

# ***Blowing Smoke***

**Chemical Companies Say “Trust Us,”  
But Environmental and Workplace  
Safety Violations Belie Their Rhetoric**



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# Executive Summary

Chemical manufacturing uses dangerous substances that can be hazardous to the health and well-being of chemical plant workers and to the residents who live nearby. The American Chemistry Council (ACC) and leaders in the chemical industry have fought stronger public oversight of chemical manufacturing for decades, arguing that the weak rules currently regulating toxic chemicals are adequate. For 25 years, the ACC has promoted a voluntary program to improve industry standards called Responsible Care®. All ACC members in good standing are supposed to operate their facilities according to Responsible Care® guidelines.

Our investigation documents the shortcomings of our current enforcement system. Only 42 percent of active facilities manufacturing chemicals were inspected in the last three to five years. Of those that were inspected, serious workplace safety and environmental violations were found at 25 percent of them. Each of 64 facilities had more than 20 serious violations. (See Table 2.) Seven had more than 50 serious violations. (See our interactive map at <http://bit.ly/blowing-smoke-map> to see if one of these worst offenders is near you.)

Sixteen states had hundreds of active chemical manufacturing facilities (see Table 1). The largest numbers were in California (1,293), New Jersey (969), Texas (834), and Illinois (760). Among the top four, Texas had the highest rate of serious violations (15%) and California the lowest (6%), illustrating their very different approaches to regulating chemical hazards.

Twelve large companies in the chemical industry collectively own and operate 644 facilities in the U.S., 89 of which had serious workplace and environmental violations (14 percent) that resulted in nearly \$25 million in estimated penalties. But collectively, these companies had at least \$20 billion in



*84,000 chemicals are registered for commercial use, but only 250 have been tested by the government.*

profits in 2014 alone, making the fines they received simply a “cost of doing business.” (See Table 3.)

Seven of the chemical companies with significant numbers of facilities in the U.S. are members of the industry’s main trade association, the American Chemistry Council (ACC). Among these seven companies are six ACC board members (DuPont, Dow Chemical, Honeywell International, BASF, Chemtura, and Arkema). One hundred twenty-five serious violations were found at the inspected plants owned by DuPont and 78 at Arkema’s inspected plants.

The environmental and workplace safety violations at ACC-member facilities provide evidence that the Responsible Care® program is not working and demonstrate that we need to strengthen enforcement of our nation’s existing chemical safety policies and require the use of safer substances and manufacturing processes to reduce the risks of harm to American workers and people in communities near these plants.

In addition to operating Responsible Care®, the ACC has played an active role in lobbying against laws and regulations that would provide more effective oversight of the chemical industry. This organization and its members have helped to ensure that chemical

safety policies do not adequately protect plant workers, communities in which chemical facilities operate, or the environment we all rely on. The report identifies four problems with our nation's system of regulating chemicals:

- **Too few chemicals have been tested for safety.** Of the 84,000 chemicals registered for commercial use today, government agencies have tested only 250 and restricted the use of only nine.
- **Too few chemical manufacturing facilities are inspected.** Just 42 percent of our nation's active chemical manufacturing plants have been inspected in the last three to five years. A quarter of the chemical manufacturing facilities that were inspected had serious environmental or workplace safety violations.
- **The resources of our state and local enforcement agencies are being reduced,** even though the number of older production facilities is growing, increasing their risk to workers and communities. EPA and OSHA have had their enforcement budgets cut by 20 percent and 14 percent, respectively, since 2010.
- **When serious violations are identified, the penalties are too small.** Even when a worker is killed on the job, the maximum fine OSHA can impose on a facility is \$70,000 per violation. In FY 2014, the average fine following a worker's death was just above \$5,000, a small cost of doing business for chemical companies that make billions in profits.

In order to properly protect workers, communities, and the environment, we need to:

1. **Require companies to shift to safer chemicals and technologies.** The best and most effective way for EPA and OSHA to prevent injuries, deaths, and chemical disasters is to require chemical companies and facilities to switch to inherently safer chemicals and technologies when they are available.
2. **Expand the number of facilities regularly inspected.** EPA and OSHA have experienced

cuts to their enforcement budgets in recent years and need more resources. But both agencies might target their inspections more effectively by identifying aging facilities, those with a history of serious accidents and previous significant violations, or those with large amounts of highly explosive, volatile, or toxic chemicals on site.

3. **Significantly increase the financial and criminal penalties for violating safety and environmental standards to create a real deterrent for risky corporate behavior.** These are highly profitable companies, which means small fines are just "a business cost," not a disincentive to stop practices that harm workers and communities.
4. **Make more information more accessible and available to workers, residents, and citizen groups in order to hold the owners of risky facilities more accountable to ordinary American workers and consumers.** Current government data is needlessly complex and impenetrable. Citizens, regulators, and investors should demand high-quality, real-time information about health and safety compliance (the age of a facility, the last time its equipment was upgraded, a full list of dangerous substances used or stored there, the violations and fines a facility and company has paid in the last quarter, year, five years, and so on).

Public pressure and new rules will be needed to ensure a larger portion of the profits chemical companies enjoy are invested in innovations that protect the public, instead of in lawyers, lobbyists, and campaign contributions to protect the status quo.







## Introduction: A Preventable Death

### Crystle Wise didn't have to die.

Wise, a grandmother from Texas, started her job with the DuPont chemical company in early 2014. She went to work at the company's La Porte, Texas plant to be near her daughter and grandson, who were living in Houston at the time.<sup>1</sup>

On Nov. 15, 2014, a massive chemical leak erupted in the plant's pesticide manufacturing building. Wise responded and contacted the plant's control center but was unable to stop the leak. She was overcome by the fumes from 23,000 pounds of toxic methyl mercaptan.<sup>2</sup>

Supervisor Wade Baker and two brothers, Robert and "Gibby" Tisnado, also died trying to stop the leak and rescue Wise. Firefighters found Gibby next to some emergency air tanks that he probably grabbed as part of the rescue attempt.<sup>3</sup> Wise was the last person to be found by emergency responders.

The La Porte plant had ongoing safety problems in the years leading up to the 2014 leak. Reports filed with the Texas Commission on Environmental Quality in 2008 and beyond showed that workers in the plant's pesticide unit were repeatedly exposed to toxic chemicals at levels well above worker safety

### The La Porte plant had ongoing safety problems in the years leading up to the 2014 leak.

standards.<sup>4</sup> In fact, releases of the same chemical that killed the four workers were detected by monitoring equipment on each of the two days before the tragic incident but were never reported or investigated by DuPont as a serious safety concern.<sup>5</sup> No one ever alerted the federal Occupational Safety and Health Administration (OSHA) to these dangers, even though they violated federal workplace safety standards. OSHA had last inspected the facility in 2007.<sup>6</sup>

The building in which the leak occurred was constructed in 1946<sup>7</sup> and had experienced multiple equipment troubles over the course of several years. Pipes and vents became clogged on a regular basis and had to be cleared out, which resulted in high chemical exposures to the workers assigned to this task. These maintenance issues also caused air pollution problems, and the state environmental agency repeatedly cited DuPont for emissions violations at the plant that exposed residents in

nearby communities to toxic pollution. Equipment in the unit where the workers died had been out of service for five days before the leak, and the unit's ventilation fan was still broken despite an "urgent" work order written nearly a month earlier.<sup>8</sup>

In the wake of the leak, OSHA, the U.S. Environmental Protection Agency (EPA), the U.S. Chemical Safety Board, and several other agencies conducted a thorough investigation of the La Porte plant. In May 2015, OSHA fined DuPont \$99,000 for the incident.<sup>9</sup> In July, the agency added the facility to its "Severe Violator Enforcement Program," requiring "immediate improvements" to protect workers' health, safety, and lives, and fined the company an additional \$273,000 for multiple, significant workplace safety violations.<sup>10</sup> OSHA is limited by law to a maximum fine of \$7,000 for each violation that puts workers' safety and lives in danger and to \$70,000 for each repeated or willful violation,<sup>11</sup> even when deaths occur.

DuPont reported \$3.6 billion in profits in 2014, or around \$6,849 per minute.<sup>12</sup> At that rate, the company would have been able to pay off the two OSHA penalties with *just under an hour's worth of profits*. Nevertheless, DuPont has contested the size of the fines and objected to the severe violator classification for the La Porte facility.<sup>13</sup>

In September 2015, the U.S. Chemical Safety Board released the preliminary conclusions of its investigation: if DuPont had acted responsibly and conducted ongoing maintenance and safety planning at the La Porte plant, it could have prevented Crystle Wise's death and the deaths of her three co-workers.<sup>14</sup>



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## Our Ineffective Chemical Safety System

### ***Weak Enabling Legislation Focuses on Reporting – Not Restricting – Toxic Chemicals***

As evidence mounts that exposure to toxic chemicals can cause cancer, infertility, birth defects, and metabolic and neurological disorders, the regulation of chemicals known to be hazardous to human health and community safety remains weak and ineffective. The three key laws that comprise our national chemical protections only emerged in the wake of major tragedies and have been flawed from the start.<sup>15</sup> Thanks to the continuing opposition of chemical manufacturers and their lobbyists, U.S. chemical laws have left the American people exposed to toxics in the food and products they consume, to dirty air, to dangerous workplaces, and to risks from chemical disasters that put whole communities in danger. Why can't we do better?



The 1976 Toxic Substances Control Act (TSCA) was enacted because growing numbers of untested chemicals potentially damaging to human health were being used in new commercial production processes and products. The law purportedly gave the new federal Environmental Protection Agency (EPA) the authority to ban chemicals harmful to human health. It is toothless.

TSCA does not make public health its overriding focus. Chemical manufacturers don't have to prove their substances are safe before bringing them to market like pharmaceutical producers. In fact, more than 20,000 new chemicals have been registered – without testing – since TSCA was passed. Instead, the EPA has to find “substantial evidence” that a chemical poses an “unreasonable risk” before it can restrict its use. And even then, EPA has to balance human health risks with industry profits. Besides creating a gold mine for industry lawyers, the badly written law puts a huge burden on government scientists and experts to “prove” a substance is dangerous, and it has encouraged the chemical industry to finance institutions and individuals to create industry-friendly “science.”<sup>16</sup>

The result? EPA has required testing of only 250 of the 84,000 chemicals registered for commercial use in the U.S. today and banned or restricted only nine.<sup>17</sup> Even the modest testing work EPA has done and the few restrictions it has proposed are constantly challenged in court by large chemical companies and their trade association and lobbying arm, the American Chemistry Council (known until 2000 as the Chemical Manufacturers Association). A federal court ruling that overturned a ban on asbestos in 1989 – despite overwhelming scientific evidence of its harm – left the agency impotent and reluctant to attempt more restrictions.<sup>18</sup>

The purpose of the 1986 Emergency Planning and Community Right to Know Act (EPCRA) was to let people living near chemical facilities know what hazardous substances were being produced, stored, or used in nearby plants, so they can better prepare and respond to possible catastrophes. But the law focuses on letting communities know what to do *after* an incident occurs, not on encouraging their participation in discussions of how to *prevent* a catastrophe. Chemical facilities report the amount

of specific chemicals they hold to state authorities, which then share the information with a Local Emergency Planning Committee (LEPC) responsible for developing a community response plan with local emergency responders. Only Illinois posts information about the hazardous materials in local facilities online for the public to see; another nine states provided information when the Center for Effective Government formally requested it in 2014 and 2015.<sup>19</sup> In the Internet age, the hierarchical structure for sharing information created by EPCRA and the limited access local citizens have to response plans is inefficient and a waste of time and human resources.

A second part of EPCRA requires facilities in a cluster of industries (mining; manufacturing – including chemical manufacturing; electric utilities, water, sewage, and other systems; hazardous waste collection and treatment; and federal facilities) to report the amount of their toxic emissions to EPA annually.<sup>20</sup> This information was made available to the public and as a result, the amount of toxic emissions reported from the effected industries dropped significantly. But in 2006, under pressure from chemical industry interests and above the protests of environmental advocates, the threshold level at which reporting becomes mandatory was increased, reducing the number of facilities that had to participate. Those rollbacks were reversed by law in 2009.<sup>21</sup> The contest over chemical safety continues.

Amendments to the Clean Air Act in 1990 created another federal reporting program. The Risk Management Program requires chemical facilities to report to EPA the amounts of 140 extremely hazardous chemicals produced or stored on site and to submit a detailed response plan should a major catastrophe occur. This plan has to be shared with local emergency personnel. Although the information is supposed to be available to the public as well, the EPA has deliberately made it extremely difficult for ordinary people to obtain or analyze the information.<sup>22</sup>

To summarize, the laws regulating toxic chemicals have restricted the use of the most hazardous substances and production processes that expose workers to dangers in the workplace or consumers to toxic products. There is no precautionary principle applied to chemical safety policy in the U.S.



Mandatory *reporting* on the use and release of toxic chemicals is not the equivalent of restricting the use of hazardous substances.

Public reporting of toxic releases through the EPCRA Toxics Release Inventory has encouraged voluntary reductions in toxic emissions, which fell by about 70 percent in reporting industries in the first decade of the law, though there have been some recent, year-to-year increases.<sup>23</sup> This long-term trend is positive, but facilities only have to report emissions when they reach a certain threshold, and not all industries have to report through TRI.<sup>24</sup> Nonetheless, the American Chemistry Council and its members use this progress to claim no further regulations are needed, that transparency and voluntary action produce results. But community advocates argue that more in-depth, broader reporting and mandatory reductions are needed to protect the workers in chemical manufacturing facilities and the communities near them.

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### ***Enforcement Authority Is Decentralized and Variable, and Resources Are Declining***

The federal Environmental Protection Agency and the Occupational Safety and Health Administration have the authority to inspect chemical manufacturing facilities and enforce safety and environmental standards, but under both federal workplace safety and environmental laws, OSHA and EPA can designate enforcement duties (specifically inspections and violation assessments) to relevant state agencies if they meet certain requirements.

Through a compromise hashed out at OSHA's creation, states can operate their own workplace

health and safety programs as long as their enforcement and compliance plans include standards and penalties at least as stringent as the federal government's.<sup>25</sup> Once OSHA approves a state plan, the state is responsible for inspecting its own industrial facilities. State plans govern in 21 states, leaving state-level staff to carry out inspections; federal OSHA inspectors assume these duties in the other 29 states.<sup>26</sup> In total, 1,874 state and federal OSHA enforcement staff are charged with inspecting 8 million workplaces and protecting 130 million workers.<sup>27</sup> The number of OSHA inspectors today is about the same as in 1981, even though the number of workplaces has roughly doubled during that time.<sup>28</sup> In the last five years, federal enforcement funding for workplace health and safety dropped 14 percent, from \$237 million to \$205 million (in 2013 dollars).<sup>29</sup>

Federal environmental laws also allow states to take the lead in enforcing pollution standards. EPA authorizes state environmental agencies to implement federal environmental laws by developing their own permitting, inspection, and enforcement programs. EPA has approved 45 state plans to implement the Clean Air Act, the Clean Water Act, and the Resource Conservation and Recovery Act, which addresses hazardous waste disposal. Five other states and the District of Columbia can enforce one or two of these laws, but not all three.<sup>30</sup> The federal EPA also has inspectors, mostly in its 10 regional offices.<sup>31</sup> Funding for EPA's compliance and enforcement activities in its environmental programs has declined by 20 percent between fiscal years 2010 and 2015.<sup>32</sup>

This federal structure of shared authority between federal and state agencies means that targeting norms and practices may vary across states, according to the culture and commitment of local officials. This kind of divided authority also invites chemical companies and their lobbyists to exert their influence at the state level as well as the federal level.

### ***Penalties Are Too Low***

OSHA fines are severely limited by the federal Occupational Safety and Health Act. Serious workplace safety violations draw a maximum fine of only \$7,000 each, while willful or repeated violations

can result in fines of \$70,000. Willful violations can result in death and serious injuries on the job, so almost everyone believes OSHA fines are far too low to have much impact on the behavior of managers in facilities owned by large corporations. The EPA, by contrast, can impose maximum fines for each violation of \$37,500 to \$320,000, so fines on facilities with multiple violations can add up.<sup>33</sup>

But most of these facilities are owned by very profitable companies, and these fines may be viewed as “the cost of doing business” rather than operating as a deterrent. The chemical industry has over \$800 billion a year in sales.<sup>34</sup> DuPont had \$3.6 billion in profits in 2014, Honeywell had \$4.3 billion in profits<sup>35</sup>, and Dow Chemical had \$3.8 billion in profits,<sup>36</sup> to name just a few major companies, which also happen to be members of the American Chemistry Council.

The criminal penalty provisions of the federal Occupational Safety and Health Act are woefully inadequate. Criminal enforcement is limited to cases where a willful violation results in a worker’s death or where company or facility officials make false statements in required reports. The maximum penalty for these cases is six months in jail, making them misdemeanors.<sup>37</sup> Criminal penalties are not available in cases where no death occurs, even if workers are endangered or seriously hurt. Even when workers die, criminal prosecutions are highly unusual.<sup>38</sup> Massey Energy’s former CEO, Don Blankenship, is currently on trial for the egregious safety violations at the Upper Big Branch coal mine in West Virginia that killed 29 workers in 2010.<sup>39</sup> He is the first leader of a major company to be criminally prosecuted for workplace safety problems.<sup>40</sup>

In contrast, criminal penalties apply under federal environmental laws in cases where there is “knowing endangerment,” and the law makes such violations felonies subject to longer jail sentences.<sup>41</sup> Pollution can threaten our health (and even our lives), but there is no logical reason for violations of environmental standards to result in more serious criminal penalties than negligence that endangers workers.

## Why Toxic Chemicals Aren’t Better Regulated

The American Chemistry Council (ACC) is the trade association and a central lobbying arm of the chemical manufacturing industry. Founded in 1872 as the Chemical Manufacturers Association, it substituted its current softer, fuzzier name in 2000.<sup>42</sup> The ACC’s board of 63 is comprised of executives from 55 large chemical companies (13 are Fortune 500 companies) and eight senior ACC executives. (See Appendix 5, Table 1.) The ACC reported receiving over \$92 million in membership dues to support its \$115.6 million in expenses in 2013.<sup>43</sup> The President and CEO of the ACC, a former member of Congress, received \$3.5 million in annual compensation in 2013 and another six senior officials received compensation of between \$500,000 and \$763,000 that year according to the group’s financial filings.<sup>44</sup> The ACC staff earns big money to influence policy debates and public opinion with a variety of tactics.

**PR and advertising.** In 2013, ACC paid almost \$10 million to three public relations and media monitoring companies, and Citizens for Responsibility and Ethics in Washington (CREW) reports that it spent at least \$1.8 million on 6,000 political ads in the 2014 electoral cycle.<sup>45</sup>

**Lobbying and the revolving door.** The chemical industry spends large sums lobbying legislators and agency officials. Between 2012 and 2014, the chemical industry as a whole spent at least \$182 million lobbying Congress and federal agencies.<sup>46</sup>

In the past three years, Congress has been engaged in serious discussions of Toxic Substances Control Act reform, so the ACC and ten of its partners doubled the amount they spent on lobbying to almost \$65 million in 2014.<sup>47</sup>

Of the 71 registered federal lobbyists at the ACC in 2014, 70 percent had previously held jobs in Congress or the executive branch of government, according to records from the Center for Responsive Politics.<sup>48</sup> Of the chemical industry’s 413 registered lobbyists, 177

came from Congress or the EPA. Thirty-two of the lobbyists formerly worked for members of Congress who are still in office, including Senate Majority Leader Mitch McConnell (R-KY), Senate Minority Leader Harry Reid (D-NV), House Minority Leader Nancy Pelosi (D-CA), and House Minority Whip Steny Hoyer (D-MD). Another 12 lobbyists previously worked at EPA, mostly during the two Bush administrations.

Nine former members of Congress lobbied on behalf of the chemical industry in 2014, including former Senate Majority leader and presidential candidate Bob Dole (R-KS), former House Majority and Minority Leader Dick Gephardt (D-MO), and former Rep. Cal Dooley (D-CA), who is now the president and CEO of the American Chemistry Council.<sup>49</sup>

**The executive branch.** Another way the ACC delays and prevents improvements in chemical safety policy is by working with the independent Office of Advocacy within the Small Business Administration in the executive branch. A 2013 report by the Center for Effective Government, based on e-mails between ACC staff and individuals in the Office of Advocacy, showed that the ACC was encouraging Office of Advocacy staff to weigh in on scientific debates beyond the agency's purview and was holding regular, weekly closed meetings with staff at the Office of Advocacy to present their views.<sup>50</sup>


A 2014 report by the Center, relying on e-mail traffic among lobbyists and EPA staff, showed the ACC and its lobbyists also play an outsized role in advising and staffing Small Business Review panels for proposed EPA and OSHA rules. Since a look at its membership roles shows the ACC is dominated by large corporate interests, the manipulation of the staff at the Small Business Administration seems particularly inappropriate.<sup>51</sup>

#### ***Campaign contributions and political spending.***

The chemical industry is generous with its political spending, giving money to candidates, political action committees, and ballot initiatives in the states. On the federal level, the chemical industry spent nearly \$59 million on campaigns between 2012 and 2014, with almost 80 percent of those funds going to Republicans.<sup>52</sup> The American Chemistry Council tossed in \$4 million, and its spending was even more

slanted – more than 90 percent went to Republicans.<sup>53</sup> On the state level, the chemical industry also played a large role, spending nearly \$23 million from 2012 to 2014 on candidates, committees, and ballot initiatives.<sup>54</sup> While the American Chemistry Council didn't spend much in the states (just \$439,000 in the three-year period<sup>55</sup>), it has been an active member of the corporate-backed, anti-regulatory American Legislative Exchange Council (ALEC). Membership in ALEC allowed the ACC to connect with policymakers, write model legislation, and promote efforts to block renewable energy standards and policy reform at the state level.<sup>56</sup> Chemical companies spent the most in political races in California, Oregon, Colorado, Texas, and Ohio. (See Appendix 5, Table 2.)

***Creating doubts about the public health damage from chemicals.*** Perhaps the most effective and damaging investments the ACC and its members have made are in industry-sponsored research designed to cast doubt on years and sometimes decades of careful work by epidemiologists, developmental biologists, and endocrinologists. *Bad Chemistry: How the Chemical Industry's Trade Association Undermines the Policies that Protect Us*, a recent report by the Center for Science and Democracy at the Union of Concerned Scientists, documents the way ACC has launched a number of misleading websites, trumpeted industry-backed studies, and engaged in so-called "astroturf" activism in order to defeat federal and state efforts to restrict specific toxic chemicals, like flame retardants and cancer-causing formaldehyde.<sup>57</sup>





# Chemical Industry Bad Actor: DuPont

DuPont rose to the top of our list of chemical companies with facilities that violated workplace safety and environmental standards. In all, the company racked up 125 serious violations, which included 66 environmental violations across 17 facilities. These violations resulted in more than \$3 million in penalties.

DuPont's reputation as a polluter is well-known, and it also has a poor worker safety record. In 2010, OSHA criticized DuPont after a worker died at its 90-year-old plant in Belle, West Virginia when a ruptured hose released a large quantity of phosgene gas, a World War I chemical weapon that is currently used to make certain pesticides.<sup>58</sup> The following year, OSHA cited DuPont for dangerous conditions after a contract welder was killed in an explosion at a 91-year-old plant in Tonawanda, New York.<sup>59</sup> In 2012, the U.S. Chemical Safety Board took the company to task for the accident.<sup>60</sup>



Beyond workplace fatalities, the company has been under fire for exposing workers, communities, and waterways in West Virginia and Ohio to 2.5 million pounds of a toxic chemical called C8 between 1951 and 2003.<sup>61</sup> The substance is used to make non-stick materials like Teflon. Scientists have linked C8 to serious illnesses like thyroid disease, testicular cancer, and kidney cancer.<sup>62</sup>

Through a settlement with West Virginia communities, the company was supposed to fund and administer medical monitoring and help drinking water districts remove the chemical from the water supply.<sup>63</sup> But the company has been dodging water clean-up responsibilities in some West Virginia communities,<sup>64</sup> and it is actively fighting more than 3,500 legal claims, including a case brought by Ohio resident Carla Bartlett, who has kidney cancer.<sup>65</sup> On Oct. 7, 2015, a jury awarded Bartlett \$1.6 million in damages.<sup>66</sup>

Recent corporate maneuvering could be a further roadblock to justice. Earlier in 2015, DuPont announced that it was spinning off the division that works with chemicals like Teflon. Advocates and community residents are concerned that Chemours Co. was created solely to assume DuPont's legal liabilities and will abandon promises made.<sup>67</sup> Between June and September, Chemours' stock price fell more than 57 percent, and significant jury awards against the company could send it spiraling into bankruptcy.<sup>68</sup>

In the midst of its ongoing workplace safety and environmental problems, DuPont's CEO, Ellen Kullman, resigned on Oct. 5, 2015.<sup>69</sup> However, the company remains an influential player in the chemical industry. A representative from the company serves on the board of the American Chemistry Council, and DuPont spends a significant amount of money lobbying Congress and federal agencies – more than \$24 million between 2012 and 2014.<sup>70</sup> Its campaign spending was more modest during that time, with nearly \$572,000 in federal campaign spending and \$32,000 in state-level spending.<sup>71</sup>

## The Chemical Industry: “Voluntary Compliance Is Enough”

The ACC and chemical companies argue that EPA and OSHA don't need to *require* facilities to use safer chemicals, manufacturing processes, or technologies because the industry itself is already doing all it can to ensure facility safety through voluntary programs like Responsible Care®.<sup>72</sup>

The Responsible Care® program was established in 1988, after the first year the federal government released information on toxic emissions. According to the ACC, the program was set up to help member companies meet federal workplace safety and environmental standards and to implement best practices for improving performance in these areas.<sup>73</sup> ACC reports that all its members are required to participate in the program.

In September 2014, the ACC invoked the Responsible Care® program when it responded to a Center for Effective Government report, *Kids in Danger Zones*, which showed one in three school children in America were in the vulnerability zone of 3,400 high-risk chemical facilities – i.e., would be at extreme risk if a chemical disaster occurred. The ACC's public release after the report said, “Safeguarding chemical facilities and the surrounding communities is a top priority for ACC and our members. ACC and its members have sought to build upon the overall industry's safety performance through Responsible Care®, the chemical industry's world-class environmental, health, safety and security performance initiative.”<sup>74</sup>

In September of this year, we wrote to the ACC and asked if it disciplines member companies that break workplace safety and environmental laws and stray from Responsible Care® principles. We also asked whether the ACC supported raising fines for violations of worker safety and environmental protections as a means for incentivizing better


performance. On Oct. 16, we received a response telling us that:

“Responsible Care® companies undergo field audits at their headquarters and facilities every three years using independent, third-party auditors. If the audit process reveals system non-conformances in any area of the certification technical specification – including regulatory compliance – the company must demonstrate that corrective actions have been taken to remedy the deficiency in order to achieve certification.

If a company fails to achieve certification, or any of the other program elements such as performance reporting or Code implementation, ACC executes a Board-approved ‘governance process.’ This process establishes a series of escalating steps to address non-conformance, ultimately resulting in a company's removal from ACC membership if it fails to achieve the program's requirements. ACC's Board of Directors has fully executed this process on several occasions, removing companies from its membership that failed to meet program requirements.”

The ACC did not tell us which companies have been removed from membership. DuPont, a board member, has an atrocious safety track record and topped the list of worker safety and environmental violations of the large companies we examined here.

The ACC did not respond to our question about whether higher fines would be a good way to create additional incentives for the industry to behave more responsibly.



## Is Safety a Core Value of the Chemical Industry and ACC Members?

We examined the evidence, starting with facility-specific records on serious violations of federal workplace safety and environmental standards in the estimated 13,868 chemical manufacturing facilities active in the United States today.<sup>75</sup> We matched the most comparable information available between OSHA and EPA. OSHA data is recorded and organized by inspection, but it is possible to match inspection and compliance information to individual facilities, which goes back several decades. Comparable, facility-specific compliance status and enforcement action information from EPA is publicly available online – but only for a short, three-to-five year time period.<sup>76</sup> (For a more detailed discussion of the methodology and definition of serious violations, see Appendices 1 and 2.)

OSHA or a state workplace health and safety agency inspected 1,852 – approximately 13 percent – of all active facilities,<sup>77</sup> and EPA or a state environmental agency inspected 4,411 facilities – roughly 32 percent of all active chemical manufacturing facilities.<sup>78</sup> Only 402 facilities – three percent – were inspected by *both* OSHA and EPA during this period. This relatively small overlap of facilities inspected by both agencies likely reflects different priorities and targeting practices. (For more on how the agencies target facilities and industries for inspections, see Appendix 1.)

Combined, the EPA, OSHA, and related state agencies inspected 5,861, or 42 percent of all active chemical manufacturing facilities over the past three to five years. **Nearly a quarter of inspected facilities were cited by EPA or OSHA with 8,270 serious violations and assessed more than \$100 million in penalties.**<sup>79</sup> Since 58 percent of the nation's active chemical manufacturing facilities were not inspected, we expect the number of violations would have been much larger if all the facilities had been inspected. Not surprisingly, these violations were not evenly

distributed by geography. Texas, New Jersey, Ohio, New York, Illinois, and California had the largest number of facilities with serious workplace or environmental violations, in that order. But several smaller states had a higher percentage of facilities with serious violations – we were surprised to see Minnesota and Wisconsin at the top of the list. California, the state with the largest number of active manufacturing facilities, is the positive stand out: only six percent of inspected facilities in the state had serious violations. (See Table 1 below.)

We also counted 64 local facilities that each had large numbers of serious violations (20 or more per facility). These facilities had 2,128 violations among them, about 26 percent of all the serious violations inspectors reported. New Jersey and Texas had the highest number of facilities with large numbers of serious violations, but a single facility in Ohio topped the list with 82 serious violations. (See Table 2.)

Of the 1,852 chemical manufacturing facilities that OSHA and state agencies inspected, approximately 66 percent (1,221) had significant workplace health and safety violations between 2012 and 2014. The average fine was \$13,500; fines ranged from \$100 to \$614,000. This seems shockingly low considering that these violations can result in injuries and deaths, but OSHA fines are severely limited by the federal Occupational Safety and Health Act. Serious workplace safety violations draw a maximum fine of only \$7,000 each, while willful or repeated violations can result in fines of \$70,000.

Of the 4,411 chemical manufacturing facilities that EPA and state environmental agencies inspected, only seven percent (308) were cited for significant environmental violations. But for serious EPA violations, the average fine per facility was \$289,000, with a range of \$600 to \$7,000,000. The EPA can impose maximum fines for each violation of \$37,500 to \$320,000, depending on the standard violated.<sup>80</sup>

Of all the inspected facilities with serious violations, 46 had both types – workplace safety and environmental.





# Chemical Industry Bad Actor: Honeywell International

Honeywell International is a widely known defense contractor and consumer goods manufacturer, and it makes products ranging from rockets and missiles to thermostats for homes and offices. It is also active in chemical manufacturing.

Seven Honeywell chemical manufacturing facilities had 45 serious violations, which were fairly evenly split between workplace safety and environmental problems. These violations resulted in total fines of over \$5 million.

Honeywell's recent history is riddled with environmental wrongdoing. The company's pollution includes hazardous chemicals like cancer-causing benzene, chromium, and trichloroethylene. State and federal officials have repeatedly fined the company millions of dollars for polluting communities and contaminating waterways in Arizona,<sup>81</sup> Illinois,<sup>82</sup> New Jersey,<sup>83</sup> and New York.<sup>84</sup>

Like the other major companies in our report, Honeywell is politically active, spending significant amounts of money on candidate campaigns and lobbying. On the federal level, the company spent nearly \$6.2 million on political action committee contributions to candidates between 2012 and 2014, with 58 percent of that going to Republicans.<sup>85</sup> Such spending on the state level was much smaller, at just over \$281,000.<sup>86</sup> The company spent another \$18.9 million lobbying Congress and federal agencies.<sup>87</sup> A company representative also serves on the American Chemistry Council's board.



**Table 1. States with the Highest Number of Serious Violations of Workplace Safety and Environmental Standards Reported for Chemical Manufacturing Facilities by EPA and OSHA**

State	Total Number of Active Chemical Manufacturing Facilities	Number and Percentage of Facilities with Serious Violations*	Facilities that Each Had 20 or More Serious Violations
Minnesota	207	46 (22%)	1
Wisconsin	204	37 (18%)	2
North Carolina	327	52 (16%)	5
Texas	834	129 (15%)	7
New York	558	85 (15%)	3
Georgia	421	64 (15%)	3
Ohio	713	97 (14%)	4
New Jersey	969	107 (11%)	8
Illinois	760	81 (11%)	4
Pennsylvania	565	62 (11%)	1
Michigan	519	57 (11%)	2
Florida	475	48 (10%)	2
Massachusetts	342	33 (10%)	3
Louisiana	503	44 (9%)	1
California	1,293	72 (6%)	0
Missouri	536	32 (6%)	2

\*Only 42% of all chemical manufacturing facilities were inspected; state-by-state inspection rates are not available.

**Table 2. 64 Facilities Had 20 or More Serious Violations  
(Workplace Safety, Environmental, or Both Types)**

Company	Facility Name	City	State	Total Serious Violations
ICC Industries	Dover Chemical Corporation	Dover	OH	82
Shiseido	Zotos International Inc.	Geneva	NY	77
SFM Investments LLC	Fontarome Chemical, Inc.	Saint Francis	WI	58
KMCO	KMCO L.P.	Crosby	TX	57
Davis Mining & Manufacturing	Austin Powder Company	Mc Arthur	OH	55
Permeate Refining, Inc.	Permeate Refining, Inc.	Hopkinton	IA	54
Phosphate Holdings, Inc.	Mississippi Phosphates Corporation	Pascagoula	MS	53
Cul Mac Industries, Inc.	Cul Mac Industries, Inc.	Wayne	MI	47
Howard Industries	Howard Industries, Inc.	Columbus	OH	46
Arkema, Inc.	Bostik, Inc.	Middleton	MA	46
Formosa Plastics	Formosa Plastics Corp De	Delaware City	DE	45
Okai Corp.	Turbo Braze Corporation	Union	NJ	45
Woodward Iodine	Woodward Iodine Corporation	Woodward	OK	43
Venture Chemicals, Inc.	Venture Chemicals Inc.	Seagraves	TX	42
5N Plus	5N Plus Inc.	Fairfield	CT	41
Fox Valley Systems, Inc.	Fox Valley Systems, Inc.	Cary	IL	40
Eastman Chemical Co.	Eastman Chemical Co Tennessee Operations	Kingsport	TN	39
Polychem Services, Inc.	Polychem Services, Inc.	Chicago Heights	IL	37
Forum Energy Technologies	Syntech Technology, Inc.	Springfield	VA	37
Earth Friendly Products	Earth Friendly Products	Norwood	NJ	35
Southern Investments, LLC	Southern Investments, LLC	Reidsville	NC	34
Cimbar Performance Minerals	Cimbar Performance Minerals	Cadet	MO	34
Fiabila USA, Inc.	Fiabila USA, Inc.	Mine Hill	NJ	32
MFG Chemical, Inc.	MFG Chemical Inc.	Dalton	GA	32
Shield Packaging Co.	Shield Packaging Co., Inc.	Dudley	MA	32
Davis Mining & Manufacturing	Austin Powder Company	East Camden	AR	32
Seeler Industries, Inc.	Seeler Industries, Inc.	Joliet	IL	32
Haverhill Chemicals, LLC	Haverhill Chemicals LLC	Haverhill	OH	31
Flo Chemical Corporation	Flo Chemical Corporation	Ashburnham	MA	31
Agrium	Loveland Products, Inc.	Fairbury	NE	31
Kuehne Chemical	Kuehne Chemical Company, Inc.	Delaware City	DE	30
Leland Resin Corp.	Coatings And Adhesives Corporation	Leland	NC	30



DuPont	E.I. DuPont de Nemours Incorporated Chambers Works	Deepwater	NJ	29
Blue Island Phenol, LLC	Blue Island Phenol LLC	Blue Island	IL	29
Adco Global, Inc.	Adco Products, Inc.	Michigan Center	MI	29
Diversified Manufacturing Corporation	Diversified Manufacturing Corporation	Newport	MN	28
Hi-Tec Plastics, Inc.	Hi-Tec Plastics Recycling, Inc.	Aurora	CO	28
RPM International	Synta, Inc.	Clarkston	GA	27
Northwest Missouri Biofuels, LLC	Northwest Missouri Biofuels, LLC	St Joseph	MO	26
Excell Coatings, Inc.	Excell Coatings, Inc.	Port Canaveral	FL	26
Apollo Management	Momentive Specialty Chemicals, Inc. - Deer Park Site	Deer Park	TX	25
Florikan-E.S.A. Corp.	Florikan ESA, LLC	Sarasota	FL	25
Oilfield Solutions, Inc.	Oilfield Solutions, Inc.	Midland	TX	25
Natural Advantage	Natural Advantage	Oakdale	LA	24
Chemtura	Great Lakes Chemical – Central	El Dorado	AR	24
SK Capital Partners	Ascend Performance Materials LLC	Alvin	TX	24
Koch Industries	Flint Hills Resources Port Arthur LLC	Port Arthur	TX	24
Mid-Atlantic Detailing Products, LLC	MDP	Richmond	VA	24
Hartin Paint & Filler Corp.	Hartin Paint & Filler Corp	Carlstadt	NJ	24
Evans Chemetics LP	Evans Chemetics LP	Waterloo	NY	24
Safas	Safas Corporation	Clifton	NJ	23
Univar	Univar	Suffolk	VA	23
Southern Energy Co., Inc.	Southern Energy Co, Inc.	Shelbyville	TN	23
Koch Industries	Georgia Pacific Chemicals LLC	Eugene	OR	23
Huntsman Corp.	Huntsman Petrochemical LLC Port Neches Facility	Port Neches	TX	22
Seacon Corporation	Seacon Corporation	Charlotte	NC	22
Praxair Inc.	Welco Acetylene Corp.	Newark	NJ	22
Superior Adsorbents, Inc.	Superior Adsorbents, Inc.	Emlenton	PA	22
Ice Companies, Inc.	Ice Companies, Inc. Db a Lt Russ Manufacturing	Wilmington	NC	21
COIM USA, Inc.	COIM USA, Inc.	Paulsboro	NJ	21
South / Win Ltd.	South / Win Ltd.	Reidsville	NC	21
Southern Industrial Chemical, Inc.	Southern Industrial Chemical Inc. Db a Sic Technologies	Atlanta	GA	20
Twin Lake Chemical, Inc.	Twin Lake Chemical, Inc.	Lockport	NY	20
Valspar	Quest Specialty Coatings, LLC	Menomonee Falls	WI	20

# Companies That Repeatedly Put Workers and the Environment in Danger

Local facilities are typically owned by a much larger “parent” corporation that operates multiple chemical manufacturing plants. Matching the facilities with serious violations with their owners revealed the serious violators were owned by 1,175 chemical companies. Just 86 chemical companies owned the 249 facilities responsible for 38 percent (3,177) of the 8,270 serious violations reported during the period.

The 12 companies below each own at least 20 chemical manufacturing facilities, for a total of 644; 89 of these facilities (14 percent) had serious violations of both workplace safety and environmental rules among them, which resulted in nearly \$25 million in estimated penalties. In 2014 alone, these companies’ collective profits were at least \$20 billion, making those fines simply a “cost of doing business.” (See Table 3.)

**Table 3. 12 Chemical Companies Own 89 Facilities that Put Both Workers and Communities in Danger**

Company	Headquarters	Number of Employees	Active Facilities w/ Serious Violations	Number of Serious Violations	Penalties	2014 Profits	ACC Member*	ACC Board Member**
<b>BASF</b>	Ludwigshafen, Germany	113,292 <sup>88</sup>	6 out of 109 (6%)	40	\$2.8 million	\$6.3 billion	Yes	Hans Engel
<b>Dow Chemical Co.</b>	Midland, MI	53,000 <sup>89</sup>	10 out of 105 (10%)	36	\$4.1 million	\$3.8 billion	Yes	Joe Harlan
<b>DuPont</b>	Wilmington, DE	63,000 <sup>90</sup>	17 out of 84 (20%)	125	\$3.1 million	\$3.6 billion	Yes	Gary Spitzer
<b>Koch Industries</b>	Wichita, KS	60,000 <sup>91</sup>	9 out of 69 (13%)	102	\$1.9 million	Not disclosed		
<b>Agrium</b>	Calgary, Alberta, Canada	15,500 <sup>92</sup>	4 out of 45 (9%)	42	\$615,000	\$720 million		
<b>Honeywell International</b>	Morristown, NJ	50,000 <sup>93</sup>	7 out of 43 (16%)	45	\$5.2 million	\$4.3 billion	Yes	Andreas Kramvis
<b>Apollo Global Management</b>	New York, NY	Undisclosed	5 out of 43 (12%)	38	\$4.7 million	\$730 million		
<b>Arkema Inc.</b>	Colombes, France	19,200 <sup>94</sup>	4 out of 41 (10%)	78	\$747,000	\$203 million	Yes	Bernard Roche
<b>Chemtura</b>	Philadelphia, PA	2,700 <sup>95</sup>	6 out of 29 (21%)	33	\$658,000	\$763 million	Yes	Craig Rogerson
<b>Mitsubishi Group</b>	Tokyo, Japan	68,263 <sup>96</sup>	10 out of 28 (36%)	49	\$260,000	-\$203 million	Yes	
<b>Huntsman Corp.</b>	The Woodlands, TX	3,000 <sup>97</sup>	4 out of 27 (15%)	42	\$570,000	\$345 million		
<b>KIK Custom Products</b>	Concord, Ontario, Canada	3,000 <sup>98</sup>	7 out of 21 (33%)	49	\$179,000	Not disclosed		
<b>TOTAL</b>			<b>89 out of 644 (14%)</b>	<b>679</b>	<b>\$24.8 million</b>	<b>At least \$20 billion</b>		

Notes: Employee numbers in italics are worldwide totals; U.S. employee numbers were not readily available. Penalties are estimated, are based on violations at companies’ active U.S. chemical manufacturing facilities only, and do not include supplemental environmental projects and/or additional settlements with the EPA, OSHA, or the U.S. Department of Justice. Profits are based on companies’ 10-K filings with the U.S. Securities and Exchange Commission or information available on companies’ public websites, and profits for BASF, Arkema Inc., and Mitsubishi were converted from foreign currencies to U.S. dollars using the exchange rate in place on Dec. 14, 2014.

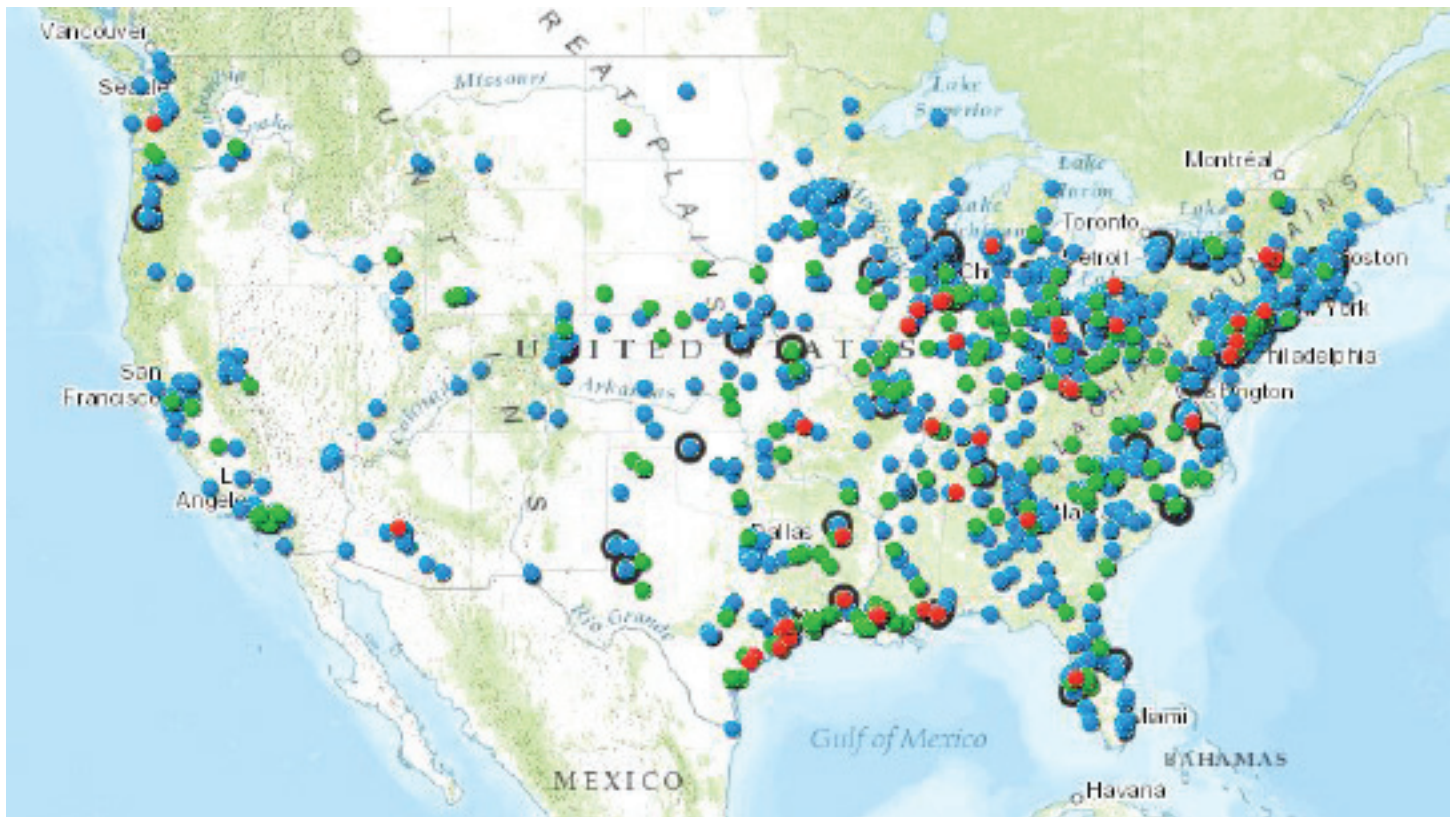
\* Must participate in Responsible Care® program as a condition of ACC membership. See the ACC’s membership list at <http://www.americanchemistry.com/Membership/MemberCompanies#Regular>.

\*\* “Company Overview of American Chemistry Council, Inc.,” Bloomberg. Available at <http://www.bloomberg.com/research/stocks/private/board.asp?privcapId=4754501> (last accessed Sept. 30, 2015); American Chemistry Council board membership press releases. Available at <http://www.americanchemistry.com/Media/PressReleasesTranscripts/ACC-news-releases/American-Chemistry-Council-Elects-New-Class-to-Board-of-Directors.html>, <http://www.americanchemistry.com/Media/PressReleasesTranscripts/ACC-news-releases/ACC-Elects-New-Class-to-Board-of-Directors.html>, and <http://www.americanchemistry.com/Media/PressReleasesTranscripts/ACC-news-releases/American-Chemistry-Council-Elects-New-Class-to-Board-of-Directors-2.html>.

Seven of the 12 companies that own and operate chemical manufacturing facilities that violate the rules are members of the ACC. In fact, six of the companies have representatives on the ACC's board. DuPont, Honeywell, Dow, and BASF all made this list. DuPont alone had 125 serious violations in its inspected facilities. The average number of serious violations among inspected facilities owned by ACC companies was 58; the average number of serious violations among facilities owned by non-ACC companies was 55.

any, ACC members or anti-regulation corporations like Koch Industries at the top of lists of serious offenders of the nation's worker and environmental protection standards.

An eighth corporation, Koch Industries, is owned by David and Charles Koch, who are tireless advocates for smaller government and less regulation. Though not an ACC member, their firm racked up the second largest number of serious workplace and environmental violations in their inspected facilities – at 102. This data is telling: if the Responsible Care® program were working as the ACC would like us to believe it was, or if the market was forcing corporations to behave responsibly, we would expect to find few, if



Nearly 1,200 companies owned facilities with significant numbers of serious workplace and environmental violations. [Our map](#) displays the facilities each company owns and how many serious worker and environmental violations are associated with each.



# Chemical Industry Bad Actor – Dow Chemical

The Dow Chemical Company manufactures a variety of chemicals and plastics, including controversial pesticides; in the past, it was also part of the nuclear weapons industry. In 2001, it acquired Union Carbide, the corporation responsible for the disastrous chemical leak in Bhopal, India in 1984.<sup>99</sup>

Dow had 36 serious environmental and workplace safety violations across 10 facilities, most of which were related to pollution and contamination. OSHA and EPA fined the company a combined \$4.1 million for these violations. But these recent problems only tell a small part of the story.

In the 1960s and 1970s, Dow and Monsanto manufactured Agent Orange, a notorious herbicide used in the Vietnam War and other military campaigns.<sup>100</sup> Agent Orange, a combination of two pesticides, was frequently contaminated with highly toxic dioxins, which are some of the most powerful cancer-causing substances in the world.<sup>101</sup> Agent Orange caused cancer in Vietnam War veterans and contaminated Vietnamese communities with dioxin.<sup>102</sup>

Dow's dioxin problems extend to its chemical plant in Midland, Michigan. In 2006, investigators discovered elevated levels of the substance in sediment in the nearby Tittabawassee River.<sup>103</sup> Though the contamination is several feet deep within the silt and sand, the pollution is so extensive that in 2008, the U.S. Environmental Protection Agency and the Michigan Department of Environmental Quality established a Superfund site to begin the cleanup process.<sup>104</sup> Dow will be responsible for removing contaminated sediment from the area.

Dow is a member of the American Chemistry Council and has a representative on the group's board. Between 2012 and 2014, Dow gave more than \$2.2 million to candidates on the federal level, 72 percent of which went to Republicans.<sup>105</sup> In the states, it spent nearly \$1.9 million on candidate contributions and ballot initiatives.<sup>106</sup> Dow also sank a large sum of money into lobbying Congress and federal agencies from 2012 to 2014, with more than \$36 million in spending.<sup>107</sup>



# Greater Chemical Safety Requires Improved Rules, Firm Enforcement, and Serious Penalties

Chemical companies have a duty to ensure that their plants are well maintained, operating safely, and using the most up-to-date technology and equipment to protect workers and surrounding communities. But not all corporations put safety first. That's why we have public protections and why we need to effectively enforce them.

While the industry claims that voluntary programs like the American Chemistry Council's Responsible Care® improve safety, ongoing chemical disasters, serious violations, and aging private infrastructure show more is needed. The industry can and must do more.

Agencies like EPA and OSHA have to ensure companies play by the same rules. Through frequent inspections and collaboration with workers and community members who report violations and problems, government can more effectively identify problems and assess penalties significant enough to deter irresponsible and illegal corporate behavior.

To achieve these goals, the Center for Effective Government recommends the following:

## ***1. Require a shift to safer chemicals and technologies***

The most effective way for EPA and OSHA to prevent injuries, deaths, and chemical disasters is to *require* companies and facilities to switch to inherently safer chemicals and technologies where feasible. Companies like Clorox have already shifted their facilities to safer alternatives, but other corporations have not made similar moves.<sup>108</sup>

The EPA has an opportunity to make progress in this direction. For the past two years, the agency, OSHA, and the Department of Homeland Security have been assessing current oversight of chemical facilities in response to a 2013 executive order from President

Obama, ordering the agencies to improve the security and safety of the nation's chemical facilities after the West, Texas fertilizer facility explosion.<sup>109</sup>

EPA could improve the rules implementing the Risk Management Program (RMP) to include a mandate that companies and facilities switch to safer chemical alternatives and inherently safer technologies that are already available and affordable.<sup>110</sup> Unfortunately, this rule is languishing at EPA and may not be completed before the end of 2016.

The American people strongly support chemical facility safety requirements. In an October 2015 poll of more than 1,000 adults, the Coalition to Prevent Chemical Disasters and Lake Research Partners found that 79 percent of respondents want the federal EPA to require chemical companies to shift to safer alternatives.<sup>111</sup> This support exists across the political spectrum, with 88 percent of Democrats, 77 percent of independents, and 70 percent of Republicans seeing the need for effective chemical safety standards at the federal level.

## ***2. Expand proactive enforcement activities***

### *U.S. Environmental Protection Agency*

Between 2012 and 2014, EPA and state agencies inspected an estimated 32 percent of the nation's active chemical manufacturing facilities. With budget constraints likely to continue into the foreseeable future, the annual number of facility inspections the agency conducts could drop by 25 percent between 2014 and 2018, compared to the previous five-year period. The agency also projects a 28 percent drop in enforcement cases.<sup>112</sup>

To identify and take action against chemical companies that violate environmental laws, the agency needs to significantly *expand* the use of on-the-ground inspectors, identify operations that may lead to violations but are not currently causing emissions or other types of pollution, *and* improve monitoring and data collection technology. These and other approaches should be built in to the agency's next set of enforcement priorities.<sup>113</sup> The EPA needs an increase of at least 20 percent to its compliance and enforcement programs to just restore funding to 2010 levels after adjusting for inflation.

EPA and states may need to better target their inspection and compliance efforts to high-risk chemical facilities and companies that have a history of environmental problems or chemical releases. It should also include the overall age of a facility, and the age of various buildings and equipment within each facility, the amount of dangerous chemicals stored or used at each site, and the riskiness of the manufacturing processes at each location in its targeting criteria. This could help the agency tackle the “worst of the worst” facilities and address the most serious hazards first.

#### *Occupational Safety and Health Administration*

Between 2012 and 2014, OSHA inspected just 13 percent of the active chemical manufacturing facilities in the United States. Though OSHA’s budget cuts haven’t been as drastic as EPA’s, the agency and the state programs it supports have been defunded relative to their task. To improve and expand the agency’s ability to inspect chemical facilities, Congress should restore funding to OSHA’s enforcement program.

OSHA could also be more proactive in targeting facilities for inspections, perhaps targeting older facilities that also report a high number of employees working more than 40 hours a week – since tired workers and aging equipment is a recipe for injuries.

### ***3. Significantly increase penalties for serious violations so they serve as an effective deterrent against preventable health, safety, and environmental hazards***

#### *Authorize larger fines*

Chemical companies that violate federal environmental and worker safety protections have little incentive to correct their illegal behavior. EPA can assess larger maximum fines per violation than OSHA can. The maximum fine for a Clean Air Act violation is \$320,000, \$187,500 for a Clean Water Act violation and certain Safe Drinking Water Act violations, and \$37,500 for some hazardous waste violations under the Resource Conservation and Recovery Act.<sup>114</sup> However, these penalties are still often considered “a cost of doing business.”

Even OSHA’s low maximum fines (\$7,000 for a serious violation and \$70,000 for a willful or repeated violation) are typically not assessed. In FY 2014, the agency assessed an average fine of only \$1,972 for a serious violation, \$40,358 for a willful violation, and \$6,909 for a repeat violation.<sup>115</sup> Even in cases where workers were killed on the job, the typical penalty was just above \$5,000. Often, initial penalties are reduced during settlement negotiations, providing even less of an incentive to protect workers.

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### **Congressional action to strengthen criminal penalties in both workplace safety and environmental laws could provide a more effective incentive for companies to address significant hazards.**

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Chemical companies that significantly or repeatedly put workers or surrounding communities in danger should be subject to the maximum fines allowed by law. Congress can take an even more protective approach by significantly increasing these maximums to provide a more substantial deterrent to chemical industry wrongdoing.

#### *Impose criminal penalties*

Some of the large chemical companies highlighted in this report bring in billions of dollars in annual profits. Even fines in the millions of dollars may not be sufficient to compel these corporations to correct the problems at their facilities. The prospect of senior corporate executives serving jail time could provide a far more powerful motivation to protect workers, communities, and our natural resources.

Congressional action to strengthen criminal penalties in both workplace safety and environmental laws could provide a more effective incentive for companies to address significant hazards. Two pieces of pending legislation could help accomplish those goals.



The first, the Hide No Harm Act, was introduced in 2014 by Sens. Richard Blumenthal (D-CT) and Bob Casey (D-PA) and former Sen. Tom Harkin (D-IA).<sup>116</sup> The bill would allow agencies to hold corporate officials criminally accountable for failing to inform regulators, workers, and the public about dangerous or defective products or manufacturing processes they knew existed. The bill did not advance in the last session of Congress but was recently reintroduced.<sup>117</sup>

The second bill, the Workplace Action for a Growing Economy (WAGE) Act, would protect workers' rights to form and join unions, engage in collective bargaining, and work through union representatives to address workplace health and safety hazards. Rep. Bobby Scott (D-VA) and Sen. Patty Murray (D-WA) introduced the bill on Sept. 16, 2015.<sup>118</sup> Unions provide pressure for effective enforcement of workplace safety rules.

Even without congressional action, the executive branch can enforce existing criminal provisions of the Occupational Safety and Health Act and federal environmental laws. All too often in the past, agencies, including the U.S. Department of Justice, would enter into settlements or deferred prosecution agreements with bad-actor corporations, which contained terms that eliminated any criminal consequences for hurting people, endangering communities, or damaging the economy.

But on Sept. 9, 2015, U.S. Deputy Attorney General Sally Yates sent a memo to all enforcement divisions within the Department of Justice, putting them on notice that the days of coddling corporate criminals are over.<sup>119</sup>

#### ***4. Use information to empower citizens, better target enforcement efforts, and ensure greater corporate accountability***

##### *Empower people with enforcement tools*

Even if we significantly increased the number of inspectors at OSHA and EPA, agency staff wouldn't be able to keep a constant eye on the operations of every single chemical manufacturing facility in the country. If plant workers, unions, community advocates, and nearby residents all feel empowered to report problems, it could strongly augment agencies'

enforcement work and lead to proactive approaches to prevent chemical disasters.

There are already tools that people can use to "crowd-source" health, safety, and environmental protection, but most Americans probably don't know they exist. For example, the public can report environmental violations to the EPA online at <http://www2.epa.gov/enforcement/report-environmental-violations>. EPA claims that "reports from the public have led to state and federal enforcement cases and ultimately served environmental protection well."

OSHA provides a website at [https://www.osha.gov/html/Feed\\_Back.html](https://www.osha.gov/html/Feed_Back.html) to report unsafe conditions, as well as a toll-free number at 1-800-321-OSHA (6742). Unfortunately, despite improvements in responding to worker complaints, OSHA hasn't done enough to protect whistleblowers who report problems. Though OSHA promises confidentiality, employers still find ways to ferret out workers' identities and retaliate. The agency needs to make significant improvements to both federal and state whistleblower programs to better protect workers and encourage effective prevention efforts.<sup>120</sup>

##### *Empower people with accessible, meaningful information*

Beyond publicizing citizen enforcement tools and implementing better whistleblower protections, agencies need to address the serious information gaps that exist when it comes to enforcement, violations, and other data about companies. Right now, this public information – paid for by taxpayers – is not easy to find, access, or understand.

For example, there are significant differences in how OSHA and EPA record and categorize compliance and enforcement data, and information on a facility's corporate owner is missing from agency records. And that's just looking at data from two agencies. Data from the Department of Labor on overtime and wage violations would also be useful to have.

The nation needs a comprehensive corporate accountability database that is free, available to the public, interactive, and fundamentally user friendly.

What would such a tool for citizen empowerment look like? Ideally, any American would be able to visit one website, type in the name of any company, and pull up its entire record on workplace health and safety, wage and overtime standards, environmental protection, and product safety, as well as political lobbying and campaign spending. The company profile would include information about the facilities it owns (such as age, employees, annual sales, the last time those facilities and their equipment were upgraded or modernized, and the amount of dangerous substances stored at each site). The tool would enable users to search by facility, as well, with all establishments coded using a standardized identification system and mapped to the companies that actually own them. Address and zip code searches would allow users to pull up all the facilities in their area.

The tool would also make use of a centralized system where people could directly report problems, and the public would be able to review those reports as part of a specific company's or facility's profile within the database. The Consumer Financial Protection Bureau and the Consumer Product Safety Commission have each made use of such consumer complaint databases to great effect.<sup>121</sup>

Crowd-sourcing enforcement of standards and safeguards would have another key benefit: helping EPA, OSHA, and other public health and safety agencies better target inspections and better prioritize more in-depth investigations at facilities where problems have already been reported by people on the ground. Presumably, this would allow them to tackle the most dangerous plants and storage facilities and proactively address the greatest hazards to workers and communities.

#### *Build out models for information and empowerment tools*

Making such a tool a reality will require a coordinated effort across federal (and state) agencies. But there are several things that OSHA and EPA can do to start moving in the right direction, and they can begin with chemical manufacturing facilities.

- **Both agencies can revisit the way they keep records.** Every facility inspected should be

coded with a unique identification number, and inspection and violation data should be assigned to each facility. The agencies should also work to ensure that addresses and other location information (such as geographic coordinates) are always included and recorded consistently. Most importantly, they should develop a system to identify the actual corporate owners of each facility and include that information in their online databases.

- **The agencies can make their individual online systems more user-friendly.** Ultimately, users should be able to visit either agency's website, find the online enforcement database with just a click or two of a mouse, and enter an address or zip code to pull up worker health, safety, and environmental information on any industrial facility or company in their area.
- **The agencies can pilot a program that addresses existing data fragmentation problems.** They could do this by combining all of their inspection and violation information into one central, searchable, user-friendly web interface. This would allow users to type in a company name, a facility name, or an address and see all the workplace safety and environmental information associated with that search. For example, a search for DuPont would pull up a total count of its worker safety and environmental violations within a given time frame, the total penalties it faced, and the names and locations of all its active industrial facilities, chemical or otherwise.

We have a wealth of technology at our fingertips, and community and worker advocates are poised to use it to hold companies and managers accountable for their actions. A modern government should be working on developing exactly these kinds of tools – which would save funds and resources in the long run, while improving community and worker health and safety. Empowering Americans in this way would pay enormous dividends over time – fewer worker fatalities and serious injuries, fewer risks to surrounding communities, and stronger protections for our natural resources.



# Appendices

## Appendix 1: OSHA and EPA Inspections and Violations

As discussed above, several laws cover the activities of industrial facilities, but the two federal agencies primarily responsible for ensuring the safety of chemical manufacturing facilities are the federal Occupational Safety and Health Administration (OSHA) and the U.S. Environmental Protection Agency (EPA). OSHA and the EPA can designate various enforcement duties, including inspections and violation assessments, to relevant state agencies if those states meet certain requirements.

OSHA has lead responsibility for inspecting workplaces. It can target facilities for inspections based on industry injury and fatality rates or because of recent deaths or serious injuries at a particular facility.<sup>122</sup>

If a workplace safety inspector finds a health and safety violation, he or she reports it to OSHA or the relevant state agency (if in one of the 21 states with authority to enforce workplace standards), and higher-level staff determine whether or not to issue citations and fines against the facility and the company that owns it. Some of these violations may relate to relatively minor concerns, but some, such as the problems at the DuPont La Porte facility, are related to major safety hazards. Companies are given a certain amount of time to correct the problems and are allowed to contest both the violations and any fines associated with them.

The number of OSHA inspectors today is about the same as in 1981, even though the number of workplaces has roughly doubled during that time.<sup>123</sup> Following a massive explosion and fire at BP's Texas City, Texas refinery in 2005, the U.S. Chemical Safety Board recommended that OSHA expand its ability to inspect oil refineries and chemical facilities by hiring additional experienced inspectors and

expanding training of existing inspectors.<sup>124</sup> That recommendation, published in 2007, is still listed by the Board as pending eight years later.

The U.S. Environmental Protection Agency (EPA) largely oversees environmental enforcement, and many of the inspections and routine compliance assessments are carried out by inspectors working at state agencies.<sup>125</sup> Agencies conduct inspections based on industries of concern, self-reported violations at facilities, and public reports of specific environmental problems or suspected bad-actor facilities.<sup>126</sup>

As is the case with workplace safety, violations can be minor or they can fall into more serious categories, which can result in significant fines and requirements for special environmental projects in nearby communities. The labels EPA uses for classifying serious violations vary across its programs, which can be confusing to those unfamiliar with the environmental enforcement process. All of these designations are made by higher-level staff in state and federal agencies.



## Appendix 2: Matching Facility-Specific Inspection and Violation Data from EPA and OSHA

Both OSHA and EPA make enforcement data available online. This includes information on workplace safety and environmental violations and any fines that result from these infractions. EPA's online data on facility compliance status is limited to the previous three years, though information on formal enforcement actions is available for the previous five years, a confusing timeframe inconsistency. OSHA provides online data on inspections and violations dating back to 1970.

To ensure as much consistency and comparability as possible between the data from the two agencies, we limited our analysis to a three-year time period, 2012 to 2014, with an exception for EPA formal enforcement action data, which are only available for a compiled five-year period and may contain records from two additional years (2010 and 2011). Despite the mismatched timeframes within the EPA data, we believe that using the formal enforcement action information provides the best measure of recent, serious environmental violations for each facility and company. EPA formal enforcement actions are, we believe, the best way to distinguish which local facilities are not adhering to environmental protection standards and so are putting people and natural resources at risk.

We accessed violation and enforcement data from OSHA's online Enforcement Data website<sup>127</sup> and EPA's Enforcement and Compliance History Online database.<sup>128</sup> The EPA dataset was current as of Aug. 23, 2015, and the OSHA dataset was current as of Aug. 26. We identified facilities within these datasets based on whether their industry identifier numbers (known as North American Industry Classification System (NAICS) codes) were associated with chemical manufacturing (NAICS codes starting with the numbers 325).

We then applied our timeframe limitations and focused on serious violations. We examined three types of significant workplace safety violations that OSHA recorded in its enforcement database – those classified as serious violations, willful violations, and

repeat violations – that it did not later delete from its enforcement records, and that it opened and/or closed within our timeframe. These violations put workers' health, safety, or lives in immediate or ongoing danger. To assess which companies have been cited for serious violations of environmental standards, we looked at the EPA's enforcement database and flagged those active facilities that significantly violated clean water and hazardous waste disposal standards (known as being in significant noncompliance), clean air protections (high-priority violators), and drinking water safeguards (serious violators) and had at least one formal enforcement action taken against it.

We used customized computer software and an additional worksheet developed by Good Jobs First<sup>129</sup> to assign each facility to the company that owns it (its parent company), and we sorted facilities by the type of violations they committed (workplace safety, environmental, or both types).

We totaled serious workplace safety violations and formal environmental enforcement actions by facility and by parent company and sorted those lists to determine the top 12 companies with both types of violations (among those with 20 or more active facilities). We also looked at facilities with 20 or more of any type of violation and incorporated that information into the report.

For our political spending and lobbying expenditures data, we relied on information compiled by the Center for Responsive Politics at [OpenSecrets.org](http://OpenSecrets.org) and by the National Institute on Money in State Politics at [FollowtheMoney.org](http://FollowtheMoney.org).

## Appendix 3: Agencies Make Information on Bad-Actor Facilities Available, but It Is Not Easy to Understand

Members of the public interested in checking how well or poorly a local chemical facility is doing in protecting its workers or safeguarding the local community face significant hurdles. While violation information is available online, people have to visit two different websites to access it, figure out two different data download interfaces, and contend

with two different data structures and multiple data terms. These and other related challenges include the following:

- There are technological challenges in downloading enforcement data from OSHA and EPA. That said, EPA's public-facing interface is significantly more user-friendly than OSHA's and allows users to conduct searches by zip code. The EPA interface also provides a number of useful interactive tools, including maps.
- The data are not intuitive and are not organized in a way that most non-experts would understand. OSHA's data are organized by inspection record, not by facility or address, and while EPA's data is organized by facility, a significant portion of its records do not have facility identification numbers associated with them. Because of these data limitations, we had to carefully scrutinize, code, and map the downloaded data using sophisticated computer software to consolidate and organize all records by facility.
- The agencies' enforcement databases don't identify the owners or "parent companies" of any of the inspected facilities. Obtaining this information required us to undertake substantial research. We then had to process the information through customized computer software to assign parent company information to each facility and to calculate the total number of significant violations and the total fines assessed to each company. Good Jobs First helpfully provided some of the essential parent company information that we used in this process.
- It is unclear whether the data provided are current or complete. While OSHA indicates its data on inspections and violations are updated daily, and EPA indicates it updates its inspection and enforcement data on a weekly basis, we were unable to confirm whether the agencies regularly update individual records within their databases. The EPA data also contains timeframe inconsistencies, with some information only available for a three-year time span but other data available for a five-year period, making

it extremely difficult to consistently compare enforcement measures to each other.

- Researching and interpreting chemical facility compliance with federal environmental and workplace health and safety laws is especially challenging. OSHA and EPA record data, including addresses, differently; the basis for classifying a violation as "significant" or "serious" also differs across agencies, as well as among environmental programs, and categorizing these violations involves different terminology; and the data is not available in one centralized, user-friendly location.

All of these data quality and access issues underscore that while agency enforcement data is *available*, it is fragmented across systems, and it is not easily accessible or understandable to the public. Without expertise and experience in using sophisticated computer software, it can be next to impossible to interpret the information, much less use it for practical purposes such as better targeting enforcement to the riskiest plants or informing friends, families, and neighbors of potential hazards posed by nearby chemical facilities.

#### **Appendix 4: Another Industry Bad Actor That's Not a Member of the American Chemistry Council – Koch Industries**

Koch Industries is probably most well-known for the brothers who own it – Charles and David Koch. Their company engages in a variety of industrial activities, including oil and gas production, and Koch Industries has a number of subsidiaries and facilities that use and make significant quantities of chemicals.

Nine Koch facilities in our study had 102 workplace safety and environmental violations, including 56 environmental enforcement actions taken against them. In total, the company and its subsidiaries were fined nearly \$1.9 million for putting workers and the environment in danger.

Residents of Ohio would not be surprised by these facilities' poor safety and environmental records. Its Georgia-Pacific plant in Columbus used what residents called an "unlined toxic waste pit" for

years, and it turned a blind eye to citizens' concerns, including disturbing drawings that school children created to express their worries about the plant's pollution.<sup>130</sup> In 2015, OSHA cited the facility for 11 serious workplace safety violations, including exposing workers to excessive levels of formaldehyde, a chemical known to cause cancer.<sup>131</sup>

The Koch brothers exert substantial political influence at the national and state levels. They bankroll candidates, largely with so-called "dark money" contributed by donors whose identities are never disclosed, and conduct political activities through a number of affiliated organizations, including Americans for Prosperity and FreedomWorks. Between 2012 and 2014, Koch Industries spent more than \$3.4 million on the federal level via its political action committee (PAC), with 98 percent of that money flowing to Republicans.<sup>132</sup>

But outside spending by affiliated groups dwarfed this total: Americans for Prosperity shelled out more than \$39 million during this time period, 100 percent of which supported Republicans or opposed Democrats, and FreedomWorks spent more than \$21 million, with 92 percent of that boosting Republicans.<sup>133</sup> Americans for Prosperity's virulent anti-tax agenda<sup>134</sup> is a prime force behind the austerity budgets Congress has foisted upon the United States, which have starved OSHA and EPA of the resources they need to conduct effective workplace safety and environmental enforcement.

On the state level, where it takes far less money to influence candidates and political causes, the Kochs' PAC spent nearly \$2 million, and Americans for Prosperity threw in another \$350,000.<sup>135</sup> This pales in comparison to what the 2016 election cycle might bring: Koch-affiliated groups have pledged to spend upwards of \$900 million next year to elect candidates favorable to corporate interests.<sup>136</sup>

Koch Industries also actively lobbies members of Congress and federal agencies. In fact, it outspent the American Chemistry Council (of which it is not a member), \$34.7 million to \$32.7 million, between 2012 and 2014.<sup>137</sup>





## Appendix 5: Tables

**Appendix Table 1. The American Chemistry Council's Board of Directors**

Company	Board Member	Fortune 500 Rank
ExxonMobil	Steve Pryor	2
Marathon Petroleum Corporation	Gary Heminger	25
Dow Chemical	Joe Harlan	48
Honeywell International	Andreas Kramvis	74
DuPont	Gary Spitzer	87
3M	Fred Palensky	98
Occidental Chemical Corporation	Chuck Anderson	115
PPG Industries	Michael McGarry	198
Ecolab	Timothy Mulhere	213
Eastman Chemical Company	Mark Costa	305
Ashland Inc.	James J. O'Brien	371
Celanese Corporation	Mark Rohr	395
MeadWestvaco	Ed Rose	464
A C & S	Dean Cordle	NR
Afton Chemical Ltd.	Rob Shama	NR
Akzo Nobel Industrial Chemicals	Francis Sherman and Werner Fuhrmann	NR
Albemarle Corporation	Luke Kissam	NR
American Air Liquide Holdings	Michael Graff	NR
Arkema	Bernard Roche	NR
Ascend Performance Materials	Tim Strehl	NR
Axiall	Paul Carrico	NR
BASF	Hans Engel	NR
Bayer	Jerry MacCleary	NR
Braskem America	Fernando Musa	NR
Cabot Corporation	Patrick Prevost	NR
Calgon Carbon Corporation	Randall Dearth	NR

Carus Corporation	Inga Carus	NR
Chemtura Corporation	Craig Rogerson	NR
Chevron Phillips Chemical Company	Peter L. Cella	NR
Dow Corning	Robert Hansen	NR
Evonik Corporation	Tom Bates and John Rolando	NR
LANXESS	Flemming Bjoernslev	NR
LyondellBasell Industries	James Gallogly	NR
Milliken & Company	Joe Salley	NR
Momentive Performance Materials Holdings	Craig Morrison	NR
Olin Corp.	Joseph Rupp	NR
PQ Corporation	Michael Boyce	NR
Rhodia/Solvay	James Harton	NR
SABIC	John Dearborn	NR
Sasol North America	Steve Cornell	NR
Shell Chemical	Jose-Alberto Lima	NR
SI Group	Stephen Large	NR
Solvay America	Michael Lacey	NR
Stepan Company	F. Quinn Stepan	NR
Styron LLC	Christopher Pappas	NR
Taminco	Laurent Lenoir	NR
The HallStar Company	John Paro	NR
The Shepherd Chemical Company	Thomas Shepherd	NR
Total Petrochemicals	Graeme Burnett and Philippe Doligez	NR
TPC Group	Michael McDonnell	NR
W.R. Grace & Co.	Fred Festa	NR
American Chemistry Council	Cal Dooley, President and CEO	N/A
American Chemistry Council	Dirk Funke	N/A
American Chemistry Council	John Rolando	N/A
American Chemistry Council	Colin MacKay	N/A

American Chemistry Council	Kevin Sullivan	N/A
American Chemistry Council	Stephen Pryor	N/A
American Chemistry Council	Thomas Bates	N/A
American Chemistry Council	Sven Royall	N/A

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**Appendix Table 2. Ten States with the Highest Amounts of Chemical Industry Political Spending, 2012-2014\***

State	Total Chemical Industry Contributions	Total Number of Active Chemical Manufacturing Facilities
California	\$6,224,962	1,293
Oregon	\$5,052,275	107
Colorado	\$3,094,995	173
Texas	\$1,393,229	834
Ohio	\$840,137	713
Pennsylvania	\$622,345	565
Indiana	\$610,980	317
Illinois	\$552,247	760
Florida	\$524,853	475
Michigan	\$446,005	519

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76 We examined three types of significant workplace safety violations recorded in OSHA’s enforcement database – those classified as “serious violations,” “willful violations,” or “repeat violations.” These classes of OSHA violations put workers’ health, safety, or lives in immediate or ongoing danger. To determine which companies had been cited for serious violations of environmental standards, we examined the EPA’s enforcement database and identified active facilities that “significantly” violated clean water and hazardous waste disposal standards (known as being in significant noncompliance), clean air protections (high-priority violators), and drinking water safeguards (serious violators).

To calculate the total number of serious violations for each facility, we added the number of serious workplace safety violations that OSHA recorded to the number of formal enforcement actions that EPA recorded on serious environmental violations. We believe that this combines the most comparable, publicly available information from the two agencies. But unlike its compliance status information, which is aggregated over three years, EPA aggregates five years of formal enforcement action data and does not make it possible to separate that information by year, meaning the EPA data may contain records from two additional years (2010 and 2011). Despite the mismatched timeframes within the EPA data, we believe that using the formal enforcement action information provides the best measure of recent, serious environmental violations for each facility and company. EPA formal enforcement actions are, we believe, the best way to distinguish which local facilities are not adhering to environmental protection standards and so are putting people and natural resources at risk. Formal enforcement actions at EPA are significant. They involve, among other things, referral to the U.S. Department of Justice, a state attorney general, or the filing of an administrative complaint or order requiring compliance and a sanction. See <http://echo.epa.gov/help/reports/dfr-data-dictionary#formenf> for more information.

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