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Massachusetts, Michigan, New Jersey, New Mexico, Oregon, Rhode Island, Vermont, and
Washington**

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Letter and exhibits submitted via email: docket_oms@epa.gov

Paper copy submitted via courier to EPA Docket Center

Andrew Wheeler, Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Ave, NW
Washington, DC 20460

**Re: Docket EPA-HQ-OEM-2015-0725
Supplemental Comments on Accidental Release Prevention Requirements:
Risk Management Program Under the Clean Air Act**

Dear Administrator Wheeler:

The undersigned State Attorneys General hereby submit these supplemental comments on the Environmental Protection Agency's (EPA or "Agency") proposal to rescind safeguards under the Risk Management Program, published at 83 Fed. Reg. 24,850 (May 30, 2018) ("Proposal"). These comments and attached exhibits update and expand upon the comments previously submitted by the Attorneys General of New York, Illinois, Iowa, Maine, Maryland, Massachusetts, New Jersey, New Mexico, Oregon, Rhode Island, Vermont, and Washington on August 23, 2018 ("Original Comments").¹ As noted above, these supplemental comments are joined by Michigan and Pennsylvania.

Nearly one year ago, our Original Comments explained why a strong Risk Management Program (RMP) is critical to protect our workers, surrounding communities, first responders, and businesses from the grave dangers posed by chemical accidents at facilities in our States. Evidence of the societal costs from chemical accidents and the critical need for the updated safeguards set forth in the EPA's 2017 Accident Prevention Amendments² has only grown since

¹ Letter from States to EPA Docket Center, re: Comments on Accidental Release Prevention Requirements: Risk Management Program Under the Clean Air Act (Docket EPA-HQ-OEM-2015-0725); published at 83 Fed. Reg. 24,850 (May 30, 2018), <https://www.regulations.gov/document?D=EPA-HQ-OEM-2015-0725-1925> (hereinafter *Original Comments*).

² Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act, 82 Fed. Reg. 4,594 (Jan. 13, 2017). The final rule went into effect September 21, 2018. *See* 83 Fed. Reg. 62,268 (Dec. 3, 2018). By its terms, not all provisions of the rule have compliance dates that have yet passed; to date, of the major revisions

then. This letter highlights chemical incidents and information made public after August 23, 2018 that support or are relevant to points made in our Original Comments. Under the Clean Air Act (Act), this information must be included in the rulemaking docket because it is of “central relevance” to the proposed rule. *See* 42 U.S.C. § 7607(d)(4)(B)(i) (“All documents which become available after the proposed rule has been published and which the Administrator determines are of central relevance to the rulemaking shall be placed in the docket as soon as possible after their availability.”).

As explained in our Original Comments and further discussed below, EPA’s proposed rollback of the 2017 Accident Prevention Amendments ignores the evidence that stronger safeguards are needed and violates the Congressional mandate under the Act that EPA issue reasonable regulations designed to prevent, detect, and respond to accidental chemical releases “to the greatest extent practicable.” 42 U.S.C. § 7412(r)(7)(B)(i). The States therefore reiterate our request that the Agency abandon its Proposal and focus instead on implementing and strengthening the 2017 Amendments.

I. Recent Chemical Accidents and Chemical Safety Board Findings Demonstrate the Continuing Need for the 2017 Accident Prevention Amendments

Since the submission of our Original Comments nearly a year ago, there have been over 60 publicly-known incidents at facilities regulated under the RMP across 26 states.³ Those accidents led to at least two deaths, 77 hospitalizations, and four evacuations of nearby residents. The first two sections of these supplemental comments provide some background on RMP facilities in Michigan and Pennsylvania and describe several recent serious accidents that have occurred over the past year in those states. The third section highlights serious accidents that have occurred in the past year in our States that submitted the Original Comments. The fourth section sets forth recent findings by the Chemical Safety and Hazard Investigation Board (CSB).⁴ The fifth section reviews lessons learned from the recent accidents and CSB’s findings that should inform EPA’s thinking going forward. Overall, the recent incidents and findings summarized below further demonstrate the continuing need for the 2017 Amendments to

to the RMP regulations, only the requirements for employee training at 40 CFR § 68.54, incident investigation requirements at 40 CFR § 68.81 (except for § 68.81(d)), and the requirements for emergency response coordination at 40 CFR § 68.93 have compliance dates that have passed. Compliance with other new provisions, such as third-party compliance audits, root cause analyses as part of incident investigations, safer technology and alternatives analysis, emergency response exercises, and information availability provisions is not required until 2021 or later.

³ This information was compiled from a review of news reports of major incidents at RMP facilities around the country from August 23, 2018 to August 14, 2019 and attached hereto as Exhibit A.

⁴ The CSB is an independent agency established under CAA § 112(r)(6) that is required to: (i) investigate, determine, and report to the public the cause of “any accidental release resulting in a fatality, serious injury or substantial property damages;” (ii) issue periodic reports to Congress and relevant agencies recommending measures to make the chemical industry “as safe and free from risk as is possible and may include in such reports proposed rules or orders which should be issued by the [EPA] Administrator . . . to prevent or minimize the consequences of any release of substances that may cause death, injury or other serious adverse effects”; and (iii) establish requirements for reporting accidental releases subject to the CSB’s investigatory jurisdiction. 42 U.S.C. § 7412(r)(6)(C).

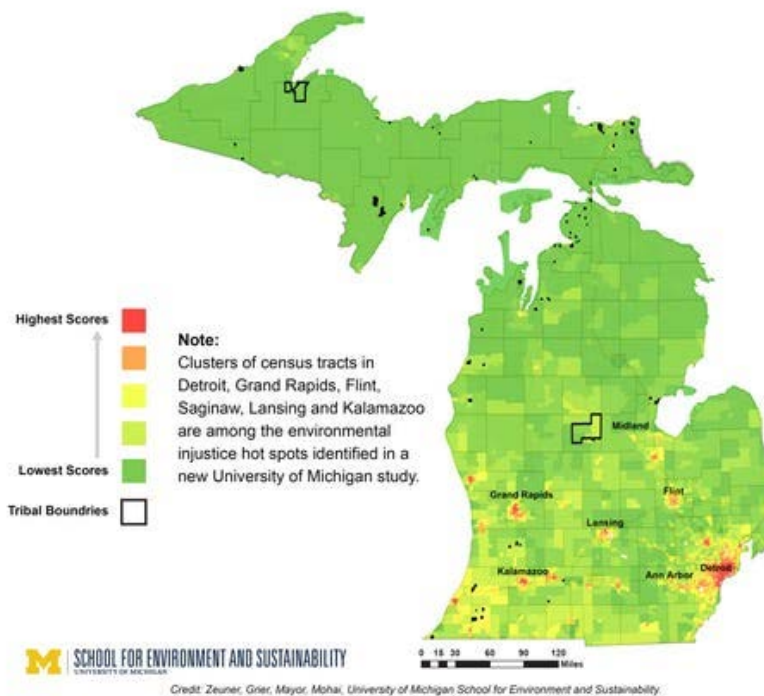
improve chemical safety and bolster the States' call for EPA to withdraw its unlawful and ill-considered Proposal.

A. Accidents in Michigan

In Michigan, there are 183 registered RMP facilities. According to EPA's database of recent five-year accident histories, from 2013-2018, 10 accidents in Michigan released 1,152 pounds of regulated chemicals into surrounding communities, caused 12 people to shelter in place, and resulted in nine injuries. Detroit has the most RMP facilities of any Michigan city, five of which are located in Boynton and Oakwood Heights, two densely populated communities.

In 2016, University of Michigan School of Public Health researchers worked with community leaders from urban Detroit to analyze environmental justice and found that the census tracts in Detroit with the greatest exposure to environmental harm were predominantly communities of color.⁵ Similar to Detroit, other cities with large numbers of RMP facilities such as Kalamazoo and Grand Rapids also have high environmental justice ratings, as shown on the map below.⁶

Heat Map of Michigan Census Tracts Ranked by Environmental Justice Scores



⁵ Amy J. Schulz et al., *Race and the Distribution of Social and Physical Environmental Risk: A Case Example from the Detroit Metropolitan Area*. Du Bois Review: Social Science Research on Race, 13(2): 285-304 (Fall 2016).

⁶ *U-M Study Reveals Hot Spots of Environmental Injustice Across Michigan*, Michigan News (Jul. 25, 2019), <https://news.umich.edu/u-m-study-reveals-hot-spots-of-environmental-injustice-across-michigan/>.

B. Accidents in Pennsylvania

Pennsylvania is home to 346 facilities that are required to prepare and update Risk Management Plans pursuant to the Act's RMP requirements. All but eight of these facilities are located within major population centers. The City of Philadelphia has experienced at least 15 notable chemical fires at refineries within the city.⁷ Each of these fires presented serious risks of harm to human health and the environment and resulted in significant costs to property owners and city responders. As discussed below, three high-profile accidents occurred at chemical facilities in Pennsylvania over the past year.

1. Philadelphia Energy Solutions Refinery Explosion

On June 21, 2019, the Philadelphia Energy Solutions (PES) refinery in South Philadelphia experienced a major industrial accident. A hydrocarbon gas unit leaked and ignited, causing a massive fireball so hot that it could be seen from space in satellite infrared images.⁸ The huge plume of smoke and threats to health and safety from the fire resulted in shutting down portions of Interstate 76 and the nearby Platt Bridge, rerouting city bus routes, and issuing a shelter-in-place order for surrounding neighborhoods.⁹ The catastrophic destruction from the fire led PES to shut down the 335,000 barrel-per-day facility and lay off its 1,000 workers.¹⁰ The company has estimated property damage from the fire at \$1 billion and business losses at \$250 million.¹¹

⁷ Mariah Rush, *In Philly, A History Of Oil Refinery Fires Going Back Decades*, Phila. Inq., June 21, 2019, <https://www.inquirer.com/news/philadelphia-refinery-fire-history-of-explosions-timeline-20190621.html>.

⁸ Nicholas Sakelaris & Danielle Haynes, *Explosion At Gas Refinery Rocks Philadelphia, Injures 5 Workers*, UPI (June 21, 2019), https://www.upi.com/Top_News/US/2019/06/21/Explosion-at-gas-refinery-rocks-Philadelphia-injures-5-workers/2951561116834/.

⁹ *Philadelphia Refinery Fire: What We Know (And What We Don't)*, StateImpact Penn. (June 21, 2019), <https://stateimpact.npr.org/pennsylvania/2019/06/21/south-philly-refinery-fire-what-we-know-and-what-we-dont/>

¹⁰ Laila Kearney & Jarrett Renshaw, *Philadelphia Energy Solutions Files for Bankruptcy After Refinery Fire*, (July 22, 2019), <https://www.reuters.com/article/us-pes-bankruptcy/philadelphia-energy-solutions-files-for-bankruptcy-after-refinery-fire-idUSKCN1UH009>.

¹¹ *Id.*



Reuters Top News @Reuters, 10:46 PM June 23, 2019

The June 2019 explosion occurred near an area in the facility where PES stored and used hydrogen fluoride (HF)¹² as part of its alkylation catalyst process.¹³ HF is a corrosive, highly toxic chemical that boils at room temperature. It is considered immediately dangerous to life or health at 30 parts per million.¹⁴ Contact with HF liquid or vapor can quickly cause deep, severe burns to skin, eyes, and other tissue. Burns from HF are particularly dangerous and require immediate, chemical-specific treatment by trained medical personnel. HF is regulated under the Clean Air Act and the Toxic Substances Control Act and is listed as an extremely hazardous substance for the purposes of emergency planning under the Emergency Planning and Community Right-to-Know Act.¹⁵

As a result of the explosion, five PES workers sustained minor injuries. Multiple fire departments worked together with the refinery crew to contain and extinguish the fire. Training just days earlier proved instrumental in the emergency response: local officials described the coordinated relationship and training with PES as “right on point” for the incident and that the

¹² Hydrogen fluoride or hydrofluoric acid is a toxic chemical at concentrations of 50% or greater.

¹³ PES’ RMP, ID No. 10000064960, Executive Summary.

¹⁴ NATL. INST. OF HEALTH: TOXICOLOGY DATA NETWORK, HYDROGEN FLUORIDE, available at <http://toxnet.nlm.nih.gov>.

¹⁵ EPA has long known of the great risks of HF. In a congressionally mandated study of HF, EPA determined that an accidental release of HF rapidly forms a dense vapor cloud that could travel significant distances and could pose significant threat to the public and result in severe consequences. See U.S. EPA, HYDROGEN FLUORIDE STUDY, FINAL REPORT, REPORT TO CONGRESS: SECTION 112(N)(6) CLEAN AIR ACT AS AMENDED (1993).

response “worked out exactly how it should have, how we trained for.”¹⁶ Workers at the site reported that a greater catastrophe was avoided only because a well-trained employee activated an emergency rapid de-inventory device that emptied the HF unit.¹⁷ This preventative measure was available at this facility as a part of PES’s HF emergency mitigation and response systems. According to a study prepared by the United Steelworkers, this preventative measure is effective 57% of the time.¹⁸ Fortunately, the PES refinery narrowly dodged further catastrophe.

Whether some amount of HF was released during the explosion is uncertain at this point. The City of Philadelphia Department of Public Health has stated that no air monitors detected HF at any point.¹⁹ However, according to expert Dr. Charles Hass, who testified recently about the explosion before Pennsylvania state lawmakers, no air monitors were located along the wind pathway at the time of the fire.²⁰ Thus, peak chemical exposure to HF could not be measured.²¹ Also, at least one of the air monitors was not functioning properly.²² Pennsylvania state lawmakers have recommended significant reviews of both the air monitoring system and the leak detection system. Other sources indicated an HF release of some amount did occur, though this has not been confirmed.²³

An explosion at PES leading to release of HF could have had calamitous consequences for refinery workers, residents of the City of Philadelphia, on-site medical personnel and public safety workers. The activation of the emergency rapid de-inventory device most likely prevented the release of large quantities of HF and thus prevented PES’s worst-case scenario, although the CSB will be investigating whether this was in fact the case. The worst-case scenario outlined in PES’s Risk Management Plan envisioned a leak of 71 tons of hydrogen fluoride which could travel as far as seven miles in 10 minutes.²⁴ A staggering 1.1 million people live within this

¹⁶ Claudia Vargas, *Philly Had Just Trained for an Incident Like Refinery Fire: ‘It Worked Out Exactly How It Should Have’*, Phila. Inq., (June 21, 2019), <https://www.inquirer.com/news/philadelphia-refinery-fire-emergency-response-preparation-city-20190621.html>

¹⁷ This device is referred to as a rapid acid deinventory system or an HF rapid transfer system. Craig R. McCoy & William Bender, *Refinery explosion: How Philly dodged a catastrophe*, The Philadelphia Inquirer (June 29, 2019), <https://www.inquirer.com/news/philadelphia-refinery-fire-explosion-timeline-hero-rescuers-20190629.html>.

¹⁸ April 2013, *A Risk Too Great, Hydrofluoric Acid in U.S. Refineries*. United Steelworkers’ Report, funded by the National Institute of Environmental Health Sciences, at B-5, available at <http://assets.usw.org/resources/hse/pdf/A-Risk-Too-Great.pdf>.

¹⁹ Dana Bate, PES Refinery Fire Highlights Need for Better Air Monitoring, Experts Tell Pa. Lawmakers, WHYY (July 24, 2019), <https://whyy.org/articles/pes-refinery-fire-highlights-need-for-better-air-monitoring-experts-tell-pa-lawmakers/>.

²⁰ *Id.*

²¹ *Id.*

²² *Id.*

²³ Laila Kearney, *Exclusive: PES May Report Toxic Chemical Release in June Refinery Blast – Sources*, Reuters, <https://in.reuters.com/article/us-pes-bankruptcy-exclusive-acid-idINKCN1US2DU>.

²⁴ PES’ RMP ID No. 10000064960. The importance of preparing for worst case scenarios was recently noted by the Chairperson of the CSB: “Considering that extreme weather events will increase in number and severity, the chemical industry must be prepared for worst case scenarios at their facilities.” U.S. Chem. Safety & Hazard

worst-case scenario zone.²⁵ The impact of this worst-case scenario would disproportionately impact low-income and minority communities. Like most U.S. fence line zones – the area within three miles of an RMP facility – the PES fence line zone is made up of 58% more people of color and experience a poverty rate 35% higher than the national average.²⁶

The threat to this community is not yet over. The Chemical Safety Board is in the initial fact-finding stage of its investigation and the site has not been stabilized sufficiently for CSB personnel to inspect it. Although the fire has been put out, the potential for an HF release remains as there are still 33,000 gallons of HF in the exclusion zone of the facility that need to be removed. EPA has described this situation as “unique,” and there is not yet a comprehensive plan for removing the HF from the larger safety container.²⁷ PES personnel have begun neutralization of the HF, but this process is a 24/7 task that is expected to take several weeks to complete.²⁸ The toll on emergency responders and government officials continues, as Philadelphia Fire Commissioner Adam Thiel is keeping emergency crews on site around the clock and coordinates constantly with local, state, and federal officials, site personnel, and a team of chemical and environmental engineers from around the nation to protect PES workers and surrounding communities.²⁹

2. U.S. Steel Clairton Coke Plant Fire

On December 24, 2018, a fire tore through the coke gas processing system at the U.S. Steel Clairton Coke Plant in Clairton, Pennsylvania, an RMP facility. The fire caused \$40 million in damages to the plant and knocked out the plant’s pollution control system.³⁰ The plant continued to run without controls, despite emissions containing benzene, toluene, hydrogen sulfide, and sulfur dioxide. Emissions from the plant caused the Allegheny County Health Department to issue a warning to local residents to limit their exposure to outdoor air. Asthma

Investigation Bd., Organic Peroxide Decomposition, Release, and Fire at Arkema Crosby Following Hurricane Harvey Flooding 122-25 (Aug. 2017), available at <http://www.csb.gov/file.aspx?DocumentId=6068>.

²⁵ This vulnerable population number was calculated by PSE itself as part of the Risk Management Program.

²⁶ See EJSCREEN Report for PES at https://ejscreen.epa.gov/mapper/mobile/EJSCREEN_mobile.aspx?geometry={%22x%22:-75.19889,%22y%22:39.91354,%22spatialReference%22:{%22wkid%22:4326}%22}&unit=9035&areatype=&areaid=&basemap=streets&distance=3; and COMING CLEAN ET AL., LIFE AT THE FENCELINE (September 2018) at 15, available at <https://new.comingcleaninc.org/assets/media/documents/Life%20at%20the%20Fenceline%20-%20English%20-%20Public.pdf>.

²⁷ *Risky Acid Cleanup Underway at Shuttered Refinery*, Energywire (Aug. 6, 2019), <https://www.eenews.net/energywire/stories/1060858363/>.

²⁸ Catalina Jaramillo, *Eliminating the PES Refinery’s Deadliest Chemical Will Be a 24/7 Job for Weeks*, WHYY (Aug. 9, 2019), <https://whyy.org/articles/eliminating-the-pes-refinerys-deadliest-chemical-will-be-a-24-7-job-for-weeks/>.

²⁹ *Id.*

³⁰ Danielle Moore, *U.S. Steel Reports Repairs Following Clairton Plant Fire Will Cost About \$40 Million*, Pittsburgh Post-Gazette (Jan. 30, 2019), <https://www.post-gazette.com/business/pittsburgh-company-news/2019/01/30/Clairton-plant-fire-cost-U-S-Steel-40-million-coke-health-pollution/stories/201901300152>

rates have increased among elementary school students who live near the plant.³¹ A second fire at the facility on June 17, 2019, again knocked out the pollution control system, prompting the health department to issue an order demanding the company fix its controls within 20 days or cease operation. A health department official noted that as plant cost reductions have resulted in reduced maintenance expenses on the coke ovens, air quality has also declined.³²

3. MarkWest Energy Facility Explosion

On December 13, 2018, an explosion and fire occurred in a fracking tank containing liquid ethylene glycol and hydrocarbons at the MarkWest Energy Facility in Washington, Pennsylvania. Four workers were hospitalized, one of whom subsequently died at the hospital's burn unit.³³ Eight fire departments, a state police fire marshal, four Pennsylvania Department of Environmental Protection staff, and the Washington County hazardous materials team also responded; fire department personnel credited specialized training on a simulated well pad across from the MarkWest site as assisting in its preparation, noting that they have "dealt with incidents like this at least a dozen times" in the decade since drilling in the county began.³⁴ MarkWest and its contractor were fined a cumulative \$98,508 in federal workplace health and safety violations relating to the incident.³⁵

C. Accidents in Other Coalition States

Several serious accidents also occurred over the past year in a number of our other States, including in Oregon, Iowa, New York, and Illinois:

- On August 28, 2018, a smoldering metals fire containing zirconium and magnesium mixed with moisture from a summer rain, causing an explosion and facility fire at the ATI Specialty Alloys and Components (Wah Chang) facility in Albany, Oregon. The fire quickly spread to a nearby park. Dozens of firefighters from local agencies and the

³¹ Reid Frazer, *Mon Valley residents Issued Air Warning Because Of Pollution From Clairton Coke Works*, WESA (Jan. 10, 2019), <https://www.wesa.fm/post/mon-valley-residents-issued-air-warning-because-pollution-clairton-coke-works>; Frazer, *US Steel's Clairton Plant Pollution Controls Knocked Out Again by Another Fire*, WHYY (June 17, 2019), <https://whyy.org/articles/us-steels-clairton-plant-pollution-controls-knocked-out-again-by-another-fire/>.

³² Oliver Morrison and J. Dale Shoemaker, *A Tale of Two Fires: Allegheny County Health Officials Change Approach After Second Fire at U.S. Steel's Clairton Plant*, Public Source (June 18, 2019), <https://www.publicsource.org/a-tale-of-two-fires-allegheny-county-health-officials-change-approach-after-second-fire-at-u-s-steels-clairton-plant/>.

³³ Jeffrey Fisher, *Worker Dies From Injuries Sustained In Washington Co. Natural Gas Plant Fire, Explosion*, CBS Pittsburgh (Dec. 19, 2018), <https://pittsburgh.cbslocal.com/2018/12/19/worker-dies-injuries-sustained-washington-county-natural-gas-plant-fire/>.

³⁴ Barbara Miller, *Workers Injured In Markwest Explosion Believed To Have Been Cleaning Pipeline*, Pittsburgh Observer-Reporter (Dec. 18, 2018), https://observer-reporter.com/news/localnews/workers-injured-in-markwest-explosion-believed-to-have-been-cleaning/article_30f98162-ffcb-11e8-ab9c-771015594124.html.

³⁵ *MarkWest, Contractor Fined \$98K for SWPA Gas Plant Explosion*, Marcellus Drilling News (June 13, 2019), <https://marcellusdrilling.com/2019/06/markwest-contractor-fined-98k-for-swpa-gas-plant-explosion/>.

Oregon Department of Forestry battled the flames for a day to contain and put out the fire; ash from the blaze fell on residents 4.5 miles away. The park was evacuated, and 3 acres of woodland were ultimately destroyed.³⁶

- On September 14, 2018, the area within a 2-mile radius was evacuated when the Nutrien Ag Solutions fertilizer blending facility in Amboy, Illinois was mostly destroyed by a fire that threatened possible contamination from herbicides stored in the building.³⁷ At least four fire departments responded to the blaze.³⁸
- On September 24, 2018, a tank leaking anhydrous ammonia because of a broken valve at the First Cooperative Association in Aurelia, Iowa led to the evacuation of the entire town of about 1,000 people from 10 am to 5 pm.³⁹
- On December 12, 2018, a chlorine gas leak at the Arch Chemicals Facility in Rochester, New York led to a fire and the hospitalization of one worker. Hazardous materials responders evacuated the facility while the release of approximately 85 pounds of chlorine gas dissipated.⁴⁰
- On February 10, 2019, an explosion and fire at the Phillips 66 Refinery in Roxana, Illinois shook residents' homes and sent one worker to the hospital.⁴¹ The company credited the "hundreds of hours of training" for its specialized emergency responders for quickly extinguishing the blaze.⁴²

³⁶ Kyle Odegard, *Report: Metals Fire, Moisture Create Explosion, ATI Millersburg Brush Fire*, Corvallis Gazette-Times (Sep. 3, 2018), https://www.gazettetimes.com/news/local/report-metals-fire-moisture-create-explosion-ati-millersburg-brush-fire/article_93620989-1bfd-578f-a400-3f96009ea9fe.html; *Oregon DEQ fines ATI Wah Chang for August fire at Superfund site near Albany*, KVAL (Jan. 23, 2019), <https://kval.com/news/local/oregon-deq-fines-ati-wah-chang-for-august-fire-at-superfund-site-near-albany>.

³⁷ *Jean Kang & Cameron Jacobs, Agricultural Plant Explodes in Dixon; Entire Area is Evacuated*, WTVB (Sep. 14, 2018), <https://www.mystateline.com/news/agricultural-plant-explodes-in-dixon-entire-area-is-evacuated>

³⁸ Amboy Fire press conference on Nutrien AG Solutions Building Fire, Sept. 23, 2018, at <https://www.facebook.com/MyEyewitnessNews/videos/amboy-fire-press-conference-on-nutrien-ag-solutions-building-explosion-and-fire-/244060352960180/>

³⁹ Luke Nozicka, *Residents Allowed to Return to Homes after Ammonia Leak in Northwest Iowa Town*, Des Moines Register (Sep. 24, 2018), <https://www.desmoinesregister.com/story/news/2018/09/24/aurelia-evacuated-first-cooperative-association-iowa-chokeberry-community-center-ammonia-leak-ia/1410685002/>

⁴⁰ Will Cleveland, *Chlorine Leak Triggers Hazmat Incident in Rochester, Sends One to Hospital*, Rochester Democrat & Chronicle (Dec. 12, 2018), <https://www.democratandchronicle.com/story/news/2018/12/12/chlorine-leak-sends-one-hospital-triggers-hazmat-incident-rochester/2294797002/>

⁴¹ *One Hurt in IL Refinery Blast*, Industrial Safety and Security Source (Feb. 12, 2019), <https://issource.com/one-hurt-in-il-refinery-blast/>

⁴² Doug Jenkins, *Refinery Cleaning Up After Fire*, Alton Daily News (Feb. 12, 2019), <http://altondailynews.com/news/details.cfm?id=279414#.XT9FF-hKiUk>

D. CSB Recommendations

Since submission of our Original Comments, the CSB has released final reports on two RMP facility investigations: the 2014 DuPont La Porte Facility (Texas) methyl mercaptan release⁴³ and the 2016 Enterprise Pascagoula Gas Plant (Mississippi) explosion.⁴⁴ The CSB also has commenced and/or updated investigations of other RMP facility incidents, including: the 2018 Husky Energy Refinery (Wisconsin) explosion and fire;⁴⁵ the March 17, 2019 Intercontinental Terminal Company (Texas) explosion and fire;⁴⁶ and the 2019 PES Refinery explosion and fire,⁴⁷ discussed above.

1. DuPont La Porte Findings

On November 15, 2014, nearly 24,000 pounds of deadly methyl mercaptan escaped through two valves in a poorly ventilated manufacturing building at DuPont's La Porte, Texas facility Lannate Unit. For several days leading up to the incident, operations personnel attempted to clear blocked piping outside of the manufacturing building. In response to what personnel believed was a routine, unrelated pressure problem, two workers went to drain liquid from piping inside the manufacturing building. Unfortunately, the pressure problem was actually related to the clearing activities. Liquid methyl mercaptan drained from the piping, filling the manufacturing building with toxic vapor. Although one of the workers made a distress call, both died, unable to escape from the building. Four additional operators responded to the distress call and entered the manufacturing building. Two of those workers succumbed to the toxic vapor, while two others survived. As a result of the incident, the Occupational Safety and Health Administration (OSHA) issued a fine of \$106,375 and placed DuPont in its Severe Violator

⁴³ U.S. Chem. Safety & Hazard Investigation Bd., Toxic Chemical Release at the DuPont La Porte Chemical Facility (June 2019), available at <https://www.csb.gov/dupont-la-porte-chemical-release/> ("DuPont-La Porte Report").

⁴⁴ U.S. Chem. Safety & Hazard Investigation Bd., Loss of Containment, Fires, and Explosions at Enterprise Products Midstream Gas Plant (Feb. 2019), available at <https://www.csb.gov/enterprise-pascagoula-gas-plant-explosion-and-fire/> ("Enterprise Report").

⁴⁵ See Husky Energy Refinery Explosion and Fire Investigation Details at <https://www.csb.gov/husky-energy-refinery-explosion-and-fire/>.

⁴⁶ See Intercontinental Terminal Company (ITC) Tank Fire Investigation Details at <https://www.csb.gov/intercontinental-terminal-company-itc-tank-fire/>. This incident, which occurred at the ITC facility in Deer Park, Texas on March 17, 2019, was caused when a manifold leak occurred at one tank resulted in a fire that spread to a total of 15 chemical storage tanks and burned for 3 days that caused a plume of smoke and haze over the Houston area; elevated benzene levels led to a shelter-in-place order for the Deer Park area and closure of several schools. On March 22, a dike wall partially collapsed at the facility leading to chemicals being released into the adjacent Tucker Bayou and Houston Ship Channel. See Timeline: ITC chemical tank fire in Deer Park, KHOU*11 (Mar. 25, 2019) at <https://www.khou.com/article/news/timeline-itc-chemical-tank-fire-in-deer-park/285-960722df-3907-49c4-91ef-25dc5250dfe1>.

⁴⁷ See Philadelphia Energy Solutions (PES) Refinery Fire and Explosions Investigation Details at <https://www.csb.gov/philadelphia-energy-solutions-pes-refinery-fire-and-explosions/>

Enforcement Program, and DuPont paid \$3.1 million in civil penalties to settle EPA claims of 22 separate violations of the facility's RMP plan.⁴⁸

The CSB's investigation was the third investigation of a fatal DuPont incident in five years. It issued several updates during its investigation and made interim recommendations in 2016 for steps necessary to reopen the Lannate Unit. DuPont subsequently decided in 2016 not to reopen the Lannate Unit. The CSB determined that the cause of the toxic chemical release "resulted from a long chain of process safety management system implementation failures" that started with a flawed engineering design, followed by inadequate safeguards resulting from inadequate hazard analyses and continuing through the company's "ineffective emergency response" that "contributed to the extent and duration of the chemical release, placed other workers in harm's way, and did not effectively evaluate whether the chemical release posed a safety threat to the public."⁴⁹ Contributing to the severity of the incident were numerous safety management shortcomings, including deficiencies in: formal process safety culture assessments, auditing and corrective actions, implementation of inherently safer design concepts, and troubleshooting operations. The CSB concluded that "[w]eaknesses in the DuPont La Porte safety management systems resulted from a culture at the facility that did not effectively support strong process safety performance."⁵⁰

As noted by the CSB, EPA found widespread RMP violations in its post-incident inspection of the facility, "including failure to develop and implement written operating procedures, failure to adequately implement management of change procedures, failure to implement safe work practices, and mechanical integrity violations."⁵¹ The CSB also noted that although DuPont conducted first-party audits as required by its RMP plan, those audits "were superficial, focusing on information presented in the submitted EPA risk management plan summary and not the substance of the RMP rule requirements."⁵²

The CSB determined that the incident offered important lessons for the remaining operations at LaPorte and for the chemical industry generally, including:

- The emergency response efforts at the facility during the methyl mercaptan release were disorganized and placed at risk operators, emergency responders, and potentially the public. Chemical plants need a robust emergency response program to mitigate emergencies and protect human health.⁵³

⁴⁸ *Dupont To Pay \$3.1 Million Penalty For Texas Accident*, Chemical & Engineering News (July 31, 2018), at <https://cen.acs.org/safety/industrial-safety/DuPont-pay-3-1-million-penalty-for-Texas-accident/96/web/2018/07>.

⁴⁹ DuPont-La Porte Report, *supra* note 43, at 7-9.

⁵⁰ *Id.* at 7.

⁵¹ *Id.* at 67.

⁵² *Id.*

⁵³ *Id.* at 10-11.

- DuPont La Porte had not formally evaluated process safety culture at its facility before the incident. Because its program did not reasonably evaluate all safety aspects of culture, it could not help identify the significant process safety weaknesses at the facility, leaving the site vulnerable to potential process safety incidents. Assessing safety culture is critical to effectively gauging process safety.⁵⁴

- The CSB identified significant process safety deficiencies at the DuPont La Porte facility that contributed to the incident. DuPont's corporate process safety management system did not identify, prevent, or mitigate these deficiencies. A company must effectively implement a process safety management system and its corresponding programs to reap the accompanying process safety benefits.⁵⁵

The DuPont La Porte incident exemplifies in many respects the very problems that the 2017 Accident Prevention Amendments were enacted to address. As noted in its final report, the CSB has "great concern" about EPA's Proposal to roll back the 2017 Accident Prevention Amendments, which CSB views as a "good initial step" in modernizing RMP requirements, since the amendments include "improving communication between facilities and emergency responders, requiring root cause analyses of incidents and near misses, and requiring chemical facilities to consider 'inherently safer' chemicals and production processes."⁵⁶ All of these requirements, had they been in effect, could have helped prevent or mitigate the La Porte incident.

2. Enterprise Pascagoula Gas Plant Findings

On June 27, 2016, a major loss of containment in a heat exchanger at the Enterprise Pascagoula Gas Plant in Pascagoula, Mississippi resulted in the release of methane, ethane, propane, and several other hydrocarbons. The hydrocarbons ignited, initiating a series of fires and explosions, which ultimately shut down the facility for almost six months. Although no off-site property damage was reported, many nearby residents chose to evacuate. Three fire departments were dispatched to the scene and blocked vehicular and rail traffic in the vicinity.⁵⁷

The Plant receives raw natural gas via a pipeline from the Gulf of Mexico and separates the material into two products: natural gas liquids, which serve as a feedstock to the chemical industry, and a natural gas fuel stream, primarily composed of methane. A key piece of equipment used in the process is a brazed aluminum heat exchanger (BAHX), which allows for the transfer of heat between two different process streams while keeping the streams separate.⁵⁸ The CSB's investigation determined that the BAHXs were repeatedly subjected to temperature

⁵⁴ *Id.* at 11.

⁵⁵ *Id.*

⁵⁶ *Id.* at 68, fn. d.

⁵⁷ Enterprise Report, *supra* note 44, at 19-20.

⁵⁸ *Id.* at 12.

changes that exceeded industry-recommended practices.⁵⁹ The CSB concluded from the 2016 incident, as well as four other BAHX failure events at other facilities, that relying on a leak-before-failure assumption is inadequate.⁶⁰ It concluded that operators of midstream gas plants need a more robust assessment and risk management plan that considers thermal fatigue to prevent the risk of sudden and catastrophic rupture of BAHXs.⁶¹

The CSB's report further discusses issues related to emergency response following the incident. Emergency responders told the CSB that the incident closely mirrored tabletop exercises during emergency response planning activities that had been conducted under the prior operator and as a result they felt well prepared to respond that night.⁶² However, the current facility operator staff had several response issues.⁶³ Additionally, there were several problems in communicating information to the public demonstrating "the need for a more robust and engaged [Local Emergency Planning Committee and] community alert network."⁶⁴

3. Husky Energy Update

On November 2, 2018, the CSB provided an update on the April 2018 Husky Energy Refining incident in Wisconsin, which was discussed in our Original Comments (p. 33). The update included a film reconstruction of the incident and detailed how specialized training, joint exercises, and close coordination with the local responders allowed the response crew to use innovative methods to contain an asphalt fire that could have burned exponentially longer and in so doing, avoided potentially greater catastrophic losses and chemical releases from tanks surrounded by the fire.⁶⁵

4. Hydrogen Fluoride Recommendations

The CSB also issued a specific findings on the dangers of hydrogen fluoride (HF).⁶⁶ Many refineries, including PES and Husky, use HF as part of their alkylation catalyst process. This use presents a very high risk for the workers and the surrounding communities. HF is particularly dangerous because it can form a dense toxic aerosol cloud. A 1986 industry-sponsored study found that a HF toxic cloud would contain lethal concentrations of HF up to

⁵⁹ *Id.* at 29.

⁶⁰ *Id.* at 11.

⁶¹ *Id.*

⁶² *Id.* at 50.

⁶³ *Id.* at 50-51.

⁶⁴ *Id.* at 51-54.

⁶⁵ *CSB: Husky Energy Refinery Explosion and Fire*, <https://www.csb.gov/husky-energy-refinery-explosion-and-fire/> (last visited Aug. 9, 2019).

⁶⁶ See CSB Calls on EPA to Update HF Study in Wake of the 2017 Husky Refinery Fire (Apr. 24, 2019) at <https://www.csb.gov/csb-calls-on-epa-to-update-hf-study-in-wake-of-the-2017-husky-refinery-fire/> and its April 23, 2019 letter to Administrator Wheeler at https://www.csb.gov/assets/1/6/letter_to_epa_4.23.2019.pdf.

5 miles from the point of release. HF is of particular concern both to Congress and to the CSB due to these extreme risks. In 1990, Congress directed EPA to study HF to identify the potential hazards the chemical poses to public health and the environment. In 1993, EPA provided its report to Congress, noting the use of HF at over 500 facilities, including 62 refineries, but did not recommend legislative action at that time.⁶⁷

In an April 23, 2019 letter to EPA, attached as Exhibit B, the CSB reported on its investigation into and extreme risks presented by the Husky Energy incident⁶⁸ and the February 2015 explosion at the ExxonMobil Torrance, California refinery located near the heart of downtown Los Angeles.⁶⁹ In both investigations, the CSB had conducted a public hearing in which community members indicated serious concerns about the adequacy of current RMPs and response plans for facilities using HF.⁷⁰ The CSB letter pointed out that new alternative technologies for alkylation have been developed that appear to have inherent safety advantages over the use of HF at refineries.⁷¹ These alternatives are currently being planned to replace existing HF units in at least two U.S. refineries. The April 23 letter stated:

CSB's mission is to drive chemical safety change through independent investigations to protect people and the environment. ...While we understand the anxiety and concern the presence of MHF and HF at the Torrance and Husky refineries causes residents of these local communities, the CSB does not have the statutory authority to prevent the use of HF.... As a result of these two investigations, we urge the EPA to initiate a review and update of its 1993 HF study to determine whether these refineries' existing risk management plans are sufficient to prevent catastrophic releases; and, to determine whether there are commercially viable, inherently safer alkylation technologies for use in petroleum refineries. We encourage the EPA to broadly disseminate the results of its updated study to provide the information on potential

⁶⁷ U.S. EPA, HYDROGEN FLUORIDE STUDY, FINAL REPORT, REPORT TO CONGRESS: SECTION 112(N)(6) CLEAN AIR ACT AS AMENDED (1993).

⁶⁸ The Husky Energy explosion referenced above is a facility that also uses HF; the risks presented by the fire there led to a 10-mile evacuation.

⁶⁹ See Jie Jenny Zou, The ExxonMobil Near-Disaster You Probably Haven't Heard Of, Ctr. For Public Integrity (Feb. 10, 2017), <https://publicintegrity.org/environment/the-exxonmobil-near-disaster-you-probably-havent-heard-of/> The Torrance refinery blast had the force of a 1.7 magnitude earthquake and launched projectiles that came within 5 feet of the HF settling tanks.

⁷⁰ The transcript of CSB's public hearing on the Torrance incident is available at www.csb.gov/assets/1/20/public_meeting_transcript.pdf?15637. The transcript of CSB's public hearing on the Husky Refining incident is available at www.csb.gov/assets/1/20/csb_husky_meeting_121218.pdf?16451

⁷¹ April 23, 2019 letter from the U.S. Chemical Safety and Hazard Investigation Board to U.S. EPA Administrator Wheeler, Ex. B at 3. For an in-depth comparison of alternatives to HF, see the South Coast Air Quality Management District 2018 background documents in the following Rulemaking, SCAQMD Refinery Comm., Status Update on PR1410 – Hydrogen Fluoride Storage and Use at Petroleum Refineries (Jan. 2018), available at <http://www.aqmd.gov/docs/default-source/Agendas/refinery-committee/status-report-on-rule-1410.pdf?sfvrsn=6>

alternatives and to make recommendations to incorporate these technologies at U.S. petroleum refineries, if appropriate. We believe that this is fully within the authority and responsibility of the EPA pursuant to the newly adopted Risk Management Plan (RMP) Rule (40 CFR Part 68.67) as well as through its General Duty Clause.⁷²

In a July 8, 2019 op-ed in the New York Times, the former managing director of the CSB, Daniel Horowitz, summarized the extreme risks of HF and where it is being used in refineries around the country.⁷³ He noted that in the last four years, the near-catastrophic misses of HF releases at the Husky, ExxonMobil, and PES refineries have exposed “a shocking level of disregard for public safety.” He pointed out that “the oil refining industry can produce gasoline more safely, without hydrogen fluoride . . . Refineries in Utah and Louisiana are quietly installing alkylation units that use safer catalysts . . . that will never vaporize in an accident to threaten workers and the public. Nonetheless, the industry is working diligently to defeat any regulatory efforts to phase out” HF, passing along “large accident-related costs to consumers while pleading poverty when asked to . . . use safer chemicals.”⁷⁴

These concerns were also echoed in a July 19, 2019 letter to Administrator Wheeler from several U.S. Senators, attached hereto as Exhibit C, who pointed out that all of the facilities with HF near-misses “had EPA-approved risk management plans, and yet they still came unacceptably close to equipment failures that could have released HF” and asked EPA to re-evaluate the RMPs at all refineries using HF “to determine whether their plans robustly protect workers and communities.” The letter joined the CSB in calling for EPA to update the 1993 HF Study “to help evaluate the adequacy of refineries’ risk management plans and the viability of HF alternatives” and to “take appropriate regulatory action in response.”⁷⁵

II. Lessons Learned from Recent Accidents and CSB Investigations Further Underscore the Critical Need for the 2017 Amendments

The 2017 Accident Prevention Amendments, the most substantive provisions of which require compliance to be phased in over the next few years, were enacted to update a critical regulatory scheme based on lessons learned. *See* 81 Fed. Reg. at 13,640. As discussed at length throughout our Original Comments, the 2017 Amendments require companies to adopt reasonable and proven organizational best practices that effectively prioritize safety and reduce the frequency and magnitude of accidents.

EPA has proposed, however, to rescind key provisions of its 2017 Accident Prevention Amendments that strengthened the chemical accident prevention program, including:

⁷² Ex. B at 3.

⁷³ Daniel Horowitz, *This Chemical Kills. Why Aren’t Regulators Banning It?*, NY Times (July 8, 2019), <https://www.nytimes.com/2019/07/08/opinion/philadelphia-chemical-refinery-blast.html>.

⁷⁴ *Id.*

⁷⁵ July 19, 2019 letter from Senators Baldwin et al. to U.S. EPA Administrator Wheeler, Ex. C at 1-2.

- increased safety training for employees and supervisors;
- increased emergency response coordination through more frequent training exercises and greater information sharing;
- third-party compliance audits;
- requirements that facility owners conduct a safer technology and alternatives analysis (STAA);
- requirements that accident investigations include root cause analyses;
- requirements that facilities report accident investigation findings within 12 months with information necessary to understand what happened, and a schedule to address contributing causes;
- the requirement that investigations of reportable accidents be conducted even if the facility is to be decommissioned or destroyed;
- the requirements that hazard reviews identify findings from incident investigations showing vulnerabilities that could cause accidental releases, address the findings from required incident investigations, or potential failure scenarios beyond catastrophic levels; and
- the requirement to keep process safety information updates current.⁷⁶

The numerous incidents over the last year (at least 60) have exacted enormous costs on: workers who died or were injured; surrounding communities, whose health and safety were compromised by these incidents; local and State governments and staff, who had to respond to these incidents; and facility owners, who now face economic costs in the aftermath that likely far exceed the costs of preventing those accidents. EPA's Proposal to roll back the 2017 Accident Prevention Amendments would undermine meaningful efforts to improve chemical safety across all industries.

For example, several of the accidents discussed above—including PES, MarkWest Energy, and Enterprise Pascagoula—demonstrate the importance of safety training for facility employees and effective coordination and exercises with local emergency responders and the public. The CSB's admonition about the failures of the emergency response at DuPont's LaPorte facility is a reminder that the 2017 Accident Prevention Amendments ensure that the benefits of better and more frequent training, coordination with local responders, and effective dissemination of information to the public will be available to all Americans, regardless of where they live or the type of relationship the facility happens to have with its employees and local government. Rolling back these provisions would be a setback for much-needed improvements on emergency response coordination and information sharing.

Furthermore, the fact that several of the accidents discussed above occurred at facilities with previous violations of environmental compliance requirements (*e.g.*, ATI Specialty Alloys, PES, and MarkWest) demonstrates the critical importance of third-party audits, the need for

⁷⁶ *Original Comments* at 27-28. Although the compliance date for some of these provisions has not yet arrived, as discussed *supra* fn. 2, some facilities may have already implemented these requirements (whether voluntarily or in anticipation of the rules). The incidents highlighted in this letter demonstrate as a general matter that better employee training and emergency response coordination and community communication helps mitigate damage and avoid harm.

speedy incident investigations and root cause analyses, and the need for requirements to timely identify and cure deficiencies. The CSB has pointed out that corporate culture often contributes to the failure of companies to adequately assess risks or to implement necessary measures to prevent them, even though deficiencies may often be obvious. Independent review is critical to preventing incidents, as EPA has previously found. *See* 81 Fed. Reg. at 13,654 – 13,658.

In addition, a robust accident prevention program requires learning from incidents experienced by other similarly situated industries. EPA’s proposal to exclude findings from other incident investigations from required hazard reviews undercuts facilities’ ability to benefit from the lessons learned from other accidents. As just one example of the potential harm of such a rollback, under EPA’s, CSB findings at the Enterprise Pascagoula gas plant regarding inadequate industry standards on a known equipment weakness would not have to be included in hazard reviews of similarly situated industries. Failure to consider such information will likely increase the risk that similar, yet avoidable, accidents will occur again somewhere else.

Finally, EPA’s proposed rollback of the 2017 STAA requirements goes directly against the CSB’s April 2019 recommendations, the July 2019 statement of its former managing director Daniel Horowitz, and unreasonably ignores the near catastrophes at the PES, Husky, and Torrance refineries. The use of alternative alkylation technologies is a feasible alternative to using HF, and, given the extreme hazards posed by the use of HF, the STAA requirements clearly fulfill the CAA’s mandate that RMP regulations be protective “to the greatest extent practicable.” 42 U.S.C. § 7412(r)(7)(B)(i). Information gathered by facilities as part of the STAA process would also assist the Agency in implementing the CSB’s recommendation that EPA update its 1993 report to Congress on the risks of HF and the viability of alternative technologies. As noted by Mr. Horowitz, EPA’s Proposal to repeal the 2017 Accident Prevention Amendments “will turn the clock back years on the agency’s process safety regulations, squarely putting short-term corporate profits ahead of public safety.”⁷⁷

III. Recent Accidents at Facilities with Previous Noncompliance Further Undermines EPA’s Faulty Enforcement Rationale

In the Proposal, EPA contended that increased enforcement of RMP requirements could address chemical facility accidents more cost-effectively than preventative regulation by focusing on facilities that have repeatedly violated those requirements. As we explained in our Original Comments, EPA’s entire premise that increased enforcement can take the place of more preventative regulation is erroneous because an effective regulatory program requires both. *See* Original Comments at 38. Record data – including the tragic example of DuPont La Porte – shows that after-the-fact enforcement is insufficient by itself to save lives.⁷⁸ States and their

⁷⁷ Daniel Horowitz, *This Chemical Kills. Why Aren’t Regulators Banning It?*, NY Times (July 8, 2019), <https://www.nytimes.com/2019/07/08/opinion/philadelphia-chemical-refinery-blast.html>.

⁷⁸ The systemic and widespread violations found by EPA at DuPont La Porte after the 2014 incident was the first RMP inspection conducted at the facility. *See* DuPont-La Porte Report at 67.

residents need full implementation and proactive enforcement of the 2017 Accident Prevention Amendments, not a rollback of those protections.

Moreover, many of the high-profile accidents discussed above occurred at RMP facilities that have previously been subject to enforcement actions by EPA and state agencies for a variety of environmental violations, not just RMP violations. For example:

- Prior to the August 2018 fire, regulators repeatedly cited the ATI facility in Oregon for improper hazardous waste management and assessed over \$40,000 in civil penalties.⁷⁹
- The Arch Chemicals facility in New York that had a December 2018 accident has a history of significant noncompliance with Resource Conservation and Recovery Act (RCRA) requirements pertaining to solid waste preparedness and prevention, container use and management, pre-transport, and other state regulatory requirements and was assessed a \$90,000 penalty in September 2017.⁸⁰
- The Phillips 66 refinery in Illinois that experienced a February 2019 explosion and fire has been in violation of RCRA since 2016, including provisions relating to waste preparedness and prevention. Also, the refinery's benzene emissions exceeded federal air pollution limits over multiple reporting quarters, and EPA assessed a civil penalty of \$525,000 for CAA violations in 2018.⁸¹
- Over the last three years, PES committed high-priority CAA violations in eight quarterly reporting periods, including emitting volatile organic compounds, ammonia, sulfur dioxide, hydrogen sulfide, nitrogen oxides, and carbon monoxide in excess of federal limits. It also violated Clean Water Act (CWA) requirements in every quarter and RCRA requirements in seven quarterly reporting periods. Over the last five years, PES has been assessed over \$1 million in civil penalties.⁸²

⁷⁹ Oregon DEQ fines ATI Wah Chang for August fire at Superfund site near Albany, KVAL (Jan. 23, 2019), <https://kval.com/news/local/oregon-deq-fines-ati-wah-chang-for-august-fire-at-superfund-site-near-albany>; and Kyle Odegard, ATI Wah Chang Fined for August Fire, Corvallis Gazette-Times (Jan. 23, 2019), https://www.gazettetimes.com/news/local/ati-wah-chang-fined-for-august-fire/article_1c4ebf8a-0a9e-5f42-b7e4-5aceb4ec8bfa.html. See also Env. Prot. Agency, ECHO: Detailed Facility Report at <https://echo.epa.gov/detailed-facility-report?fid=110000488035> (last visited August 14, 2019).

⁸⁰ Env. Prot. Agency, ECHO: Detailed Facility Report, Arch Chemicals Inc., 100 McKee Road, Rochester, NY 14611, <https://echo.epa.gov/detailed-facility-report?fid=110000327931> (last visited August 14, 2019).

⁸¹ Env. Prot. Agency, ECHO: Detailed Facility Report, WR Refining LP, 900 S. Central Ave, Roxana, Ill. 62084, <https://echo.epa.gov/detailed-facility-report?fid=110041962873> (last visited August 14, 2019).

⁸² Env. Prot. Agency, ECHO: Detailed Facility Report, Phila. Energy Sol. Ref./PES, 3144 W. Passyunk Ave., Phila., Pa. 19145, <https://echo.epa.gov/detailed-facility-report?fid=110000336994> (last visited August 14, 2019).

- The U.S. Steel Clairton coke plant, site of the December 2018 fire, has a long history of CAA, RCRA, and CWA violations, with civil penalties of over \$6 million assessed in the last five years.⁸³
- The MarkWest Energy facility in Pennsylvania, site of the December 2018 explosion and fire, also has a history of environmental violations; between 2014 and 2018, it paid over \$240,000 in civil fines for violating the CAA at the facility, including prior violations of CAA section 112(r).⁸⁴

These examples underscore two important points. The first is the widespread and cross-cutting non-compliance at these facilities should have been a red-flag to EPA about RMP compliance. In addition to maintaining strong accident prevention requirements, EPA also should focus proactive RMP enforcement on those facilities with a record of failing to prioritize health and safety or regulatory compliance, not just RMP compliance. Second, a history of non-compliance at a facility that then has an RMP-reportable incident highlights the need for the kind of holistic and independent review of RMP compliance that comes with the third-party auditing requirements established by the 2017 Accident Prevention Amendments.

IV. Conclusion

As discussed in our Original Comments, EPA's Proposal would largely eviscerate the safeguards EPA added in the 2017 Accident Prevention Amendments and represent an unjustified step backward on preventing and mitigating harms posed by chemical accidents. As discussed above, the evidence that EPA's Proposal is inconsistent with the Clean Air Act and

⁸³ Env. Prot. Agency, ECHO: Detailed Facility Report, USS - Clairton Plant 400 State St. MS 71, Clairton, Pa. 15025, <https://echo.epa.gov/detailed-facility-report?fid=110042043384> (last visited August 14, 2019).

⁸⁴ Env. Prot. Agency, ECHO: Detailed Facility Report, Markwest Liberty Midstream & Resources/Houston Gas Plant, 800 Western Ave., Washington, Pa. 15301, <https://echo.epa.gov/detailed-facility-report?fid=110046247138> (last visited August 14, 2019).

unsupported by the record has only grown over the last year. The States therefore continue to urge EPA to abandon its Proposal and to implement the 2017 Accident Prevention Amendments without revision.

Respectfully submitted,

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EXHIBIT A

EXHIBIT A

List of Incidents at RMP Facilities – August 23, 2018 – August 15, 2019

Facility	Location	Date	Description	Source
ExxonMobil Baton Rouge Chemical Plant	Baton Rouge, LA	8/23/2018	An ExxonMobil facility had two incidents in two days, the first when the company reported a hydrogen chloride release at a unit within the chemical facility. A company spokesperson said the release happened at a unit drum at the facility. The release, which happened Friday morning, was being isolated and at one time, workers were asked to shelter-in-place. The second, a day earlier involved what the company said was a small fire at a unit in the chemical plant.	http://www.wbrz.com/news/chemical-release-friday-follows-a-small-fire-thursday-at-exxonmobil-facility
ATI Millersburg (Wah Chang)	Albany, OR	8/28/2018	A smoldering metals fire apparently mixed with moisture from a summer rain caused an explosion that led to a brush fire at the ATI Specialty Alloys and Components (Wah Chang) complex. The blaze also charred three woodland acres at nearby Simpson Park in Albany, and also impacted property owned by International Paper. Ash from the fire fell at least as far south as Mennonite Village.	https://www.gazettetimes.com/news/local/report-metals-fire-moisture-create-explosion-ati-millersburg-brush-fire/article_93620989-1bfd-578f-a400-3f96009ea9fe.html
BP-Husky Refining LLC	Oregon, OH	8/28/2018	A sulfur discharge from the BP-Husky refinery of 4 parts per million created an order for residents of Harbor View to remain in their homes from 2:30 p.m. to 3:15 p.m.	https://www.13abc.com/content/news/Shelter-in-Place-over-in-Harbor-View-after-sulfur-discharge-from-BP-491920921.html

Facility	Location	Date	Description	Source
Tyson Fresh Meats Plant	Lexington, NE	9/4/2018	Tyson Fresh Meats evacuated its beef packing plant in Lexington late Tuesday morning when there was a report of an ammonia leak. Twenty people were treated for exposure: one patient was transferred in critical condition and two patients were admitted to the hospital for further observation and were in stable condition as of Tuesday evening. The rest of the patients were treated and released.	https://www.kearneyhub.com/news/local/at-least-treated-after-ammonia-leak-at-lexington-tyson-plant/article_1fce217a-b0a4-11e8-a4aa-7f62b8ac43b2.html
American Synthetic Rubber Company	Louisville, KY	9/5/2018	A fire inside one of the buildings damaged the roof of the plant. A black plume of smoke could be seen by nearby residents; two employees were injured and taken to a nearby hospital for further evaluation.	https://isssource.com/2-injured-in-fire-at-ky-chemical-plant/
Chevron El Segundo Refinery	El Segundo, CA	9/17/2018	A burn-off at the El Segundo Chevron refinery sent a large plume of black smoke into the sky that was visible for miles.	https://www.dailynews.com/2018/09/17/plume-of-smoke-over-el-segundo-is-planned-refinery-burn-off/
Houston Refining LP	Houston, TX	9/17/2018	The refinery was flaring on Monday afternoon due to a malfunction at Royal Dutch Shell Plc's nearby Deer Park, Texas chemical plant, according to Gulf Coast market sources.	https://www.reuters.com/article/us-refinery-operations-lyondell-houston/lyondells-houston-refinery-flares-due-to-shell-chemical-plant-upset-sources-idUSKCN1LX2LE
Marathon Petroleum Texas Refining	Texas City, TX	9/18/2018	A pinhole in a transfer line at a Fluid Catalytic Cracking Unit led to a leak of approximately 500 pounds of propane.	https://isssource.com/small-leak-at-marathon-tx-refinery/

Facility	Location	Date	Description	Source
Chevron El Segundo Refinery	El Segundo, CA	9/20/2018	While working to restart the fluid catalytic cracking unit, which produces gasoline, the Chevron refinery experienced a monitoring equipment malfunction that caused the release of a visible catalyst plume. Residents near the Chevron Refinery in El Segundo were warned by police Thursday that their cars could receive a layer of white dust but that the substance was not hazardous.	https://www.dailybreeze.com/2018/09/20/white-powdery-substance-billowing-from-chevron-refinery-is-not-hazardous-authorities-say/
Pilgrim's Pride Poultry Processing Plant	Canton, GA	9/21/2018	The Pilgrim's Pride poultry plant was evacuated and about 300 workers from the plant were evacuated after the spill of peracetic acid was detected. Four people were hospitalized as a result of breathing chemicals from the spill.	https://www.wattagnet.com/articles/35669-hospitalized-in-chemical-spill-outside-pilgrims-plant
Lion Elastomers Plant	Port Neches, TX	9/22/2018	A chemical reaction in a tank led to a release of styrene that could be smelled by surrounding residents.	https://www.12newsnow.com/article/news/local/port-neches-residents-concerned-about-plant-leak/502-597467630
First Cooperative Association	Aurelia, IA	9/24/2018	A faulty valve on a tank at the facility began leaking anhydrous ammonia. The evacuation of the town of about a thousand people followed as the ammonia plume drifted north into downtown, and into residential neighborhoods.	https://ktiv.com/2018/09/25/aurelia-is-getting-back-to-normal-after-ammonia-evacuation/
Port Arthur Refinery	Port Arthur, TX	10/8/2018	Motiva's Port Arthur refinery leaked vacuum gas oil, which area residents could smell.	https://www.12newsnow.com/article/news/local/port-arthur-residents-complain-about-smell-from-small-oil-leak-at-port-arthur-refinery/502-602105048
Badger State Ethanol	Monroe, WI	10/9/2018	An explosion at the Badger State ethanol plant caused structural damage to the facility.	https://www.wpr.org/silo-damaged-explosion-monroe-ethanol-plant

Facility	Location	Date	Description	Source
Michigan Refining Division (Marathon Petroleum Corporation)	Detroit, MI	10/29/2018	Marathon reported a process upset that exceeded the 500-pound sulfur dioxide reporting threshold, leading to evacuation of employees from the worksite and a major flaring event.	http://www.thenewsherald.com/news/major-flaring-at-marathon-refinery-after-potential-emissions-threshold-breach/article_034c21dc-dd4f-11e8-a63b-3f82fa634310.html
Delaware City Refining Company	Delaware City, DE	10/30/2018	Three men sustained serious burns in an explosion at the Delaware City Refinery during equipment maintenance.	https://www.delawareonline.com/story/news/crime/2018/10/30/three-hospitalized-delaware-refinery-explosion/1824174002/
Aldrich Chemical Company, LLC -Teutonia	Milwaukee, WI	10/30/2018	A lithium fire broke out around 9 p.m. at the MilliporeSigma chemical plant, drawing a response from several fire departments and a hazmat team.	https://www.powderbulksolids.com/news/Crews-Respond-to-Lithium-Fire-at-MilliporeSigma-Plant-10-31-2018
Torrance Refinery	Torrance, CA	11/3/2018	"A large column of fire that shot up into the sky over the weekend was caused by the malfunctioning of a valve at the Torrance Refinery, a refinery spokeswoman said."	https://www.dailybreeze.com/2018/11/03/flare-shoots-into-the-sky-after-malfunctioning-valve-at-torrance-refinery/
Akzo Nobel Chemical Company	Axis, AL	11/12/2018	A fire occurred at the chemical company and was contained by the facility's in-house fire department.	https://www.wkrg.com/mobile-county/fire-at-chemical-company-in-axis/
Croda	New Castle, DE	11/25/2018	An incorrect gasket fitted on a pipe during plant construction led to a flammable gas leak at Croda's ethanol-to-ethylene unit that shut the twin Delaware Memorial Bridge spans and snarled traffic for more than 7 hours on a holiday weekend. The Delaware Department of Natural Resources and Environmental Control rushed hazardous-materials staff to assist Croda staff at the plant, and set up monitors on the bridge, where they detected traces of ethylene oxide.	https://www.inquirer.com/philly/blogs/inq-phillydeals/after-bridge-jam-investigators-checking-chemical-leak-20181127.html

Facility	Location	Date	Description	Source
IES Downstream, LLC - Kapolei Refinery	Kapolei, HI	11/28/2018	Officials investigated reports of a possible fire and chemical leak on Oahu's leeward side.	https://www.hawaiinewsnow.com/2018/11/29/hfd-responding-incident-island-energy-service/
Koch Foods Poultry Plant	Gadsden, AL	11/30/2018	An ammonia leak occurred at a Koch Foods poultry plant in Gadsden, Alabama, resulted in 22 people being evaluated at area hospitals.	https://www.wattagnet.com/articles/36304-koch-foods-ammonia-leak-hospitalizes-22-people
Arch Chemicals Facility	Rochester, NY	12/12/2018	A leak of chlorine gas outside a Rochester chemical plant sparked a fire and hazmat response that sent one person to the hospital.	https://www.democratandchronicle.com/story/news/2018/12/12/chlorine-leak-sends-one-hospital-triggers-hazmat-incident-rochester/2294797002/
Houston Gas Plant (MarkWest)	Washington, PA	12/13/2018	An explosion and fire at a tank holding 200 barrels of liquid ethylene glycol plus hydrocarbons sent 4 workers to the hospital with serious injuries, one of whom later died. The fire required 9 fire departments and a hazmat team to respond.	https://www.cbsnews.com/news/washington-pennsylvania-markwest-energy-facility-explosion-fire-today-2018-12-13/
US Steel Clairton Works	Clairton, PA	12/24/2018	A massive fire at the Clairton plant caused \$40 million in damage to the plant and knocked out the facility's air pollution controls, leading to emissions in excess of federal air standards.	https://www.post-gazette.com/business/pittsburgh-company-news/2019/01/30/Clairton-plant-fire-cost-U-S-Steel-40-million-coke-health-pollution/stories/201901300152
Chemstar Products Company	McPherson, KS	1/10/2019	Viewers saw a fire and several explosions coming from the facility; 3 fire departments were called to put out the fire.	https://www.kwch.com/content/news/Crews-respond-to-fire-at-chemical-plant-in-McPherson-504183381.html
Woods Cross Operating LLC	Woods Cross, UT	1/10/2019	A fire occurred inside the refinery due to a gas leak.	https://kutv.com/news/local/active-fire-at-holly-refinery-in-bountiful-crews-responding
Trainer Refinery (Monroe Energy LLC)	Trainer, PA	1/23/2019	Due to a loading operator error, hydrocarbon vapors containing a small amount of hydrofluoric acid were emitted near a group of contract workers. Five workers were hospitalized.	https://www.delawareonline.com/story/news/local/2019/01/23/emergency-crews-pennsylvania-hazmat-incident-2-miles-claymont/2656376002/

Facility	Location	Date	Description	Source
Torrance Refinery	Torrance, CA	1/25/2019	South Coast Air Quality Management District said in a press release that its personnel responded to a minor leak of modified hydrofluoric acid (MHF) at Torrance Refining Co.	https://www.dailybreeze.com/2019/01/26/minor-4-minute-hydrofluoric-acid-leak-reported-at-torrance-refining-co/
Delaware City Refining Company	Delaware City, DE	2/3/2019	A large fire erupted at the refinery that took 5 hours to get under control and led to a large plume of black smoke could be seen from miles away.	https://www.delawareonline.com/story/news/local/2019/02/03/fire-delaware-city-refinery/2762056002/
Toledo Refining Company LLC	Oregon, OH	2/3/2019	Fire in a toluene line at the Toledo Refinery forced crews to evacuate nearby homes.	https://www.13abc.com/content/news/Explosion-near-Toledo-Refinery--505287551.html
Michigan Refining Division (Marathon Petroleum Corporation)	Detroit, MI	2/3/2019	Residents in the area and as far as Dearborn were awakened early Sunday morning by a smell that many described as 'rotten eggs.' Residents reported that the air caused dizziness and vomiting.	https://www.metrotimes.com/news-hits/archives/2019/02/04/tlaib-joins-detroit-protest-against-marathon-oil-refinery-malfunction
Delek: El Dorado Refinery	El Dorado, AR	2/5/2019	A fire broke out at the refinery; refinery spokesperson was not able to provide cause.	https://www.eldoradonews.com/news/2019/feb/06/fire-reported-delek-el-dorado-refinery/
Shell Deer Park Refinery	Deer Park, TX	2/6/2019	A process upset led to flaring activity with visible flames and smoke from the facility.	https://abc13.com/unplanned-smoke-and-flaring-at-shell-in-deer-park-/5124511/
Phillips 66 Refinery	Roxana, IL	2/10/2019	A fire in a process unit injured one worker and caused a large explosion that shook the ground.	https://www.kmov.com/news/one-man-injured-during-fire-at-wood-river-refinery/article_4378080a-2d88-11e9-9298-53c1d3dc60e9.html
Hawkins Chemical Plant	Minneapolis, MN	3/1/2019	A total of 5,700 gallons of nitric acid was spilled at a chemical company in Minneapolis on Friday.	https://www.foxnews.com/us/thousands-of-gallons-of-nitric-acid-spill-at-minneapolis-chemical-company
Holly Frontier El Dorado Refining LLC	El Dorado, KS	3/6/2019	A fire started in a pipe rack led to two explosions at the Holly Frontier refinery, with several people reporting feeling explosions shake their homes	https://www.kfdi.com/2019/03/06/explosions-reported-at-el-dorado-refinery/

Facility	Location	Date	Description	Source
			and seeing black smoke coming from the refinery.	
Calumet Montana	Great Falls, MT	3/7/2019	Emergency crews worked for about three hours to put out two fires following an explosion at the plant.	https://krtv.com/news/great-falls-news/2019/03/08/investigation-continues-into-explosion-at-great-falls-refinery/
Adient	Greenfield, OH	3/13/2019	An employee was exposed to toluene diisocyanate after a valve on a rail car experienced mechanical failure.	https://www.timesgazette.com/news/36128/1-hospitalized-in-greenfield-chemical-spill
Los Angeles Refinery Carson Plant (Phillips 66 Company)	Carson, CA	3/15/2019	Three of the facility's four crude oil pumps were involved in a fire that took emergency responders 3 hours to extinguish. One person was treated for injury.	https://www.latimes.com/local/lanow/la-me-ln-refinery-fire-20190315-story.html
Exxon Mobil Baytown Refinery	Baytown, TX	3/16/2019	A tube leak caused a fire at a hydrofining unit that processes motor gasoline, sending a thick cloud of dark smoke into the sky. While emergency responders extinguished the fire, the Baytown refinery continued to release air pollutants including sulfur dioxide, hydrogen sulfide and benzene through March 24, according to a report to the Texas Commission on Environmental Quality. No injuries were reported.	https://www.houstonchronicle.com/news/houston-texas/houston/article/Harris-County-sues-Exxon-Mobil-over-illegal-13961152.php
Intercontinental Terminals Company	Deer Park, TX	3/17/2019	A massive 15 tank fire led to a dark plume of smoke and a fire that raged for several days and released toxins into the environment. School closures and shelters in place were issued. Later, a wall surrounding the tank farm breached, increasing the risk that airborne and liquid toxins would be released and forcing a portion of the Ship Channel to close.	https://www.khou.com/article/news/timeline-itc-chemical-tank-fire-in-deer-park/285-960722df-3907-49c4-91ef-25dc5250dfe1

Facility	Location	Date	Description	Source
Valero Benicia Refinery	Benicia, CA	3/24/2019	The Valero refinery in Benicia was shut down for several days, after a problem caused coke particles to escape through a stack, creating health risks for people with respiratory problems.	https://www.sfchronicle.com/bayarea/article/Benicia-issues-warning-about-Valero-refinery-13712482.php
KMCO, LLC	Crosby, TX	4/2/2019	A fire started in a transfer line to a tank containing isobutylene, which then spread to a storage building. One worker was killed, two were injured, and a shelter-in-place was ordered for the surrounding area.	https://abcnews.go.com/US/huge-explosion-fire-rocks-texas-chemical-plant-person/story?id=62117295
Delaware City Refining Company	Delaware City, DE	4/9/2019	<p>A fire at the facility sent flames extending up dozens of feet through a tower at the refinery's 54,500-barrel-a-day fluid coking unit.</p> <p>"A worker who spoke with The News Journal on condition of anonymity because he feared he would be fired, said the fire ignited as refinery workers rushed to restart the coking unit, which requires it to be heated to roughly 1,000 degrees."</p> <p>Someone among the work crew had mistakenly left open one or more manhole hatches that allow access to the unit while it's not in use, the worker said."</p>	https://www.delawareonline.com/story/news/2019/04/10/dnrec-looking-into-refinery-fire-but-may-not-have-authority-demand-details/3411287002/
Drexel Chemical Company	Tunica, MS	4/11/2019	Investigators determined that insulation within the building was burning.	https://www.fox13memphis.com/top-stories/mississippi-chemical-plant-fire-leads-to-evacuations-all-clear-given/939229722

Facility	Location	Date	Description	Source
Los Angeles Refinery Carson Plant (Phillips 66 Company)	Carson, CA	5/2/2019	The facility had a pump fire with residual product burning off.	https://www.latimes.com/local/lanow/la-me-ln-phillips-66-carson-refinery-fire-20190502-story.html
Wacker Charleston	Charleston, TN	5/4/2019	A fire was reported. on the fourth floor of the wastewater treatment building inside the facility. A cloud of smoke and water vapor were present, but air quality tests showed no chemical residue in the air.	https://www.timesfreepress.com/news/local/story/2019/may/06/latest-fire-adds-growing-list-incidents-wacker/494097/
Chevron Phillips Chemical Company LLC - Cedar Bayou	Baytown, TX	5/16/2019	The facility experienced an 'unplanned operational issue', sending thick, black smoke billowing into the air from an ethane cracker at the facility.	https://www.chron.com/news/houston-texas/houston/article/Smoke-pouring-from-Chevron-Phillips-in-Baytown-13850195.php#photo-17461589
Dean Foods	Belvidere, IL	5/28/2019	The facility had an ammonia leak.	https://www.marketscreener.com/DEAN-FOODS-CO-14293680/news/Dean-Foods-No-injuries-after-ammonia-leak-at-Dean-Foods-in-Belvidere-28670335/
Chevron Richmond Refinery	Richmond, CA	5/29/2019	"Chevron's Richmond refinery has experienced 17 malfunctions that resulted in the facility sending gases to its flares during the first five months of the year [...] The flaring episodes this year include at least four refinery malfunctions that led to the cumulative release of more than 56,000 pounds of sulfur dioxide, according to notification reports filed with Contra Costa County health officials."	https://www.kqed.org/news/11751084/chevron-flaring-incidents-already-match-last-years-total-which-were-highest-in-a-decade
Air Products and Chemicals, Inc.	Santa Clara, CA	6/1/2019	An explosion occurred as plant workers were filling a big rig tanker with hydrogen gas.	https://www.sfgate.com/news/bayarea/article/Update-No-One-Injured-In-Hydrogen-Gas-13916690.php
Shell Oil Products US	Martinez, CA	6/7/2019	According to a Martinez refinery filing with state pollution regulators, a pump fire resulted in flaring.	https://www.brecorder.com/2019/06/08/501247/shell-says-fire-at-martinez-california-refinery-put-out/

Facility	Location	Date	Description	Source
Barber Foods	Portland, ME	6/12/2019	A leak of a poisonous refrigeration chemical caused the evacuation of the Barber Foods plant on St. John Street.	https://www.pressherald.com/2019/06/12/portland-food-plant-evacuated-for-chemical-leak/
Tyson Foods Poultry Plant	Springdale, AR	6/18/2019	Several employees were sent to a hospital after a cleaning agent was spilled at a Tyson Foods poultry plant in northwest Arkansas.	https://www.ien.com/safety/news/21073896/five-tyson-workers-injured-after-chemical-spill
Thatcher Company	Salt Lake City, UT	6/19/2019	At approximately 8:40 a.m., sulfur dioxide leaked at the plant.	https://kjzz.com/news/local/hazmat-incident-near-chemical-manufacturing-company-in-salt-lake-city
Philadelphia Energy Solutions	Philadelphia, PA	6/21/2019	An enormous fire and explosion from a vat of butane at the PES refinery led to 4 worker injuries, the issuance of a shelter-in place for adjacent neighborhoods, the closure of I-76 and the Platt Bridge. It was the second fire at the facility in a month.	https://philadelphia.cbslocal.com/2019/06/21/major-explosion-fire-at-oil-refinery-in-south-philadelphia/
Monogram Gourmet Foods	Wilmington, MA	7/1/2019	A hazardous materials situation prompted evacuations from the plant.	https://www.nbcboston.com/news/local/Dozens-Evacuated-After-Hazmat-Situation-at-Wilmington-Food-Plant-Monogram-Gourmet-Foods-512092891.html?_osource=taboola-recirc
Taylor Farms	Salinas, CA	7/28/2019	A failed valve and leak led to a visible ammonia cloud that closed the facility for two hours and shut down area roads. An unknown number of people were evacuated from the area.	https://www.ksbw.com/article/taylor-farms-evacuated-due-to-ammonia-leak/28531309#
Exxon Mobil Baytown Refinery	Baytown, TX	7/31/2019	A fire in the refinery's olefins unit led to the injury of 37 workers and issuance of a shelter-in-place order for nearby residents.	https://www.houstonpublicmedia.org/articles/news/local/2019/07/31/341226/shelter-in-place-issued-as-fire-breaks-out-at-exxon-mobils-baytown-refinery/

EXHIBIT B

**U.S. Chemical Safety and
Hazard Investigation Board**

1750 Pennsylvania Avenue NW, Suite 910 | Washington, DC 20006
Phone: (202) 261-7600 | Fax: (202) 261-7650
www.csb.gov

Honorable Kristen M. Kulinowski
Board Member
Designated Interim Executive and Administrative Authority



Honorable Manny Ehrlich, Jr.
Board Member

Honorable Rick Engler
Board Member

APR 23 2019

The Honorable Andrew R. Wheeler
Administrator
U.S. Environmental Protection Agency
Office of the Administrator, 1101A
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Dear Mr. Administrator:

The U.S. Chemical Safety and Hazard Investigation Board (CSB) is the independent Federal agency charged with investigating chemical accidents. In the course of our investigations of two petroleum refinery explosions, we have become aware of community concerns about the use of hydrofluoric acid (HF) at these refineries and the adequacy of their risk management programs to protect against an uncontained release of this hazardous substance. As a result of these investigations, the CSB strongly encourages the U.S. Environmental Protection Agency (EPA) to initiate a review and update of its 1993 HF study to determine whether these refineries' existing risk management plans are sufficient to prevent catastrophic releases; and, to determine whether there are commercially viable, inherently safer alkylation technologies for use in petroleum refineries.

In the last four years, the CSB has investigated two petroleum refinery incidents where an explosion elevated the threat of a possible release of HF or modified hydrofluoric acid (MHF). In both investigations, the CSB conducted a public hearing in which members of the surrounding communities indicated great concern about the adequacy of the risk management strategies for the use of HF and the effectiveness of community notification procedures in the event of a catastrophic release.

ExxonMobil Torrance Refinery Explosion

On February 18, 2015, an explosion occurred at the former ExxonMobil refinery in Torrance, California, when the electrostatic precipitator (ESP), a pollution control device in the fluid catalytic cracking (FCC) unit, exploded during maintenance activities. The resulting explosion spewed debris that impacted scaffolding on the alkylation unit and nearly hit two settler tanks containing MHF, which were in close proximity to the ESP. The CSB deployed a team of investigators to this incident.

As part of its investigation process, the CSB conducted a public meeting on January 13, 2016, to communicate preliminary investigative findings and areas of future investigation. The public

U.S. Chemical Safety and Hazard Investigation Board

meeting provided an opportunity to receive public input about the incident. During the meeting, members of the Torrance community expressed their concern about the presence of MHF in their community and questioned whether there was a safer alternative. A full transcript of the CSB's public meeting is available [here](#)¹.

Husky Energy Refinery Explosion and Fire

On April 26, 2018, an explosion and subsequent fire occurred at the Superior Refinery Company LLC refinery in Superior, Wisconsin ("Husky Refinery"). As a result of the explosion, 36 people sought medical attention, including 11 refinery and contract workers who suffered injuries. In addition, a portion of Superior, Wisconsin was evacuated. The CSB found that the evacuation zone was largely determined based on the potential risk of a release of HF, which was stored at the refinery. Although the HF tank was not impacted by debris from the explosion and no release of HF occurred, explosion debris punctured an asphalt storage tank located further away from the point of the explosion than the refinery's HF storage tank.

On September 26, 2018, five Members of Congress² wrote the CSB a letter requesting that the agency hold an interim public meeting to allow input from the refinery communities about the scope of the Board's investigation of the incident and provide an opportunity to discuss public safety concerns surrounding the storage and use of HF at the facility.

In response, the CSB held a public town hall meeting on December 12, 2018, in Superior, Wisconsin, to present a factual update on the incident and provide an opportunity for public comment. During this meeting concerned citizens expressed their desire to see HF eliminated from the Husky Refinery and the fear they experience of a possible HF release. Many community members urged the CSB to recommend that Husky use a safer alternative to HF at the facility. Others urged the state of Wisconsin to ban the use of HF altogether. A transcript of the public meeting is available [here](#)³.

In 1990, Congress directed the EPA to study HF to identify potential hazards posed to public health and the environment. The study was to consider a range of events, including worst-case accidental releases, and make recommendations for reducing the hazards. In response, the EPA developed a report to Congress in 1993 identifying and evaluating the hazards posed to the public by producing and using HF. The report noted that there were over 500 facilities using HF in the U.S., including 62 petroleum refineries, and that an accidental release of HF could travel significant distances downwind as a dense vapor or aerosol cloud, which could pose a significant threat to the public and result in severe consequences. The EPA did not recommend legislative action at that time stating that "the legislative authorities already in place provide a solid framework for the prevention of accidental chemical releases and preparedness in the event that they occur."⁴

¹ https://www.csb.gov/assets/1/20/public_meeting_transcript.pdf?15637

² [https://www.csb.gov/assets/1/20/18.0926_urging_chemical_safety_board_to_hold_public_hearing_on_husky_refinery_accident_\(002\).pdf?16450](https://www.csb.gov/assets/1/20/18.0926_urging_chemical_safety_board_to_hold_public_hearing_on_husky_refinery_accident_(002).pdf?16450)

³ https://www.csb.gov/assets/1/20/csb_-_husky_meeting_-_121218_pdf.pdf?16451

⁴ EPA. *Hydrogen Fluoride Study: Report to Congress, Section 112(N)(6), Clean Air Act as Amended: [Final Report](#)*.

U.S. Chemical Safety and Hazard Investigation Board

The CSB's mission is to drive chemical safety change through independent investigations to protect people and the environment. As such, our investigations examine the risk management plans at refineries for the handling and use of hazardous materials. While we understand the anxiety and concern the presence of MHF and HF at the Torrance and Husky refineries causes residents of these local communities, the CSB does not have the statutory authority to prevent the use of HF or MHF, or to order the use of any other alternatives at these refineries. It is our understanding that new alkylation technologies are being developed, which may have inherent safety advantages over the use of HF at U.S. refineries. These include a solid-state technology and an ionic liquid technology, both of which are currently being planned to replace existing HF alkylation units in at least two U.S. refineries.

As a result of these two investigations, we urge the EPA to initiate a review and update of its 1993 HF study to determine whether these refineries' existing risk management plans are sufficient to prevent catastrophic releases; and, to determine whether there are commercially viable, inherently safer alkylation technologies for use in petroleum refineries. We encourage the EPA to broadly disseminate the results of its updated study to provide the information on potential alternatives and to make recommendations to incorporate these technologies at U.S. petroleum refineries, if appropriate. We believe that this is fully within the authority and responsibility of the EPA pursuant to the newly adopted Risk Management Plan (RMP) Rule (40 CFR Part 68.67) as well as through its General Duty Clause.

Safety is a shared responsibility, and the CSB welcomes your future action on this important matter. If you have any further questions, please do not hesitate to have your staff contact Mr. Charles Barbee, Director of Recommendations at (202) 261-7621 or Charles.barbee@csb.gov.

Sincerely,



Kristen M. Kulinowski, Ph.D.

Board Member

Designated Interim Executive and Administrative Authority

cc: The Honorable Tammy Baldwin, United States Senate
 The Honorable Amy Klobuchar, United States Senate
 The Honorable Tina Smith, United States Senate
 The Honorable Betty McCollum, United States House of Representatives
 The Honorable Richard M. Nolan, United States House of Representatives

EXHIBIT C

United States Senate
WASHINGTON, DC 20510

July 19, 2019

The Honorable Andrew Wheeler
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Ave NW
Washington, DC 20460

Dear Administrator Wheeler:

We write to express serious concern about the risks of the continued use of highly toxic hydrogen fluoride (HF) at dozens of refineries across the country and request that the Environmental Protection Agency (EPA) promptly re-evaluate the adequacy of these refineries' risk management plans to protect refinery workers and nearby communities.

HF is highly toxic, and if accidentally released can quickly cause serious injury or death. Yet 48 refineries across the country still use HF in the refining process, despite the availability of safer alternatives. Some of these refineries are located in densely populated areas, further magnifying the safety threat they pose. If HF had been released at the Philadelphia Energy Solutions oil refinery incident on June 21, 2019, hundreds of thousands of people in the densely populated area near the refinery could have been injured or killed.

In the past four years, three of the 48 refineries in the United States that still use HF have experienced severe malfunctions that could have resulted in catastrophic releases of the chemical. All of the facilities where these incidents occurred had EPA-approved risk management plans, and yet they still came unacceptably close to equipment failures that could have released HF, devastating plant workers and neighboring communities. For example, at the Husky Refinery in Superior, Wisconsin, debris released in an explosion on April 26, 2018 punctured a structure just feet away from a tank of HF. If the HF tank had been punctured instead, the Husky Refinery incident would have almost certainly resulted in multiple deaths and numerous grave injuries, rather than dozens of treatable ones.

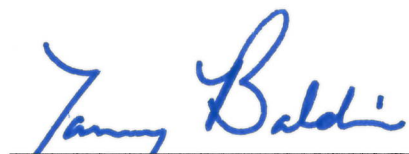
It is clear that your agency needs to re-evaluate the existing Risk Management Plans for all refineries that use HF to determine whether their plans robustly protect workers and communities from potentially catastrophic HF releases. Refineries in Utah and Louisiana have already demonstrated the viability of alternatives to HF by ending the use of HF in their processes. In April, the U.S. Chemical Safety Board (CSB) called upon your agency to update a 1993 study of HF's hazards to help evaluate the adequacy of refineries' risk management plans and the viability of HF alternatives. We believe these are wise recommendations and urge you to follow them.

In light of these serious recent refinery fires, the CSB's stated concerns, and the growing use of HF alternatives, the EPA ought to conduct an updated review of the risks of HF use and take

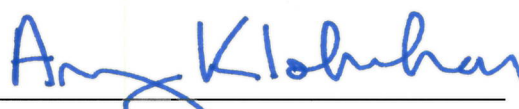
appropriate regulatory action in response. It is imperative that any review include robust public comment opportunities and ensure that communities that play host to facilities with HF are able to raise their concerns to the agency. Any review should also include a thorough review of the best available science on HF and its alternatives, including safety information, exposure risks, and best practices for communicating with workers, the public, and health professionals that could be faced with responding to a release of HF, were it to be used in an ongoing manner.

Twenty six years ago in a congressionally mandated study of the hazards of HF, the EPA recommended that “facilities actively conduct outreach efforts to ensure that the community is aware of the hazards of HF.” In many cases, including the Husky Refinery in Superior, Wisconsin, most people living near the refinery are totally unaware of the presence of such a hazardous chemical in their community. These communities, and particularly their first responders, deserve to know that this chemical is present where they live, work and raise their families. In addition, workers at refineries ought to be able to count on robust and protective regulations and operating procedures that minimize the hazards they face while working hard every day to earn a living. The EPA has come close to failing both communities and workers three times in the past four years. The agency must not ignore the lessons of these recent refinery failures. Thank you for your prompt and thorough attention to this serious issue.


Sincerely,



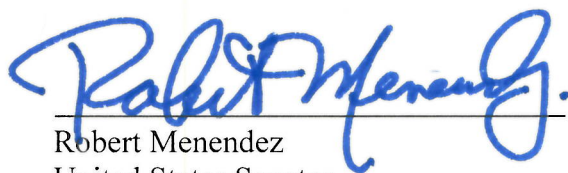
Tammy Baldwin
United States Senator




Amy Klobuchar
United States Senator



Tina Smith
United States Senator



Robert Menendez
United States Senator



Cory A. Booker
United States Senator