2018, <https://www.houstonchronicle.com/news/houston-texas/houston/article/After-Harvey-a-second-storm-of-air-12795260.php>.

Table 1: Unauthorized air emissions of hazardous air pollutants and VOCs for all events that began between January 1 and December 31, 2020 and that were reported to the Texas Commission on Environmental Quality (TCEQ) through the STEERS. Data were obtained through the TCEQ air emissions event report database.³⁷ (See Attachment C)

Incident Type	Number of Incidents	Emissions (million lbs)
Emissions event (“any upset event or unscheduled maintenance, startup, or shutdown activity”) ³⁸	2958	15.4
Scheduled start-up ³⁹	58	1.0
Scheduled maintenance ³⁹	71	0.4
Scheduled shut-down ³⁹	18	<0.1

EPA has recognized the importance of emissions from SSM events in taking final action to find that several states and local air pollution control agencies failed to submit State Implementation Plan (SIP) revisions as required by the Clean Air Act (CAA) in a timely manner to address EPA’s 2015 findings of substantial inadequacy and “SIP calls” for provisions applying to excess emissions during periods of SSM.⁴⁰

Finally, in line with our recommendations for STAA implementation below, mitigation alternatives found in these hazard risk assessments should not be solely voluntary. EPA should require implementation of feasible natural hazard mitigation to the greatest extent practicable.

B. EPA’s Facility Siting Analysis Should Require Facilities to Undertake Cumulative Impact Assessment (See Section IV.A.1.d)

We also urge the hazard evaluations EPA requires to account for, and protect communities from, the cumulative health impacts of multiple polluting facilities and underlying vulnerabilities in the RMP update.

Many communities, in particular overburdened and under-resourced fenceline communities, live near multiple RMP facilities, and face aggregate and synergistic risk from multiple chemicals at

³⁷ Tex. Comm’n on Env’t Quality, Air Emission Event Report Database, <https://www.tceq.texas.gov/goto/eer/> (last accessed 10/28/2022).

³⁸ 30 Tex. Admin. Code §101.1(28)

³⁹ 30 Tex. Admin. Code §101.1(91)

⁴⁰ 87 Fed. Reg. 1680 (Jan. 12, 2022) (Findings of Failure To Submit State Implementation Plan Revisions in Response to the 2015 Findings of Substantial Inadequacy and SIP Calls To Amend Provisions Applying To Excess Emissions During Periods of Startup, Shutdown, and Malfunction).

once. Schools, small business, medical facilities, and other institutions are at constant risk of a chemical disaster in these areas of concentrated risk. For example, the Lake Charles area in Louisiana has 37 RMP facilities within 10 miles of each other, creating overlapping chemical release vulnerability zones extending up to 25 miles in radius.⁴¹ In January 2022, an explosion at Westlake Chemical South / Eagle US 2 LLC in Lake Charles left five employees hospitalized and over 7,000 students sheltered in place.⁴² This was not the first chemical disaster at Westlake Chemical; EPA data reveals that between 2004 and 2020, there were 14 chemical incidents at the plant.⁴³ Lake Charles also faces increasing natech risks—Hurricane Laura (Category 4) and Hurricane Delta (Category 2) struck Lake Charles within just two months in 2020.⁴⁴

In comments submitted to EPA by EDF earlier this year⁴⁵ on EPA’s *Draft TSCA Screening Level Approach for Assessing Ambient Air and Water Exposures to Fenceline Communities* developed by the Office of Pollution Prevention and Toxics for Toxic Substances Control Act (TSCA) risk evaluation and risk management regulatory actions,⁴⁶ EDF emphasized the need not only to consider aggregate exposure from multiple Toxics Release Inventory (TRI)-reporting facilities releasing the same chemical through one or more conditions of use, but also to consider cumulative exposures from one or multiple facilities releasing different chemicals that contribute to the same health endpoints through one or more conditions of use. EDF studied two carcinogens, formaldehyde and 1,3 butadiene, to illustrate the need to consider (1) the aggregate chemical load placed on fenceline communities located in a TRI facility cluster (rather than considering each source of exposure in isolation), and (2) the cumulative risk of multiple chemicals acting on the same health endpoint (e.g. leukemia). Formaldehyde and 1,3 butadiene are both RMP regulated substances⁴⁷ and thus illustrate the need for cumulative impact risk assessments in RMP hazard assessments and PHAs, especially in areas where RMP facilities are clustered close together.

Further analysis by EDF maps excess lifetime cancer risk from the cumulative inhalation exposure of 58 RMP substances that were reported in the 2020 TRI database (Figure 1). Our analysis shows large cancer risk hotspots around dense industrial areas due to overlapping risks from exposure to multiple hazardous air pollutants emitted by multiple facilities. This case study illustrates how cumulative risk can greatly exceed risk from individual facilities or chemicals, and provides an example of the need for cumulative risk assessment.

⁴¹ Coming Clean, Env’t & Justice Health All. for Chem. Policy Reform, Preventing Disaster: Three Chemical Incidents Within Two Weeks Show Urgent Need for Stronger Federal Safety Requirements 14 (2022), <https://www.comingcleaninc.org/assets/media/images/Reports/Preventing%20Disaster%20final.pdf>.

⁴² *Id.*

⁴³ *Id.* at 11.

⁴⁴ Rick Rojas, *After 2 Hurricanes, Lake Charles Fears its Cries for Help Have Gone Unheard*, N.Y. Times, Oct. 20, 2020, <https://www.nytimes.com/2020/10/20/us/lake-charles-hurricane-laura-delta.html>.

⁴⁵ Attachment D.

⁴⁶ Env’t Prot. Agency, *TSCA Screening Level Approach for Assessing Ambient Air and Water Exposures to Fenceline Communities*, Feb. 7, 2022, <https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/tsca-screening-level-approach-assessing-ambient-air-and>.

⁴⁷ 40 C.F.R. § 68.130, tbls.1-4.

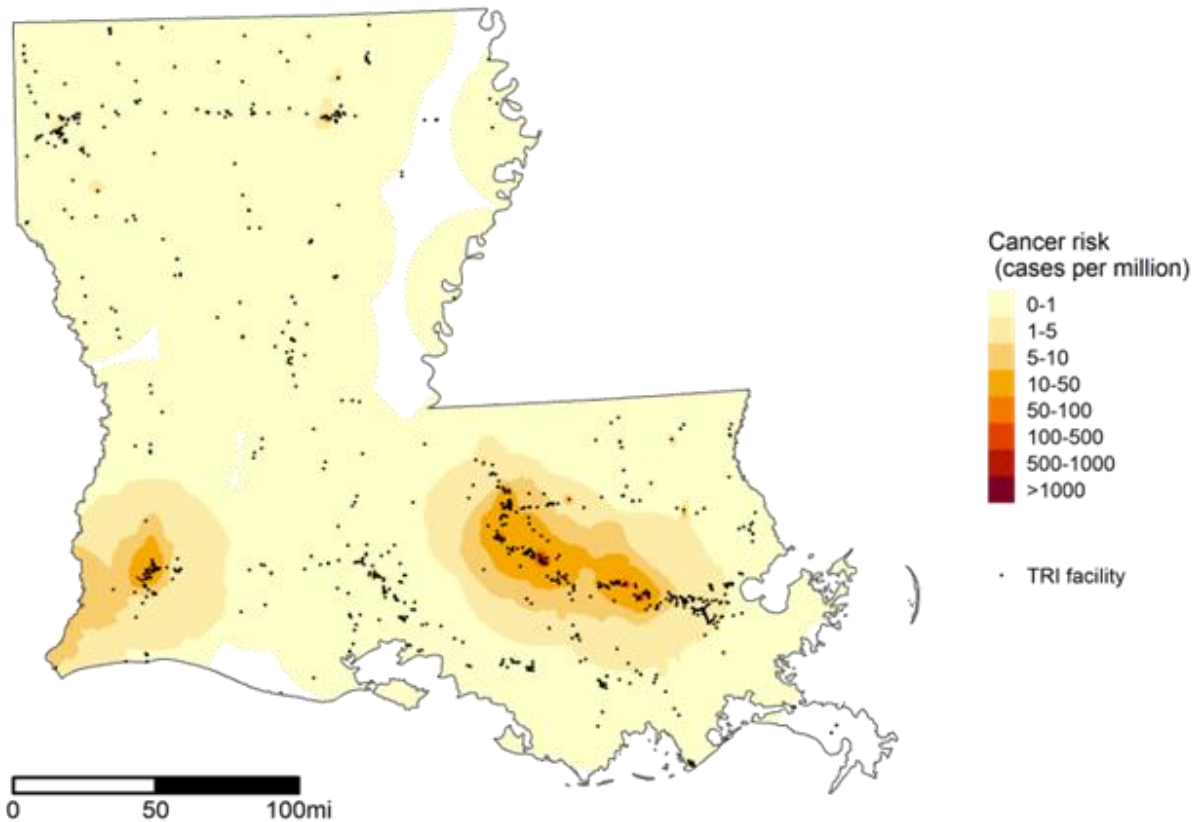


Figure 1: Estimated excess lifetime cancer risk from inhalation exposure of TRI-reported industry emissions based on 2020 RSEI microdata for Louisiana. Excess cancer risk for each 810-m grid cell was calculated by multiplying estimated concentration inhalation unit risk (IUR) by RSEI-estimated concentration, and summing over all chemicals in the TRI. Cancer risk is only shown for grid cells within a 49 km radius of a TRI facility.

By focusing narrowly on the risk of harm from a single release from a single facility, the proposed RMP rule fails to capture the magnitude of exposure risk and account for social conditions and past exposures that exacerbate these risks. We ask EPA to revise the proposal to require that stationary source citing includes cumulative impact assessments, as well as requirements that facility worst-case scenario analyses, response plans, and hazard reduction plans account for the presence of other RMP facilities in the vulnerability zone. In addition, we ask EPA to prioritize the development and implementation of prevention methods in vulnerable areas with cumulative hazards.

II. Safer Technology and Alternatives Analysis (STAA) (See Section IV.A.2.a)

We strongly support the use of Safer Technology and Alternatives Analysis (STAA) and we urge EPA to finalize the STAA proposal as an essential prevention measure of the RMP program. We

further urge EPA to broaden the application of STAA analysis, and to require implementation of safer technologies identified by STAA. We also recommend that EPA develop a standard definition for locational data and a method for location data verification to ensure that the STAA requirements are accurately applied. Finally, we recommend requiring – without any associated STAA requirements – the transition to safer alternatives for facilities that use hydrogen fluoride in an alkylation unit.

A. EPA Should Apply STAA Requirements to All Industries

EPA should require all RMP industries to conduct STAA analyses and to implement any feasible, safer alternatives identified. Rather than expanding the 2017 STAA requirements to apply to more facilities, the proposed rule narrows the industry sectors required to conduct an analysis of safer technologies and alternatives. By restricting the scope of STAA requirements to only about 590 facilities,⁴⁸ the current proposal effectively exempts the majority of RMP facilities from an essential prevention measure based on a substantially underinclusive diagnostic metric (i.e. five years of past incident data)⁴⁹ and similarly underinclusive facility identification tools (i.e. NAICS codes and locational data).

1. The Proposed STAA Applicability Criteria Unnecessarily Limit A Crucial Prevention Measure

The transition to inherently safer alternatives is one of the most critical ways to prevent disasters ranging from unplanned releases in floods and wildfires to catastrophic toxic chemical releases. These measures can be life saving for workers and community members. EPA should require all RMP facilities to implement identified safer technologies. A comment letter filed on the importance of STAA from national security perspective identifies 60 million people living in the vulnerability zones of the country's 86 chlorine bleach plants and millions living near water treatment plants that could be using safer chemicals or infrared light.

A report published by Coming Clean and the Environmental Justice Health Alliance for Chemical Policy Reform similarly found that the proposed revisions of the STAA provisions in the RMP rule would exclude thousands of RMP facilities with large potential disaster zones or that endanger hundreds of thousands of people.⁵⁰ For example, the report found that the Westlake Chemical South/Eagle US 2 LLC plant – the site of a January 2022 explosion that injured 6 workers and caused 7,000 school children to shelter in place – would not meet the STAA requirements of the

⁴⁸ U.S. Env't Prot. Agency, RMP Accidents 2004-2020 (Appendix A); Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs Under the Clean Air Act, Section 112(r)(7) Safer Communities by Chemical Accident Prevention, EPA-HQ-OLEM-2022-0174-0065 (2022), <https://www.regulations.gov/document/EPA-HQ-OLEM-2022-0174-0065>.

⁴⁹ Potential issues with RMP under-reporting and data inaccuracy further call into question EPA's proposed exclusions from STAA requirements.

⁵⁰ Preventing Disaster, *supra* note 41, at 14.

proposed rule.⁵¹ Likewise, the proposed rule exempts dangerous facilities and terminals that are classified as warehouse and storage (NAICS 493) from STAA requirements, such as the Intercontinental Terminals Company Deer Park facility. The Intercontinental Terminals Company sits on 7.5-acres with a storage capacity of nearly 12 million barrels of volatile compounds in 227 tanks.⁵² A catastrophic chemical fire in March 2019 resulted in shelter in place orders for the Deer Park community, closure of the Houston Ship Channel, and release of millions of gallons of hazardous chemicals.⁵³

As the above examples illustrate, the proposed STAA applicability criteria (sources in the petroleum and coal products manufacturing (NAICS 324) and chemical manufacturing (NAICS 325) sectors, located within 1 mile of another RMP-regulated 324 or 325 facility) seriously limit protection from the widespread risk of chemical disasters. EPA bases the proposed criteria, which essentially amounts to a categorical exclusion from STAA requirements for the majority of RMP facilities, solely on historical incident data from 2016-2020.⁵⁴ While historical incident data may be relevant to facility risk assessment, it should not be used as an exclusive prognostic measure due to potential inaccuracies in data⁵⁵ and the significant risk potential and magnitude in areas and industries that have not experienced an incident between 2016 and 2020.

2. *Determining STAA Applicability Based on NAICS Codes is Underinclusive*

In addition to the above-described examples, which fall entirely outside of EPA's proposed NAICS codes for STAA applicability, some facilities may have secondary NAICS codes that fall within EPA's proposal but are nonetheless improperly excluded. For example, within the state of Texas, there are at least five oil terminals that have RMP associated with a variety of NAICS codes that are not 324 or 325. Each of these facilities, however, list secondary NAICS codes for other environmental programs, such as TRI or RCRA, which do have 325-NAICS classifications (see Table 2). We believe these facilities should have been considered by EPA in this initial analysis, but they have been excluded by EPA's overly restrictive search parameters. Of note is that the Neches Terminal (FRS ID: 110008060622)⁵⁶ currently has "no valid (quality assured) locational

⁵¹ *Id.*

⁵² Jim Hargraves, HCFMO Final Report: Intercontinental Terminals Company Tank Farm Fire, Harris Cnty. Fire Marshal's Off. (2019), <https://interactive.khou.com/pdfs/FinalReport.pdf>.

⁵³ Erin Douglas, *Two Years After ITC Chemical Fire in Deer Park, Texas Close to Making New Safety Rules for Industry*, KHOU, May 24, 2021, <https://www.khou.com/article/news/politics/two-years-after-disastrous-chemical-fire-texas-close-to-creating-new-safety-rules-for-industry/285-b26fe164-e9a3-4713-91b3-a223a5883741>; Deer Park Emergency Services, ITC Fire Updates, <https://www.deerparktx.gov/1778/ITC-Fire> (last accessed 10/28/2022).

⁵⁴ 87 Fed. Reg. 53577.

⁵⁵ See United Auto Workers, Comments on Federal Register Notice Number 2021-11280, "Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act; Notice of Virtual Public Listening Sessions," Docket Number EPA-HQ-OLEM-2021-0312, 5-8, EPA-HQ-OLEM-2021-0312-0058, July 27, 2021, https://downloads.regulations.gov/EPA-HQ-OLEM-2021-0312-0058/attachment_1.pdf.

⁵⁶ U.S. Env't Prot. Agency, FRS Facility Detail Report: Neches Terminal, https://frs-public.epa.gov/ords/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110000599406 (last accessed 10/28/2022).

data currently available in the FRS database...”. It is unclear how primary and secondary NAICS are associated with various regulatory programs, but it appears that industry can avoid associating their RMP to a 324 or 325 classification, which may open the door to facilities incorrectly avoiding the requirement to do a safer technologies assessment.

Table 2: Sample of RMP facilities in Texas with secondary NAICS codes 324 and 325 that were or would be excluded from EPA consideration in developing STAA requirements due to inconsistent NAICS classification.⁵⁷

FRS ID	Name	RMP ID	NAICS	Other Program & ID	Secondary NAICS
110008146158	Sunoco - Nederland Marine Terminal	100000228023	49311	TRIS: 77627SNMRN1MILE	324191
110000504142	South Coast Terminals	100000091937	49319	TX-TCEQ ACR: RN102337581	324191
110000504240	LBC Houston/Bayport Terminal	100000093579	49319	RCRAINFO: TXD980796478	325199
110037844376	Galena Park Terminal	100000182385	49319	RCRAINFO: TXD980796452	325199
110008060622	Neches Terminal (on-site accidents)	100000057323	49312	RCRAINFO: TXD010806347, TXR000070078 AIRS/AFS: 4824500007, 4824500173	325311

⁵⁷ Data available at U.S. Env’t Prot. Agency, FRS Query, <https://www.epa.gov/frs/frs-query> (last accessed 10/28/2022); Technical Background Document (Appendix A), *supra* note 48.

	occurred in 2006 and 2014) ⁵⁸			TX-TCEQ ACR: RN105064596, RN102568458	
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Similarly, as discussed below in Section II.B.2, using locational data to determine STAA eligibility creates risks of inaccuracy and underinclusion. For these reasons, EPA should require all RMP industries to conduct STAA analyses and to implement any feasible, safer alternatives identified.

B. If EPA Does Not Apply STAA Requirements to All Industries, It Should Substantially Expand the Radius of Co-Location

As discussed above, if EPA retains its focus on facilities that it believes are at highest risk of chemical incidents, we would encourage EPA to substantially expand the radius of co-location and ensure that accurate and reliable data is available to determine the distance between facilities.

1. The Proposed One-Mile Co-Location Radius is Underinclusive

EPA proposes one mile on the basis that it represents the median distance of facilities with 324 and 325 processes that have had incidents in the 2016-2020 timeframe. However, determining co-location based on a one-mile radius is inadequate and fails to account for cumulative health impacts associated with releases that occur at distances well beyond that distance. Communities living near industrial facilities experience cumulative exposures to toxic air emissions from multiple facilities at the same time that lead to larger regions of elevated health risks well-beyond a 1 mile radius. EDF's analysis of data from the 2020 Risk Screening Environmental Indicators (RSEI) model (Figure 1 above) maps the excess lifetime cancer risk from cumulative inhalation exposure of TRI-reported emissions in Louisiana, as an example. The map shows areas of elevated cancer risk that extend on the order of 50 miles from the center of facility clusters. EPA should consider the baseline cumulative level of health risks to the communities surrounding the RMP facility for STAA requirements.

⁵⁸ Technical Background Document (Appendix A), *supra* note 48.

In addition, the one-mile radius fails to account for the scale of natural hazards (e.g. hurricane-force winds and tropical storms may have damaging winds at distances up to 300 miles).⁵⁹ Separately in the rule, in attempting to justify information availability for individuals within a 6-mile radius of an RMP facility, EPA recognizes that worst-case distances may extend to 6 miles and beyond.⁶⁰

2. EPA should develop a standard definition for locational data and a method for location data verification to ensure that the STAA requirements are accurately applied

Finally, in assessing distance between facilities, it is important for EPA to ensure it has rigorous and complete data, as locational data provided by facilities is often inconsistent and can be inaccurate or unverifiable. For instance, a review of the RMP facilities that can be found through the FRS EZ QUERY Database⁶¹ for twelve counties abutting Galveston Bay indicated that there were 360 facilities reporting 375 active risk management plans and there were a number of facilities with unique FRS IDs that reported multiple RMPs. These include the Lyondell Chemical Co in Alvin, Texas,⁶² and Shell Chemical facility in Deer Park, Texas.⁶³

Further, of these 360 facilities, 41 had no latitudinal or longitudinal data, 29 had either no information included on how these locations were identified and were reported as “unknown” or as a “zip-code centroid.” This means that in over 10% of the available location data for RMP facilities examined in this area, facilities’ location information is either unreliable or non-existent. In 19 cases, the location (regardless of its accuracy) referenced a part of the plant that is not associated with the location of the hazard, referring instead to an administrative building, the plant entrance, a corner of the land parcel, or simply reported as “NA.” These facilities and associated hazards can be located on sprawling, multi-acre land parcels.

The low-quality location information leads to a laborious ground-truthing process, further complicating access to relevant information in an already opaque, complicated, and confusing process for community members and other stakeholders. Importantly, the inaccurate and unreliable nature of facility location data calls into question undermines the analysis and findings in the

⁵⁹ U.S. Nat’l Weather Serv., *Hurricane Facts*, https://www.weather.gov/source/zhu/ZHU_Training_Page/tropical_stuff/hurricane_anatomy/hurricane_anatomy.html#:~:text=Hurricane%2Dforce%20winds%20can%20extend,center%20of%20a%20large%20hurricane.

⁶⁰ 87 Fed. Reg. 53,601 (Aug. 31, 2022).

⁶¹ U.S. Env’t Prot. Agency, FRS EZ Query, <https://www.epa.gov/frs/frs-ez-query> (last accessed 10/26/2022).

⁶² U.S. Env’t Prot. Agency, FRS Facility Detail Report: Lyondell Chemical Co - Chocolate Bayou Chemicals Plant, https://frs-public.epa.gov/ords/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=11000599406 (last accessed 10/26/2022).

⁶³ U.S. Env’t Prot. Agency, FRS Facility Detail Report: Shell Chemical, https://frs-public.epa.gov/ords/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110031267064 (last accessed 10/26/2022).

Technical Background Document,⁶⁴ which examines incident frequency in facility-dense areas, as well as predictions for extreme weather events including wildfire and flooding.

Therefore, it is imperative for EPA to not only develop a standard definition when determining if compounding hazards are sufficiently proximate, but also develop a method for location data verification.

C. If EPA Does Not Apply STAA Requirements to All Industries, It Should Still Expand the Scope of STAA Requirements

As discussed above, if EPA retains its focus on facilities that it believes are at highest risk of chemical incidents, we encourage EPA to expand the scope of STAA requirements, which currently address only a subset of facilities that are at elevated risk. EPA seeks comment on whether the agency should require STAA for any other NAICS codes, whether EPA should apply STAA to all facilities in NAICS 324 and 325, and finally whether there are other metrics EPA should consider, in addition to incident history, to inform EPA's determination of facilities at greatest risk. We address each of these in more detail below.

1. STAA Should Apply to Paper Manufacturing (NAICS Code 322) and Other High Risk Industries

The current proposal narrows the 2017 STAA requirements by removing facilities in NAICS code 322 (paper manufacturing) from the requirements, despite EPA's recognition that 30 workers were injured as a result of incidents at RMP-covered paper manufacturing facilities between 2016 and 2020.⁶⁵ In February 2017, an explosion at a pulp and paper mill in DeRidder, Louisiana killed three workers and injured seven others during welding and grinding operations above a tank containing flammable materials.⁶⁶ More recently, in September 2020, an electric heat gun fell into and ignited a bucket of flammable resin during a scheduled maintenance operation at a paper mill in Canton, North Carolina, killing two workers.⁶⁷

EPA also acknowledges in its proposal that chemical incidents occur at NAICS 322 facilities at similar rates to those in NAICS 324 facilities, yet the Agency declines to adopt STAA requirements on the basis that the consequences of those incidents, at least in the 2016-2020 timeframe, were of relatively lesser magnitude. But, in the context of EPA's discussion of the New Jersey Program,

⁶⁴ U.S. Env't Prot. Agency, Technical Background Document for Notice of Proposed Rulemaking: Risk Management Programs Under the Clean Air Act Section 112(r)(7) Safer Communities by Chemical Accident Prevention (April 19, 2022).

⁶⁵ 87 Fed. Reg. 53,578 (Aug. 31, 2022).

⁶⁶ Chem. Safety Bd., Chemical Safety Board Releases Final Investigation Report into February 8, 2017, Explosion at the Packaging Corporation of America DeRidder Louisiana Pulp and Paper Mill (2018), <https://www.csb.gov/chemical-safety-board-releases-final-investigation-report-into-february-8-2017-explosion-at-the-packaging-corporation-of-america-deridder-louisiana-pulp-and-paper-mill/>.

⁶⁷ Jeff Johnson, *Chemical Safety Board Finalizes Two Fatal Accident Investigations*, Chemical & Engineering News, Sep. 8, 2021, <https://cen.acs.org/safety/industrial-safety/Chemical-Safety-Board-finalizes-two/99/web/2021/09>.

the agency recognizes that absolute impacts associated with incidents can fluctuate over time. Accordingly, EPA should not decline to adopt STAA protections for facilities its own data shows face similar rates of risk as those to which it has chosen to apply STAA based only on the fact that during its 4-year evaluation window no facility so happened to have an exceptionally significant incident. Moreover, EDF analyzed data from EPA’s ECHO database for NAICS 322 facilities listed in EPA’s Appendix A to its technical support document. Many of these facilities, which would be exempt from STAA requirements under EPA’s proposal, have extensive violations of environmental laws and pending enforcement actions – all of which reinforces the characterization of these facilities as high risk. In particular, the analysis found that 55 percent of NAICS 322 facilities with accidents also have CAA, CWA, EPCRA, or RCRA violations and 58 percent of these facilities have been subject to at least one, and in some instances multiple, enforcement actions in the last five years.

In addition, EDF’s analysis of data from the 2020 Toxics Release Inventory (Figure 2) shows that releases of 58 chemicals that are regulated under both RMP and TRI occur at diverse facilities outside of NAICS 324 and 325, with NAICS 322 facilities being the second greatest contributor. Thus facilities in a wide range of industries, including paper manufacturing, handle the extremely hazardous substances that risk management plans are meant to address, and these industries should not be exempted from the STAA.

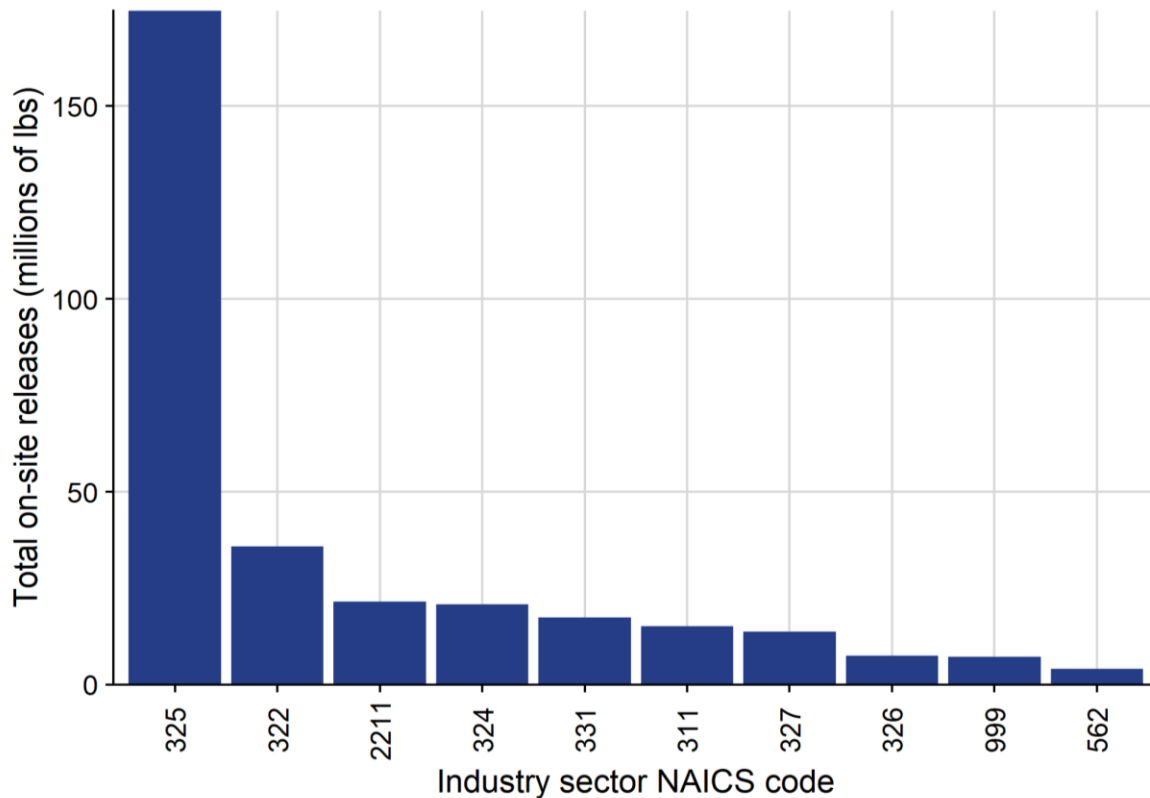


Figure 2. Total on-site releases to air, water, and land of 58 RMP chemicals in the 2020 TRI Database by top 10 primary NAICS industry sector.

We underscore that, as described above, risks are not defined only by NAICS industry code, and while the industry codes we describe here should certainly be included in the STAA requirements, other risks we described elsewhere in these comments broadly support applying STAA requirements to all facilities.

2. *EPA Should Strengthen its Approach to Requiring STAA at Facilities in NAICS codes 324 (Petroleum and Coal Products Manufacturing) and 325 (Chemical Manufacturing)*

EPA has proposed to require facilities in NAICS 324 and 325 to conduct STAA if they are co-located within a mile of another NAICS 324 or 325 facility and to require STAA for any NAICS 324 facility using hydrogen fluoride. EPA has sought comment on a number of issues related to this approach, including whether STAA requirements should apply to all NAICS 324 and 325 facilities regardless of their location.

We strongly encourage EPA to strengthen STAA requirements to apply to all 324 and 325 facilities. While co-located 324 and 325 facilities face extremely high risks, workers and communities in the vicinity of more isolated facilities face grave danger as well. For example, EDF's analysis of ECHO data for 324 facilities that would not be required to perform STAA analysis under EPA's proposal were the subject of widespread non-compliance and enforcement actions. Indeed, 86 percent of these facilities have CAA, CWA, RCRA or SDWA violations and 82 percent have been the subject of formal enforcement actions in the last five years (with one facility subject to 261 enforcement actions in that timeframe). These facilities involve exceptionally high risks regardless of proximate 324 or 325 facilities.

At a minimum, we would encourage EPA to apply STAA to *any* facility subject to RMP requirements that is co-located with a facility in NAICS 324 or 325. Doing so recognizes that serious risks and concerns around synergism between chemical releases from neighboring facilities are important and present regardless of whether the co-located facility shares the 324 and 325 codes.

3. *EPA Should Consider Additional Risk Factors, Beyond Incident History, in Determining STAA Applicability*

Finally, EPA has recognized that incident history data provides important insights into the probability of future incidents but also that such data "may not always be an appropriate metric for probability of an accident or the risk communities face." We agree. Alongside incident history data, EPA should consider additional information that speaks to the probability and risk that facilities pose, information that may not be fully captured in historical incident data. We

recommend that EPA consider, at a minimum, risk from climate hazards; the facility's history of violations; risk from particularly toxic, volatile, or unstable substances handled on-site; and the cumulative burden from emissions on surrounding communities.

One such category of data relates to climate-related risks and natural hazards. Indeed, EPA's proposal discusses these risks extensively in underscoring that facilities must identify them as part of their hazard identification processes. As we've emphasized elsewhere in these comments, we strongly support EPA's proposal to ensure that PHA (process hazard analyses) reflect climate-related risks, though we also believe EPA should consider RMP facilities exposure to climate-related risks as a factor in determining whether STAA requirements should apply, if EPA does not apply STAA across the board. This is particularly important given that climate risks are both significant and not adequately captured by historical incident data which, by its terms, cannot account for the intensifying nature of climate-related risks that facilities face going forward.

In addition, in the context of EPA's proposed third-party auditing procedures, the agency notes that "[s]tationary sources that have had multiple accidents within a short period; substantial non-compliance with RMP requirements; and/or high accident severity, frequency, and consequences pose a greater risk to surrounding communities." We agree and support EPA's proposal to ensure third-party audits at these facilities. Like climate-related risks, however, we encourage EPA also to consider these factors in determining which facilities should undertake STAA requirements. Moreover, we recommend EPA broaden its consideration of non-compliance beyond violations of PHA's and RMP requirements. While those violations are certainly indicative of facilities that "pose a greater risk to surrounding communities," EPA should also consider non-compliance with other clean air, water, and environmental laws. As discussed above and set forth more fully in the attached Appendix A, EDF analyzed all of the facilities included in EPA's Appendix A spreadsheet with RMP-related incidents between 2004 and 2020 and found pervasive and extensive non-compliance with environmental laws.

We also recommend that EPA consider the cumulative burden of toxic exposures experienced by residents of neighboring communities. As illustrated above in Figure 1, communities living near industrial facilities experience cumulative exposures to toxic air emissions from multiple facilities at the same time that lead to elevated cancer risk at distances beyond 50 miles from facility clusters. These same communities may be disadvantaged populations who are less equipped to respond to the impacts from chemical disasters. EPA recognizes that chemical disasters pose disproportionate risks to historically marginalized communities and these factors should be a consideration for STAA applicability.

C. EPA Should Require Implementation of Safer Technologies Identified by STAA

The proposed rule does not require RMP facilities to use inherently safer chemicals, processes, or technologies, even when such alternatives are available and feasible.

EPA seeks comment on whether it should require technically practicable inherently safer technology (IST) or inherently safer design (ISD) and STAA's. We recommend that EPA strengthen its proposal by requiring implementation of IST/ISD where technically practicable.

EPA's rationale for relying on voluntary implementation rests on the assumption that "facility owners and operators will adopt IST and other safer technology alternatives when it is practicable technically and economically and when the risk reduction is significant even in the absence of a mandate." EPA bases this determination on the economic savings that would accrue to facility owners by avoiding incidents. However, elsewhere in the proposal EPA presents and extensively discusses evidence that belies this conclusion. For instance, discussing the importance of facilities pursuing root cause analysis, EPA notes facilities "often have multiple accidents, indicating a failure to properly address circumstances leading to subsequent accidents Between 2004 and 2020, 18 facilities had more than 10 accidents each, with two facilities reporting over 20 incidents each to EPA."⁶⁸ These data demonstrate that facilities actually experiencing repeat incidents (and the significant costs associated with those incidents) fail to analyze the causes underpinning them, let alone implement alternative procedures that would lessen these risks.

EPA also notes that STAA changes could range in cost anywhere from \$1,000 to over \$100 million and some costs could be facility specific. Though EPA identifies this as an impediment to implementation, if anything, it suggests the opposite: that there are a range of alternatives available with de minimis costs (and even those at the higher end of the range EPA identified could be modest when compared to facility revenues). We do not believe that this range of costs is a lawful basis to decline to implement alternative approaches that would substantially lessen risks. Moreover, even on its own terms, the range of costs EPA cites cannot justify EPA's decision not to require implementation of *any* STAA.

D. EPA Should Require the Transition Away from Hydrogen Fluoride At All Facilities Without Associated STAA Requirements

In addition, though EPA proposes that all facilities in NAICS 324 using hydrogen fluoride in an alkylation unit conduct a STAA for the use of safer alternatives, it does not require the transition away from the use of hydrogen fluoride (HF). HF presents an extraordinary hazard and HF vapor clouds can sicken or kill workers and residents for miles around. EPA acknowledges that recognized safer alternatives are available and have been successfully implemented by refineries, for example at the Chevron Salt Lake City refinery that phased out use of hydrofluoric acid and shifted to use of a liquid alkylation technology.⁶⁹ Moreover, EPA notes that the implementation of

⁶⁸ 87 Fed. Reg. 53582 (Aug. 31, 2022).

⁶⁹ Amanda 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, *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>.

alternatives to hydrofluoric acid alkylation could cost between \$35M and \$900M, a cost which may represent a small fraction of the revenues generated by these facilities, especially considering the benefits to human life and the environment associated with transition to safer processes.

Given the risks of hydrogen fluoride and the feasibility of safer alternatives, we ask EPA to require the transition away from hydrogen fluoride to safer alternatives (with a clear and timely deadline for conversion) rather than continue exposing communities to the extreme risks of hydrogen fluoride.

Further, EDF’s analysis of data from the 2020 TRI (Figure 3) shows that on-site releases of hydrogen fluoride occur at diverse facilities outside of NAICS code 324, and releases from facilities in NAICS code 324 represent only the total. Given the prevalence of hydrogen fluoride at facilities, we ask EPA to more broadly ensure a transition away from hydrogen fluoride at all facilities, not just those in NAICS code 324.

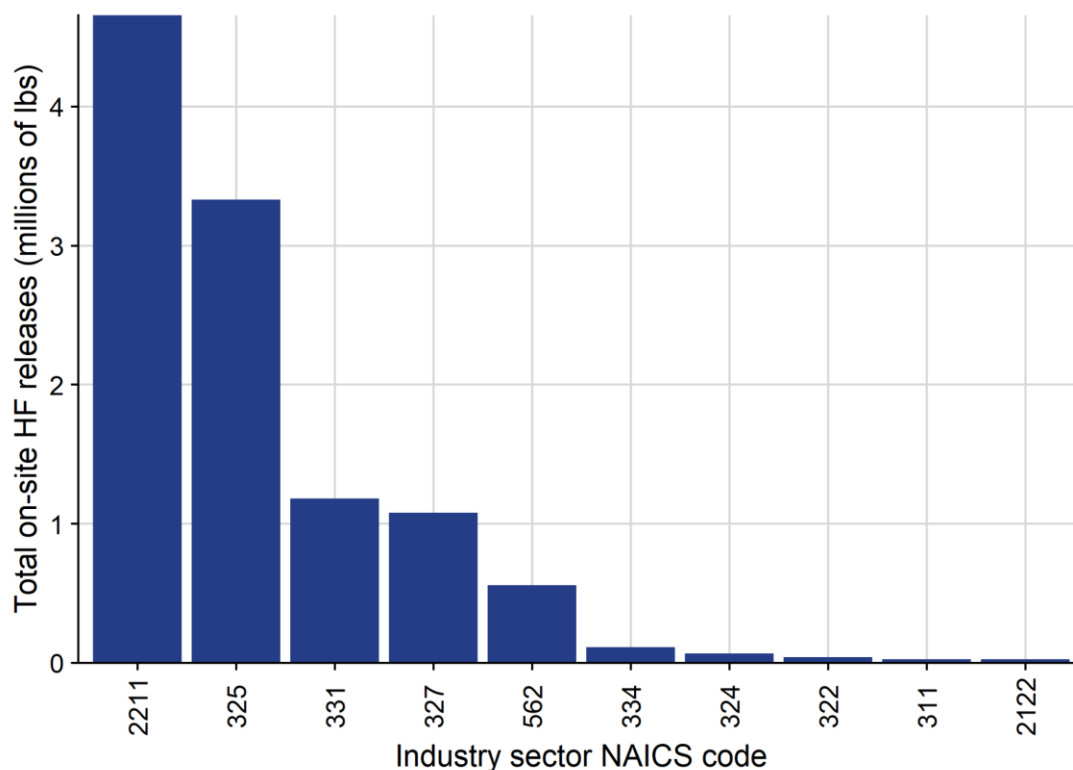


Figure 3. Total on-site releases of HF to air, water, and land in the 2020 TRI database by top 10 primary NAICS industry sector.

Finally, one alternative EPA may consider for both HF facilities and more broadly is to allow facilities with known safer alternatives (including those collected in EPA’s proposed STAA Technology Transfer) to satisfy STAA requirements by implementing the safer alternative directly. In that case, safer alternatives may be implemented more swiftly, reducing risks and

benefiting nearby facilities, while also saving facilities the time and costs of conducting an analysis with known results.

III. Employee Participation (See Section IV. A.2.d)

Recognizing that workers face the greatest risk from chemical disasters and have a deep understanding of system operations and associated risks, we support EPA’s proposed RMP revisions that prioritize broad worker participation and protection—including anonymous reporting procedures and “stop work authority” as called for by CSB—and we ask EPA to apply these proposed revisions to all RMP operations, not just those at the very highest-hazard facilities.

Furthermore, we support reforms aimed at increasing and enabling worker and union participation in incident inspections and compliance audits. Considering the importance of worker training and information availability to encourage and facilitate worker participation, we support EPA’s proposal to require RMP facilities to disseminate RMP information (including PHAs, safer alternatives assessments, incident investigation reports, third-party audits, emergency response plans, and other RMP information) to employees and their representatives.⁷⁰ We ask EPA to strengthen the current proposal by requiring employees to receive training in RMP employee participation and stop-work authority. Related to information availability, EPA is taking comment on whether owners/operators should distribute an annual notice to employees on the availability of RMP information and provide training for those plans and how to access the information.⁷¹ We support this suggestion.

Workers must be recognized and protected as key partners in disaster protection. Therefore, we ask EPA to require owners or operators to implement a written program to help ensure that there is no discrimination against any employee or employee representative for exercising authorities under this rule. Finally, we urge EPA to ensure that RMP worker participation and protection requirements extend to representatives and contractors.

IV. Proposed Modifications and Amplifications to Emergency Response Requirements (See Section IV.B.2)

EPA seeks comment on its proposed modifications and amplifications to the RMP emergency response requirements. The RMP rule must take a proactive, rather than reactive, approach to emergency response. Prior to a disaster, communities must be aware of the risks they face and the steps they must take if a disaster does occur. Information sharing prior to a disaster is especially important because in the immediate aftermath of a disaster, information sharing and community

⁷⁰ See generally Chem. Safety Bd., Safety Digest: The Importance of Worker Participation, https://www.csb.gov/assets/1/6/worker_safety_digest.pdf (last accessed 10/28/2022).

⁷¹ 87 Fed. Reg. 53,593 (Aug. 31, 2022).

notification may become difficult due to power outages, access inequities, or other disruptions. Moreover, when disaster strikes, it requires a culturally relevant and community-centric response.

We strongly support EPA's proposal to require community notification systems are in place in order to quickly and efficiently warn the public within the area that could be threatened by a release.⁷² We ask EPA to expand the community notification provisions to all program levels. Further, we ask EPA to require multilingual community notification to residents, workers, and contractors in the RMP impact area. Community notification should be available on individuals' cell phones and include 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.⁷³ Community notification must also be culturally relevant and tailored to the needs of individual communities, and community members and trusted organizations should be offered an opportunity to provide feedback on emergency response plans.

EPA should also standardize RMP requirements to ensure that fire departments are the default local response agency. There is currently inconsistency in the local response agencies identified by RMP facilities, which leads to dangerous uncertainty and delayed response. In March 2019, a fire burned for three days in Deer Park, Texas, after an unplanned release at the International Terminals Company (ITC) facility, causing concerns of a Benzene leak, school closures, and shelter-in-place.⁷⁴ By the time Deer Park police located the fire, Channel Industries Mutual Aid (the combined firefighting and hazardous materials response capabilities for the region) was already responding.⁷⁵ Deer Park police were also unable to get information from the facility, and the first mention in Deer Park police records of a chemical came over an hour and a half after the fire started.⁷⁶ The ITC disaster illustrates the importance of clear RMP guidelines on local response given the grave consequences of each and every wasted minute following a disaster.

Furthermore, EPA should ensure that RMP information is readily available and accessible to first responders and should require facilities to voluntarily share their RMP plans with additional police and fire departments in the region. Although the Arkema chemical plant in Crosby, Texas, had an RMP in place at the time of the 2017 explosion, Arkema refused to release their RMP following

⁷² *Id.* at 53,596.

⁷³ Several jurisdictions already deploy advance notification platforms for residents that aid in emergency preparedness. For example, the City of New Orleans operates an emergency preparedness campaign called NolaReady. NolaReady, <https://ready.nola.gov/about-us/overview/> (last accessed 10/27/2022). In addition to keeping residents informed, NolaReady also collaborates with local and national organizations to facilitate engagement with disaster partners. Where these platforms do exist, RMP facilities should be required to integrate RMP information sharing capabilities into existing platforms.

⁷⁴ KHOU.com, *Timeline: ITC Chemical Tank Fire in Deer Park*, KHOU, Mar. 25, 2019, <https://www.khou.com/article/news/timeline-itc-chemical-tank-fire-in-deer-park/285-960722df-3907-49c4-91ef-25dc5250dfe1>.

⁷⁵ Robert Arnold, *How it Happened: A Timeline of the Deer Park Chemical Fire*, Mar. 21, 2019, <https://www.click2houston.com/news/2019/03/21/how-it-happened-a-timeline-of-the-deer-park-chemical-fire/>.

⁷⁶ *Id.*

the explosion.⁷⁷ As a result, first responders were not fully aware of the hazards from the fire, and several police officers, firefighters, and EMTs became ill from the toxic fumes. As illustrated by the failed coordination between the Arkema facility and first responders, the RMP rule must ensure that RMP information is readily accessible to first responders.

Finally, to advance the emergency response and public safety objectives of the RMP, EPA should consider allocating federal funding to ensure that local governments have funding for local emergency planning committees.

V. Information Availability (See Section IV.C.3)

We commend EPA’s intention to “improve public awareness of chemical hazards at regulated sources” via its proposed amendments to the RMP regulations. The Agency’s proposed additions to the RMP requirements regarding the availability of RMP information at 40 C.F.R. § 68.210 are an important step toward increased transparency. Still, they must be strengthened to ensure meaningful access to information for members of the public.

First, the 6-mile radius proposed for requesting chemical hazard information represents a seemingly arbitrary cut-off that does not include *all* members of the public that are within worst case scenario impact zones.⁷⁸ The proposed 6-mile radial distance thus disregards the potential risk faced by those that live outside of the 6-mile radius. Importantly, the 6-mile radius also relies on potentially-inaccurate locational data supplied by facilities, as discussed in Section II.B.2 of this comment.

In addition to our concerns with only allowing those that live within 6-miles of a RMP facility authority to request information from the companies, we are concerned about EPA’s proposal to allow companies 45 days before responding to a request for information. A 45-day information request turnaround may very well hinder community efforts to avoid the dangers of chemical facility incidents, as this information is often needed in real-time, especially following an unplanned release event. We encourage EPA to require a much shorter response time to ensure that requested information can be used for its intended purpose—ensuring communities are aware of risks and can take steps to reduce those risks.

Second, while members of the public living outside of the prescribed radial distance may visit an EPA federal reading room to obtain RMP information, there are many problems with relying on this type of brick-and-mortar information-sharing system. Federal reading rooms are spread out and are not available in each state. The process requires people to take off work and travel—

⁷⁷ Emma Platoff & Jim Malewitz, *Crosby Plant Explosion Highlights State Efforts to Block Access to Chemical Information*, Tex. Tribune, Sep. 1, 2017, <https://www.texastribune.org/2017/09/01/crosby-plant-explosion-highlights-state-efforts-limit-access-informati/>.

⁷⁸ EPA recognizes that 10% of all toxic worst-case distances to endpoints are over 6 miles from the disaster site. 87 Fed. Reg. 53,601 (Aug. 31, 2022).

sometimes very long distances— which disproportionately adversely affects those with less means to do so, who are often the same communities suffering the greatest burden from RMP facilities. To highlight this point, EDF conducted an internal analysis of RMP information availability in Texas and found that people living in Harris County, Texas—home to 200 facilities with active RMPs—had to travel over 200 miles to EPA’s federal reading room in Dallas, Texas, to access RMP information. Moreover, the federal reading rooms are not adequately staffed and provide limited availability when EPA staff are performing on-site facility inspections.

Thus, while the information is technically *available*, it is far from accessible. The public should not be forced to contact companies directly, which can be intimidating especially in areas largely dominated by industry or take time out of their day to travel to a physical federal reading room to obtain RMP information. Additionally, the current system puts the onus on the adversely impacted to know a priori that there is a risk and seek out the relevant information. There is currently no way to find out about the risks in one’s community if one doesn't know to go looking for them in the first place.

As expressed by the African American Mayors Association, “information access is important so that communities can effectively prepare for disasters.”⁷⁹ The public deserves access to critical RMP information data via a consolidated electronic database.

To maximize the utility of the information collected through the RMP, EDF and Moms recommend that EPA create a consolidated electronic database that houses RMP information and is publicly available. Communities need RMP information in real-time *before* a chemical incident occurs to protect themselves and their families from harm. This will become more important over time as the frequency and severity of natural disasters are expected to increase due to a warming climate. Further, as EPA acknowledges in the preamble of this proposed rule, “public disclosure of risk management plan information would likely lead to a reduction in the number and severity of accidents.”

The publicly available database should contain information on non-off-site consequence analysis (OCA) data, including names of regulated substances held in a process, Safety Data Sheets (SDSs) for all regulated substances located at the facility, incident history information, and emergency response program information. For many of these data elements, companies are required to provide a brief description in the executive summary of their RMP (40 CFR 68.155). Where possible, the raw RMP data should be accompanied by the descriptions provided in the executive summary for ease of interpretation. We also urge EPA to include fence line monitoring data as a data element eligible for widespread public access, in line with our suggestion in section V(1) of these comments to collect fence line monitoring data from RMP facilities.

⁷⁹ African American Mayors Association (@ourmayors), Twitter (Oct. 31, 2022), <https://twitter.com/ourmayors/status/1587071859111215110?s=46&t=bmKbsnPQ8gJhAZQhL67PIQ>.

While EPA briefly discusses security concerns related to publicly available RMP information in the preamble of the proposed rule, the Agency has not provided evidence that widespread access to non-OCA data will harm national security or put people at risk from terrorist attack. In fact, the 2000 Department of Justice (DOJ) report referenced in the rationale for the 2019 reconsideration examined the potential negative security impacts of publicizing *off-site consequence analysis* data but did not examine other pertinent RMP data such as site location, chemical hazards, and the five-year incident history.⁸⁰ Additionally, according to the 2000 DOJ report, EPA has, in the past, provided non-OCA RMP data on its website:

C. EPA's Current Internet Website

...

Registration and identification information for each facility, the facility's five-year incident history, the facility's incident prevention program, its emergency response program, and the executive summaries, which include OCA data, are currently posted on the EPA website. That information is available to the public and fully searchable by various data elements, including location of the facility, regulated chemicals on site, and the five-year incident history. However, none of the OCA portions of the RMPs are currently posted.⁸¹

Our call for broader information access and transparency for non-OCA data echoes comments made by individuals with extensive experience in national security and environmental protection; namely, to “[p]rovide all communities non-OCA information online.”⁸²

Finally, in contrast to EPA’s approach to RMP data, the U.S. Nuclear Energy Commission publicly presents data related to nuclear reactors, including information on location, system performance, and “Severe Accident Inspections” on its website.⁸³ The observed discrepancy between these two approaches underscores the possibility of providing additional public information related to RMP facilities. EDF and Moms recommends that EPA either justify its 2019 position regarding the information availability benefit versus risk calculation or reverse its position and prioritize information access by creating a public electronic database while working to ensure that national security is not impacted.

In addition to providing broader public access to RMP information, EPA’s proposed revisions should address information needs within the Agency, or more broadly across the

⁸⁰ Dep’t of Justice, Department of Justice Assessment of the Increased Risk of Terrorist or Other Criminal Activity Associated with Posting Off-Site Consequence Analysis Information on the Internet, EPA-HQ-OEM-2015-0725-2003, Apr. 18, 2000, <https://www.regulations.gov/document/EPA-HQ-OEM-2015-0725-2003>.

⁸¹ *Id.* at 11.

⁸² Christine Todd Whitman et al., Comments on Accidental Release Prevention Requirements: Risk Management Program Under the Clean Air Act; Safer Communities by Chemical Accident Prevention, 2, EPA-HQ-OLEM-2022-0174-0139, Sep. 28 2022, <https://www.regulations.gov/comment/EPA-HQ-OLEM-2022-0174-0139>.

⁸³ U.S. Nuclear Regul. Comm’n, *List of Power Reactor Units*, <https://www.nrc.gov/reactors/operating/list-power-reactor-units.html> (last accessed 10/28/2022).

federal government. Many offices within EPA, including the Office of Pollution Prevention and Toxics, could make use of RMP data to inform decision-making and develop health-protective chemical risk management that takes into account risks from facilities that have already had multiple unplanned releases. This is particularly important for those most vulnerable such as fenceline communities that too often face higher toxic chemical exposures and worse health outcomes than the general population. EPA’s statement in the preamble that “[a]ccidental releases occur much more often than intentional events (about 100 per year using EPA RMP reportable accidents)”⁸⁴ highlights the need for other EPA offices to consider incident release data collected under the RMP when assessing and regulating chemical risks at the fenceline of chemical facilities.

For example, EDF recently commented⁸⁵ on EPA’s *Draft TSCA Screening Level Approach for Assessing Ambient Air and Water Exposures to Fenceline Communities* developed by the Office of Pollution Prevention and Toxics for Toxic Substances Control Act (TSCA) risk evaluation and risk management regulatory actions.⁸⁶ In our comments on the approach, we noted that EPA could not accurately characterize the risks faced by communities that live near facilities (and very likely underestimated the risks) because they relied on Toxics Release Inventory data averaged over the number of working days during the year. They did not include broken-out information on unplanned releases (unless they are from catastrophic or other one-time events not under the control of the facility) or startup/shutdown events. So, the TRI data cannot be used to identify peak releases from a facility which result in acute exposures. Nor did they consider that some chemicals and facilities are prone to more frequent unplanned releases. The data required by 40 C.F.R. § 68.42 (five-year incident history) provides crucial information that would improve EPA’s TSCA assessment of risks faced by fenceline communities, many of which are environmental justice communities. In particular, the information required for 40 C.F.R. § 68.42(b)(1)-(8), in addition to fenceline monitoring data, could be used to determine potential future risks to fenceline communities. Improving the characterization under TSCA of the risks faced by environmental justice communities would support TSCA risk management actions that aim to reduce chemical exposure and health inequities faced by environmental justice communities.

Finally, RMP information should also be shared across the federal government to inform a host of activities related to chemical safety at federal agencies such as NIH, CDC, and OSHA. A whole-of-government approach is needed to tackle the issue of chemical safety, and a consolidated information sharing system is key to such an approach.

In terms of the actual data infrastructure for disseminating RMP information to the public and across the government, EPA does not need to develop a database from scratch. Instead, the Agency could expand one of its existing data platforms, such as the Enforcement and Compliance History

⁸⁴ EPA may have underestimated the number of unplanned release events per year, as the Agency is relying on incomplete incident history data from recent years. When extracted from the database in the middle of 2021, 2015 was the most recent year for which data were complete. See *United Auto Workers*, *supra* note 19 for more detail.

⁸⁵ Attachment D.

⁸⁶ *TSCA Screening Level Approach*, *supra* note 46.

Online (ECHO) database. EPA could also learn from state-level reporting systems like Texas' STEERS program and develop a similar real-time reporting program at a federal scale with appropriate mechanisms to ensure accuracy and reliability. Regardless of the specific data infrastructure, it is important that the database provides the public the ability to enter their address and see if it is affected as well as easy access to relevant information about any potential risks.

In sum, EDF and Moms recommends expanding access to RMP information by developing a modern electronic database that is widely accessible to government officials, emergency responders, and the public. Access to RMP information is important for regulators, scientists, and others looking to understand frontline community risk and take action to avoid such risk, consistent with EPA's goals to advance environmental justice.⁸⁷

VI. Regulatory Impact Analysis (See Section II.D)

EPA's draft regulatory impact analysis (RIA) supports the proposed rule and illustrates the feasibility of strengthening the RMP rule in several key ways identified by EPA. In general, we find that the breakeven analysis methodology employed by the RIA is conservative and likely underestimates the benefits of the RMP rule relative to its costs. Specifically, the breakeven analysis tends to overemphasize the \$76M⁸⁸ cost figure relative to the far-reaching benefits of strengthened RMP protections. Recognizing the difficulty of quantifying several benefits of the proposed rule, we encourage EPA to include additional analysis that considers other historical rules or other similar RIAs with similar large-scale societal benefits as a second way of presenting potential societal benefits of the rule.

Additionally, we strongly support the RIA's discussion of environmental justice concerns and EPA's recognition that chemical disasters pose disproportionate risks to historically marginalized communities. The RIA must also take into account that disadvantaged populations are less equipped to respond to the impacts from chemical disasters, given a greater lack of infrastructure, healthcare, emergency funds, and other disaster response resources.

EPA seeks comment on the estimated benefits of the proposed provisions. In general, the benefits of the proposed rule likely exceed the reductions in baseline damages identified by EPA, especially given additional damages from RMP incidents not captured in the RIA. These damages include toxic exposures from chemical disasters that do not result in hospitalization or death, long-term impacts of cumulative exposures, community members' lost trust in their employers and local leaders, traumas arising from catastrophic events, and more.

⁸⁷ The White House, *Environmental Justice*, whitehouse.gov, <https://www.whitehouse.gov/environmentaljustice/> (last accessed 10/27/2022).

⁸⁸ Notably, EPA's cost estimate of \$76M is less than the health and environmental costs posed by several of the accidents EPA has considered and are a vanishingly small percentage of the revenues generated by the affected companies.

We also identified the following specific areas where the RIA may underestimate the benefits of the proposed provisions:

- In the section of the RIA on avoided environmental impacts (RIA 6.4.5), EPA notes that most releases of RMP-regulated substances do not result in lingering contamination issues because most regulated substances are either highly volatile toxics that will rapidly disperse in air or highly flammable substances which ignite if released in the presence of an ignition source.⁸⁹ However, studies on harmful volatile organic compounds in other contexts (e.g. unconventional gas wells) show that these substances can and do affect proximate populations, for example via increased cancer rates and congenital defects.⁹⁰ Accordingly, reduction of these persistent contamination issues should be recognized and included in the total benefits of the proposed rule.
- In the section on avoided lost productivity (RIA 6.4.1), the RIA should clarify that lost productivity includes lost productivity from health impacts of chemical incidents as well as lost productivity from the indirect economic impacts of facility closures (i.e. lost productivity, employment, and reduced spending in the local economy following a facility closure). This economic multiplier is commonly assessed using input/output models, and it should have been quantified in the RIA. Especially when plants are closed for long periods of time and represent major sources of employment in a specific region, lost productivity from indirect economic impacts can represent a major source of damages.

More generally, recognizing that chemical disasters are randomized events and difficult to predict, Monte Carlo simulation has been used in other settings to address such problem sets. EPA should consider using Monte Carlo simulation to quantify the estimated benefits of the proposed rule.

VII. OTHER – EPA Should Expand RMP Program Coverage to Include Ammonium Nitrate and Other Chemicals and Facilities (See Technical Background Document, Section 12.A)

Section 112(r)(3) requires EPA to review the list of RMP regulated substances at least every five years. EPA recognizes the need to review the list of RMP regulated substances.⁹¹ We urge EPA to act swiftly to expand coverage of the RMP to include additional chemicals and facilities.

Earlier this year, a fire spread from a furniture warehouse in Passaic, New Jersey, to the adjoining Qualco Inc. chemical plant, which houses over 100,000 pounds of chlorine pellets and other chemicals including industrial disinfectants and bleaching agents, endangering the lives of

⁸⁹ Regulatory Impact Analysis, *supra* note 3, at 64.

⁹⁰ Lisa M. McKenzie et al., *Ambient Nonmethane Hydrocarbon Levels Along Colorado's Northern Front Range: Acute and Chronic Health Risks*, 52 *Env't Sci. & Tech.* 8, at 4514-4525 (2018); Lisa M. McKenzie et al., *Congenital Heart Defects and Intensity of Oil and Gas Well Site Activities in Early Pregnancy*, 132 *Env't Int'l*, at 104949 (2019).

⁹¹ 87 Fed. Reg. 53,607 (Aug. 31, 2022).

workers, first responders, and local communities.⁹² Of the 68,000 people living within one mile of the Qualco site, 81% are people of color and 55% are low income.⁹³ Despite storing up to 3 million pounds of potentially hazardous substances in a densely populated region, the chemicals on site at the Qualco facility are not included in the RMP program.⁹⁴

As illustrated by the Qualco fires and discussed at length in *Coming Clean* and the Environmental Justice Health Alliance for Chemical Policy Reform's report on the incident, RMP program coverage does not extend to many dangerous chemicals and facilities.⁹⁵ Furthermore, the chemical thresholds for the RMP program are high enough that many stockpiles of dangerous chemicals are excluded from the program.⁹⁶

By comparison, the criteria for Tier II reports required by federal law to catalog inventories of certain on-site chemicals to provide state officials, local officials, and the public with specific information on potential hazards are far broader than the EPA's RMP rule;⁹⁷ Tier II inventories cover over 500,000 hazardous products as opposed to only 138 chemicals under EPA's RMP.⁹⁸ By comparison, there are over 856 hazardous chemicals included in the TRI (listed either individually or as part of a category), of which several are regulated under CAA Section 112(r).⁹⁹

These comparisons with other EPA programs further illustrate the under-inclusivity of the RMP program, meaning that many facilities that store or process chemicals deemed hazardous in other contexts that pose a risk to the community are not addressed by the RMP program. As a result, the current RMP program offers incomplete protection from siloed risks instead of comprehensive protection from real risks.

We recommend that EPA revisit the list of regulated substances and threshold values to expand coverage of the RMP program as follows:

⁹² Preventing Disaster, *supra* note 41 at 15.

⁹³ Preventing Disaster, *supra* note 41 at 15.

⁹⁴ Preventing Disaster, *supra* note 41 at 16.

⁹⁵ Preventing Disaster, *supra* note 41 at 16-17.

⁹⁶ Preventing Disaster, *supra* note 41 at 17.

⁹⁷ Kundai Mufara, *Tier II Reporting: An Overview and Run Down of Everything Tier II*, ERA Environmental Management Solutions, <https://www.era-environmental.com/blog/tier-ii-reporting-an-overview-and-run-down-of-everything-tier-ii#:~:text=Tier%20II%20reporting%20is%20used,the%20environment%2C%20and%20surrounding%20communities>.

⁹⁸ Mark Collette & Matt Dempsey, *Chemical Breakdown: Dangerous Chemicals, Roadblocks to Information Combine to Create Hidden Dangers*, Houston Chronicle, May 7, 2016, <https://www.houstonchronicle.com/news/investigations/article/Dangerous-chemicals-roadblocks-to-information-7420931.ph>. EDF calculated 138 RMP-regulated substances from the tables available at 40 C.F.R. § 68.130, tbls.1-4. The toxic substances table contains 77 substances and the flammable substances table contains 63 substances, however two substances (hydrochloric acid and ammonia) are in both tables, leaving 138 unique substances. *Id.*

⁹⁹ Attachment E.

1. **Regulated Substances and Threshold Values:** The Occupational Safety and Health Administration's Process Safety Management (OSHA PSM) rule contains approximately 395 chemicals not covered by the RMP program.¹⁰⁰ EPA should revise the list of regulated substances and threshold values to align with the OSHA PSM list and follow the Globally Harmonized System of Classification and Labeling of Chemicals adopted by OSHA. As discussed in the Technical Background Document, EPA may also consider the New Jersey Toxic Catastrophe Prevention Act (TCPA) when revising the list of regulated RMP substances.¹⁰¹ The New Jersey TCPA regulates reactive chemicals,¹⁰² a substantial oversight in the list of RMP regulated substances as illustrated by CSB's study on incidents caused by reactive chemicals¹⁰³ and the 2017 Arkema fires precipitated by a reactive chemical incident caused by organic peroxides.¹⁰⁴
2. **Ammonium Nitrate:** We find it troubling that EPA's proposal does not expand the RMP program to cover ammonium nitrate. As discussed in the report published by Coming Clean and the Environmental Justice Health Alliance for Chemical Policy Reform, 600 tons of Ammonium Nitrate were stored on site at the Winston Weaver Fertilizer plant in Winston-Salem, North Carolina, during the explosion in January 2022.¹⁰⁵ In 2013, an ammonium nitrate explosion involving just 40-60 tons of ammonium nitrate in West, Texas, killed 15 people (including 12 first responders), injured over 250 people, and caused over \$100M in damages and economic losses.¹⁰⁶ Although EPA no longer tracks ammonium nitrate in the TRI, EDF analyzed historic TRI data on ammonium nitrate releases and found such events were widespread and occurred across diverse NAICS codes.¹⁰⁷ Considering the prevalence of ammonium nitrate and the risks presented by past releases, we ask EPA to expand the RMP program to cover Ammonium Nitrate and other highly reactive chemicals.

VIII. OTHER—Fenceline Monitoring (See Technical Background Document, Section 12.B)

¹⁰⁰ Preventing Disaster, *supra* note 41 at 16.

¹⁰¹ N.J. Admin. Code § 7:31-6.3, tbl.I.

¹⁰² *Id.*

¹⁰³ Chem. Safety Bd., Hazard Investigation: Improving Reactive Hazard Management (2002), <https://www.csb.gov/improving-reactive-hazard-management/>.

¹⁰⁴ Chem. Safety Bd., Organic Peroxide Decomposition, Release, and Fire at Arkema Crosby Following Hurricane Harvey Flooding 13 (2018), <https://www.csb.gov/file.aspx?DocumentId=6068>; *see also* Chem. Safety Bd., Factual Update: Fires and Explosions at TPC Group Port Neches Operations Facility 11 (2020), https://www.csb.gov/assets/1/17/tpc_factual_update_10-29-2020.pdf?16614 (injuries to three resulting from explosion of butadiene-based polymer).

¹⁰⁵ Preventing Disaster, *supra* note 41.

¹⁰⁶ *Id.* at 6.

¹⁰⁷ Only facilities that meet minimum emissions thresholds are required to report in the TRI and new facilities may have opened or closed since AN reporting to TRI ceased; therefore, the TRI data does not present a complete list of facilities handling Ammonium Nitrate. Data assessed from 1988 to 1994. Primary NAICS included: 212, 311, 312, 313, 316, 321, 322, 324, 325, 327, 331, 332, 334, 336, 339, 424, 811, 921, 928. Attachment F.

We ask EPA to include requirements for fenceline monitoring of RMP facilities and associated requirements and penalties to ensure accuracy, reliability, and availability of real-time monitoring data.

A. EPA has Clear Authority to Require Fenceline Monitoring

EPA recognizes its clear legal authority to require fenceline monitoring under Clean Air Act sections 112(r)(7)(A) and 112(r)(7)(B).¹⁰⁸ EPA also has broad authority under Clean Air Act section 114 to require monitoring and sampling of emissions.¹⁰⁹ 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.”

B. Recent Congressional Investments Support Expanded Fenceline Monitoring Requirements

The recently-passed Inflation Reduction Act of 2022 (IRA) supports expanded and improved air monitoring techniques. For example, the IRA appropriates \$117.5 million to EPA for grants and other activities to deploy fenceline air monitoring, screening air monitoring, national toxic trends stations and other air toxics and community monitoring—along with an additional \$3 million to deploy, integrate, and operate air quality sensors in low-income and disadvantaged communities.¹¹⁰ These IRA appropriations further demonstrate congressional recognition of the importance of updating air monitoring techniques in fenceline communities.

C. Fenceline Monitoring Offers Several Benefits to Fenceline Communities, RMP Facilities, and Regulators

Fenceline monitoring can serve as a leak detection measure, preventing dangerous and costly fires at industrial facilities.¹¹¹ Because these monitors are in closer proximity to potential sources of pollution, they provide a more accurate means to pinpoint the source of a continuous hotspot or transient plume.¹¹² In addition, when conducted continuously and over an extended period of time,

¹⁰⁸ Technical Background Document, *supra* note 64 at 25.

¹⁰⁹ Under section 114(a)(3), EPA “may require any person who owns or operates any emission source . . . to install, use, and maintain . . . monitoring equipment” and “may . . . require enhanced monitoring and submission of compliance certifications.”

¹¹⁰ Inflation Reduction Act of 2022, Pub. L. No. 117-169, § 60105.

¹¹¹ See Ralph Smith, *Detect Them Before They Get Away: Fenceline Monitoring’s Potential to Improve Fugitive Emissions Management*, 28 Tul. Env’t L.J. 433, 448 (2015).

¹¹² *Id.* at 447.

these monitoring systems can provide a more complete picture of a fenceline community's exposure, and in turn allow for "more reliable health risk assessments."¹¹³

Moreover, requiring fenceline monitoring would advance the environmental justice goals of the RMP program revisions. Disasters expose the inequities that already exist in communities, and this is true for the gaps in air quality information for those who need it most. Information equity is a critical component to address the needs of overburdened communities and first responders facing disproportionate risks from dangerous chemical releases. Requiring fenceline monitoring and dissemination of real-time monitoring data would help reduce information inequities in environmental justice communities.

D. Fenceline Monitoring Improves Accountability and Provides Oversight for Self-Reported Data from RMP Facilities

Self-reported RMP data may be incomplete or inaccurate. Following a benzene leak at Valero Energy's Houston plant following Hurricane Harvey, EPA found that Valero "significantly underestimated" the amount of cancer-causing benzene and other volatile organic compounds released from its Houston refinery during the storm.¹¹⁴ Prior to EPA's announcement, EDF conducted six days of air quality testing in the Manchester neighborhood adjacent to the refinery.¹¹⁵ In the absence of sampling by EPA and the Texas Commission on Environmental Quality, EDF found high levels of hazardous pollutants in the air following the leak.¹¹⁶

EDF also analyzed data from the State of Texas Environmental Electronic Reporting System (STEERS) for all excess air emissions during and after Hurricane Harvey, between August 23, 2017, and October 25, 2017.¹¹⁷ Researchers compared STEERS reports covering this same time span at two points in time: October of 2017 and June of 2018. The two reports were compared to quantify changes in reporting over the nine month period. The comparison revealed significant differences in the reporting of the amounts of pollution released. In the October 2017 reports of emissions during industrial startup, shutdown, and malfunction events, approximately 3 million pounds of pollution were reported. A review of the June 2018 reports covering the same emissions

¹¹³ *Id.* at 449. Notably, following the 2015 methane leak at Aliso Canyon—the largest in US history—a recent settlement agreement between Southern California Gas and the Center for Environmental Health mandates fenceline benzene monitoring at the Aliso Canyon natural gas storage facility and near real-time text messages and email warning alerts for all residents in the surrounding area. See Emily Difrisko, *Historic 'Aliso Canyon' Settlement Signed*, Ctr. for Env't Health (Feb. 1, 2022), <https://ceh.org/latest/press-releases/breaking-historic-aliso-canyon-settlement-signed/>.

¹¹⁴ Env't Def. Fund, *EPA Finds Valero Energy "Significantly Underestimated" Release of Pollution in Houston*, Sep. 14, 2017, <https://www.edf.org/media/epa-finds-valero-energy-significantly-underestimated-release-pollution-houston>.

¹¹⁵ *Id.*

¹¹⁶ *Id.*

¹¹⁷ Environmental Integrity Project, *Preparing for the Next Storm: Learning from the Man-Made Environmental Disasters that Followed Hurricane Harvey* 21 (Aug. 16, 2018), <https://www.environmentalintegrity.org/wp-content/uploads/2018/08/Hurricane-Harvey-Report-Final.pdf>.

showed approximately two million pounds of pollution were reported—an overall reduction of one million pounds of pollution (33%).

Reliable, accurate, and legally actionable fenceline monitoring systems would provide crucial oversight to encourage accurate self-reporting and detect inaccuracies in self-reporting.

E. Fenceline Monitoring has been Implemented in Several Contexts, Including for RMP-regulated Substances

Fenceline monitoring has been implemented in several contexts. At the federal level, in 2015, EPA issued a rule titled “Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards” (“Petroleum Refinery Rule”) that, among other things, requires refineries to monitor benzene emissions at their fencelines over a fourteen-day sampling period using passive diffusive tubes.¹¹⁸ The Petroleum Refinery Rule further requires that refineries take corrective action if the annual average benzene concentration exceeds the prescribed action level.¹¹⁹ When EPA issued the rule in 2015, it determined that benzene was appropriate as a surrogate for other pollutants that might be accidentally released at refineries.

Fenceline monitoring has also been required by state and local governments, as well as by consent decree. Maine and Colorado are in the process of creating fenceline monitoring programs, and the South Coast and Bay Area Air Quality Management Districts (AQMD) operate programs for fenceline monitoring at petroleum refineries.¹²⁰ Several of these programs provide for fenceline monitoring for RMP regulated substances.¹²¹ In addition, Chevron Phillips Chemical Company LP entered into a consent decree earlier this year requiring fenceline monitoring at three facilities in Texas¹²² and LyondellBasell Industries N.V. recently proposed amendments to a 2022 Clean Air Act consent decree, including agreeing to install a fenceline monitoring system at its facility in Morris, Illinois.¹²³

¹¹⁸ 40 C.F.R. § 63.658.

¹¹⁹ *Id.* at § 63.658(f)(3), (g).

¹²⁰ Technical Background Document, *supra* note 64 at 26. South Coast AQMD requires fenceline monitoring for all major refineries and in nearby communities. S. Coast Air Quality Mgmt. Dist., *Rule 1180 - Refinery Community and Fenceline Air Monitoring*, <http://www.aqmd.gov/home/rules-compliance/rules/support-documents/rule-1180-refinery-fenceline-monitoring-plans> (last accessed 10/28/2022). Data is available in real time. S. Coast Air Quality Mgmt. Dist., *Rule 1180 Community Air Monitoring*, <https://xappprod.aqmd.gov/Rule1180CommunityAirMonitoring/> (last accessed 10/28/2022).

¹²¹ *See, e.g.*, S. Coast Air Quality Mgmt. Dist., *Rule 1180* (Dec. 1, 2017), <http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/r1180.pdf>; Regulate Air Toxics, Colo. HB21-1189, June, 24, 2021, <https://leg.colorado.gov/bills/hb21-1189>.

¹²² Consent Decree, *U.S. v. Chevron Phillips Chem. Co.*, No. 4:22-cv-737, R. Doc. 2-1 (S.D. Tex. March 9, 2022).

¹²³ EPA, *LyondellBasell Companies Agree to Reduce Air Pollution at Chemical Plant in Morris, Illinois: Settlement Will Cut Flaring and Require Fenceline Monitoring* (July 25, 2022), <https://www.epa.gov/newsreleases/lyondellbasell-companies-agree-reduce-air-pollution-chemical-plant-morris-illinois>.

F. EPA Should Consider Incorporating Community Monitoring Data Into RMP Program Requirements

EPA has said it is considering how to design and implement a fence-line monitoring system in a future rulemaking and we ask EPA to do so urgently and expeditiously. We also ask that EPA finalize an approach in this rule to make data from community monitors operated in close proximity to RMP facilities actionable. “Community monitoring” is a broad term encompassing a range of monitoring techniques and systems, such as sensors, bucket brigades, and mobile monitoring,¹²⁴ that are used by communities either independently or in coordination with agencies to collect air quality data.¹²⁵ As discussed above, the IRA provides extensive funding to support enhanced community monitoring and we encourage EPA to consider how these RMP requirements could incorporate community monitoring data to better empower communities and strengthen the important outcomes this rule seeks to deliver. In particular, EPA could consider rigorous data produced by community monitors and showing elevated levels of harmful RMP chemicals as an independent basis to apply (and accelerate) the prevention requirements in the rule, including STAA and third-party audit requirements. EPA could also consider how community monitors operated close to an RMP facility could provide real-time and actionable information to communities in the event of an accidental release – information that the proposal elsewhere notes may be delayed or inaccurate. As we discuss above, EDF did extensive air quality monitoring after Hurricane Harvey showing elevated pollution levels in the Manchester neighborhood – data that was especially critical in light of the absence of information from TCEQ and EPA. EPA should rigorously incorporate data like these into its RMP regulations.

We emphasize that this recommendation to incorporate community monitoring data is not intended in any way to substitute for facilities independent obligations under the RMP program, which must be strengthened in the ways we discuss in these comments. Instead, it is a recognition that more communities will be deploying advanced monitors and EPA should ensure that the important data these monitors produce helps to play a role in identifying RMP facilities at elevated risks, reducing those risks, and providing rigorous data in the event of an accidental release.

IX. OTHER – EPA Must Ensure Facilities’ Compliance with RMP Requirements, Including by Revising 40 C.F.R. § 68.215 to Include the RMP Rules in Title V Permitting

We agree with commenters urging swift and full implementation of the revised RMP rule with strengthened accountability and compliance requirements (and clear compliance deadlines).¹²⁶ In

¹²⁴ Michelle Wong, Tracking California et al., Guidebook for Developing a Community Air Monitoring Network 12 (2018), https://s3-us-west-1.amazonaws.com/trackingcalifornia.org/CAMN-Guidebook_pdf.pdf.

¹²⁵ Cal. Air Res. Bd., *Existing Community Monitoring Systems*, <https://ww2.arb.ca.gov/capp-resource-center/community-air-monitoring/existing-community-monitoring-systems> (last accessed 10/28/2022).

¹²⁶ *Air All. Houston v. EPA*, 906 F.3d 1049, 1063-1064 (D.C. Cir. 2018) (“Once EPA makes a substantive regulatory choice — to add, modify, or subtract requirements — EPA must set an effective date for that choice that will “assur[e] compliance as expeditiously as practicable.”).

particular, we ask EPA to incorporate the RMP rules into the permitting process through Title V of the Clean Air Act (40 C.F.R § 68.215) to assure compliance with RMP requirements. Revising existing regulations to ensure full RMP implementation as part of the Clean Air Act Title V permitting program will help improve compliance with the new rules by integrating EPA’s RMP into major source facilities’ permits.

EPA identifies significant issues with RMP compliance.¹²⁷ Accordingly, requiring RMP compliance through the Clean Air Act Title V permitting program – as well as through other strengthened compliance and reporting requirements – complies with the statutory mandate that EPA assure prevention “to the greatest extent practicable.” 42 U.S.C. § 7412(r)(7)(B).

Thank you for your work on these critical updates to the RMP rule. We look forward to working with you to ensure that the communities we represent, and those across the country, are protected from the immense dangers of chemical disasters through strong and comprehensive RMP protections.

Respectfully Submitted,

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¹²⁷ See, e.g., 87 Fed. Reg. 53,585, 53,589, 53,592-53,593 (Aug. 31, 2022).