

WHO'S IN DANGER?

Race, Poverty, and Chemical Disasters



A DEMOGRAPHIC ANALYSIS OF
CHEMICAL DISASTER VULNERABILITY ZONES

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May 2014

ENVIRONMENTAL JUSTICE AND HEALTH ALLIANCE
FOR CHEMICAL POLICY REFORM

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Cover Photo: Whiting, Indiana

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Coming Clean unites community organizers, scientists, advocates, business leaders, communications specialists, and diverse issue experts in collaborative work to transform the chemical and fossil fuel industries so they are sources of health, economic sustainability, and justice rather than of pollution, disease, and planetary harm. Visit www.comingcleaninc.org.

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THE SPONSORING ORGANIZATIONS WOULD LIKE TO THANK THESE FUNDERS FOR THEIR GENEROUS SUPPORT OF WORK RELATED TO THIS REPORT:

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TABLE OF CONTENTS

iv **Figures, Tables and Boxes**

1 **Glossary of Terms and Abbreviations**

2 **Executive Summary**

CHAPTER ONE

4 **Introduction**

- 4 Background on Environmental Justice and Chemical Safety
- 12 Selected Events in the History of Environmental Justice, 1964–2014

Community Stories

- 14 Alaska Community Action on Toxics, Savoonga, St. Lawrence Island, Alaska
- 15 The Just Transition Alliance
- 16 West County Toxics Coalition, Richmond, California
- 18 Mossville Environmental Action Now (MEAN), Mossville, Louisiana
- 20 Los Jardines Institute (The Gardens Institute), South Valley of Albuquerque, New Mexico
- 22 Texas Environmental Justice Advocacy Services (t.e.j.a.s.), Houston, Texas
- 24 People Concerned About Chemical Safety, Charleston, West Virginia

CHAPTER TWO

26 **Demographic Analysis of Chemical Facility Vulnerability Zones**

- 27 National Findings
- 30 Industry Sector Findings

CHAPTER THREE

35 **Removing Chemical Hazards: Solutions for Companies and Communities**

CHAPTER FOUR

38 **Conclusions and Recommendations**

44 **Endnotes**

APPENDIX A

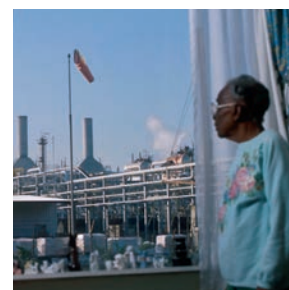
46 **Methodology**

APPENDIX B

49 **“Shelter in Place” Timeline Worksheet**

APPENDIX C

50 **Vulnerability Zones of 3,433 Chemical Facilities**



FIGURES, TABLES AND BOXES

FIGURES

- 9 Figure 1 Distribution of Chemical Facility Vulnerability Zones by Size
- 10 Figure 2 National Map of 3,433 Chemical Facilities in This Report
- 11 Figure 3 Map of Sample Vulnerability Zones and Fenceline Zones
- 27 Figure 4 Average Home Value in Fenceline Zones Compared to U.S. Average
- 27 Figure 5 Average Household Income in Fenceline Zones Compared to U.S. Average
- 28 Figure 6 Black and Latino Populations in Fenceline Zones Compared to the U.S.
- 29 Figure 7 Educational Attainment in Fenceline Zones Compared to the U.S.
- 29 Figure 8 Poverty Rate in Fenceline Zones Compared to the U.S.
- 36 Figure 9 Reduction in Vulnerability Zones through Safer Alternatives

TABLES

- 11 Table 1 Chemical Facilities and Vulnerability Zone Populations by Industry Sector
- 27 Table 2 Housing Value in Vulnerability Zones
- 27 Table 3 Household Income in Vulnerability Zones
- 28 Table 4 Race and Ethnicity in Vulnerability Zones
- 28 Table 5 Education Levels in Vulnerability Zones
- 29 Table 6 Poverty Rates in Vulnerability Zones
- 30 Table 7 Housing Values in Vulnerability Zones by Industry Sector
- 31 Table 8 Household Incomes in Vulnerability Zones by Industry Sector
- 32 Table 9 Race and Ethnicity in Vulnerability Zones by Industry Sector
- 32 Table 10 Education Levels in Vulnerability Zones by Industry Sector
- 33 Table 11 Poverty Rates in Vulnerability Zones by Industry Sector
- 33 Table 12 Vulnerability Zone Distances and Populations by Industry Sector
- 34 Table 13 Comparison of Vulnerability Zones within Two Industry Sectors
- 34 Table 14 Top Ten Chemicals in This Report

BOXES

- 11 Box 1 “Vulnerability Zones” in This Report
- 40 Box 2 The Toxic Substances Control Act and Chemical Safety

GLOSSARY OF TERMS AND ABBREVIATIONS

ACC

American Chemistry Council, the largest trade association of basic chemical manufacturers.

FENCELINE ZONE

An area designated as one-tenth the distance of the vulnerability zone, in which those affected are least likely to be able to escape from a toxic or flammable chemical emergency, but not representing the outer bounds of potential harm. For example, if the vulnerability zone is a radius of 10 miles around the facility, then the fenceline zone is a radius of one mile around the facility. See Figure 3 on page 11 for a graphic representation of sample vulnerability zones and fenceline zones.

RMP

Risk Management Plan, a plan prepared under the chemical accident prevention provisions of the Clean Air Act, section 112(r), and submitted to the U.S. Environmental Protection Agency by a facility that produces, handles, processes, distributes, or stores more than a threshold amount of certain extremely hazardous substances (77 toxic or 63 flammable chemicals).

SOCMA

Society of Chemical Manufacturers and Affiliates, a trade association of batch, custom, and specialty chemical manufacturers.

VULNERABILITY ZONE

An estimate made by a facility under EPA's Risk Management Planning program of the maximum possible area where people could be harmed by a worst-case release of certain toxic or flammable chemicals. The vulnerability zone is a radius (or circle) distance around the facility, for example one mile, five miles, or 20 miles in all directions. See Figure 3 on page 11 for a graphic representation of sample vulnerability zones and fenceline zones.

WORST-CASE SCENARIO

An estimate made by a facility under EPA's Risk Management Planning program of the largest potential chemical release from a single vessel or process under conditions that result in the maximum possible affected area.

EXECUTIVE SUMMARY

More than 134 million Americans live in the danger zones around 3,433 facilities in several common industries that store or use highly hazardous chemicals. Millions more people work, play, shop, and worship in these areas. But *who* are the people that live daily with the ever-present danger of a chemical disaster?

This report is the first public accounting of the demographic characteristics of populations within the “vulnerability zones” of entire industry sectors that manufacture chemicals, treat water or wastewater, produce bleach, generate electric power, refine petroleum, produce pulp and paper, or otherwise have large numbers of people living in the path of a potential worst-case chemical release. It also shares the stories of some of these communities.

The new research presented in this report finds that residents of chemical facility vulnerability zones are disproportionately Black (African American) or Latino, have higher rates of poverty than the U.S. as a whole, and have lower housing values, incomes, and education levels than the national average. The disproportionate or unequal danger is sharply magnified in the “fenceline” areas nearest the facilities.

Almost thirty years ago, the Union Carbide chemical spill in Bhopal, India killed thousands of people and drew stark attention to the need for improved chemical facility safety. Unfortunately, no U.S. federal law, regulation, or guidance adopted before or since requires companies to fully assess and substantiate whether the toxic chemicals they use or store are truly necessary—or whether effective and safer alternatives might be used instead. Chemical facilities, many of which endanger thousands of people, continue using highly hazardous chemicals even when safer alternatives are available, effective, and affordable.

These policy failures have led to the needless persistence of catastrophic chemical hazards in communities. The



In Louisville, KY, industrial facilities border the Chickasaw Park, an historic gathering place for the local African American community that is also contaminated with dioxin from industry emissions.

U.S. experiences several serious toxic chemical releases every week, including the August, 2012 explosion at the Chevron refinery in Richmond, CA that sent 15,000 people to hospitals seeking treatment, and the April, 2013 fertilizer storage facility explosion in West, TX that killed 15 people and leveled an entire neighborhood. In a typical year, the U.S. Chemical Safety Board screens more than 250 high consequence chemical incidents involving death, injury, evacuation, or serious environmental or property damage—and these are only the very worst incidents.

KEY FINDINGS

Our analysis produced striking findings about the fenceline zones nearest to the facilities, where residents live closest to hazardous chemicals and with the least time to react in the event of a catastrophic release.

- Residents of the fenceline zones have average home values 33% below the national average.
- Average household incomes in the fenceline zones are 22% below the national average.
- The percentage of Blacks in the fenceline zones is 75% greater than for the U.S. as a whole, while the percentage of Latinos in the fenceline zones is 60% greater than for the U.S. as a whole.
- The percentage of adults in the fenceline zones with less than a high school degree is 46% *greater* than for the U.S. as a whole, and the percentage of adults in the fenceline zones with a college or other post-secondary degree is 27% *lower* than for the U.S. as a whole.
- The poverty rate in the fenceline zones is 50% higher than for the U.S. as a whole.

Separate analysis of different industry sectors generally confirms these findings with some regional and other variations.

Fortunately, many existing options can dramatically reduce these dangers and protect workers and communities. For example, a wastewater plant that switches from chlorine gas to ultraviolet light disinfection removes the danger of a chlorine gas release. A power plant that replaces highly toxic anhydrous ammonia gas with safer aqueous ammonia dramatically reduces the size of its vulnerability zone. But because federal laws and rules don't require companies to research safer alternatives or convert even when it's easily affordable, existing solutions are not in use by thousands of facilities.

Simple changes could protect millions of Americans, reduce costs and liabilities for companies, and modernize chemical facilities and regulations.

TIME FOR ACTION

Action to prevent a major chemical disaster is needed now—workers, communities, businesses, and governments face severe potential costs to life, health, and finances from chemical hazards that are often unnecessary. Federal policies have missed obvious opportunities to improve safety and security by removing avoidable hazards.

This report recommends several policy solutions that can remove millions of Americans from potential harm

in and around hazardous chemical facilities. Some solutions can—and should—be implemented immediately. Others may require more time, but should also be started now and aggressively pursued.

1. Make information on chemical hazards and alternatives widely available, and ensure that workers, communities, and government at all levels are fully informed and actively engaged in prevention planning.
2. Require companies that use or store hazardous chemicals to assess and document whether safer chemicals or processes could be used that would remove hazards and prevent disasters.
3. Develop accessible national data on alternatives based on companies' assessments and lessons learned by facilities that have successfully removed chemical hazards.
4. Require companies to convert to safer alternatives when feasible, and justify in detail any decisions not to remove major chemical hazards when alternatives are available, effective, and affordable.
5. End government policies that subsidize danger, and ensure that existing patchwork chemical safety and security requirements are complete, comprehensive, up to date, and mutually reinforcing.

For almost 30 years since the Bhopal disaster, chemical facilities, Congress, and a series of Presidential Administrations have neglected the potential for toxic disaster that millions of Americans—who are disproportionately Black, Latino, and low income—live with every day. While some companies have adopted safer alternatives, thousands of similar facilities have not.

Enough is enough. It's time for the federal government, state and local governments, and the industries themselves to implement the most effective strategies that reduce and eliminate avoidable chemical hazards whenever possible, and adopt a comprehensive set of policies to protect workers and communities.

Waiting for a catastrophe is not acceptable. Communities that already bear the brunt of industrial pollution will also bear the greatest harm from a chemical disaster—making chemical safety and security a central environmental justice issue of our time.

CHAPTER ONE INTRODUCTION

More than 134 million Americans, and their homes, schools, businesses, parks, and places of worship, live in harm's way of a toxic chemical release from several basic industries, according to this new analysis of 3,433 facilities that use or store extremely hazardous chemicals. Neighbors of facilities in these industries are disproportionately Black (African American) or Latino,¹ have higher rates of poverty than for the U.S. as a whole, and have lower housing values, incomes, and education levels than the national average.

This report is the first to assess the demographic characteristics of populations within the “vulnerability zones” of entire industry sectors that manufacture chemicals, treat water or wastewater, produce bleach, generate electric power, refine petroleum, produce pulp and paper, or otherwise have 100,000 or more people living in the path of a potential worst-case chemical release.² These zones—which are delineated and reported by the companies themselves—are the areas around facilities, sometimes extending for many miles, in which people can be seriously

THIS REPORT IS THE FIRST to assess the demographic characteristics of populations within the “vulnerability zones” of entire industry sectors that manufacture chemicals, treat water or wastewater, produce bleach, generate electric power, refine petroleum, produce pulp and paper, or otherwise have 100,000 or more people living in the path of a potential worst-case chemical release.

Background on Environmental Justice and Chemical Safety^a

People and organizations who live and work in the shadow of chemical and fossil fuels facilities have been concerned about their toxic outputs since long before the term “environmental racism” was coined. But once data began to be collected proving the connection between where these facilities were located and the demographics of the surrounding communities (including the 1987 report *Toxic Wastes and Race in the United States*) groups concerned about these environmental health hazards began creating a more coordinated, grass-roots movement to prevent harm to disenfranchised areas. The First National People of Color Leadership Summit, held in 1991, helped advance this process and expand

the emerging movement into issues beyond the location of hazardous facilities.

Then in 1994, with little movement in Congress toward reforms that would protect disproportionately impacted communities, President Bill Clinton responded to the outcry for action and issued Executive Order 12898 to address Environmental Justice in Minority and Low-Income Populations. Under this Order, government agencies are required to consider and assess potential disproportionate impacts of activities on low-income and minority communities before the activity takes place. Community environmental justice and advocacy groups were able to use the Executive

^a This brief summary includes selected environmental justice events that are most relevant to the information contained in this report. For a more complete history and timeline of the EJ movement, we recommend Robert Bullard, Ph.D., et al, *Environmental Justice Milestones and Accomplishments: 1964–2014* (Barbara Jordan-Mickey Leland School of Public Affairs, Texas Southern University, February 2014), available at http://www.tsu.edu/academics/colleges_schools/publicaffairs/files/pdf/EJMILESTONES2014.pdf.

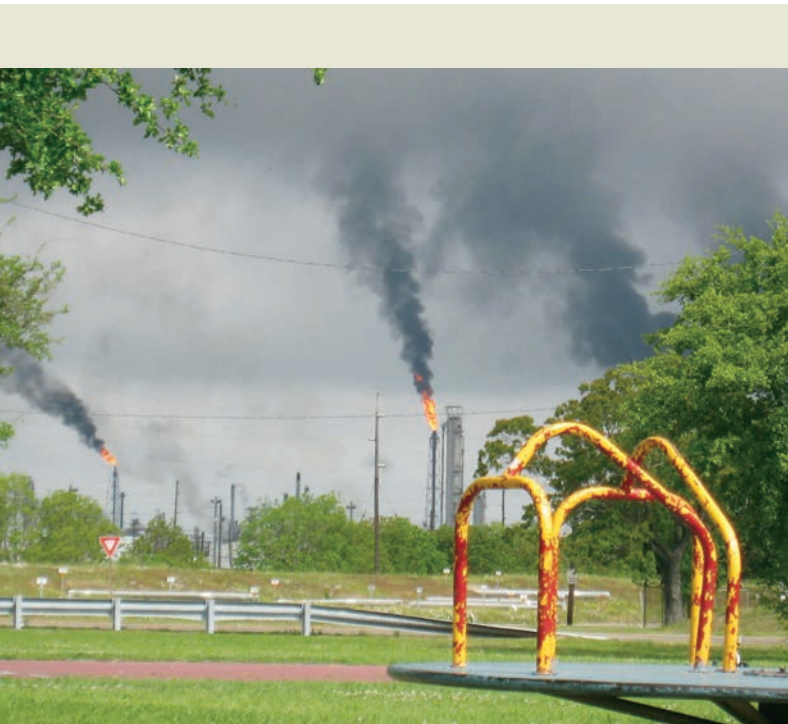
hurt or killed by the sudden release of toxic or flammable chemicals.

Our analysis uses data reported to the U.S. Environmental Protection Agency (EPA) in Risk Management Plans (RMPs) by facilities that produce, handle, process, distribute, or store certain extremely hazardous substances. The plans include companies' own assessments of a potential worst-case release of specific toxic gases or flammable chemicals. These RMP assessments identify vulnerability zones that are intended to inform people in nearby homes, schools, and businesses that they are within range of a potentially deadly chemical release and to encourage preventive action by industry. Although each facility uses only one chemical to prepare a worst-case release scenario, many facilities store or use several other hazardous chemicals as well.

The vulnerability zones examined in this report vary widely in scope, ranging from a radius of 0.01 to 25 miles. But their potential magnitude can be understood in view of one of the world's worst industrial disasters—the Union Carbide Company's pesticide factory tragedy in Bhopal, India. Thousands of people died near the Bhopal factory in December 1984 and many thousands more were permanently injured by toxic gases that leaked at night into the surrounding community. Though decades have since passed, comparable hazards remain across America virtu-

ally unchecked, as people live and work next to hazardous chemical facilities with minimal government oversight and little community awareness. In many cases, local police, firefighters, and government officials are not aware of the specific chemical hazards in their community and the potential for disaster—or the safer options that can help make communities more secure.

While Bhopal-scale chemical catastrophes are thankfully rare, chemical fires and spills are remarkably common. In a typical year, the U.S. Chemical Safety Board screens more than 250 high consequence chemical incidents involving death, injury, evacuation, or serious environmental or property damage.³ Chemical incidents in recent years have killed workers, first responders, and nearby residents, and destroyed homes, businesses, and schools. On April 17, 2013, an explosion in West, TX leveled an entire neighborhood. On August 6, 2012, a fire and explosion at the Chevron refinery in Richmond, CA sent 15,000 people to hospitals seeking treatment.⁴ Other chemical release incidents in recent years include Big Spring TX; Paulsboro, NJ; Danvers, MA; Rosedale, MD; Delaware City, DE.; Mossville, LA; and Charleston, WV; among others. The United States has fortunately avoided in recent years a chemical disaster of the scale that occurred in Texas City in 1947, when a ship laden with ammonium nitrate exploded killing at least 581 people.



Flaring oil refineries in Port Arthur, TX are an all-too-common sight for local residents.

Order as a tool to expose the ongoing human rights violations of people of color and low-income people living in environments contaminated with toxic chemicals.

However, because the Executive Order carried no legal mandates and because there has since been no meaningful federal chemical policy reform (and few significant state reforms), the toxic contamination and disproportionate impacts have continued. Community leaders and other environmental health advocates began to conceptualize a more comprehensive reform solution to protect fenceline communities, workers, and people exposed to chemicals from industrial facilities, fossil fuel operations, and products purchased and used each day. In 2004, members of a nationwide collaborative environmental health and justice network, known as Coming Clean, put these concepts to paper in a document called the Louisville Charter for Safer Chemicals. The Charter was named at a meeting held in Louisville, Kentucky, at which the Charter was finalized.

CONTINUED ON NEXT PAGE

CHEMICAL FACILITIES AND ENVIRONMENTAL JUSTICE

In 1987, a landmark national study, *Toxic Wastes and Race in the United States*, helped document a national pattern that many people knew anecdotally from daily life: industrial and environmental hazards are concentrated in poorer areas and areas with more people of color. *Toxic Wastes and Race* helped catalyze a national movement—known as the environmental justice movement—by making visible the adverse environmental and health impacts to workers and vulnerable communities living near the fencelines of chemical facilities. This movement asserts that equal protection and a healthy environment are basic human rights, and promotes precaution and prevention by design as a primary strategy to achieve health and justice for all.

Subsequent research has confirmed the core findings from 1987. Two decades later the report *Toxic Wastes and Race at Twenty 1987–2007* replicated the 1987 study using newer data and analytical methods, and found that people of color and poor people are even more heavily concentrated around hazardous waste facilities than the 1987 and other earlier studies found.⁵ In addition, dozens of other quantitative studies have documented inequitable distribution of environmental hazards, such as chemical plants, refineries, incinerators, power plants, waste facilities, and other polluting industries.⁶ These studies have consistently found people of color and low-income communities are

disproportionately affected; they endure an unfair share of adverse impacts to air and water quality, human health, property values and the local economy.

Now, this report—*Who's in Danger? Race, Poverty and Chemical Disasters*—presents new evidence that the dangers associated with large quantities of toxic and flammable industrial chemicals are unequally distributed. This new research presents troubling findings about housing values, household incomes, race and ethnicity, education levels, and poverty rates of people who live within range of chemical fires and spills from 3,433 industrial facilities, and especially of people who live closest to the facilities. (See Appendix C for a listing of the facilities and their vulnerability zones.)

CURRENT OPPORTUNITIES

Over the years, many initiatives have sought to address the avoidable chemical hazards that exist unchecked in many communities. In 1994, the same year that President Clinton signed his Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, scores of public interest organizations urged the EPA to make the systematic search for safer solutions part of risk management planning rules. Unfortunately, the agency took public comment but did not act. Every session of Congress since 1999 has considered

The name honors the struggles of the largely African American “Rubbertown” community in West Louisville, where industrial facilities released 11 millions of pounds per year of toxic air emissions and where numerous chemical disasters have taken place. Seventy-four diverse organizations endorsed the Charter as a common platform for chemical safety policies based on health and justice.^b Hundreds of groups and networks have used the Louisville Charter as a measuring stick against which local, state and federal policies can be compared to the health and safety needs of all communities.

Communities from each of the ten Environmental Protection Agency (EPA) Regions led discussions about the Charter among hundreds of people and dozens of organizations over the next two years, as a way to share and harmonize local and national priorities to lift all communities out of environmental injustice. In 2006, in an effort to raise the

profile of the need for comprehensive chemical policy reforms, groups carried out a national event called “EJ For ALL,” a three-bus, 40-stop tour of communities disproportionately impacted by toxic pollution and hazards.^c The Tour placed the environmental exploitation of low-income people and people of color by polluting industries before the public and on the notice of Federal agencies and EPA Regional Offices.

The northeastern and southern legs of the Tour converged in Washington, DC, while the western leg concluded in Los Angeles. While traveling together and visiting each other, far-flung groups shared similar stories of sickness and chronic conditions caused by toxic exposures in their communities. Many who traveled and gathered were stricken with various forms of cancer and heart disease, asthma, learning disabilities, childhood leukemia, and neurological illnesses. They also represented the many others, young

b “Endorsers of the Louisville Charter for Safer Chemicals,” accessed April 20, 2014, <http://www.louisvillecharter.org/endorsements.shtml>.

c A record of the Tour, including photos, video, and profiles, can be found at <http://www.ej4all.org>.

chemical safety and security legislation that would give structure and priority to *preventing* chemical incidents. Yet most workers and residents endangered by the most hazardous chemical facilities are still awaiting solutions beyond more security guards and fences.

In 2002, Homeland Security and the EPA prepared policy options that included reducing chemical inventories, substituting materials, or otherwise modifying processes to avoid chemical hazards, but the Bush White House blocked the proposal.⁷ Starting in 2006, then-Senator Obama cosponsored legislation and spoke of using safer technology to make communities safer and chemical plants less attractive targets for terrorists.⁸ In 2009, with the support of the Obama administration, the House of Representatives passed a comprehensive chemical security bill to make removing unnecessary chemical targets a core tenet of chemical security.⁹ Unfortunately, the bill stalled in the Senate. Federal agencies including the Government Accountability Office and Chemical Safety Board have called out opportunities to incorporate prevention through design into federal chemical regulations.^{10,11}

In March 2012, the National Environmental Justice Advisory Council (NEJAC) recommended that the EPA use its existing authority under the Clean Air Act to reduce or eliminate catastrophic chemical hazards wherever feasible. On August 1, 2013, in response to the devastating fertilizer



Members of the Environmental Justice and Health Alliance at the February 2014 EPA National Environmental Justice Advisory Council meeting in Denver, CO.

plant explosion at West, TX, as well as to years of organizing, President Obama signed Executive Order 13650, Improving Chemical Facility Safety and Security. This Executive Order sets forth a process with deadlines for improving and modernizing chemical safety and security regulations. After months of public input, the federal agencies charged with carrying out the Executive Order are now considering various measures to improve chemical safety and security, including new prevention requirements

MOMENTUM FOR REFORM

has continued to grow among grassroots community groups and policy advocacy networks all over the U.S., who have spoken out as constituents to their own legislators and collectively to the Administration—the White House, EPA and other agencies—for meaningful action to reduce chemical hazards and exposures.

and old, who had already died from toxic conditions at home and could not join them.

The Tour helped galvanize interest not only in revising federal laws to reduce chemical hazards that could result in a toxic release or explosion, but even more so in reforming the Toxic Substances Control Act (TSCA), a law enacted in 1976 that was supposed to protect people from everyday toxic chemical exposures. However, since 1976 only a handful of chemicals have been fully examined for health and safety impacts under TSCA, and only five have ever been restricted. Federal bills to revise TSCA have variously included elements of meaningful reform and reduction of hazards from toxic chemicals, but also proposals advocated by the chemical industry to weaken TSCA even further.^d

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^d Bills have included the Kid-Safe Chemicals Act (2008), the Safe Chemicals Act (2010–2013), the Chemical Safety Improvement Act (2013), and the Chemicals in Commerce Act (2014).

for safer chemicals and processes that could be implemented using existing authorities.

SCOPE OF ANALYSIS

The Clean Air Act Amendments of 1990 require industrial facilities that make, distribute, or use large amounts of certain extremely hazardous chemicals to prepare Risk Management Plans (RMP) and submit the plans to the U.S. EPA.¹² The plans are intended to save lives, protect property, and prevent pollution. Some 12,600 facilities currently submit RMPs.¹³

The RMPs include companies' own assessments of a worst-case chemical emergency, including the distance from the facility where toxic or flammable chemicals could cause serious harm if released. Areas within these distances—called “vulnerability zones”—extend from 0.01 to 25 miles from the facility depending on the amount and characteristics of the chemical stored or used at the facility that poses the greatest danger to the surrounding community.¹⁴ Company chemical release scenarios are intended to inform people in the circular vulnerability zones around the facilities that they are within range of potential harm and to encourage preventive action by industry.

Figure 1 shows the size distribution of the 3,433 vulnerability zones used this report, by the distance range around the chemical facilities. Of the distance ranges shown, the

largest number of facilities (1,172 or 34%) have vulnerability zones that range in distance from 1.01 to 2.50 miles around the chemical facilities, and a large majority of facilities (82% or 2,813) have vulnerability zones within five miles of their respective chemical facilities. Some 18% of facilities, or 620, have vulnerability zones greater than five miles. Only 5% of facilities, or 168, have RMP vulnerability zone distances that are greater than 20 miles in radius.

The RMP vulnerability zone distances provide the basis for the demographic analysis in this report. In order to obtain each facility's vulnerability zone distance, we first had to research RMP information at federal reading rooms. We limited our analysis to a complete review of RMP facilities in several basic industries: water treatment; wastewater treatment; bleach manufacturing; electric power generation; petroleum refining; pulp and paper production; and chemical manufacturing. We added RMP facilities not already included that have 100,000 or more people residing in their self-reported vulnerability zones, in order to include facilities that pose chemical safety risks to the largest populations.

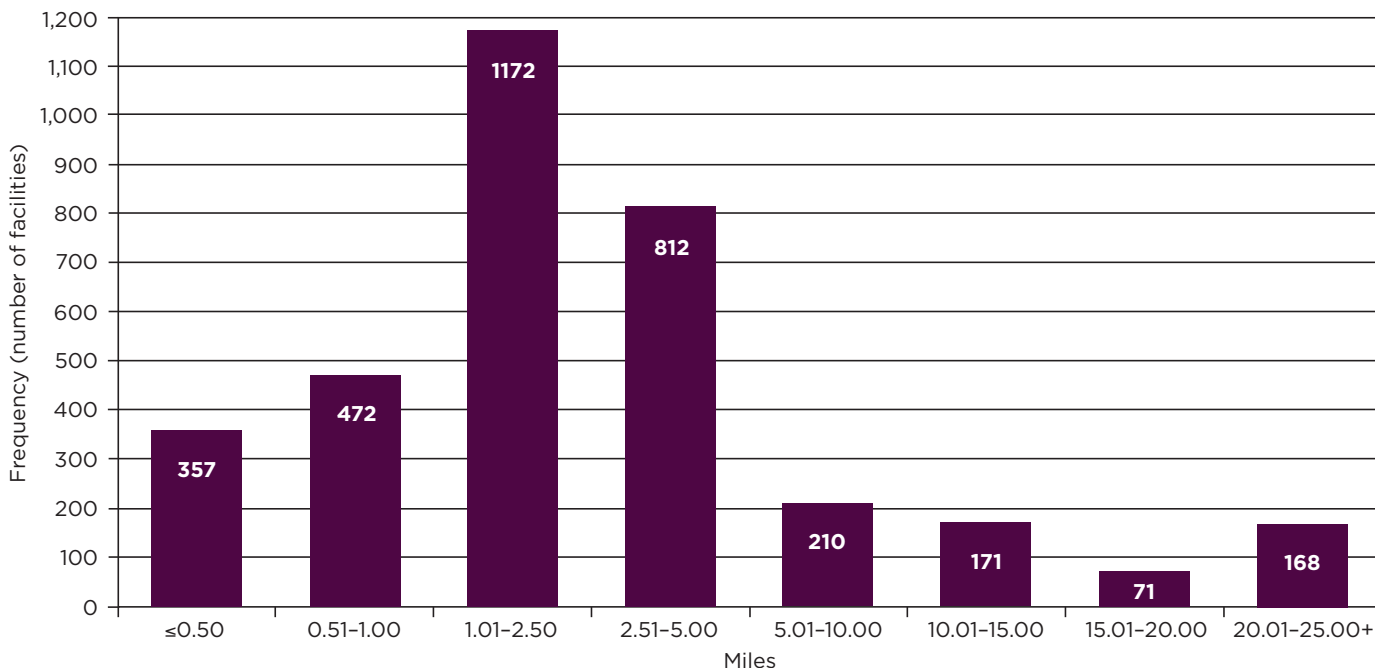
Following an established method, we used Geographic Information Systems (GIS) software and the most recent U.S. Census Bureau population data to estimate residential populations within the vulnerability zone distances. (See Appendix A for a discussion of the methods.)

Momentum for reform has continued to grow among grassroots community groups and policy advocacy networks all over the U.S., who have spoken out as constituents to their own legislators and collectively to the Administration—the White House, EPA and other agencies—for meaningful action to reduce chemical hazards and exposures. These EJ messengers come from groups in more than 12 states—primarily states with weak policies and regulations, where fossil fuel extraction often takes place, or where major oil, gas and chemical facilities are located. Some EJ groups are near military bases and harmed by military toxics. Others are farmworkers, or farmer and rancher networks whose livelihoods are threatened by toxic releases to land and water from chemical facilities or extractive industries. Together, these groups, working together as the Environmental Justice and Health Alliance for Chemical Policy Reform (EJHA), seek to further the work established by the environmental justice movement, the Just Transition Alliance, and groups working locally to strengthen their communities and secure long-lasting reforms and practical solutions.

These environmental justice groups advance a vision for change that includes an energy and chemical system that makes proven safe alternatives a priority; a movement for change in the manufacturing, production, and movement of goods in this country; and a movement for local farming that is just and provides all people and the land with the right to health and life. EJHA's work adheres to the Principles of Environmental Justice, the Jemez Principles for Democratic Organizing, and the Louisville Charter for Safer Chemicals as a platform for chemical policy reforms.

These initiatives are challenging all levels of government to be accountable and provide the transparency necessary to address the inter-related issues that keep environmental justice communities exploited.

To that end, the critical issue of chemical safety and security needed to be addressed. Many community organizations had for decades been concerned with acute exposures and deaths as a result of leaks, spills and explosions at chemical facilities. Following the September 11, 2001 attacks in New

FIGURE 1**Distribution of 3,433 Facility Vulnerability Zones by Size (distance ranges around chemical facilities in miles)**

Altogether, 134 million U.S. residents live within the vulnerability zones of one or more of the 3,433 facilities studied in this report. Table 1 shows the populations residing in facility vulnerability zones by industry sector and the number of these RMP facilities in each sector. Water

treatment, chemical manufacturing, and wastewater treatment sectors have the greatest number of these RMP facilities, 1,284, 778, and 686, respectively. Of the various industry sectors examined, the chemical and bleach manufacturing sectors have the largest

York City, Pennsylvania, and the Pentagon near Washington, DC, chemical security risks from terrorism gained the attention of legislators, but still no policies that focused on prevention of chemical hazards were adopted. EJ, labor, health, environmental, and advocacy organizations that had been working for some time to prevent toxic chemical releases banded together in 2011 to form the Coalition to Prevent Chemical Disasters.

Since then, community members have testified repeatedly in public meetings to the EPA, as well as local and state agencies, to address ongoing legacy contamination issues and for more effective chemical disaster prevention policies based on the use of safer design wherever feasible. EJ groups and allies urged President Obama and the National Environmental Justice Advisory Council (NEJAC) to move the U.S. EPA to use existing authority under the Clean Air Act to require disaster prevention at chemical facilities. In August 2013, President Obama issued an Executive Order on Chemical Facility Safety and Security—a welcome action, but one that community groups know will require

ongoing pressure to result in meaningful reform and health protections.

Behind the petitions and beyond the statistics are the stories that news outlets rarely report, including how local agencies are made aware of hazards at nearby industrial operations and yet do not respond until after disasters happen. News accounts often ignore the lies communities are told about how safe facilities are or how many jobs will come to residents when polluting industries move or expand near their homes and schools. We don't often hear about the lack of existing infrastructure (sewer, water, drainage, and fire hydrants) to support safe operations, or the absence of knowledge, protocols and trained staff and community members in the event of a chemical release or explosion. Given how many people in America live daily in the shadow of extremely dangerous chemical facilities—more than 134 million as documented by this report—it is shocking how little we know about these people and their experience. This report sheds light on who lives in these chemical disaster zones and tells some of their stories.

populations living in the vulnerability zones, 79.7 million and 64.0 million, respectively.

Additionally, an estimated 400,000 full time equivalent personnel work at these sites, and uncounted additional people work, travel, shop, study, worship, or recreate in vulnerability zones.¹⁵ The shipment of extremely hazardous chemicals by rail and truck also further distributes the dangers into unsuspecting communities far from the original sources. However, the demographic analysis in this report is limited to the residential populations around the 3,433 facilities studied.

Vulnerability Zones and Fenceline Zones

Communities that cope with constant toxic emissions and hazards from nearby industries are sometimes referred to as “fenceline” communities because homes, schools, businesses, parks, and other places where people live and work

are located at or near the boundary—or fenceline—of industrial facilities. But the full vulnerability zones used in this report (see Box 1 and Figure 3) can cover circular areas as large as 25 miles in radius around a facility and can encompass enormous areas—entire cities in some cases, such as Los Angeles, Houston, Memphis, Louisville, and Chicago. Over such large areas, people choose where they live based on many factors such as access to transportation, schools, jobs, and open space. They may not be aware of the dangers of chemical accidents.

For this reason, we examined both the populations that live inside the reported full vulnerability zones and those that live within one-tenth the distance of the full zones, where people live closest to potential harm. We refer to this nearer zone as the “fenceline zone.” For example, if the full vulnerability zone distance encompasses a circular area seven miles around the facility, then the fenceline

FIGURE 2
3,433 Chemical Facilities in This Report

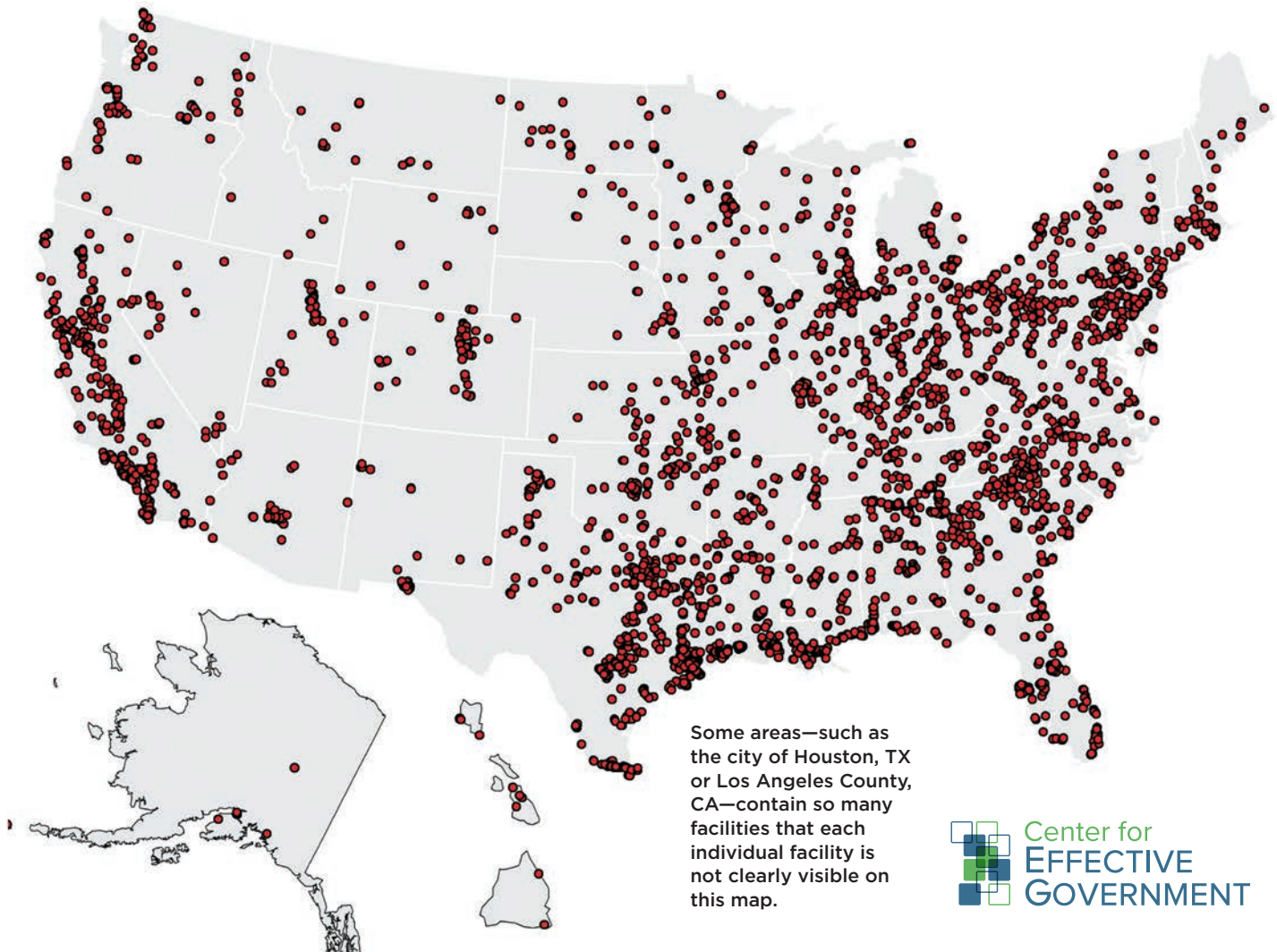


TABLE 1
Number of RMP Facilities and Vulnerability Zone Populations in This Report by Industry Sector

Industry Sector	RMP Facilities*	Vulnerability Zone Population**
Water treatment	1,284	33,692,612
Wastewater treatment	686	21,004,374
Bleach manufacturing	91	63,952,735
Electric power generation	334	4,052,030
Petroleum refining	130	18,484,212
Pulp and paper production	72	5,462,950
Chemical manufacturing***	778	79,726,744
Total for all sectors	3,433	134,932,009

* Facilities may be in more than one industry sector and thus do not equal the total for all sectors.

** Values represent merged overlapping vulnerability zones to eliminate double counting within each industry sector. Because facilities may be in more than one sector, the sum of population values does not equal the population total for all sectors.

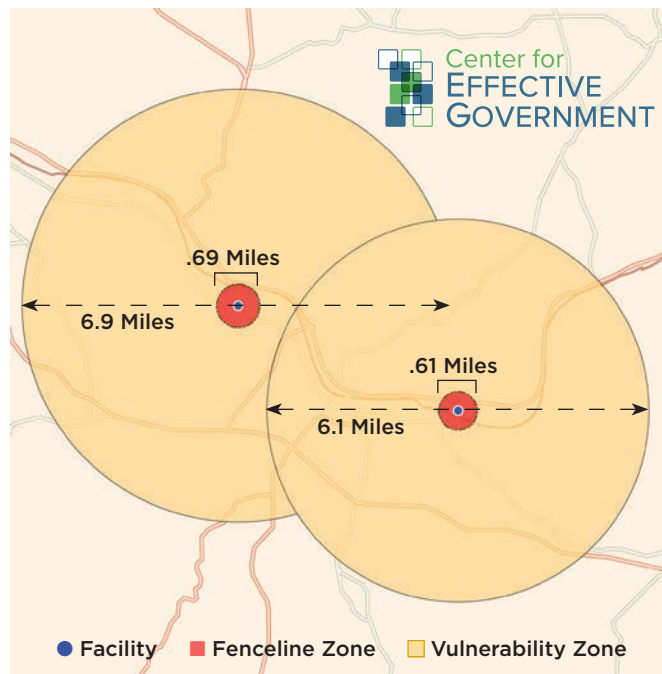
*** Defined as member companies of the American Chemistry Council (ACC) and Society of Chemical Manufacturers and Affiliates (SOCMA).

zone distance is 0.7 miles. (Figure 3 depicts sample vulnerability zones and fenceline zones.) Approximately 3.8 million people live within the fenceline zones closest to potential harm, where, as noted above, they are least likely to be able to evacuate in the event of a serious chemical release.

The communities in these fenceline zones bear a greater risk to their safety and security from the large quantities of extremely hazardous chemicals stored or used in the neighboring facilities. A toxic gas cloud or blast wave could engulf a large area and enter homes, schools, businesses, eldercare facilities, places of worship, sports arenas, hospitals, and automobiles long before people could evacuate or shelter in place. For those who do shelter in place, which means to go inside, close doors, windows, and vents, and wait for toxic fumes to blow away, toxic gases may filter into the building before the company can stop a major chemical release—if it can be stopped. A simple analysis shows that shelter in place cannot possibly protect people in the fenceline zones (see Appendix B). Shelter in place is a desperation strategy, not a plan for public safety or for preventing a chemical disaster, yet shelter in place is the “safety” measure encouraged by many facilities.

Studies and on-the-ground experience show that practical barriers preclude complete evacuation or effective shelter

FIGURE 3
Sample Vulnerability Zones and Fenceline Zones



BOX 1
“Vulnerability Zones” in This Report

The chemical disaster vulnerability zone distances described in this report (which represent a radius or circle around the facility) were calculated by the companies themselves as part of worst-case chemical release scenario analysis required under EPA’s Risk Management Program. The scenarios are projections that the chemical facilities report to the EPA, and include the maximum area of potential serious harm from a worst-case release of chemicals, a distance around the facility ranging from 0.01 to 25 miles. The area within this distance is known as the vulnerability zone for such a release. The area within one-tenth of the vulnerability zone distance we have called the fenceline zone. The scenarios are not forecasts of potential casualties. People living or working within vulnerability zones are at risk of serious harm, but actual impacts of a release would vary due to weather, wind direction, and distance from the facility.

in place. Leaks sometimes go undetected for days even with alarm systems.¹⁶ Companies may not promptly report leaks.¹⁷ Companies may not provide sufficient information, thereby delaying emergency responders.¹⁸ Public notifications take time and are inevitably incomplete.¹⁹ And many residents don’t heed warnings to stay indoors.²⁰

SELECTED EVENTS IN THE HISTORY OF ENVIRONMENTAL JUSTICE, 1964-2014

1964 — U.S. Congress passes the **Civil Rights Act** of 1964, prohibiting the use of federal funds to discriminate based on race, color, and national origin.

1984 — Catastrophic toxic gas leak at Union Carbide pesticide manufacturing facility in **Bhopal, India**. Government confirms 558,125 injuries and 3,787 deaths. NGOs estimate 8,000 immediate deaths and 8,000 subsequent deaths resulting from effects of gas exposure.

1990 — **Clean Air Act Amendments** passed by U.S. Congress, establishing the Risk Management Plan (RMP) program, the independent Chemical Safety Board, and U.S. Environmental Protection Agency's (EPA's) authority to establish design and operational requirements to prevent toxic chemical releases.

1987 — United Church of Christ (UCC) Commission for Racial Justice issues the famous **Toxic Wastes and Race in the United States** report, the first national study to document a relationship between waste facility siting and race.

1994 — President Clinton signs **Executive Order 12898**: "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations."

1993 — EPA establishes the **National Environmental Justice Advisory Council** (NEJAC).

1997 — **Just Transition Alliance** is formed by labor unions and environmental justice organizations to support healthy workplaces and communities through transition to clean production and sustainable economies.

1997 — President Clinton issues **Executive Order 13045**: "Protection of Children from Environmental Health and Safety Risks."

1964 1965 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998

1965 — U.S. Congress passes the **Voting Rights Act** of 1965.

1991 — **First National People of Color Leadership Summit** convenes in Washington, DC, leading to the Principles of Environmental Justice.

THE PATH TOWARD SAFETY AND JUSTICE is for government and industry to take precautionary steps that include affordable, common sense measures. Precautionary measures would reduce and eliminate unnecessary hazards, improve oversight of the facilities, and produce better engagement of communities living near these facilities and the workers who staff them.

1994 — **Federal Interagency Working Group on Environmental Justice** established.

1998 — The **Chemical Safety Board**, authorized by the 1990 Clean Air Act Amendments, becomes operational, charged with investigating chemical "accidents" and recommending safety improvements.

1994 — United Church of Christ issues **Toxic Wastes and Race Revisited**, which strengthens the association between race and siting of waste facilities.

2002 — Fenceline Action Workgroup of Coming Clean formed to provide direct support to community environmental justice groups and include them in the network.

2001 — Coming Clean Collaborative formed at founding meeting in New Orleans, Louisiana.

2002 — Second National People of Color Environmental Leadership Summit convenes in Washington, DC, attracting more than 1,400 attendees.

2005 — Dozens of public health, labor and environmental groups publicly endorse the **Louisville Charter** as a road map for policies to protect all communities based on principles of health and justice.

2006 — Indigenous Environmental Network Meeting in Bemidji, Minnesota adopts **Bemidji Statement on Seventh Generation Stewardship**.

2007 — The UCC releases **Toxic Wastes and Race at Twenty**, which updates and confirms the findings of the original report.

2010 — Fenceline Action Workgroup co-hosts an **Environmental Justice and Chemical Policy Dialogue** in Washington, DC. Twenty-seven environmental justice groups in attendance form the Environmental Justice and Health Alliance for Chemical Policy Reform to undertake collective strategies that promote chemical policy reforms that protect environmental justice communities.

2012 — NEJAC supports grassroots and labor groups in asking EPA Administrator Lisa Jackson to use the Agency's authority under the Clean Air Act to require chemical companies to prevent chemical disasters at their facilities.

2013–2014 — Hundreds of community members turn out for federal **Listening Sessions** on EO 13650 in Texas, California, New Jersey and elsewhere to share testimonies about chemical hazards in their communities and call for decisive action to prevent disasters.

1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014

2001 — The **Stockholm Convention on Persistent Organic Pollutants** names an initial set of toxic chemicals to be banned worldwide. Native American and Native Alaskan communities and organizations successfully advocate for inclusion of language in the Convention preamble on the disproportionate impacts of chemicals on Indigenous peoples.

2004 — Coming Clean ratifies the **Louisville Charter for Safer Chemicals**: A Platform for Creating a Safe and Healthy Environment through Innovation at a general strategy meeting in Louisville, Kentucky.

2006 — Coming Clean's **Fenceline Action Workgroup** sponsors the national 40-stop Environmental Justice for All Tour, culminating in actions in DC and Los Angeles.

2002 — Coming Clean's **Chemical Industry Workgroup** develops a policy platform to maintain chemical plant security through "inherent safety" by replacing hazardous chemicals with safer ones, and reducing or eliminating on-site storage and handling.

2009 — Fenceline Action Workgroup co-hosts the **Environmental Justice Dialogue on Chemical Policy** in Atlanta among 30 organizers interested in developing the relationship between EJ and chemical policy campaigns.

2013 — President Obama announces **Executive Order 13650: Improving Chemical Facility Safety and Security**, which directs federal agencies to develop recommendations for policy changes, best practices, information sharing, and federal, state, and tribal coordination.

2011 — **Coalition to Prevent Chemical Disasters** is formed by 100 diverse organizations committed to preventing chemical disasters before they happen and demanding federal action now to protect workers and fenceline communities.

2014 — Grassroots groups, advocacy organizations and government agencies celebrate the **20th anniversary of the Executive Order on Environmental Justice**.

THE STRUGGLE FOR A TOXIC-FREE COMMUNITY

Alaska Community Action on Toxics, Savoonga, St. Lawrence Island, Alaska

<http://www.akaction.org>

Facilities that use and store hazardous chemicals don't only endanger people who live nearby. Chemicals that are released can travel long distances and build up in the environment and food over decades. And facilities often leave toxic chemicals behind when they close, further contaminating people and the environment.

Alaska Native peoples experience fenceline impacts from hundreds of contaminated former military and industrial sites in their own backyards, and are also connected to communities in states in the “lower 48” working for chemical security. On Alaska's small St. Lawrence Island in the northern Bering Sea, Yupik communities are suffering health hazards linked to chemical releases both from contaminated sites on the island and from thousands of miles away.

“Indigenous Arctic peoples are among the most highly exposed people on earth to toxic chemicals, because these chemicals—DDT, PCBs, brominated flame retardants, and perfluorinated compounds, to name a few—are persistent, and drift hundreds and thousands of miles north on wind and ocean currents from more southern latitudes where they are manufactured, stored, and used,” stated Vi Waghiiyi, a Yupik mother and grandmother, Native Village of Savoonga, St. Lawrence Island, Alaska, and Environmental Health and Justice Program Director, Alaska Community Action on Toxics (ACAT). “These chemicals contaminate our traditional foods and affect our health and the health of our children.”

Tiffany Immingan, a 20-year-old Yupik woman from the village of Savoonga, St. Lawrence Island said: “As a result of these daily exposures to toxic chemicals, those of us who live in remote places like Alaska and the Arctic have some of the highest levels of toxic chemicals in our own bodies. These chemicals have been linked to serious diseases such as cancer, diabetes, learning disabilities, birth defects and reproductive harm. Our toxic chemicals laws are badly broken. Communities like mine are working



© Samary's Segunot-Medina

Tiffany Immingan (right) conducting water testing for chemicals, Snake River, Nome, AK.

“OUR TOXIC CHEMICALS LAWS are badly broken. Chemical companies are not required to show that the chemicals they use to make the products we buy are safe for human health and the environment.”

TIFFANY IMMINGAN

20-year-old Yupik woman from the village of Savoonga, St. Lawrence Island

on reform for safer chemical laws that protect our human health. Everyone who truly cares about the health of Alaskans must voice their support for stronger toxic chemicals laws. We want chemical policy reform, but we want to ensure that it is done right.”

The Just Transition Alliance

<http://www.jtalliance.org>



Jose Bravo of the Just Transition Alliance explains the need to protect workers and communities from toxic chemicals outside the federal Listening Session on chemical facility security in Los Angeles, CA, January 2014.

What is a Just Transition?

A “Just Transition” is a principle, a process and a practice. The principle of a Just Transition is that a healthy economy for everyone and a clean environment can co-exist. The process for achieving a Just Transition should be a fair one that does not cost workers or community residents their health, environment, jobs, or economic assets. Any losses that occur should be fairly and justly compensated. The practice of a Just Transition means that people and the environment that are affected by pollution and economic restructuring – the frontline workers, the community and the environment – must all be prioritized and that workers along with community residents must lead the crafting of solutions.

“People of color, Indigenous communities and low-income neighborhoods continue to be the canaries in the coal mine, in harm’s way from exposure to toxic chemical production, storage, incineration, and use, and from hazardous waste disposal,” says Jose T. Bravo, Executive Director of the Just Transition Alliance in San Diego, CA.

“WE MUST MOVE TOWARD
engineering the danger out of chemicals
and processes that expose workers at the
frontline of production, and the
communities at the fenceline of exposure.”

JOSE T. BRAVO

Executive Director of the Just Transition Alliance
in San Diego, CA

“We must move toward engineering the danger out of chemicals and processes that expose workers at the frontline of production, and the communities at the fenceline of exposure. We must also strive to change zoning so that sensitive areas are kept out of harm’s way, especially those living with the disproportionate legacy of toxics. A Just Transition to a sustainable future must include: a cradle to cradle approach that protects everyone and everything at all the stages. It’s imperative that chemical security reforms include a Just Transition towards a healthier, safer and sustainable future for all.”

West County Toxics Coalition, Richmond, CA

http://www.dhventures.com/West_home.htm

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Toxic smoke released during the Chevron refinery fire in Richmond, CA, August 2012.

On August 6, 2012, a release of flammable vapor led to a fire at the Chevron Refinery in Richmond, California. The smoke and toxic fallout caused more than 15,000 residents to seek treatment at area hospitals with respiratory problems.^a Richmond is filled with heavy industry and petrochemical containers, and crisscrossed by train tracks. About 80 percent of people living within a mile of the Chevron refinery are people of color, and a quarter of them live below the poverty line.

Many residents insist that the 2012 release is emblematic of a willful negligence that dates back decades, at the expense of the low-income communities and communities of color who can't afford to leave the area. The refinery was in "high priority violation" of federal rules on toxic air emissions for several years up through 2010.^b The independent U.S. Chemical Safety Board concluded that Chevron ignored warnings from its employees about the danger posed by corroded pipes.^c The pipe that failed in August 2012 had lost 90 percent of its original thickness.^d In December 2013, the U.S. EPA threatened Chevron with daily fines because the company had failed to address 62 violations identified since the fire. EPA also found 13 instances when Chevron failed to report toxic air releases promptly.^e

"Not only do we have to be exposed to chemical fumes day and night, but we also get contaminated when these explosions happen. They are not 'accidents,' they are preventable, and we demand protection now," said Dr. Henry Clark, director of the West County Toxics Coalition, a multi-racial environmental justice organization that



Part of the Chevron refinery in Richmond, CA.

© Nick Fisher/Creative Commons

"NOT ONLY DO WE HAVE TO BE exposed to chemical fumes day and night, but we also get contaminated when these explosions happen. They are not 'accidents,' they are preventable, and we demand protection now."

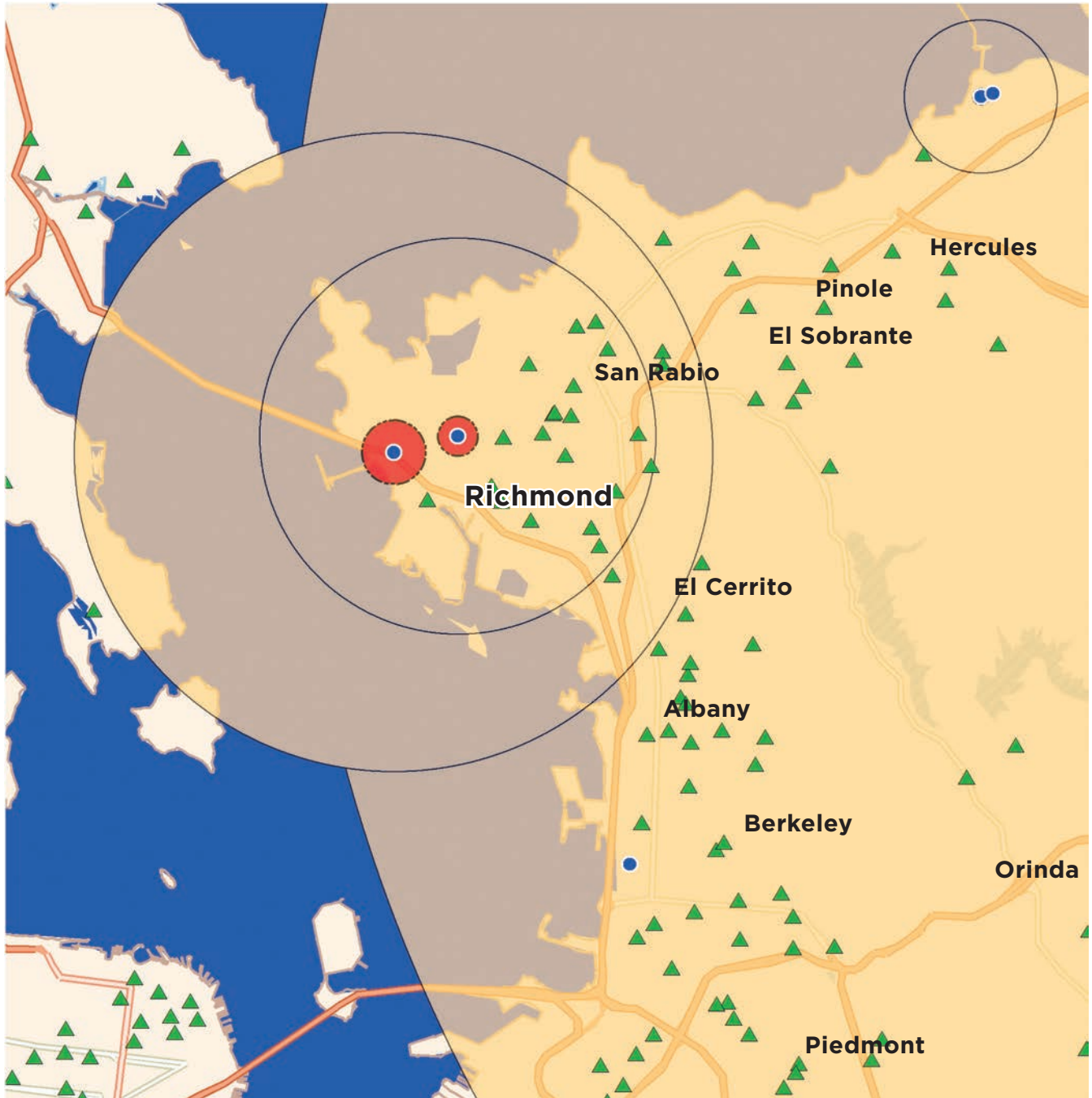
DR. HENRY CLARK

Director of the West County Toxics Coalition

works to empower low and moderate income residents to exercise greater control over environmental problems. "We applaud any sincere efforts by Chevron or anyone else that wants to do the right thing. But that doesn't mean that we give Chevron a blanket approval to continue to increase the pollution."

- a <http://www.sfgate.com/bayarea/article/EPA-cites-62-Richmond-violations-by-Chevron-5072914.php>
- b <http://articles.latimes.com/2012/aug/14/opinion/la-oe-0814-juhasz-chevron-refinery-pollution-20120814>
- c http://www.contracostatimes.com/west-county-times/ci_24734895/federal-report-calls-sweeping-reforms-aftermath-chevron-richmond
- d <http://www.sfgate.com/bayarea/article/EPA-cites-62-Richmond-violations-by-Chevron-5072914.php>
- e Ibid.

RICHMOND, CALIFORNIA



● Facility ▲ Schools ■ Fenceline Zone ■ Vulnerability Zone

This map shows vulnerability zones and fenceline zones for facilities included in this report near Richmond, CA, and the approximate location of nearby schools. The fenceline zones for some facilities are too small to appear at this scale.



Mossville Environmental Action Now (MEAN), Mossville, Louisiana

<http://meannow.wordpress.com>

In the historic African American community of Mossville, Louisiana, 14 toxic industrial facilities spew millions of pounds of pollution into the area annually and their operations dissect the 5.5 square mile community throughout with pipelines, railroad tracks and tanker cars. An area that used to boast some of the richest biodiversity in all of Louisiana is now among the state's most toxic and dangerous places.

In December 2013, Mossville resident and grandmother Dorothy Felix heard an explosion at the Axial chemical production facility and saw a huge black cloud hovering near the local school. The school was told to shelter the children in place—but there were no alarms in the community to advise the residents. Meanwhile, the highway was shut down due to the explosion, preventing anxious family members from collecting their children from the school. The incident was responsible for more than a dozen members of the community going to the hospital. Because Mossville residents have been living for decades under these conditions—massive industrial operations, no alarms, shelter in place protocols, undrinkable water, and contaminated fish and farming soil from industrial contaminants—a majority of the population now consists of children and elderly people disproportionately sick and dying.

Mossville Environmental Action Now (MEAN) is one of the grass-roots environmental justice groups that are demanding that government and industry be accountable for the destruction caused by the chemical industry in their communities. The EJHA has worked alongside MEAN to advocate for federal standards and regulations of the chemical industry that protect the lives of the people of Mossville. In 2013, Mossville residents and members of MEAN began a residential relocation process with global energy and chemical giant Sasol due to the dangers and chemical hazards of Sasol operations in Mossville. More “relocations” or forced migrations are expected in other communities due to concentrated chemical contamination and chronic illnesses among fence-line residents.

“We were here before these plants came and we were here because this was an Afro-American community and we didn't have anywhere that we could go. We had to go somewhere where we felt safe and away from all the racial problems that were going on. This was the place for us. Now they're forcing us to leave.” Dorothy Felix, Mossville Environmental Action Now (MEAN).

© Southwest Workers Union

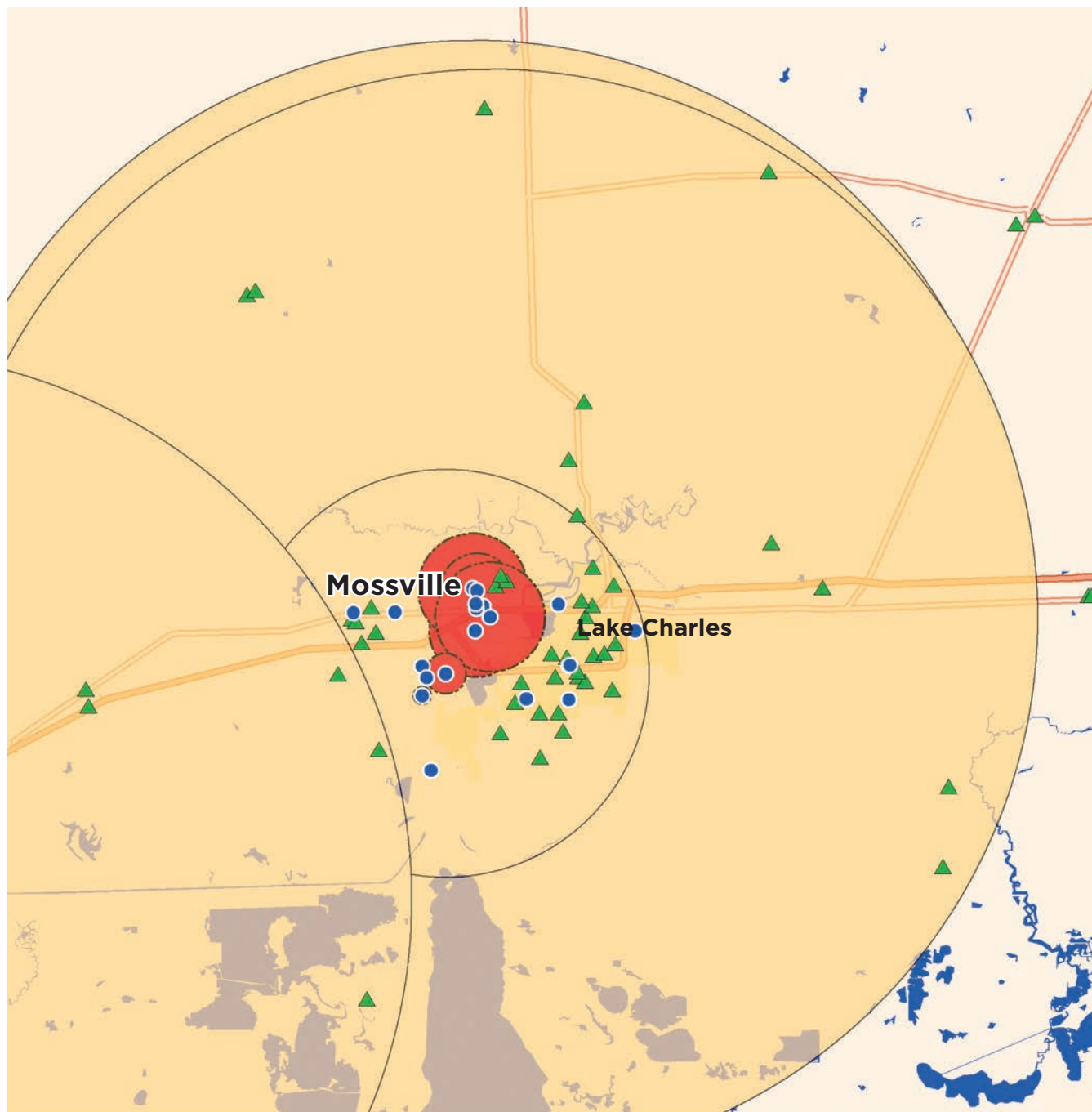


Edgar Mouton (right) fought to protect the health and environment of himself and other residents of Mossville, LA, until his death in June 2012.

“THERE IS NO PLACE OR person in Mossville that has not been harmed by the toxic chemicals spewed out by all of the industrial facilities. Instead of our government helping our community to become healthy, we see our government helping the industries to release more and more pollution.”

EDGAR MOUTON

MOSSVILLE, LOUISIANA



● Facility ▲ Schools ■ Fenceline Zone ■ Vulnerability Zone

This map shows vulnerability zones and fenceline zones for facilities included in this report near Mossville, LA, and the approximate location of nearby schools. The fenceline zones for some facilities are too small to appear at this scale.



THE STRUGGLE FOR A TOXIC-FREE COMMUNITY

Los Jardines Institute (The Gardens Institute), South Valley of Albuquerque, NM

www.facebook.com/los.ji.92

Community organizing to demand safer alternatives has successfully reduced and removed chemical hazards. For years, residents and members of the Southwest Network for Environmental and Economic Justice and Los Jardines Institute (The Gardens Institute) have organized to address the water contamination and toxic smells coming from the Southside Water Reclamation Plant's use of chlorine gas to treat wastewater. "We have known for decades the unidentifiable sicknesses and cancers in our community were the result of the many chemicals we were being exposed to, including exposure to chlorine from the wastewater treatment plant," says Richard Moore, former Director of the Southwest Network for Environmental and Economic Justice, and Coordinator of Los Jardines Institute. Moore goes on to say, "We knocked on the doors of people living in the community to build the community power needed to pressure the government to take action."

The Mountain View community is home to a sewage treatment plant that serves the city of Albuquerque. "Approximately 4,300 Mountain View residents live across 8,400 acres and the homes are mingled with more than 25 junkyards, five gravel and concrete companies, seven petroleum bulk terminals, a brick company, and dozens of other industries, many surrounded by razor wire. Seventy-eight percent of the people in Mountain View are Chicano/Mexicano and more than half speak Spanish as their primary language. Nearly 40 percent of the families with children are so poor that they would have to triple their income to climb above the federal poverty line," says Magdalena Avila, Dr.P.H., resident of the Mountain View community and Associate Professor at the University of New Mexico.

With 160,000 people at risk from the bulk use and storage of chlorine, an accident involving this chemical could potentially impact an area up to 5.40 miles downwind of the plant. Community advocates brought this issue to the attention of the Environmental Protection Agency, which found the wastewater treatment plant in violation of the federal Clean Water Act and issued an order for the plant to fix the problem. "We've eliminated chlorine gas, which is a very hazardous chemical, making the process much safer and

© Lauro Silva



Participants in a Health Impact Assessment Training learn how to conduct community research into health impacts from industrial facilities, Mountain View, NM.

“WE HAVE KNOWN FOR

decades the unidentifiable sicknesses and cancers in our community were the result of the many chemicals we were being exposed to, including chlorine from the wastewater treatment plant.”

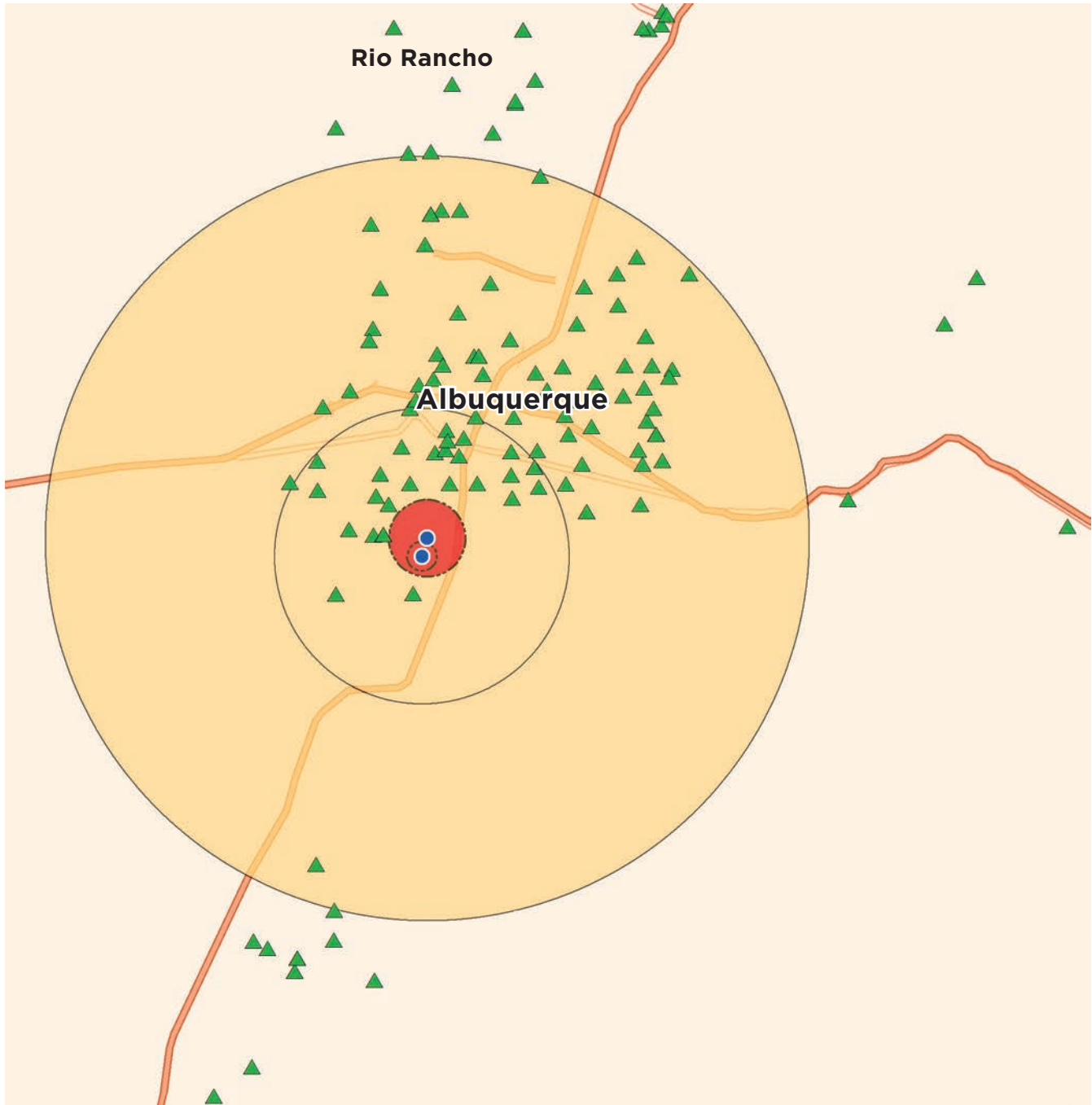
RICHARD MOORE

Coordinator of Los Jardines Institute

more cost-effective,” said Albuquerque Bernalillo County Water Utility Authority Compliance Manager Barbara Gastian.^a The plant has upgraded to safer alternative technology and implemented an ultra-violet disinfection system, reducing the plant's use of chlorine and reducing the toxic burden felt by Mountain View residents.

^a <http://www.bizjournals.com/albuquerque/print-edition/2011/10/07/abcwua-launches-massive-waste-water.html?page=all>

ALBUQUERQUE, NEW MEXICO

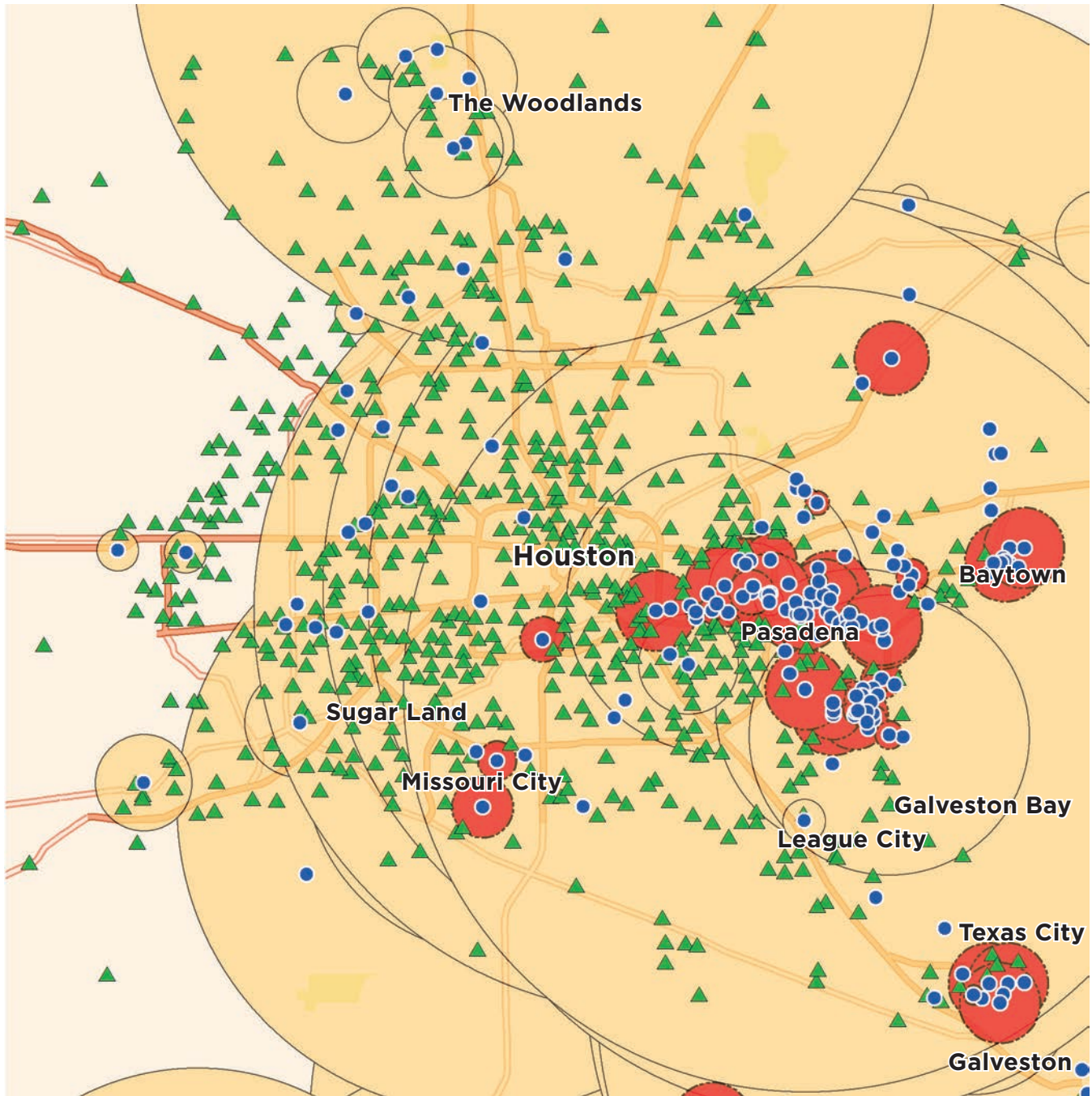


● Facility ▲ Schools ■ Fenceline Zone ■ Vulnerability Zone

This map shows vulnerability zones and fenceline zones for facilities included in this report near Albuquerque, NM, and the approximate location of nearby schools. The fenceline zones for some facilities are too small to appear at this scale.



GREATER HOUSTON, TEXAS



● Facility ▲ Schools ■ Fenceline Zone ■ Vulnerability Zone

This map shows vulnerability zones and fenceline zones for facilities included in this report near Houston, TX, and the approximate location of nearby schools. The fenceline zones for some facilities are too small to appear at this scale.



People Concerned About Chemical Safety, Charleston, West Virginia

<http://peopleconcernedaboutmic.com>

On January 9, 2014, a highly toxic chemical, crude 4-methylcyclohexanemethanol (MCHM), was released from a Freedom Industries facility into the Elk River in Charleston, West Virginia, just upstream from the intake for a water treatment plant serving nine counties.

“10,000 gallons of a toxic chemical mix used for coal processing spilled into the river, contaminating the public water source that serves 300,000 residents in nine counties. This chemical disaster was 100% preventable,” says Maya Nye, President of People Concerned About Chemical Safety (PCACS) in Kanawha County, West Virginia. Nye is the daughter of employees of the Union Carbide chemical company, and as a teen was exposed to toxic chemicals following an explosion at a neighboring chemical plant.

The Freedom Industries spill forced local community organizers to navigate the loss of potable water while bringing these issues forward to the responsible government agencies. “We need the EPA, the Department of Homeland Security, and the Department of Labor to come to Charleston to take responsibility and hold Freedom Industries accountable.”

People Concerned About Chemical Safety is dedicated to the protection of health and safety of all who reside, work, and study in the vicinity of local plants producing highly toxic chemicals. PCACS joined the Environmental Justice and Health Alliance (EJHA) to amplify these demands after the Elk River chemical disaster. Organizers from West Virginia joined the EJHA delegation to the National Environmental Justice Advisory Council meeting in February 2014 to ask EPA Administrator Gina McCarthy to prioritize West Virginia and chemical security on the 20th Anniversary of President Clinton’s Environmental Justice Executive Order.



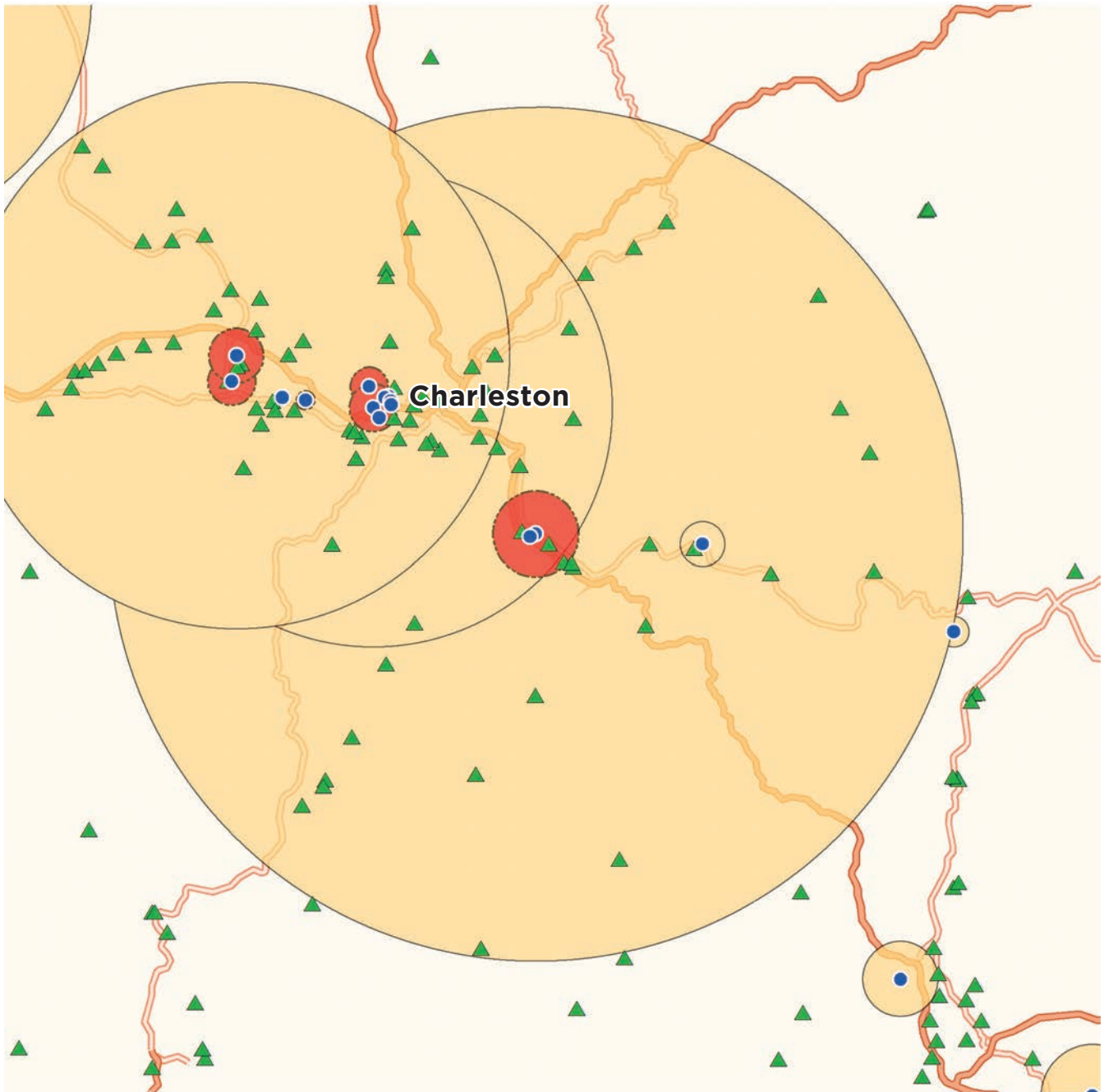
Residents demand action from state and federal agencies after a chemical spill contaminated the water for 300,000 people in Charleston, WV, January 2014.

“10,000 GALLONS OF A TOXIC
chemical mix used for coal processing spilled into the river, contaminating the public water source that serves 300,000 residents in nine counties. This chemical disaster was 100% preventable.”

MAYA NYE

President of People Concerned About Chemical Safety
in Kanawha County, WV

CHARLESTON, WEST VIRGINIA



● Facility ▲ Schools ■ Fenceline Zone ■ Vulnerability Zone

This map shows vulnerability zones and fenceline zones for facilities included in this report near Charleston, WV, and the approximate location of nearby schools. The fenceline zones for some facilities are too small to appear at this scale.



CHAPTER TWO

DEMOGRAPHIC ANALYSIS OF CHEMICAL FACILITY VULNERABILITY ZONES

This report examines the chemical disaster vulnerability zones reported to EPA by 3,433 facilities that are required to file Risk Management Plans (RMPs) because they make, distribute, or use certain extremely hazardous substances. These facilities are in seven basic industrial sectors or have more than 100,000 people living in their self-reported vulnerability zones. All told, 134 million people in the United States live within range of a worst-case chemical release from one or more of these facilities, and 3.8 million live within the fenceline zones closest to potential harm and with the least time to react in the event of a catastrophic release.²¹

Demographic analysis of five socio-economic criteria show Black, Latino, and low-income populations disproportionately represented in the vulnerability zones of these high-hazard chemical facilities, and even more greatly represented in the fenceline zones (one-tenth the distance of the full vulnerability zone), compared to the U.S. as a whole. The five indicators studied are housing value,

household income, race and ethnicity, education level, and poverty. These indicators were chosen to assess hazards and impacts based on race, income, or social status and to conduct an environmental justice analysis of on-the-ground impacts of chemical security policies and practices.

Key findings about the fenceline zones nearest to the facilities are:

- Residents of the fenceline zones have average home values 33% below the national average.
- Residents of the fenceline zones have average household incomes 22% below the national average.
- The percentage of Blacks in the fenceline zones is 75% greater than for the U.S. as a whole, while the percentage of Latinos in the fenceline zones is 60% greater than for the U.S. as a whole.
- The percentage of adults in the fenceline zones with less than a high school degree is 46% *greater* than for the U.S. as a whole, and the percentage of adults in

In West Louisville, KY and many other communities, homes directly border industrial facilities.



© Elizabeth Crowe

the fenceline zones with a college or other post-secondary degree is 27% *lower* than for the U.S. as a whole.

- The poverty rate in the fenceline zones is 50% higher than for the U.S. as a whole.

Detailed findings are presented below.

Who's In Danger? Demographics of Vulnerability Zone Populations

NATIONAL FINDINGS

Housing Value (Table 2)

Average housing value of owner-occupied homes within the vulnerability zones is lower than the national average, and much lower in the fenceline zones (one-tenth the distance of the vulnerability zone). While home values in facility vulnerability zones are only slightly lower compared to the national average, the very large size of some zones may mask the association between lower housing values and these industrial chemical hazards. Average home value in the fenceline zones drops precipitously to only two-thirds (66%) of the national average (from \$246,375 to \$164,346) (Figure 4). In addition, many families living in fenceline areas may be renters who do not own the home or apartment they live in. These figures suggest that low-income families gravitate to communities surrounding chemical facilities where housing is cheaper.

Household Income (Table 3)

Similar to the finding for home values, average household income in the full vulnerability zones is slightly lower than the national average (\$71,333 vs. \$73,033), but much lower in the fenceline zones: only \$56,814, or 22% less than the national average (Figure 5).²² The relatively small difference between income in the vulnerability zones and the national average may be due to many zones being found around urban areas that tend to have higher incomes than rural areas, all of which are included in the national average. This finding reinforces the finding of lower home values in fenceline zones, and indicates that these residents who live nearest to hazardous chemical industries tend to have lower income, fewer options for leaving the area, and less influence to ensure that nearby facilities upgrade operations.

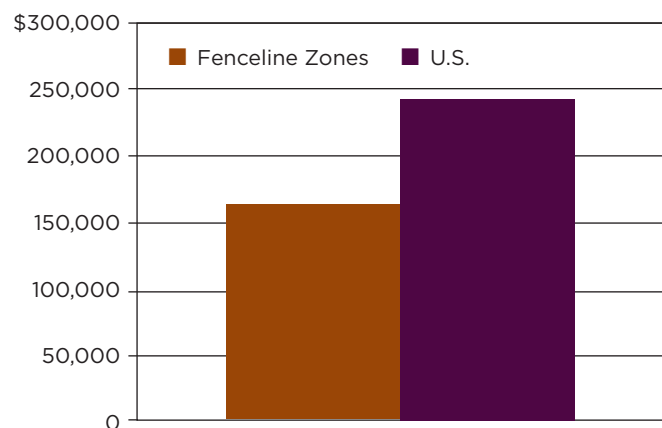
Race and Ethnicity (Table 4)

The proportion of the residential population within the vulnerability zones that is Black or Latino is greater than

TABLE 2
Housing Value in the Vulnerability Zones

	Fenceline Zones	Vulnerability Zones	U.S.
Average Home Value	\$164,346	\$238,498	\$246,375
Percent of U.S. Average	66.7%	96.8%	100.0%

FIGURE 4
Housing Value in Fenceline Zones

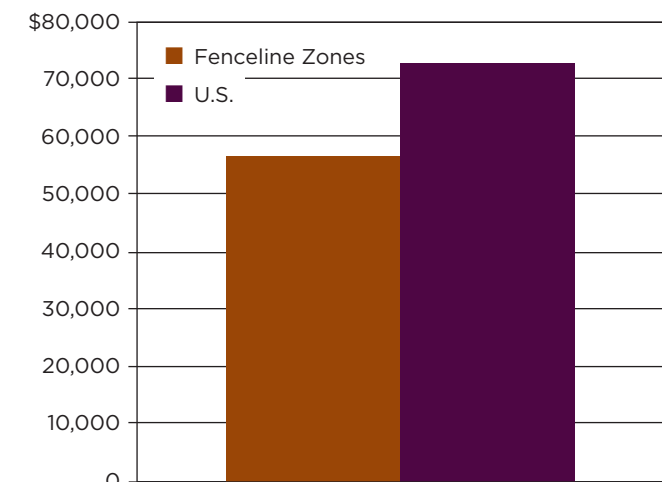


Average home value in the fenceline zones is only two-thirds (66.7%) of the national average.

TABLE 3
Household Income in the Vulnerability Zones

	Fenceline Zones	Vulnerability Zones	U.S.
Average Household Income	\$56,814	\$71,333	\$73,033
Percent of U.S. Average	77.8%	97.7%	100.0%

FIGURE 5
Household Income in Fenceline Zones



Average household income in the fenceline zones is 22.2% lower than the national average.

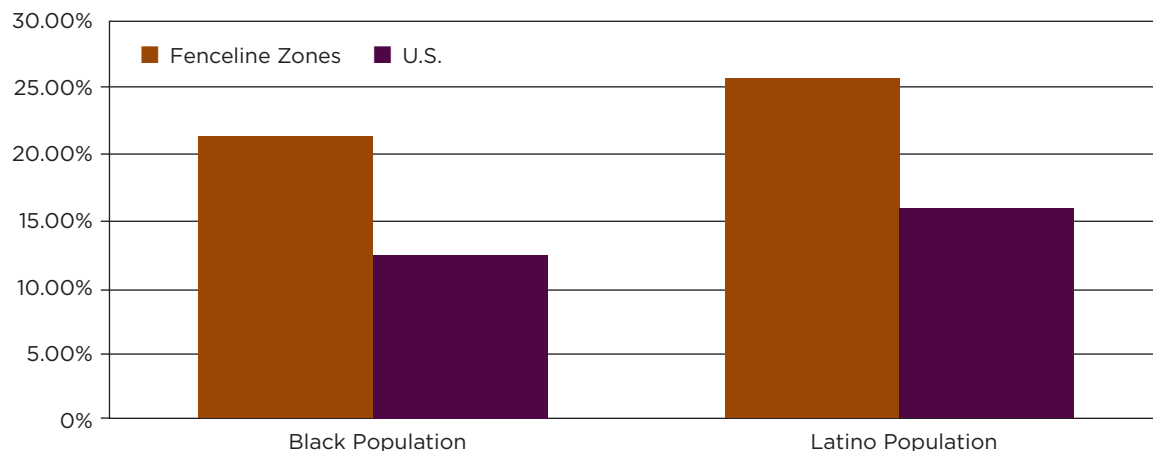
the national average, and greater still in the fenceline zones. Nationally Latinos make up 16% of the population and Blacks make up 12%. However, these percentages increase in the vulnerability zones to 21% for Latinos and 15% for Blacks, and rise still more within the fenceline zones, where Latinos make up more than 25% and Blacks make up 21% of the population (Figure 6). Almost half the people living in the fenceline zones are Black or Latino, compared to less than 30% nationwide. Stated differently, the percentage of Blacks in the fenceline zones is 75% greater than for the U.S. as a whole, and the percentage of Latinos is 60% greater than for the U.S. as a whole.

TABLE 4
Race and Ethnicity in the Vulnerability Zones

Race/Ethnicity	Fenceline Zones Population	Vuln. Zones Population	U.S. Population
White (non-Latino)	1,819,584	75,272,348	196,674,476
Percent Within Area	47.2%	55.8%	64.2%
Latino	991,422	28,332,083	49,214,650
Percent Within Area	25.7%	21.0%	16.1%
Black (non-Latino)	822,531	20,754,953	37,449,500
Percent Within Area	21.3%	15.4%	12.2%
Other (non-Latino)*	220,237	10,572,625	23,207,279
Percent Within Area	5.71%	7.84%	7.57%

* Census category includes Asian, Pacific Islander, Native American, two or more races, and some other race.

FIGURE 6
Black and Latino Populations in Fenceline Zones



The percentage of Blacks in the fenceline zones is 75% greater than for the U.S. as a whole.

The percentage of Latinos in the fenceline zones is 60% greater than for the U.S. as a whole.

THE PERCENTAGE OF ADULTS in the fenceline zones who did not complete high school education is 46% greater than for the U.S. as a whole.

Education (Table 5)

Education levels show an association with vulnerability zones and fenceline zones—but only for those with the least or most formal education (those without a high school degree and those with a post-secondary degree). For those in the middle (such as those with a high school degree or some college), education levels do not seem associated with residence in these zones. The percentage of adults in the fenceline zones who did not complete high school education is 46% greater than for the U.S. as a whole. Conversely, the percentage of adults in the fenceline zones who have completed college or post-college education is 27% lower than for the U.S. as a whole (Figure 7).

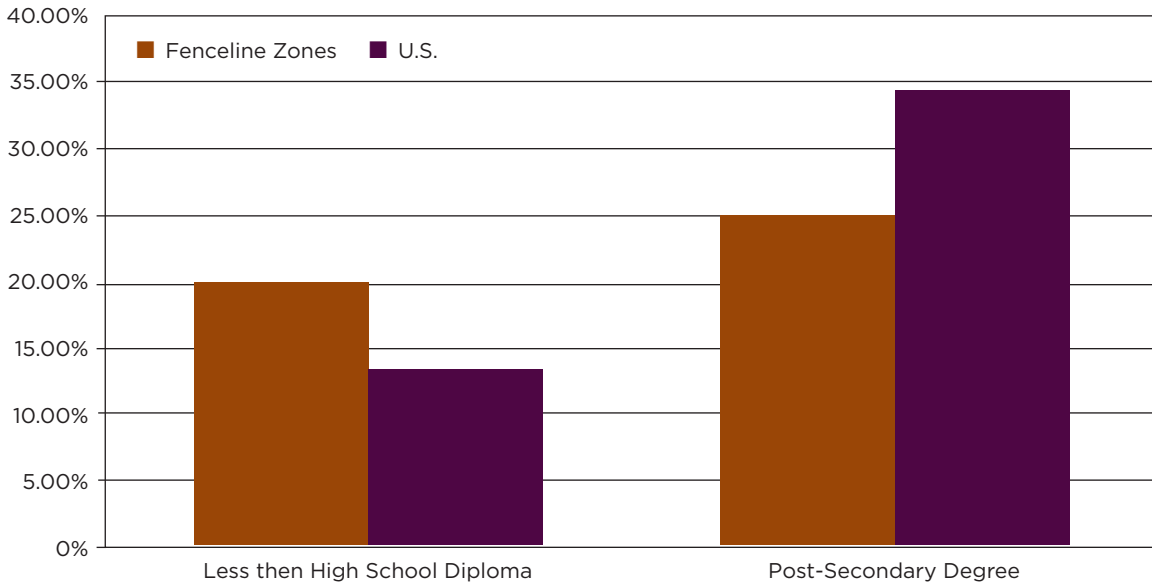
TABLE 5
Education in the Vulnerability Zones*

	Fenceline Zones	Vulnerability Zones	U.S.
Less than High School	20.9%	15.8%	14.3%
High School/Some College	52.8%	48.7%	49.5%
Post-secondary degree**	26.3%	35.5%	36.2%

* Education figures include people 25 years and older.

** Post-secondary includes a completed Associate's, Bachelor's, Master's, Professional, or Doctorate degree.

FIGURE 7
Educational Attainment in Fenceline Zones

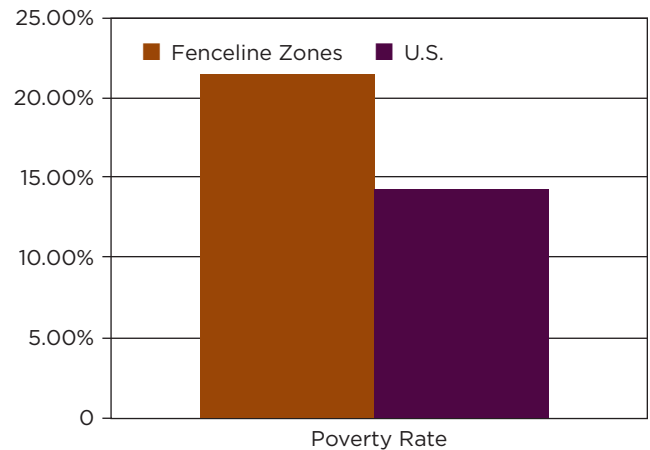


The percentage of adults in the fenceline zones who did not complete high school is 46% greater than for the whole U.S. The percentage of adults in the fenceline zones who have completed post-secondary education is 27% lower than for the whole U.S.

Poverty (Table 6)

The poverty rate in the fenceline zones is much higher than in the vulnerability zones, and the poverty rate in both zones is higher than the national average. The poverty rate in the fenceline zones is 50% greater than the national average (21% compared to 14%) (Figure 8). Living in poverty is associated with many forms of social disadvantage, including less access to health care, higher disability rates, lower education levels, greater prevalence of substandard housing, exclusion, and greater exposure to environmental health hazards, to which can now be added disproportionate representation in the disaster vulnerability zones of chemical facilities.

FIGURE 8
Poverty Rate in Fenceline Zones



The poverty rate in the fenceline zones is 50% greater than the national average.

TABLE 6
Poverty Rates in the Vulnerability Zones

	Fenceline Zones	Vulnerability Zones	U.S.
People in Poverty	812,211	21,603,803	42,638,091
Poverty Rate	21.5%	16.2%	14.3%

THE POVERTY RATE IN THE FENCELINE ZONES is 50% greater than the national average. Living in poverty is associated with many forms of social disadvantage, including less access to health care, higher disability rates, lower education levels, greater prevalence of substandard housing, exclusion, and greater exposure to environmental health hazards.

INDUSTRY SECTOR FINDINGS

The industry types included in this report are water treatment, wastewater treatment, bleach manufacturing, electric power generation, petroleum refining, pulp and paper production, and chemical manufacturing. The finding that facility vulnerability zones have lower housing values, lower incomes, greater Black and Latino populations, lower education levels, and higher rates of poverty than national averages is generally found across different types of industries, but does vary somewhat by industry. The tendency of racial, income, and other social status disparities to be more pronounced in the fenceline zones (one-tenth of the vulnerability zone distance) is also generally true across industries.

Certain industry sector findings stand out as showing the greatest disparities or most disproportionate impacts. For example, wastewater facilities, SOCMA member facilities, and pulp and paper mills had the highest percentage of Blacks in their fenceline zones (2.4 times, 2.3 times, and 2.2 times greater than for the U.S. as a whole, respectively). The percentage of Latinos living in the fenceline zones around bleach plants is twice as high as for the U.S. as a whole. When viewing the results in Tables 8 and 9 together, it appears that both Blacks and low-income whites are overrepresented near petroleum refineries and pulp and paper mills.

Discussion of alternatives that can reduce or eliminate vulnerability zone dangers in each industry type is included below in *Removing Chemical Hazards: Solutions for Companies and Communities* (page 35).

Housing Value by Industry Sector (Table 7)

Average home values are lower in the vulnerability zones than the national average for all but one industry sector examined. The lowest average home values in the full vulnerability zones are found around the pulp and paper industry facilities, 25% lower than the national average. Average home values in the fenceline zones are consistently lower across all sectors, often much lower, than in the full vulnerability zones. The *highest* average home values in the fenceline zones of particular industry sectors are only 77% of the national average. Again, the pulp and paper sector had low average home values in the fenceline zones around its facilities, 59% of the national average. Fenceline zones around SOCMA facilities showed the largest disparity in home values at just 51% of the national average. The bleach manufacturing industry actually showed a higher

average home value, 107% of the national average, in the vulnerability zones. This may be the result of a masking effect from exceptionally large reported vulnerability zones around conventional bleach plants, which include more affluent neighborhoods that are often further away. The average home value in the fenceline zones for bleach manufacturing, which dropped to 77% of the national average, would seem to confirm that a masking effect is present.

TABLE 7
Housing Values in the Vulnerability Zones by Industry Sector

Industry Group	Fenceline Zone Average Home Value	Vulnerability Zone Average Home Value	U.S. Average Home Value
Water Treatment	\$191,370	\$218,375	\$246,375
Percent of U.S. Average	77.7%	88.6%	100.0%
Wastewater Treatment	\$173,216	\$200,471	\$246,375
Percent of U.S. Average	70.3%	81.4%	100.0%
Bleach Manufacturing	\$190,976	\$265,778	\$246,375
Percent of U.S. Average	77.5%	107.9%	100.0%
Power Generation	\$178,211	\$213,186	\$246,375
Percent of U.S. Average	72.3%	86.5%	100.0%
Petroleum Refining	\$150,455	\$230,166	\$246,375
Percent of U.S. Average	61.1%	93.4%	100.0%
Pulp and Paper Production	\$145,975	\$183,757	\$246,375
Percent of U.S. Average	59.3%	74.6%	100.0%
ACC Member Companies	\$155,124	\$244,021	\$246,375
Percent of U.S. Average	63.0%	99.0%	100.0%
SOCMA Member Companies	\$126,257	\$209,013	\$246,375
Percent of U.S. Average	51.3%	84.8%	100.0%

Household Income by Industry Sector (Table 8)

For every industry sector examined, household incomes are substantially lower than the national average in the fenceline zones. In some sectors, household incomes in vulnerability zones are close to the national average. This likely demonstrates a masking effect of facilities within these sectors that have very large vulnerability zones (ranging up to 25 miles). The industry sector with highest fenceline zone household incomes is water treatment, at 85% of the national average. The industry sector with the lowest fenceline zone household incomes is pulp and paper production, with incomes only two-thirds (66%) of the national average.

TABLE 8
Household Incomes in the Vulnerability Zones by Industry Sector

Industry Group	Fenceline Zone Income	Vuln. Zone Income	U.S. Average Income
Water Treatment	\$62,385	\$69,226	\$73,033
Percent of U.S. Average	85.4%	94.8%	100.0%
Wastewater Treatment	\$57,205	\$66,898	\$73,033
Percent of U.S. Average	78.3%	91.6%	100.0%
Bleach Production	\$56,863	\$73,078	\$73,033
Percent of U.S. Average	77.9%	100.1%	100.0%
Power Generation	\$60,087	\$63,337	\$73,033
Percent of U.S. Average	82.3%	86.7%	100.0%
Pulp and Paper Production	\$48,583	\$60,947	\$73,033
Percent of U.S. Average	66.5%	83.5%	100.0%
Petroleum Refining	\$57,758	\$73,133	\$73,033
Percent of U.S. Average	79.1%	100.1%	100.0%
ACC Member Facilities	\$56,640	\$72,592	\$73,033
Percent of U.S. Average	77.6%	99.4%	100.0%
SOCMA Member Facilities	\$50,976	\$71,642	\$73,033
Percent of U.S. Average	69.8%	98.1%	100.0%

Race and Ethnicity by Industry Sector (Table 9)

While our research consistently shows Blacks and Latinos more greatly represented in both vulnerability zones and fenceline zones than in the U.S. as a whole, the relationship of race and ethnicity to specific industry sectors is more varied. For example, Latinos are more highly represented near power plants but not pulp and paper mills, while the reverse is true for Black populations. Whites are less represented in the vulnerability zones of all sectors except pulp and paper mills. The percentage of Latinos in the fenceline zones near bleach plants is twice as high (or 100% greater) than for the U.S. as a whole. The percentage of Blacks in the fenceline zones near wastewater facilities, SOCMA member facilities, and pulp and paper mills is also quite high (2.4 times, 2.3 times, and 2.2 times greater than for the U.S. as a whole, respectively).

Regional characteristics may explain some of these variations. Latinos may be highly represented near power plants because of the significant number of these facilities found in California, Texas, Nevada, and other states that also have relatively larger Latino populations. These three states together host 38% of the power plants in this report, but less than 3% of the pulp and paper mills. Blacks may be more represented near pulp and paper mills because more than half of mills reviewed are in Southern states that also have higher Black populations.

Education by Industry Sector (Table 10)

People with the least formal education (less than high school) are overrepresented in the fenceline zones across all industry sectors examined compared to the U.S. as a whole. Conversely, people with the most formal education (a post-secondary degree) are underrepresented in the fenceline zones of all industry sectors examined. But for those in the middle (such as a high school degree or some college) there is less association. For those at either end of the spectrum—with the most or least formal schooling—disparities in education level are magnified in the fenceline zones when compared to the full vulnerability zones. Fenceline zones around SOCMA member facilities showed the largest disparity, with 25% of these residents having less than a high school education (compared to 14% nationally) and only 21% having a post-secondary degree (compared to 36% nationally).

TABLE 9

Race and Ethnicity in the Vulnerability Zones by Industry Sector

Sector	Area	White	Latino	Black	Other*
U.S. Averages	Nation	64.2%	16.1%	12.2%	7.57%
Water Treatment	Vulnerability Zone	49.5%	28.8%	14.9%	6.81%
	Fenceline Zone	46.8%	30.9%	16.1%	6.29%
Wastewater Treatment	Vulnerability Zone	51.8%	22.4%	18.4%	7.40%
	Fenceline Zone	38.2%	24.7%	29.5%	7.71%
Bleach Production	Vulnerability Zone	50.1%	26.0%	14.9%	8.95%
	Fenceline Zone	45.0%	32.6%	14.3%	8.06%
Power Generation	Vulnerability Zone	45.9%	32.4%	11.4%	10.3%
	Fenceline Zone	55.0%	27.4%	10.8%	6.84%
Petroleum Refining	Vulnerability Zone	58.3%	16.6%	18.1%	6.98%
	Fenceline Zone	63.4%	14.6%	17.3%	4.80%
Pulp and Paper Production	Vulnerability Zone	66.1%	5.9%	23.1%	4.84%
	Fenceline Zone	65.4%	4.5%	26.9%	3.31%
ACC Member Facilities	Vulnerability Zone	55.5%	18.3%	17.9%	8.29%
	Fenceline Zone	49.9%	20.4%	24.1%	5.61%
SOCMA Member Facilities	Vulnerability Zone	54.0%	17.0%	22.5%	6.53%
	Fenceline Zone	39.9%	27.2%	28.1%	4.74%

* Census category includes Asian, Pacific Islander, Native American, two or more races, and some other race.

TABLE 10

Education Levels in the Vulnerability Zones by Industry Sector*

Sector	Area	Less Than High School	High School/ Some College	Post-Secondary Degree**
U.S. Averages	Nation	14.3%	49.5%	36.2%
Water Treatment	Vulnerability Zone	17.2%	47.8%	35.0%
	Fenceline Zone	19.3%	48.8%	31.9%
Wastewater Treatment	Vulnerability Zone	17.1%	49.7%	33.2%
	Fenceline Zone	23.2%	47.8%	29.0%
Bleach Manufacturing	Vulnerability Zone	17.1%	46.9%	36.0%
	Fenceline Zone	21.9%	50.8%	27.3%
Power Generation	Vulnerability Zone	22.0%	50.1%	27.9%
	Fenceline Zone	21.7%	52.5%	25.9%
Petroleum Refining	Vulnerability Zone	14.3%	49.5%	36.2%
	Fenceline Zone	15.7%	59.1%	25.2%
Pulp and Paper Production	Vulnerability Zone	14.1%	54.3%	31.6%
	Fenceline Zone	17.7%	57.7%	24.6%
ACC Member Facilities	Vulnerability Zone	15.7%	48.3%	36.0%
	Fenceline Zone	19.9%	55.6%	24.5%
SOCMA Member Facilities	Vulnerability Zone	16.0%	49.2%	34.8%
	Fenceline Zone	25.0%	53.6%	21.4%

* Education figures include people 25 years and older.

** Post-secondary includes a completed Associate's, Bachelor's, Master's, Professional, or Doctorate degree.

Poverty by Industry Sector (Table 11)

For each industry sector examined, the poverty rate is higher in the vulnerability zones than the national average and consistently still higher in the fenceline zones. The highest poverty rates around facilities in this report are found in the fenceline zones of SOCMA chemical manufacturers (25% of residents living in poverty), wastewater plants (25%), and pulp and paper mills (24%), compared to the national poverty rate of 14%.

TABLE 11
Poverty Rates in the Vulnerability Zones by Industry Sector

Industry Group	Fenceline Zone Percent in Poverty	Vulnerability Zone Percent in Poverty	U.S. Percent in Poverty
Water Treatment	19.5%	17.5%	14.3%
Wastewater Treatment	25.5%	18.3%	14.3%
Bleach Manufacturing	21.1%	16.4%	14.3%
Power Generation	19.7%	18.9%	14.3%
Petroleum Refining	18.8%	15.3%	14.3%
Pulp and Paper Production	24.6%	18.0%	14.3%
ACC Member Companies	20.3%	16.3%	14.3%
SOCMA Member Companies	25.6%	16.7%	14.3%

Vulnerability Zone Distances and Affected Populations by Industry Type (Table 12)

Worst-case chemical release scenarios vary by industry. Average vulnerability zone distance ranges from 2.13 miles radius for water treatment facilities to 15.9 miles for bleach manufacturing facilities. Average vulnerability zone population ranges from 13,172 people for electric power production to 929,826 for bleach plants. Of the industry sectors studied in this report, chemical manufacturing and bleach manufacturing endanger by far the most people—almost 80 million for chemical manufacturing and almost 64 million for bleach (calculated separately by industry). On a per-facility average basis, bleach plants endanger the most people, with an average vulnerability zone that includes 929,826 people. As noted below in Chapter 3, safer chemicals and processes could dramatically reduce the size and population of vulnerability zones of these industry sectors.

Vulnerability Zones within Two Industry Sectors (Table 13)

The chemicals and processes used *within* industry sectors can also have a dramatic impact on the size of vulnerability zones. For example, the 202 power plants that use anhydrous ammonia (a toxic gas) have vulnerability zones that average 3.74 miles and 21,188 people, while the 86 power plants that use less hazardous aqueous (liquid) ammonia have vulnerability zones that average just 0.47 miles and 798 people. Similarly, a single highly hazardous process dominates the vulnerability zone profile of the petroleum refining sector. The 50 petroleum refineries that use

TABLE 12
Vulnerability Zone Distances and Affected Populations by Industry Sector*

Industry Sector	RMP Facilities	Vulnerability Zone Population	Vulnerability Zone Average Miles	Vulnerability Zone Average Population
Water treatment	1,284	33,692,612	2.13	34,951
Wastewater treatment	686	21,004,374	2.27	42,250
Bleach manufacturing	91	63,952,735	15.86	929,826
Electric power generation	334	4,052,030	2.51	13,172
Petroleum refining	130	18,484,212	7.49	232,550
Pulp and paper production	72	5,462,950	11.12	77,663
Chemical manufacturing**	778	79,726,744	6.48	208,415
ACC member facilities	715	77,046,976	6.53	213,607
SOCMA member facilities	107	18,459,503	6.33	205,805

* Figures are calculated separately for each industry group using methods that remove any double counting of facilities or persons. Industry sector figures in Table 12 cannot be added together to obtain national totals.

** Forty four RMP facilities in this report are members of both the American Chemistry Council (ACC) and the Society of Chemical Manufacturers and Affiliates (SOCMA).

TABLE 13
Vulnerability Zones within Two Industry Sectors*

Industry Sector	RMP Facilities	Vulnerability Zone Population	Vulnerability Zone Average Miles	Vulnerability Zone Average Population
Electric power generation	334	4,052,030	2.51	13,172
Using anhydrous ammonia	202	3,938,961	3.74	21,188
Using aqueous ammonia (conc. ≥ 20%)	86	64,864	0.47	798
Petroleum refining	130	18,484,212	7.49	232,550
Using hydrofluoric acid	50	17,733,913	16.28	551,558
Not using hydrofluoric acid	80	2,146,709	2.00	33,170

* Figures are calculated separately for each industry group using methods that remove any double counting of facilities or persons. Industry subsector figures in Table 13 cannot be added together to obtain industry totals.

hydrofluoric acid have vulnerability zones that average 16.3 miles and 551,558 people, while the 80 refineries that do not use hydrofluoric acid have much smaller vulnerability average zones of 2.0 miles and 33,170 people.

Overall, at the reviewed facilities chlorine gas was by far the most common chemical in worst-case release scenarios, reported by 2,054 facilities. Anhydrous ammonia gas was second, reported by 347 facilities. Anhydrous sulfur dioxide gas was third, reported by 143 facilities. Of the worst-case scenarios evaluated, 3,175 involve a toxic gas scenario and 258 involve a flammable chemical scenario.²³

TABLE 14
Top Ten Chemicals in This Report

Chemical	Facilities*
Chlorine	2,054
Ammonia (anhydrous)	347
Sulfur dioxide (anhydrous)	143
Ammonia (conc. ≥ 20%)	109
Flammable mixture	80
Hydrofluoric acid (conc. ≥ 50%)	75
Chlorine dioxide	55
Ethylene oxide	51
Formaldehyde (solution)	50
Vinyl acetate monomer	39

* The number of facilities reporting the chemical as their worst-case scenario chemical.



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CHAPTER THREE

REMOVING CHEMICAL HAZARDS: SOLUTIONS FOR COMPANIES AND COMMUNITIES

Fortunately, there are many ways by which companies can dramatically reduce or remove from workplaces and communities the major chemical hazards that cause tens of millions of people to live in vulnerability zones. A previous survey of high-hazard facilities identified some 20 industries in which safer and more secure alternatives are already in use, including all of the industry sectors studied in this report.²⁴ These options include a variety of alternate chemicals and processes.

WATER TREATMENT PLANTS

The water treatment plants cited in this report have 33.7 million people living in their merged vulnerability zones. These 1,284 water treatment plants have vulnerability zones that average 2.13 miles and 34,951 people. Water treatment plants commonly eliminate bulk chlorine gas (used to treat water) by using liquid bleach (sodium hypochlorite). Water plants increasingly generate their bleach on-site from salt and electricity. More than 235 water treatment plants had converted from chlorine gas according to just one partial survey of the industry.²⁵

WASTEWATER PLANTS

The wastewater plants cited in this report have 21 million people living in their merged vulnerability zones. These 686 wastewater plants have average vulnerability zones of 2.27 miles and 42,250 people. Wastewater plants eliminate bulk chlorine gas (used to treat wastewater) by using liquid bleach, and eliminate sulfur dioxide gas (used to remove chlorine) by using sodium bisulfite, or eliminate both chemicals by using ultraviolet light. More than 300 wastewater plants have made such changes according to just one partial survey of the industry. When combined with the converted water treatment plants above, more than 40 million people no longer live in danger from one or more of these converted facilities.²⁶

BLEACH MANUFACTURING PLANTS

The bleach manufacturing plants cited in this report have 63.9 million people living within their merged



Clara Smith looking out her window at the Shell refinery in Norco, LA.

© Les Stone/Greenpeace

vulnerability zones. These 91 conventional bleach plants have average vulnerability zones of 15.9 miles and 929,826 people. Many conventional bleach plants receive chlorine gas in railcars, resulting in very large vulnerability zones as well as additional transportation hazards. A growing number of commercial bleach plants produce chlorine bleach as needed from salt and electricity without ever storing or transporting chlorine gas, an effective solution that removes the enormous vulnerabilities of this industry sector.²⁷

ELECTRIC POWER PLANTS

The electric power plants cited in this report have four million people living within their merged vulnerability zones. Power plants that generate electricity substantially reduce vulnerability zones by converting from anhydrous ammonia gas (used to control nitrogen oxides, a component of smog) to less hazardous aqueous ammonia or even solid urea. Of the 334 total power plants, 202 use anhydrous ammonia, a toxic gas, and have average vulnerability zones of 3.74 miles and 21,188 people in areas where 3.9 million people live. In contrast, the 86 power plants that use safer aqueous ammonia have much smaller average vulnerability zones of 0.47 miles and 798 people in areas where 64,864 people live. Power plants can also avoid gaseous chlorine in cooling towers and process water by using liquid bleach.²⁸

PULP AND PAPER MILLS

The pulp and paper mills cited in this report have 5.5 million people living in their merged vulnerability zones. These 72 pulp and paper mills have average vulnerability zones of 11.1 miles and 77,663 people. Some pulp and paper mills remove chlorine by employing an oxygen-based process with ozone or hydrogen peroxide; others avoid or minimize storage of chlorine dioxide.²⁹ These mills may also remove anhydrous sulfur dioxide by generating sulfur chemicals on-site.³⁰

PETROLEUM REFINERIES

The petroleum refineries listed in this report have 18.5 million people living in their merged vulnerability zones (for 130 facilities). The hazards posed by concentrated hydrofluoric acid, a toxic gas used in refining high octane gasoline, dominate the catastrophic chemical hazards at petroleum refineries. However, many refineries already use sulfuric acid processes that are not covered by the RMP program because of low airborne release hazards. In addition, newer solid acid and liquid ionic catalysts are under development in the industry.³¹ The 50 refineries that use concentrated hydrofluoric acid have average vulnerability zones of 16.3 miles and 551,558 people, and a total vulnerability zone population of 17.7 million people. In contrast, the 80 refineries that do not use hydrofluoric acid have average vulnerability zones of only 2.0 miles and 33,170 people, and a total vulnerability zone population of only 2.1 million people (Figure 9). Some refineries have removed chlorine gas from cooling towers by using liquid bleach; others avoid anhydrous ammonia in power cogeneration by using aqueous ammonia.

CHEMICAL MANUFACTURING FACILITIES

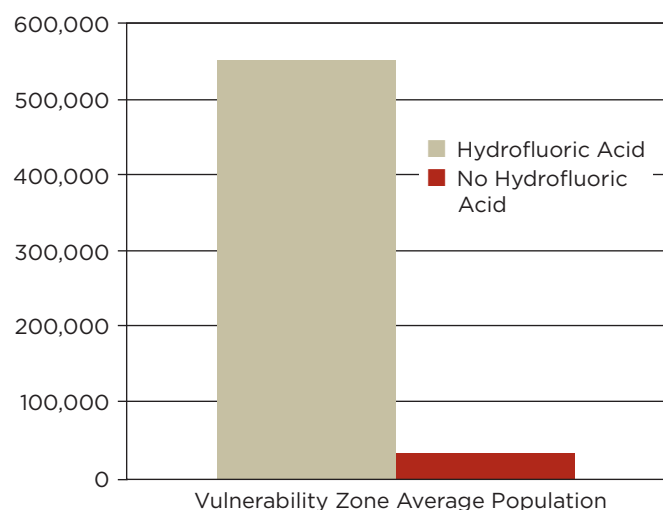
The chemical manufacturing facilities in this report include a combined 778 member company facilities of the American Chemistry Council (ACC) and Society of Chemical Manufacturers and Affiliates (SOCMA). These ACC and SOCMA facilities combined have average vulnerability zones of 6.48 miles and 208,415 people in areas where 79.7 million live. Of this total, 715 are ACC member company facilities with average vulnerability zones of 6.53 miles and 213,607 people in areas where 77 million people live. And 107 are SOCMA member company facilities with averages vulnerability zones of 6.33 miles and 205,805 people in areas where 18.5 million people live. In this report, 44 facilities are members of both ACC and SOCMA. Chemical manufacturers use diverse production processes and therefore varied

solutions are applicable. Common hazard reduction strategies include adopting an alternate chemical or process, using a chemical in a less dangerous or less concentrated form, or generating a chemical only as needed without storage. For example, some manufacturers of polyurethane foam use soy-based polyols rather than store and transport bulk amounts of ethylene oxide. Some manufacturers of ferric chloride use hydrochloric acid below 37% concentration rather than store and transport bulk chlorine gas. And some detergent manufacturers have switched to on-site sulfur burning equipment rather than store and transport large amounts of sulfur trioxide.³²

SAFER ALTERNATIVES CAN PROTECT COMMUNITIES WHILE AVOIDING COSTS AND LIABILITIES

An ounce of prevention is worth a pound of cure. And in the case of chemical disaster vulnerability zones, the prevention turns out to often be easily affordable. In one survey of nearly 200 respondent facilities that had converted to a safer chemical or process, about half spent less than \$100,000 to switch and 87% spent less than \$1 million.³³ Another survey found that twenty large water and wastewater facilities converted from chlorine gas, which they formerly received in vulnerable railcars, to safer alternatives for no more than \$1.50 per person served each year—or the price of a small bag of peanuts—and often for much less.³⁴

FIGURE 9
Hydrofluoric Acid and Petroleum Refineries



Petroleum refineries that DO NOT use hydrofluoric acid have average vulnerability zone populations of 33,170 people, compared to 551,558 people for refineries that DO use hydrofluoric acid.



One in ten students in the U.S. attend school within one mile of a high-risk chemical facility. Shown here, Whiting, IN.

© Global Community Monitor

In contrast, not seizing opportunities to switch to safer chemicals and processes can be surprisingly expensive. One insurance industry study projected \$7 billion in potential damages from the worst-case release of a railroad tank car of chlorine in an urban area.³⁵ Damages from the April 2013 explosion of a single fertilizer facility in West, TX reportedly will start at \$100 million.

Many facilities that switch to safer alternatives realize savings that offset some or all costs of converting. In a survey of converted facilities, respondents reported many types of *avoided* costs of safety and security measures that were no longer needed, including: safety devices and personal protective equipment; inspections, certifications, permits, and fees; higher risk-group insurance and potential liabilities; specialized emergency response teams, training, and planning; compliance with chemical related fire codes; chemical purchases; chemical thefts; physical security measures; worker and community notification; background checks; and regulatory compliance.³⁶

Companies do not routinely analyze and document savings and avoided costs under the major chemical emergency safety and security laws, including EPA Risk Management Planning, OSHA Process Safety Management, and DHS Chemical Facility Anti-Terrorism Standards. Nor do these laws create any duty or obligation for chemical facility owners or operators to demonstrate knowledge of available alternatives, to justify decisions that result in immense but avoidable chemical hazards, or to reduce or remove these hazards. As a result, these laws don't develop cost-effective safer solutions and instead focus outcomes on more costly control and management strategies that inevitably fail some of the time. The costs of those failures are unduly borne by residents, workers, businesses and the local governments where they occur. And, as this report documents, these hazards, costs, and harms are disproportionately borne by low-income, Black, and Latino residents. Requiring hazardous chemical facilities to systematically review, document, and justify alternatives to highly hazardous chemical operations, and convert when appropriate, could modernize chemical safety and security.³⁷

CHAPTER FOUR

CONCLUSIONS AND RECOMMENDATIONS

This report finds that more than 134 million Americans live within one or more vulnerability zones of 3,433 chemical facilities that use or store highly hazardous chemicals. Our research demonstrates that the percentages of African Americans and Latinos who live in these vulnerability zones, and especially within the fenceline zones closest to the facilities, are much greater than for the U.S. as a whole. We also document additional disparities: lower average home values, lower average household incomes, lower education levels, and greater rates of poverty in these zones than for the U.S. as a whole. Many people who live in the fenceline zones are aware that they are exposed to toxic chemicals regularly and are at risk of a chemical disaster. Others—especially those who live further from a facility but still within range of a catastrophic release—may be unaware of the dangers. **After years of grassroots organizing and mobilizing, testimony to government agencies, and studies that demonstrate the pattern of environmental racism described in this report, the U.S. government has been notified of the hazards created by chemical facilities and the threats these hazards pose to human life and communities.**

It is time to finally and fully address the inequitable distribution of these dangers, and the need for everyone—regardless of race, income, or education—to be protected by the government from chemical disasters. The time to act was firstly in 1964, when the Civil Rights Act was passed, prohibiting discrimination and disproportionate impacts on the basis of race, color, or national origin. The percentage of African Americans living in the fenceline zones of chemical facilities studied in this report is 75% greater than for the U.S. as a whole, and the percentage of Latinos in the fenceline zones is 60% greater than for the U.S. as a whole. These and other findings in this report document a pattern of disproportionate exposure to chemical hazards created over a long period of time, which should be considered discrimination under Title VI of the Civil Rights Act. The time to address these dangers

was also twenty years ago, when President Clinton signed Executive Order 12898 on Environmental Justice.

It is past time for local, county, and state governments, state and federal agencies, Congress, the White House, and the industries themselves to act aggressively to protect the lives of people living near and working in these facilities from chemical disasters.

The question now is: what will it take for government and industry to finally act to prevent disasters, and protect the communities and workers whose safety and security are unfairly and unequally put in jeopardy? The path toward safety and justice is for government and industry to take precautionary steps that include affordable, common sense measures. Precautionary measures would reduce and eliminate unnecessary hazards, improve oversight of the facilities, and produce better engagement of communities living near these facilities and the workers who staff them. Three central approaches could dramatically improve chemical facility safety and security: **requiring safer chemicals and processes when feasible; improving laws and regulations; and fully engaging workers and communities.** Without taking these approaches, government and industry will continue to deny to the people living and working in the vulnerability zones their right to clean air, water, and land.

SAFER AND MORE SECURE ALTERNATIVES

Many of the dangers cited in this report could be substantially reduced or entirely removed by replacing hazardous chemicals and processes with existing safer alternatives. For example, many wastewater treatment plants have removed highly toxic chlorine gas by switching to ultraviolet light disinfection. Such options remove the potential for a major chemical release that could harm employees and the public, rather than only attempting to control the hazard with fallible controls or security strategies. Those living and working in the vulnerability zones and fenceline zones have the most to gain from this approach. Companies also

benefit when they convert to safer chemicals and processes by avoiding the costs and liabilities of controlling, managing, mitigating, and remediating chemical hazards. In this way, using safer materials or processes can uniquely improve economic performance and reduce potential harm to those working or living nearby—the proverbial win-win solution.

The Pollution Prevention Act of 1990 makes it the national policy of the United States to reduce hazards to public health and the environment through source reduction (such as substituting safer materials for hazardous ones) prior to any add-on pollution management and control.³⁸ Congress also intended the Clean Air Act Amendments of 1990 to give preference to “**measures which entirely eliminate the presence of potential hazards ... as opposed to those which merely provide additional containment....**”³⁹ Nonetheless, current chemical safety and security policies and practices are oriented toward risk management, rather than finding and using safer and more secure alternatives.

Prevention through design is the only major chemical safety and security approach that is largely undeveloped in current U.S. regulations, which attempt to control and manage chemical hazards much more than prevent and avoid these hazards. That said, the United States must shift immediately from a “risk management” regime to a “prevention-based” regime. Under the current risk management regime, the most complete and effective solutions

are left out. Adding management features may reduce the frequency of serious accidents but not the underlying hazard.⁴⁰ Under a safety-based or prevention-based regime, strategies include the reduction or removal of potential catastrophic consequences from ongoing operations.

Government agencies at all levels should formally adopt a prevention-focused approach that gives preference to prevention through design before control, management, mitigation, or remediation strategies. Regulated facilities should be required to demonstrate knowledge of their major chemical hazards and options to reduce or remove those hazards, switch to safer alternatives when feasible, and fully justify any decisions not to convert.

Federal agencies should seamlessly incorporate these requirements into existing programs, in particular EPA Risk Management Planning (RMP), OSHA Process Safety Management (PSM), and DHS Chemical Facility Anti-Terrorism Standards (CFATS). These agencies should also collect and disseminate basic information from facilities that are no longer covered by these programs because they have removed their underlying hazards, in order to share lessons learned and best practices. The EPA should use its existing authority under 112(r)(7)(A) of the Clean Air Act to develop standards for the avoidance of catastrophic chemical hazards. EPA should also update guidance under 112(r)(1) of the Clean Air Act to prioritize prevention in enforcement.



Residents of the Manchester community near Houston, TX demand environmental justice.

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For example, an EPA Risk Management Plan (RMP) consists of a hazard assessment, a prevention program, and an emergency response program. The RMP prevention program includes 12 general elements, but no explicit analysis of safer options. Similarly, a process hazards analysis conducted under OSHA Process Safety Management (PSM) requires a facility owner or operator to identify hazards and then controls to abate those hazards. There is also no requirement under OSHA PSM to identify and document ways to reduce, remove, or modify the underlying hazard—even when affordable alternatives are readily available. Likewise, vulnerability assessments and site security plans conducted under DHS Chemical Facility Anti-Terrorism Standards (CFATS) are subject to 18 performance standards for conventional security measures such as perimeter security, access controls, and cyber security. But none of the CFATS performance standards address making the facility a less attractive target by avoiding intrinsic hazards.

BOX 2

The Toxic Substances Control Act and Chemical Safety

While this report primarily examines populations that could be exposed to acute airborne chemical releases, other aspects of the federal chemical safety system, such as chronic health hazards, also lack preventive approaches. The Toxic Substances Control Act of 1976, or TSCA, discourages innovation and encourages the ongoing use of hazardous chemicals even when safer alternatives might be available. TSCA largely exempts all chemicals that existed in 1976, encouraging continued use of these older chemicals and limiting both health and safety assessment and investigation into existing or possible safer alternatives. Even for chemicals registered since 1976, a series of barriers make it difficult for EPA to require complete safety assessments and virtually impossible for the agency to restrict even the most dangerous chemicals. Since 1976, only five chemicals have ever been restricted under TSCA, and even asbestos could not be fully removed from commerce under the law. TSCA must be revised to include requirements for full disclosure of toxic substances made and used, safety determinations on all chemicals, prompt phase out of the most toxic chemicals, protection for disproportionately impacted “hot spot” communities and the most vulnerable populations, and innovation incentives for identifying new safer chemicals.

In short, federal programs almost universally fail to require facilities that store or use highly hazardous chemicals and endanger millions of people (who are disproportionately Black, Latino, and poor) to determine whether safer alternatives could be used instead. This failure ensures that cost-effective means to address chemical hazards by avoiding them altogether are routinely ignored in planning and analysis.

Voluntary industry public relations programs, such as the American Chemistry Council’s “Responsible Care,” also do not document and disclose options and costs of removing catastrophic chemical hazards, nor do they have any measurable goals and timelines to reduce the vulnerability zones of chemical companies. Also, there has been little or no meaningful involvement of workers or fenceline communities as joint decision makers. Voluntary industry programs have simply not produced substantial, documented progress. In nearly 30 years since the chemical gas disaster at Bhopal, India, and 15 years since companies first filed RMP vulnerability zone reports, the industry as a whole has still not even acknowledged the basic expectation of workers and communities that companies should remove catastrophic chemical hazards wherever possible.

MORE EFFECTIVE LAWS AND REGULATIONS

Better and more equitable enforcement of existing laws would help, but can’t fix the underlying problem of failed policies. Providing more resources to the federal agencies that oversee chemical safety and security could improve compliance, but would not address underlying limitations that reduce these agencies’ effectiveness. The regulatory system overseeing chemical security and safety needs to be overhauled and strengthened. In addition to requiring use of safer alternatives when feasible (addressed above), this effort should harmonize the regulatory programs currently in place, and eliminate loopholes and weaknesses.

Existing patchwork laws and infrequent inspections entirely miss some hazardous operations and conditions. For example, no major law, standard, or code prohibits the conditions that apparently contributed to the blast that destroyed an entire neighborhood around the West, TX fertilizer facility in April 2013 and are found at many similar fertilizer facilities. These conditions include flammable wooden storage bins, lack of fire-suppression sprinkler systems, and use of conventional detonable forms of ammonium nitrate.⁴¹ Federal agencies should immediately and comprehensively review chemical security and safety



Raven Pena (left), Juan Parras, and Yudith Azareth Nieto from Texas Environmental Justice Advocacy Services (t.e.j.a.s.) advocating for safer chemicals in Washington, DC.

requirements to ensure that their coverage is complete and that the programs complement and reinforce each other.

Where regulations are based on lists of hazardous chemicals, agencies should regularly review the lists and add new chemicals as appropriate through a rulemaking process on a short schedule, such as every two years. This would help agencies fill gaps and stay current with the ever-changing landscape of chemicals in commerce. But the better approach is to use chemical hazard characteristics and basic thresholds to trigger requirements, as is the case for hazardous inventory reporting under the Emergency Planning and Community Right-to-Know Act and for Safety Data Sheets under OSHA's Hazard Communication Standard. This approach would help ensure that the broadest number of chemicals of concern, types of hazards, and facilities are promptly covered in a consistent manner. Federal regulations should always include, prioritize, and promote safer alternatives.

Government agencies should immediately require chemical facilities to identify and document hazardous materials and conditions, the potential consequences of major releases, the specific measures that can address these scenarios,

and possible further measures to reduce hazards. This is especially important in overburdened communities that lack appropriate land-use zoning laws and where facilities are concentrated. There are forward-thinking chemical management laws in place, among them the State of New Jersey and Contra Costa County in California. The strongest elements of these laws have various requirements related to comprehensive reporting on chemical inventories and processes, as well as documented review of chemicals and processes that can remove hazards. The central elements of these programs go beyond current federal requirements through a critical focus on prevention.

Facilities should be required to replace hazardous chemicals with safer alternatives when feasible, and to justify in detail decisions to not convert when alternatives are available, effective, and affordable. These demonstrations should be verified through frequent engagement from knowledgeable inspectors, preferably funded through industry hazard fees to cover the costs of inspections, auditing, air monitoring, and other oversight.

Government agencies should also identify and eliminate regulatory provisions that weaken public protections and

leave us less safe. Some laws actually contribute to the problem. For example, common carrier railroads are required to carry extremely hazardous cargoes without sharing the costs of enormous potential liabilities with shippers. The result is systematic overuse of vulnerable railcars for shipping and storing extremely hazardous substances and unwanted, potentially ruinous liabilities for the railroads. Hazardous chemical facilities are not required to carry liability insurance commensurate with a worst-case incident, which encourages continued use of the most hazardous chemicals and often results in taxpayer-funded cleanups. It is not common practice for local planners to evaluate vulnerability zones and conduct environmental justice analysis when making decisions to approve new facilities, expand existing sites, or approve housing development, an omission that contributes to the very problems documented in this report.

Local Emergency Planning Committees should be supported and strengthened by ensuring that they have

the resources to increase transparency and community engagement, preferably funded through fees paid by the industries creating the hazards.

INFORMED AND ENGAGED WORKERS AND COMMUNITIES

Residents and workers exposed to or endangered by hazardous chemicals have a right to know about both the dangers and alternatives. An informed and engaged workforce and public make facilities and communities safer. Access to information about hazards and solutions can help fix problems before a disaster happens. All levels of government should immediately adopt enforceable requirements for chemical facilities to provide workers, governments, and communities better information about available safer options.

Chemical safety and security programs must disclose basic information about hazardous chemical operations. For instance, disclosing the names and locations of



regulated facilities, chemical names and quantities, the status of reporting, status of inspections, notices of violations, and other general information would allow the public to better understand which facilities are following safety rules and which are not. Linking this information through a single facility identification number across all governmental programs would also facilitate effective oversight by revealing gaps in regulations and deficiencies in performance. Use of “smart reporting” tools (software that automatically flags incorrect data entry of information, such as a zip code that does not match an address) would improve the accuracy of company-reported data, including the RMP data used in this report.

The Clean Air Act Amendments of 1990 took steps to manage worst-case chemical hazards by requiring companies that use large amounts of certain extremely hazardous substances to prepare Risk Management Plans (RMPs). The plans include chemical facility self-assessments of potential worst-case chemical releases, including off-site consequences—the vulnerability zone scenarios that inform this report.

In 1999, Congress limited public access to these scenarios, but without adopting policies to reduce vulnerability zones or prevent disasters, despite the fact that industrial facilities are generally already widely known, readily observed, or easily discovered. Chemical disasters, such as the fertilizer facility explosion that devastated West, TX, demonstrate that these potential risks should not be hidden. The public, shareholders, and workers have a need and right to be informed about dangers and available means to remove those dangers, to work with experts of their choosing, and to benefit from informed oversight by government agencies. Excessive secrecy makes government ineffective and costs lives in a chemical emergency. Communities and decision-makers at all levels have a right and responsibility to know about hazards and solutions.

THE TIME FOR ACTION IS NOW

The need for action to prevent a catastrophic chemical disaster is urgent—workers, communities, businesses, and governments face severe potential costs to life, health, and finances from chemical hazards that are ultimately

preventable. Waiting for a catastrophic release is not acceptable. The United States must shift its framework from a risk management regime to a precautionary, prevention-based regime. If not, communities that already bear the brunt of industrial pollution will also bear the greatest harm from a chemical disaster, making this one of the central environmental justice issues of our time.

We demand that the following recommendations be addressed promptly and with concrete actions by the President, Congress, federal agencies, State and local governments, courts, and the chemical industry:

- Implement national, state, local and industry systems based on prevention and safety (rather than incident management) that require chemical facilities to use safer chemicals and processes whenever feasible, in order to reduce the frequency and severity of chemical facility releases;
- Prioritize the most endangered and vulnerable populations by passing and implementing laws that protect the health and safety of workers, first responders, people of color, low-income communities, women and children, and the communities surrounding these facilities;
- Recognize, implement, and enforce the Civil Rights Act of 1964 to protect communities from the disproportionate impacts of chemical disasters and the lack of appropriate regulations;
- Adopt and strengthen statutes and regulations—including the Secure Chemical Facilities Act and the Toxic Substances Control Act—to promote chemical safety and uphold the recommendations described in this report;
- Fully implement Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, and Executive Order 13650: Improving Chemical Facility Safety and Security;
- Require full disclosure to workers and communities of the types and amounts of chemicals stored at facilities *and* of alternatives that could reduce or remove hazards.

ENDNOTES

- 1 This report uses U.S. Census data, in which “Hispanic or Latino” refers to a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin regardless of race, and “Black or African American” refers to a person having origins in any of the Black racial groups of Africa, including people who indicated their race(s) as “Black, African American, or Negro” or reported entries such as African American, Kenyan, Nigerian, or Haitian.
- 2 For demographic analysis of populations around some two-dozen specific facilities, see also Rick Hind et al, *The Danger in Our Backyards* (Greenpeace, Los Jardines Institute, Environmental Justice and Health Alliance for Chemical Policy Reform, and Advocates for Environmental Human Rights, January 2013).
- 3 The U.S. Chemical Safety and Hazard Investigation Board (CSB) screened news media reports of 1,275 high consequence incidents over a recent five-year period, 2009–2013. High consequence incidents result in injury, fatality, acute environmental damage, evacuation or shelter-in-place of 500 or more members of the public, onsite property damage greater than \$500,000, or offsite property damage. The CSB data do not represent the universe of all chemical incidents.
- 4 Henry K. Lee, “Richmond sues Chevron over refinery fire,” *San Francisco Chronicle*, August 2, 2013, accessed April 20, 2014, <http://www.sfgate.com/bayarea/article/Richmond-sues-Chevron-over-refinery-fire-4703370.php>
- 5 Robert D. Bullard, Ph.D, et al, *Toxic Wastes and Race at Twenty, 1987–2007* (United Church of Christ Justice and Witness Ministries, March 2007). This study found that over half (56%) of all people living within 3.0 km of a hazardous waste facility in the U.S. are people of color, and where such facilities are clustered people of color make up over two-thirds (69%). Poverty rates are also much higher in the areas within 3.0 km of such facilities than nationally (18% vs. 12%).
- 6 See reviews by: (1) Lester, J.P., D.W. Allen, and K.M. Hill. 2001. *Environmental Injustice in the United States: Myths and Realities*. Boulder, CO: Westview Press; (2) Mohai, P., and B. Bryant. 1992. “Environmental Racism: Reviewing the Evidence.” In B. Bryant and P. Mohai (Eds.), *Race and the Incidence of Environmental Hazards: A Time for Discourse* (163–176). Boulder, CO: Westview Press; (3) Mohai, P., and R. Saha, 2006. “Reassessing Racial and Socioeconomic Disparities in Environmental Justice Research”. *Demography* 43(2): 383–399; (4) Ringquist, E. 2005. “Assessing Evidence of Environmental Inequities: A Meta-Analysis.” *Journal of Policy Analysis and Management* 24(2): 223–247; (5) Goldman, B.A. 1994. *Not just prosperity: Achieving sustainability with environmental justice*. Washington, DC: National Wildlife Federation.
- 7 Art Levine, “Dick Cheney’s Dangerous Son-in-Law: Philip Perry and the politics of chemical security,” *The Washington Monthly*, March 2007.
- 8 See “Obama and Obama Administration Examples of Support for Chemical Disaster Prevention,” accessed April 20, 2014, www.documentcloud.org/documents/563364-obama-amp-his-administrations-policy-on-chem.html.
- 9 House, *Chemical and Water Security Act of 2009*, 111th Congress, 2009–2010, H.R. 2868.
- 10 See for example, U.S. Government Accountability Office, *Wastewater Facilities: Experts’ Views on How Federal Funds Should Be Spent to Improve Security*, GAO-05-165 (Washington, DC: U.S. Government Printing Office, January 2005).
- 11 See for example, U.S. Chemical Safety and Hazard Investigation Board, *Draft Investigation Report: Catastrophic Rupture of Heat Exchanger (Seven Fatalities), Tesoro Anacortes Refinery, Anacortes, Washington*, Report 2010-08-I-WA (January 2014), which among other recommendations calls for the U.S. EPA to “use inherently safer systems analysis and the hierarchy of controls to the greatest extent feasible in establishing safeguards for identified process hazards.”
- 12 Section 112(r) of the Clean Air Act Amendments of 1990.
- 13 U.S. Environmental Protection Agency, RMP* National Database (without OCA Data), March 3, 2014.
- 14 The average vulnerability zone radius for the 3,433 facilities included in this report is 4.11 miles.
- 15 This report does not analyze demographic characteristics of employees, contractors, or non-residential off-site populations because this information is not included in Risk Management Plans or available Census information.
- 16 See for example, U.S. Chemical Safety and Hazard Investigation Board, *Investigation Report: E.I. DuPont de Nemours & Co., Belle, West Virginia*, Report 2010-6-I-WV (September 2011).
- 17 See for example, United States Fire Administration, Technical Report Series, *Massive Leak of Liquefied Chlorine Gas: Henderson, Nevada, USFA-TR-05 (May 6, 1991)*.
- 18 See for example, U.S. Chemical Safety and Hazard Investigation Board, *Final Investigation Report: Pesticide Chemical Runway Reaction Pressure Vessel Explosion (Two Killed, Eight Injured), Bayer CropScience, Institute, West Virginia*, Report 2008-08-I-WV (January 2011).

- 19 See for example, National Transportation Safety Board, *Cargo Hose Rupture and Release of Anhydrous Ammonia During Offloading of a Werner Transportation Services Cargo Tank Motor Vehicle at the Tanner Industries Plant, Swansea, South Carolina, July 15, 2009*, NTSB/HZM-12/01/SUM (2012). In 2009, a mother died of ammonia poisoning after driving her car into a cloud of anhydrous ammonia leaking from a Tanner Industries facility in Swansea, SC.
- 20 Only 60% of residents heeded siren, phone, and media warnings to stay indoors after an incident at an Equilon oil refinery; “One-quarter didn’t obey Martinez refinery warning,” *Contra Costa Times*, November 7, 2001.
- 21 These totals count only once people who live within the vulnerability zones of more than one facility.
- 22 Average individual incomes show a similar proportional decline, from \$34,960 in the U.S., to \$34,043 in the vulnerability zones, and to \$27,129 in the fence-line zones.
- 23 This report lists only the chemical associated with each facility’s largest potential vulnerability zone; covered facilities may hold other chemicals that also pose serious hazards.
- 24 Paul Orum, *Chemical Security 101: What You Don’t Have Can’t Leak, or Be Blown Up by Terrorists* (Center for American Progress, November 2008).
- 25 Reece Rushing and Paul Orum, “Leading Water Utilities Secure Their Hazards” (Center for American Progress, March 2010).
- 26 Rushing and Orum, “Leading Water Utilities Secure Their Hazards.”
- 27 Commercial producers of liquid bleach from salt and electricity without bulk transportation and storage of chlorine gas include Odyssey Manufacturing (Tampa, FL); BleachTech (Seville, OH and Petersburg, VA); Kuehne Chemical (Delaware City, DE); FSTI (Greenville, TX); Buckman’s (Pottstown, PA); Allied New Technologies, (Fort Pierce, FL); and KIK (Denver, CO). In addition, K2Pure Solutions (Pittsburg, CA) co-locates with and supplies Dow Chemical eliminating previous deliveries of chlorine by railcar.
- 28 Previous analysis of vulnerability zones and safer alternatives at power plants can be found in Paul Orum, *Unnecessary Dangers: Emergency Chemical Release Hazards at Power Plants* (Working Group on Community Right-to-Know, July 2004).
- 29 Alex Fidis, *Pulp Fiction: Chemical Hazard Reduction at Pulp and Paper Mills* (U.S. Public Interest Research Group Education Fund, August 2007).
- 30 Orum, *Chemical Security 101*.
- 31 *A Risk Too Great: Hydrofluoric Acid in U.S. Refineries*, United Steelworkers, Tony Mazzocchi Center, New Perspectives Consulting Group, April 2013.
- 32 Orum, *Chemical Security 101*.
- 33 Paul Orum and Reece Rushing, *Preventing Toxic Terrorism: How Some Chemical Facilities Are Removing Danger to American Communities* (Center for American Progress, April 2006).
- 34 Paul Orum, *Toxic Trains and the Terrorist Threat: How Water Utilities Can Get Chlorine Gas Off the Rails and Out of American Communities* (Center for American Progress, April 2007).
- 35 *Catastrophe, Injury, and Insurance: The Impact of Catastrophes on Workers Compensation, Life, and Health Insurance* (Risk Management Solutions, Inc., 2004).
- 36 Orum and Rushing, *Preventing Toxic Terrorism*.
- 37 The Secure Chemical Facilities Act (S.68) would require chemical facilities to document: “the technical feasibility, costs, avoided costs (including liabilities), personnel implications, savings and applicability of implementing each method to reduce the consequences of a terrorist attack.” The Secure Water Facilities Act (S.67) proposes parallel language for water and wastewater facilities to review the feasibility and “costs (including capital and operational costs) and avoided costs (including savings and liabilities) associated with applying each method to reduce the consequences of a chemical release...”
- 38 Pollution Prevention Act of 1990, 42 U.S.C. § 13101.
- 39 Senate Committee on Environment and Public Works, *Report on the Clean Air Act Amendments of 1990, 106th Congress*, S. Report 101-228, at 209 (2000).
- 40 “Normal accidents” are considered inevitable, especially in complex environments, since the interaction of multiple small failures foils even the most effective conventional safety arrangements. See Charles Perrow, *Normal Accidents: Living With High Risk Technologies* (Princeton University Press, 1999).
- 41 The OSHA Explosives and Blasting Agents Standard (1910.109(i)) and National Fire Protection Association codes are among relevant standards that do not prohibit conditions found at West Fertilizer and many similar facilities.

APPENDIX A METHODOLOGY

This report investigates the demographic composition of populations residing within vulnerability zone distances that are self-reported to the EPA's Risk Management Plan (RMP) program by facilities in several industry groups. This program requires facilities that produce, handle, process, distribute, or store threshold amounts of certain extremely hazardous toxic or flammable chemicals to submit an RMP that includes a vulnerability zone analysis (more generally called an "offsite consequences analysis") for a worst-case release of one of these chemicals.

The vulnerability zone is a circular area with a radius extending between 0.01 and 25 miles from the facility. The size of the zone depends on the quantity and characteristics of the chemical. EPA defines the general methods that facilities subject to RMP requirements (RMP facilities) must use in determining vulnerability zone size or distance (radius), but companies can use any credible modeling method that follows the EPA guidelines.

The most common methods used by RMP facilities to determine vulnerability zone distances include EPA guidance reference tables or equations, dispersion models such as Areal Locations of Hazardous Atmospheres (ALOHA) or Dense Gas Dispersion (DEGADIS), and EPA's RMP*Comp planning program.^a RMP facilities determine vulnerability zones based on the largest potential chemical release from a single vessel or process under conditions that result in the maximum possible affected area. Worst-case scenarios apply to residential populations only (i.e., they do not include people who visit, work, shop, recreate, or worship in the zones) and are not forecasts of potential casualties. All people living or working within vulnerability zones are at risk of serious harm, but actual impacts of a release would vary due to weather, wind direction,

RISK MANAGEMENT PLAN

(RMP) facilities determine vulnerability zones based on the largest potential chemical release from a single vessel or process under conditions that result in the maximum possible affected area.

distance from the facility, and activities nearby populations were engaged in at the time.

We obtained RMP program and facility identification data other than vulnerability zone information in an electronic file through a Freedom of Information Act request to the U.S. EPA. Members of the public can also identify RMP facilities by using RTKNET, a project of the Center for Effective Government, at www.rtknet.org/db/rmp. However, off-site consequences analysis portions of the RMPs (including the vulnerability zone distance and the chemical that is the basis of the worst-case release scenario) are only available to the public in a restricted manner through designated federal reading rooms.^b We gathered this RMP data (presented in Appendix C) in standardized notes made through multiple visits to the federal reading rooms within the last five years.

We used RMP data that companies had submitted to EPA current as of December 27, 2013. Companies submit RMPs on an ongoing basis, at a minimum every five years or when there are significant changes to the chemical hazards that make a facility subject to the RMP program. For this reason, we did not include 66 facilities that had RMP

a RMP dispersion modeling methods are described in United States Environmental Protection Agency, Office of Solid Waste and Emergency Response, *Risk Management Program Guidance for Offsite Consequence Analysis*, EPA 550-B-99-009 (Washington, DC: U.S. Government Printing Office, March 2009).

b For information on accessing RMP data through the federal reading rooms, see www.epa.gov/oem/content/rmp/readingroom.htm.

re-submissions overdue by six months or more. We also did not include RMP facilities in Puerto Rico or U.S. Territories.

Our facility selection criteria were:

1. Facilities that belong to the following industry sectors: potable water treatment, wastewater treatment, commercial bleach manufacturing, electric power production, petroleum refining, pulp and paper production, and chemical manufacturing. We included these industry sectors because of their diversity and varied dispersion patterns.
2. Facilities that self-reported in their RMP having 100,000 or more people living within their vulnerability zones, regardless of industry sector. We included these facilities regardless of industry type because they pose dangers to relatively large populations.

We applied our selection criteria using the following procedures:

- We identified facilities in the industry sectors other than chemical manufacturing primarily based on their self-reported North American Industry Classification System (NAICS) codes, and secondarily based on facility name or other descriptive information. In some cases, facilities reported more than one industrial activity, in which case we relied on the facility's primary reported industrial activity.
- We identified facilities belonging to the chemical manufacturing industry based on company facilities' membership in the two primary chemical manufacturing industry trade associations: the American Chemistry Council (ACC) and the Society of Chemical Manufacturers and Affiliates (SOCMA). These trade associations represent companies that produce the bulk of basic and specialty chemicals in the U.S. We identified ACC and SOCMA members

by comparing RMP facility names, parent companies, and Dun and Bradstreet numbers to companies listed on the associations' websites through December 28, 2013. In some cases it was difficult to determine whether a particular facility is covered by trade association membership. A weakness of these industry programs is that they identify member companies but not directly member facilities. In addition, companies may have changed name or ownership but failed to update EPA registrations as required. In ambiguous cases, we used our best judgment based on parent company information. Collectively, facilities belonging to those trade associations comprised what this report refers to as the chemical manufacturing sector.

- As noted above, we used information from company RMPs that we gathered from federal reading rooms to identify facilities that reported 100,000 or more people living within their vulnerability zones.

After identifying facilities that met the above selection criteria and gathering RMP data for the facilities, we used facilities' self-reported latitude-longitude data to establish facility locations and mapped them using Geographic Information System (GIS) software (ESRI ArcGIS Desktop Advanced 10.2). We corrected location data only for nine facilities that had obviously inaccurate geographic coordinates that placed the facility in the ocean.^c We otherwise relied on latitude-longitude location data directly as reported by the facilities in their RMPs.

We used the most recent Census tract-level population data covering the entire country (2008–2012 American Community Survey 5-Year Estimates) to calculate the demographic composition of the populations living within vulnerability zones.^d To do so we used the same method used in *Toxic Wastes and Race at Twenty*, known as the areal apportionment method. This method involves using GIS to intersect the 2010 Census tract boundaries^e with the circles that define facility vulnerability zones, and then summing the population living in any tract that lies

c The nine facilities for which we did not rely on plainly erroneous latitude-longitude data and instead used the facility street address were: Tesoro Hawaii Corporation- Refinery (RMP ID 100000034107); Chevron El Segundo Refinery (100000101454); WJCMWD, Water Treatment Plant (100000197761); Total Petrochemicals & Refining U.S.A. Inc. (100000159286); Keegan Bayou Wastewater Treatment Plant (100000053354); D'Iberville Wastewater Treatment Plant (100000053498); Long Beach/Pass Christian Treatment Plant (100000050437); South Gulfport Wastewater Treatment Plant (100000050614); and West Biloxi Wastewater Treatment Plant (100000049814).

d We obtained the Census data tables through Data Ferrett at <http://thedataweb.rm.census.gov/TheDataWeb/launchDFA.html>

e Census tract boundaries used part of the ESRI ArcGIS Desktop Advanced 10.2 software.

entirely within the vulnerability zone with estimates of the population in any tract that lies partially within the zone.^f For the latter type of tract, the proportion of the tract area within the vulnerability zone is used to estimate the population of the partially intersected tract, whereby the population is estimated by multiplying the proportion of the area of the tract within the vulnerability zone distance times the total population for the tract. For example, if 30% of the area of the tract lies within that distance, then 30% of the population is estimated to live within that distance. Similar apportionment was used to estimate tract subpopulations, for example, the number of people of different races in vulnerability zones. This method estimates the population living in these circular areas that do not directly correspond with the shapes of Census tracts. It assumes that the population is evenly distributed throughout the tract and has been shown to yield reliable and consistent results for distances of about a half mile or more (Mohai and Saha 2007).

For the vulnerability zone population estimates, we used the following tables from the 2008–2012 American Community Survey 5-Year Estimates:

- **Average home value**—Table B25080, Aggregate Value (Dollars) by Units in Structure;
- **Mean household income**—Table B19025, Aggregate Household Income in the Past 12 Months;
- **Race and ethnicity**—Table B03002, Hispanic or Latino Origin by Race;
- **Educational attainment levels**—Table B15003, Educational Attainment for the Population 25 Years and Over;
- **Poverty rates**—Table B17001, Poverty Status in the Past 12 Months by Sex and Age.

Demographic data for individual facility vulnerability zones presented in Appendix C may differ from population data that facilities self-report to EPA in their RMPs, which may have been determined using different methods or earlier Census data sets.

IF THE VULNERABILITY ZONES

of different facilities in the same sector overlapped, their boundaries were merged, the merged boundaries were intersected with Census tract boundaries, and the areal apportionment method was applied to the intersected tracts. This procedure prevented any double counting of people living in vulnerability zones of two or more facilities within a sector.

We also used the areal apportionment method to estimate the population characteristics of areas closest to potential harm, i.e., areas within one-tenth of the distance of the full vulnerability zones. We call these high-risk areas the “fenceline zones.”

We used the same method to determine the demographic composition of vulnerability zones of facilities belonging to various industry sectors. However, if the vulnerability zones of different facilities in the same sector overlapped, their boundaries were merged, the merged boundaries were intersected with Census tract boundaries, and the areal apportionment method was applied to the intersected tracts (Table 1 and Tables 7–13). This procedure prevented any double counting of people living in vulnerability zones of two or more facilities within a sector. Similar merging of vulnerability zones of all facilities prevented double counting in our national level findings (Tables 2–6).

^f An Albers geographic projection was used for digitized Census tracts boundaries and circular buffers of vulnerability zones.

APPENDIX B

“SHELTER IN PLACE” WON’T PROTECT US TIMELINE WORKSHEET

People who live near chemical facilities are often told to “shelter in place” in the event of a hazardous chemical release. That means go indoors, close doors, windows, and vents, and wait for toxic fumes to blow away. But a simple timeline analysis shows that shelter in place can’t possibly protect numerous people nearby.

1. How long will it take (in minutes) for:

- The company to find a chemical leak? _____ (minutes)
- The company to decide to report the leak? _____ (minutes)
- The company to notify the fire department? _____ (minutes)
- The fire chief to arrive at the scene? _____ (minutes)
- The fire chief to order protective action? _____ (minutes)
- Emergency responders to fully notify the public? _____ (minutes)
- Workers and neighbors to shelter or evacuate? _____ (minutes)
- All of these events added together? _____ (minutes)

2. How long will it take (in minutes) for:

- A toxic cloud (or blast wave) to reach nearby homes, schools, businesses, eldercare facilities, places of worship, sports arenas, hospitals, or automobiles? _____ (minutes)
- Toxic gases to filter into places where people shelter in place? _____ (minutes)
- The company to stop the chemical leak—if it can? _____ (minutes)

3. Given these estimates, how big is the “fenceline zone” where neither sheltering nor evacuation will protect people in a major release? _____ (miles)

And, if shelter in place won’t work, by when and how will the company reduce or eliminate the chemical hazard at the source? _____ (date)

APPENDIX C

VULNERABILITY ZONES OF 3,433 CHEMICAL FACILITIES

This table presents basic information about the Vulnerability Zones of 3,433 facilities that produce, handle, process, distribute, or store more than a threshold amount of certain extremely hazardous substances. Basic facility and vulnerability zone information is self-reported to EPA by the companies in Risk Management Plans. We calculated the population in each Vulnerability Zone based on a standardized method using U.S. Census Bureau data. See “Appendix A: Methodology” for a complete description of the methods used to research the information presented in this table.

Facilities in the table appear in order by State, then County, then City. Most information in the table—including Facility Name, State, County, City, and Facility Type—is self-explanatory.

PARENT COMPANIES

If the facility self-reports that it is owned or controlled by another entity, that “parent company” is listed here. If the parent company is owned or controlled by yet another company or division, this “second parent company” is listed and marked with an asterisk. “Parent Company” is the term used by the U.S. EPA even when the parent is a city, county, or other public entity.

CHEMICAL

The specific chemical that is the basis of the facility’s worst-case release scenario, but facilities may store or use other hazardous chemicals as well.

VULNERABILITY ZONE MILES

The range of a potential worst-case chemical release in miles. The distance indicated is a radius (or circle) around the facility. See Box 1 and Figure 3 on page 11 for a more detailed explanation and depiction of Vulnerability Zones.

VULNERABILITY ZONE CENSUS POPULATION

The residential population within the Vulnerability Zone, based on U.S. Census data. These figures are not forecasts of potential casualties.

**A sample page of the data table appears in the printed version of the report.
PDFs of the complete report and the 143-page table are available online at
www.EJ4All.org/whos-in-danger-report.**

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population*
A L A S K A								
Pyramid Water Treatment Plant	City of Unalaska	AK	Aleutians West Census Area	Unalaska	Water treatment	Chlorine	0.80	<10
International Station Power Plant	Chugach Electric Association, Inc.	AK	Anchorage Municipality	Anchorage	Electric power generation	Ammonia (conc. ≥20%)	0.20	371
John M. Asplund Wastewater Treatment Facility	Anchorage Water and Wastewater Utility Municipality of Anchorage*	AK	Anchorage Municipality	Anchorage	Wastewater treatment	Chlorine	2.20	2,300
Univar Anchorage	Univar USA, Inc.	AK	Anchorage Municipality	Anchorage	Basic chemicals – ACC	Ammonia (conc. ≥20%)	0.80	5,013
Flint Hills Resources Alaska, LLC	Flint Hills Resources, LP	AK	Fairbanks North Star Borough	North Pole	Petroleum refinery	Flammable Mixture	0.40	160
Kenai Refinery	Tesoro Petroleum Corporation Tesoro Alaska Company*	AK	Kenai Peninsula Borough	Kenai	Petroleum refinery	Flammable Mixture	1.20	284
Petro Star Valdez Refinery		AK	Valdez–Cordova Census Area	Valdez	Petroleum refinery	Flammable Mixture	0.07	<10
A L A B A M A								
Tenaska Central Alabama Generating Station	Tenaska Alabama II Partners LP	AL	Autauga County	Billingsley	Electric power generation	Ammonia (anhydrous)	5.10	1,814
Tenaska Lindsay Hill Generating Station	Tenaska Alabama Partners, LP	AL	Autauga County	Billingsley	Electric power generation	Ammonia (anhydrous)	5.10	1,833
E.B. Harris Electric Generating Plant	Southern Power Company Southern Company*	AL	Autauga County	Prattville	Electric power generation	Ammonia (anhydrous)	3.30	1,137
Georgia Pacific Consumer Products LP, Naheola Mill	Georgia Pacific LLC	AL	Choctaw County	Pennington	Pulp and paper	Chlorine dioxide	25.00	36,725
Boise White Paper, LLC	Boise, Inc.	AL	Clarke County	Jackson	Pulp and paper	Chlorine dioxide	9.50	8,268
Cherokee Nitrogen Company	ThermoClime, Inc.	AL	Colbert County	Cherokee	Basic chemicals – ACC	Ammonia (anhydrous)	25.00	161,239
Harcros Chemicals Inc. – Muscle Shoals	Harcros Chemicals Inc.	AL	Colbert County	Muscle Shoals	Bleach manufacturing	Chlorine	14.00	117,593
James A. Vann, Jr. Power Plant	PowerSouth Energy Cooperative, Inc.	AL	Covington County	Andalusia	Electric power generation	Ammonia (conc. ≥20%)	0.40	29
Cullman Water Treatment Plant	The Utilities Board of the City of Cullman, Alabama	AL	Cullman County	Cullman	Water treatment	Chlorine	1.30	1,745
Ozark Southside WWTP		AL	Dale County	Ozark	Wastewater treatment	Chlorine	2.20	3,082
International Paper Riverdale Mill	International Paper	AL	Dallas County	Selma	Pulp and paper	Chlorine dioxide	6.80	6,361
Fort Payne Wastewater Treatment Plant	City of Fort Payne, Alabama	AL	DeKalb County	Fort Payne	Wastewater treatment	Chlorine	3.00	3,734
Wilako Wastewater Treatment Plant	Water & Sewer Board of the City of Wetumpka	AL	Elmore County	Wetumpka	Wastewater treatment	Chlorine	3.00	4,379
Five Star Water Supply District		AL	Elmore County	Wetumpka	Water treatment	Chlorine	3.00	5,915
Georgia–Pacific Brewton LLC	Georgia–Pacific LLC	AL	Escambia County	Brewton	Pulp and paper	Chlorine dioxide	12.00	17,461
West River Wastewater Treatment Plant	Gadsden Water Works and Sewer Board	AL	Etowah County	Gadsden	Wastewater treatment	Chlorine	1.86	7,880
East River Wastewater Treatment Plant	Gadsden Water Works and Sewer Board	AL	Etowah County	Gadsden	Wastewater treatment	Chlorine	2.05	8,644

* Residential population within the facility’s Vulnerability Zone. These figures are not forecasts of potential casualties.

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
6th Street Pump Station	Gadsden Water Works and Sewer Board	AL	Etowah County	Gadsden	Wastewater treatment	Chlorine	1.60	9,198
Water Treatment Plant	Gadsden Water Works and Sewer Board	AL	Etowah County	Gadsden	Water treatment	Chlorine	1.82	9,733
H.E. Neal III Water Filtration Plant	Russellville Water and Sewer Board	AL	Franklin County	Russellville	Water treatment	Chlorine	1.30	818
Dothan Utilities Water/Electric Complex	City of Dothan, Alabama	AL	Houston County	Dothan	Water treatment	Chlorine	0.40	201
Dothan Utilities Omssee Creek WWTP	City of Dothan, Alabama	AL	Houston County	Dothan	Wastewater treatment	Sulfur dioxide (anhydrous)	3.20	5,161
Dothan Utilities Little Choctawhatchee WWTP	City of Dothan, Alabama	AL	Houston County	Dothan	Wastewater treatment	Sulfur dioxide (anhydrous)	3.20	13,116
Dothan Utilities Beaver Creek WWTP	City of Dothan, Alabama	AL	Houston County	Dothan	Wastewater treatment	Sulfur dioxide (anhydrous)	3.20	30,663
North Saaty Creek Water Treatment Plant	Scottsboro Water, Sewer & Gas Board	AL	Jackson County	Scottsboro	Water treatment	Chlorine	3.04	2,655
Skinny Jones Water Filtration Plant	Scottsboro Water, Sewer and Gas Board	AL	Jackson County	Scottsboro	Water treatment	Chlorine	3.04	5,010
TVA – Widows Creek Fossil Plant	Tennessee Valley Authority	AL	Jackson County	Stevenson	Electric power generation	Ammonia (anhydrous)	3.30	1,761
Bessemer Water Filtration Facility	GUSC of the City of Bessemer, Inc.	AL	Jefferson County	Bessemer	Water treatment	Chlorine	0.90	144
Donald M. Reed Filter Plant	Warrior River Water Authority	AL	Jefferson County	Bessemer	Water treatment	Chlorine	0.90	226
Village Creek WWTP	Jefferson County Commission	AL	Jefferson County	Birmingham	Wastewater treatment	Chlorine	0.90	2,299
Western Filter Plant	Birmingham Water Works Board City of Birmingham*	AL	Jefferson County	Birmingham	Water treatment	Chlorine	2.63	34,480
Putnam Filter Plant	Birmingham Water Works Board	AL	Jefferson County	Birmingham	Water treatment	Chlorine	3.04	37,357
Bermco Aluminum	Berman Brothers Iron and Metal Company, Inc.	AL	Jefferson County	Birmingham	Secondary aluminum smelting	Chlorine	4.30	124,684
Carson Filter Plant	Birmingham Water Works Board City of Birmingham*	AL	Jefferson County	Pinson	Water treatment	Chlorine	3.04	17,075
J. H. Miller Electric Generating Plant	Alabama Power Company Southern Company*	AL	Jefferson County	Quinton	Electric power generation	Ammonia (anhydrous)	1.90	1,062
Wilson Lake Water Treatment Plant		AL	Lauderdale County	Florence	Water treatment	Chlorine	3.04	22,485
Cypress Creek Wastewater Treatment Plant		AL	Lauderdale County	Florence	Wastewater treatment	Sulfur dioxide (anhydrous)	3.20	24,388
Cypress Creek Water Treatment Plant		AL	Lauderdale County	Florence	Water treatment	Chlorine	3.04	26,948
International Paper – Courtland Mill	International Paper Company	AL	Lawrence County	Courtland	Pulp and paper	Chlorine dioxide	9.34	14,919
Plant Franklin Combined Cycle Units	Southern Power Company Southern Company*	AL	Lee County	Smiths	Electric power generation	Ammonia (anhydrous)	3.30	2,959
SABIC Innovative Plastics – Burkville	SABIC Innovative Plastics Holding US LP	AL	Lowndes County	Burkville	Basic chemicals – ACC	Chlorine	10.65	28,721
Spring Branch Wastewater Treatment Plant		AL	Madison County	Huntsville	Wastewater treatment	Chlorine	0.90	2,547

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Aldridge Creek Wastewater Treatment Plant		AL	Madison County	Huntsville	Wastewater treatment	Chlorine	0.90	3,199
Southwest Water Treatment Facility	City of Huntsville, dba Huntsville Utilities	AL	Madison County	Madison	Water treatment	Chlorine	3.00	5,101
Brenntag Mid-South, Inc.	Brenntag U.S.A.	AL	Madison County	Madison	Basic chemicals – ACC	Chlorine	3.00	6,757
U.S. Army Garrison – Redstone Arsenal (WTP 3)		AL	Madison County	Redstone Arsenal	Water treatment	Chlorine	1.30	158
ISP Chemicals LLC	ISP Chemco LLC	AL	Madison County	Redstone Arsenal	Basic chemicals – ACC	Iron, pentacarbonyl-	1.90	337
U.S. Army Garrison – Redstone Arsenal (WTP 1)		AL	Madison County	Redstone Arsenal	Water treatment	Chlorine	3.00	1,774
Demopolis Mill	Rock-Tenn Mill Company, LLC	AL	Marengo County	Demopolis	Pulp and paper	Chlorine dioxide	19.00	25,472
The Upper Bear Creek Water Filter Plant		AL	Marion County	Bear Creek	Water treatment	Chlorine	3.04	1,390
Albertville Waste Water Treatment Plant	Albertville Municipal Utilities Board	AL	Marshall County	Albertville	Wastewater treatment	Chlorine	0.96	993
Albertville Water Plant		AL	Marshall County	Albertville	Water treatment	Chlorine	3.00	2,854
Sunset Water Treatment Facility	Guntersville Water and Sewer Board	AL	Marshall County	Guntersville	Water treatment	Chlorine	2.20	2,375
Arab Water Treatment Plant	Water Works Board of the City of Arab	AL	Marshall County	Guntersville	Water treatment	Chlorine	3.00	2,894
Arkema Inc. – Mobile Facility	Arkema Delaware Inc.	AL	Mobile County	Axis	Basic chemicals – ACC	1,3-Butadiene	0.70	76
Dupont – Mobile Plant	E. I. duPont de Nemours Company	AL	Mobile County	Axis	Basic chemicals – ACC	Phosgene	25.00	369,780
LeMoynes Site	Akzo Nobel Chemicals Inc.	AL	Mobile County	Axis	Basic chemicals – ACC	Chlorine	25.00	524,151
Barry Steam Electric Generating Plant	Alabama Power Company Southern Company*	AL	Mobile County	Bucks	Electric power generation	Ammonia (anhydrous)	5.00	4,208
Shell Chemical LP (Mobile Site)	Shell Chemical LP	AL	Mobile County	Mobile	Petroleum refinery, ACC	Butane	0.76	60
Clifton C. Williams Wastewater Treatment Facility	Mobile Area Water and Sewer System	AL	Mobile County	Mobile	Wastewater treatment	Chlorine	1.30	1,452
Harry E. Myers Water Filtration Facility	Mobile Area Water and Sewer System	AL	Mobile County	Mobile	Water treatment	Chlorine	1.30	3,248
E. Morgan Stickney Water Filtration Plant	Mobile Area Water and Sewer System	AL	Mobile County	Mobile	Water treatment	Chlorine	1.30	7,063
Wright Smith, Jr. Wastewater Treatment Facility	Mobile Area Water and Sewer System	AL	Mobile County	Mobile	Wastewater treatment	Chlorine	1.30	10,521
DPC Enterprises, L.P.		AL	Mobile County	Mobile	Bleach manufacturing	Sulfur dioxide (anhydrous)	16.00	378,049
Praxair – Theodore, AL	Praxair, Inc.	AL	Mobile County	Theodore	Basic chemicals – ACC	Hydrogen	0.20	30
Mitsubishi Polycrystalline Silicon America Corp	Mitsubishi Materials Corp	AL	Mobile County	Theodore	Basic chemicals – ACC	Trichlorosilane	0.30	67
Theodore Cogeneration Plant	Alabama Power Company Southern Company*	AL	Mobile County	Theodore	Electric power generation	Ammonia (anhydrous)	1.25	1,080
Evonik Degussa Corporation	Evonik Degussa	AL	Mobile County	Theodore	Chemicals – ACC, SOCMA	Chlorine	25.00	512,375

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Alabama River Cellulose LLC	Koch Industries Inc.	AL	Monroe County	Perdue Hill	Pulp and paper	Chlorine dioxide	24.00	39,421
Catoma Water Pollution Control Plant (WPCP)	Montgomery Water Works and Sanitary Sewer Board	AL	Montgomery County	Montgomery	Wastewater treatment	Chlorine	2.20	1,099
C. T. Perry Water Treatment Plant	Montgomery Water Works and Sanitary Sewer Board	AL	Montgomery County	Montgomery	Water treatment	Chlorine	2.20	2,986
Day Street Pumping Station	Montgomery Water Works and Sanitary Sewer Board	AL	Montgomery County	Montgomery	Water treatment	Chlorine	0.90	3,976
Econchate Water Pollution Control Plant (WPCP)	Montgomery Water Works and Sanitary Sewer Board	AL	Montgomery County	Montgomery	Wastewater treatment	Chlorine	2.20	9,830
Decatur - 3M Company		AL	Morgan County	Decatur	Basic chemicals - ACC	Vinylidene chloride	0.20	21
Linde Gas LLC	Linde AG	AL	Morgan County	Decatur	Basic chemicals - ACC	Ammonia (anhydrous)	0.35	170
Decatur Utilities Dry Creek Wastewater Plant	City of Decatur	AL	Morgan County	Decatur	Wastewater treatment	Chlorine	1.30	3,033
Decatur Utilities Water Plant		AL	Morgan County	Decatur	Water treatment	Chlorine	1.30	4,798
Morgan Energy Center LLC	Calpine Corporation	AL	Morgan County	Decatur	Electric power generation	Ammonia (anhydrous)	3.10	4,885
Decatur Energy Center, LLC	Calpine Corporation	AL	Morgan County	Decatur	Electric power generation	Ammonia (anhydrous)	3.10	16,008
Daikin America, Inc. (2006 Renewal)		AL	Morgan County	Decatur	Basic chemicals - ACC	Hydrofluoric acid (conc. ≥50%)	25.00	306,076
Ascend - Decatur Plant	Ascend Performance Materials, LLC.	AL	Morgan County	Decatur	Basic chemicals - ACC	Propionitrile	22.00	308,258
Meadwestvaco Coated Board	MeadWestvaco Corporation	AL	Russell County	Cottonton	Pulp and paper, ACC	Ammonia (conc. ≥20%)	0.30	<10
Phenix City Wastewater Treatment Plant	Phenix City Utilities	AL	Russell County	Phenix City	Wastewater treatment	Chlorine	0.90	2,642
Shelby County South Water Treatment Plant	Shelby County Commision	AL	Shelby County	Wilsonville	Water treatment	Chlorine	1.30	433
E. C. Gaston Electric Generating Plant	Alabama Power Company Southern Electric Generating Company*	AL	Shelby County	Wilsonville	Electric power generation	Chlorine	1.90	1,049
Lake Howard Water Treatment Plant	Utilities Board City of Sylacauga	AL	Talladega County	Sylacauga	Water treatment	Chlorine	2.20	1,484
J. E. Ham WWTP	Utilities Board City of Sylacauga	AL	Talladega County	Sylacauga	Wastewater treatment	Chlorine	2.20	8,737
Hillabee Power Plant	CER Generation, LLC	AL	Tallapoosa County	Alexander City	Electric power generation	Ammonia (anhydrous)	2.80	2,658
Northport Water Treatment Plant	The City of Northport	AL	Tuscaloosa County	Northport	Water treatment	Chlorine	1.30	2,176
Northport Wastewater Treatment Plant	The City of Northport, Alabama	AL	Tuscaloosa County	Northport	Wastewater treatment	Chlorine	1.30	6,285
Hunt Refining Company, A Corporation	Hunt Capital Corporation	AL	Tuscaloosa County	Tuscaloosa	Petroleum refinery	Butane	0.50	353
Jasper Wastewater Treatment Plant	Jasper Waterworks and Sewer Board	AL	Walker County	Jasper	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	6,295

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Gorgas Electric Generating Plant	Alabama Power Company Southern Company*	AL	Walker County	Parrish	Electric power generation	Ammonia (anhydrous)	5.00	4,653
Charles R. Lowman Power Plant	PowerSouth Energy Cooperative, Inc.	AL	Washington County	Leroy	Electric power generation	Ammonia (anhydrous)	6.90	5,835
Praxair – McIntosh, AL	Praxair, Inc.	AL	Washington County	McIntosh	Basic chemicals – ACC	Hydrogen	0.80	61
BASF Corporation – McIntosh Plant	BASF Corporation	AL	Washington County	McIntosh	Basic chemicals – ACC	Phosphorus trichloride	2.70	654
Olin Corp. McIntosh, Alabama Plant	Olin Corp.	AL	Washington County	McIntosh	Bleach manufacturing, ACC	Chlorine	25.00	75,736
ARKANSAS								
Georgia-Pacific LLC – Crossett Paper Operations	Georgia-Pacific Holdings LLC	AR	Ashley County	Crossett	Pulp and paper	Chlorine dioxide	24.00	35,881
Robert E. Hurst Water Treatment Plant		AR	Baxter County	Mountain Home	Water treatment	Chlorine	1.30	268
Mountain Home Wastewater Treatment Plant		AR	Baxter County	Mountain Home	Wastewater treatment	Chlorine	1.30	1,798
Beaver Water District Water Treatment Facility	Beaver Water District	AR	Benton County	Lowell	Water treatment	Chlorine	3.00	17,384
Benton/Washington Regional Public Water Authority		AR	Benton County	Rogers	Water treatment	Chlorine	3.00	3,266
Daniels Water Treatment Plant	City of Siloam Springs	AR	Benton County	Siloam Springs	Water treatment	Chlorine	3.00	12,625
Carroll-Boone Freeman Raney Water Treatment Plant	Carroll-Boone Water District	AR	Carroll County	Eureka Springs	Water treatment	Chlorine	3.00	1,086
Community Water System		AR	Cleburne County	Greers Ferry	Water treatment	Chlorine	0.80	43
Magnolia Wastewater Treatment Plant	Magnolia Wastewater System City of Magnolia*	AR	Columbia County	Magnolia	Wastewater treatment	Chlorine	3.00	9,905
Sterling Lacy Water Purification Plant	Magnolia Municipal Water System	AR	Columbia County	Magnolia	Water treatment	Chlorine	3.00	10,236
Albemarle Corporation South Plant	Albemarle Corporation	AR	Columbia County	Magnolia	Basic chemicals – ACC	Chlorine	14.00	21,421
Albemarle Corporation West Plant	Albemarle Corporation	AR	Columbia County	Magnolia	Basic chemicals – ACC	Chlorine	14.00	21,873
Conway County Regional Water Distribution District		AR	Conway County	Plumerville	Water treatment	Chlorine	0.90	85
CWL – Commerce Pumping Station	City Water and Light	AR	Craighead County	Jonesboro	Water treatment	Chlorine	3.00	9,595
CWL–East Side Wastewater Treatment Facility	City Water and Light	AR	Craighead County	Jonesboro	Wastewater treatment	Chlorine	3.00	10,246
CWL–West Side Wastewater Treatment Plant	City Water and Light	AR	Craighead County	Jonesboro	Wastewater treatment	Chlorine	3.00	21,791
CWL–Airport Pumping Station	City Water and Light	AR	Craighead County	Jonesboro	Water treatment	Chlorine	3.00	25,282
CWL–Race Street Pumping Station	City Water and Light	AR	Craighead County	Jonesboro	Water treatment	Chlorine	3.00	27,712

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
CWL – Medallion Pumping Station	City Water and Light	AR	Craighead County	Jonesboro	Water treatment	Chlorine	3.00	31,399
Lake Fort Smith Water Treatment Plant	City of Fort Smith	AR	Crawford County	Mountainburg	Water treatment	Chlorine	3.00	933
Lee Creek Water Treatment Facility	City of Fort Smith	AR	Crawford County	Van Buren	Water treatment	Chlorine	3.00	9,765
BASF Corporation	BASF Corporation	AR	Crittenden County	West Memphis	Basic chemicals – ACC	Methyl chloride	2.50	2,985
Clearwater Paper Corporation – Cypress Bend Mill	Clearwater Paper Corporation	AR	Desha County	Arkansas City	Pulp and paper	Chlorine dioxide	11.00	5,508
Roger Q. Mills Water Treatment Plant		AR	Faulkner County	Conway	Water treatment	Chlorine	3.00	18,889
Tucker Creek Wastewater Treatment Plant		AR	Faulkner County	Conway	Wastewater treatment	Chlorine	3.00	26,823
Stone Dam Creek Wastewater Treatment Plant		AR	Faulkner County	Conway	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	27,497
Lakeside Water Treatment Plant	Hot Springs Utility, Department, AR	AR	Garland County	Hot Springs	Water treatment	Chlorine	0.90	892
Hot Springs Wastewater Treatment Plant	City of Hot Springs	AR	Garland County	Hot Springs	Wastewater treatment	Chlorine	0.90	1,240
Ouachita Water Treatment Plant	City of Hot Springs Utilities, AR	AR	Garland County	Mountain Pine	Water treatment	Chlorine	0.90	166
Wastewater Treatment Plant	Paragould Light and Water Commission	AR	Greene County	Paragould	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	14,396
Water Treatment Plant	Paragould Light and Water Commission	AR	Greene County	Paragould	Water treatment	Chlorine	3.00	15,917
Turk Power Plant	SWEPSCO	AR	Hempstead County	Fulton	Electric power generation	Ammonia (anhydrous)	1.67	119
Momentive Speciality Chemicals Inc.	Momentive Speciality Chemicals Holdings LLC	AR	Hempstead County	Hope	Basic chemicals – ACC	Formaldehyde (solution)	6.30	7,559
Magnet Cove Generating Station	Arkansas Electric Cooperative Corporation	AR	Hot Spring County	Malvern	Electric power generation	Ammonia (conc. ≥20%)	1.50	522
Nashville Water Treatment Plant	City of Nashville, Arkansas	AR	Howard County	Nashville	Water treatment	Chlorine	2.60	4,748
Batesville Water Treatment Plant	Batesville water Utilities	AR	Independence County	Batesville	Water treatment	Chlorine	0.90	446
FutureFuel Chemical Company	FutureFuel Corp.	AR	Independence County	Batesville	Basic chemicals – ACC	Chlorine	14.00	32,667
Evergreen Packaging – Pine Bluff Mill	Evergreen Packaging	AR	Jefferson County	Pine Bluff	Pulp and paper	Chlorine dioxide	10.06	45,274
Texarkana Water Utility Millwood Water Plant	City of Texarkana, Arkansas	AR	Little River County	Ashdown	Water treatment	Chlorine	2.60	1,836
Domtar A.W. LLC Ashdown Mill	Domtar Corporation	AR	Little River County	Ashdown	Pulp and paper	Chlorine dioxide	25.00	140,595
Blytheville Waterworks	City of Blytheville	AR	Mississippi County	Blytheville	Water treatment	Chlorine	3.00	10,254
Plum Point Energy Station	Plum Point Energy Associates, LLC et al	AR	Mississippi County	Osceola	Electric power generation	Ammonia (anhydrous)	3.10	2,538
Camden Water Treatment Plant	Camden Water Utilities	AR	Ouachita County	Camden	Water treatment	Chlorine	1.30	1,944
Irons Fork Water Treatment Facility	Mena Water Utilities	AR	Polk County	Mena	Water treatment	Chlorine	2.20	275

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Atkins Water Treatment Plant	City Of Atkins Water Works	AR	Pope County	Pottsville	Water treatment	Chlorine	0.90	255
Russellville Pollution Control Works	Russellville Water & Sewer System City Corporation*	AR	Pope County	Russellville	Wastewater treatment	Chlorine	3.00	14,611
Fourche Creek Wastewater Treatment Plant	Little Rock Wastewater	AR	Pulaski County	Little Rock	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	1,965
White Oak Bayou Treatment Plant	North Little Rock Waste Water Utility	AR	Pulaski County	North Little Rock	Wastewater treatment	Chlorine	3.00	55,519
Benton Water Treatment Plant	Benton Utilities	AR	Saline County	Benton	Water treatment	Chlorine	3.00	17,024
Hot Springs Village POA Water Plant	Hot Springs Village POA	AR	Saline County	Hot Springs Village	Water treatment	Chlorine	3.00	1,668
P Street Wastewater Treatment Facility	City of Fort Smith	AR	Sebastian County	Fort Smith	Wastewater treatment	Chlorine	3.00	39,679
Lion Oil Company		AR	Union County	El Dorado	Petroleum refinery	Chlorine	1.30	3,724
Mount Holly Water Treatment Plant		AR	Union County	El Dorado	Water treatment	Chlorine	3.00	9,269
Champagnolle Water Treatment Plant		AR	Union County	El Dorado	Water treatment	Chlorine	3.00	10,622
El Dorado Chemical Company	LSB Chemical Corporation	AR	Union County	El Dorado	Basic chemicals – ACC	Ammonia (anhydrous)	25.00	53,882
Great Lakes Chemical, South Plant	Chemtura	AR	Union County	El Dorado	Basic chemicals – ACC	Chlorine	25.00	56,187
DuPont El Dorado Plant	E.I. duPont de Nemours & Co., Inc.	AR	Union County	El Dorado	Basic chemicals – ACC	Hydrofluoric acid (conc. ≥50%)	25.00	56,216
Great Lakes Chemical, Central Plant	Chemtura	AR	Union County	El Dorado	Basic chemicals – ACC	Chlorine	25.00	56,232
Great Lakes Chemical, West Plant	Chemtura	AR	Union County	Magnolia	Basic chemicals – ACC	Chlorine	25.00	71,926
Springdale Water Utilities		AR	Washington County	Springdale	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	36,729
Searcy Water Treatment Plant	Searcy Water Utilities	AR	White County	Searcy	Water treatment	Chlorine	3.00	13,221
Searcy Wastewater Treatment Plant	Searcy Water Utilities	AR	White County	Searcy	Wastewater treatment	Chlorine	3.00	14,574
A R I Z O N A								
Springerville Generating Station	Tucson Electric Power Company	AZ	Apache County	Springerville	Electric power generation	Ammonia (anhydrous)	6.90	1,017
Wildcat Hill Wastewater Treatment Plant	City of Flagstaff	AZ	Coconino County	Flagstaff	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	15,460
Lake Mary Water Treatment Plant	City of Flagstaff	AZ	Coconino County	Flagstaff	Water treatment	Chlorine	3.00	23,643
Arizona Public Service Company Redhawk Power Plant	Pinnacle West Capital Corporation	AZ	Maricopa County	Arlington	Electric power generation	Ammonia (conc. ≥20%)	0.40	16
Mesquite Generating Station	Mesquite Power, LLC	AZ	Maricopa County	Arlington	Electric power generation	Ammonia (anhydrous)	3.10	488
Fountain Hills Wastewater Treatment Plant		AZ	Maricopa County	Fountain Hills	Wastewater treatment	Chlorine	1.30	7,035
Town of Gilbert Water Treatment Plant		AZ	Maricopa County	Gilbert	Water treatment	Chlorine	1.30	17,335

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Pyramid Peak Water Treatment Plant	City of Glendale	AZ	Maricopa County	Glendale	Water treatment	Chlorine	2.25	19,665
Cholla Water Treatment Plant	City of Glendale Utilities Department	AZ	Maricopa County	Glendale	Water treatment	Chlorine	1.33	30,912
DPC Enterprises, L.P.		AZ	Maricopa County	Glendale	Bleach manufacturing	Chlorine	14.00	1,956,553
Val Vista Water Treatment Plant	City of Phoenix, Water Services Department	AZ	Maricopa County	Mesa	Water treatment	Chlorine	0.90	5,480
MGC Pure Chemicals America, Inc.	Mitsubishi Gas Chemical Company, Inc.	AZ	Maricopa County	Mesa	Basic chemicals – ACC	Ammonia (anhydrous)	2.60	9,077
Brown Road Water Treatment Plant	City of Mesa	AZ	Maricopa County	Mesa	Water treatment	Chlorine	1.30	10,195
Lake Pleasant Water Treatment Plant	City of Phoenix	AZ	Maricopa County	Peoria	Water treatment	Chlorine	1.30	326
City of Peoria, Greenway Water Treatment Plant		AZ	Maricopa County	Peoria	Water treatment	Chlorine	2.90	105,067
APS West Phoenix Power Plant	Pinnacle West Capital Corporation	AZ	Maricopa County	Phoenix	Electric power generation	Ammonia (conc. ≥20%)	0.10	13
Univar USA Inc.	Univar USA Inc.	AZ	Maricopa County	Phoenix	Basic chemicals – ACC	Hydrofluoric acid (conc. ≥50%)	0.60	861
Union Hills Water Treatment Plant	City of Phoenix, Water Services Department	AZ	Maricopa County	Phoenix	Water treatment	Chlorine	0.90	2,393
23rd Avenue Wastewater Treatment Plant	City of Phoenix	AZ	Maricopa County	Phoenix	Wastewater treatment	Chlorine	0.90	4,040
24th Street Water Treatment Plant	City of Phoenix, Water Services Department	AZ	Maricopa County	Phoenix	Water treatment	Chlorine	0.90	5,138
64th Street Reservoir (1-ES1, 2C-B1, 3B-B1)	City of Phoenix, Water Services Department	AZ	Maricopa County	Phoenix	Water treatment	Chlorine	0.90	9,100
Deer Valley Water Treatment Plant	City of Phoenix, Water Services Department	AZ	Maricopa County	Phoenix	Water treatment	Chlorine	0.90	15,616
Air Products and Chemicals – Phoenix, AZ	Air Products and Chemicals, Inc.	AZ	Maricopa County	Phoenix	Basic chemicals – ACC	Arsine	1.60	17,188
Linde – Phoenix	Linde, Inc.	AZ	Maricopa County	Phoenix	Basic chemicals – ACC	Hydrogen chloride (anhydrous)	2.40	68,411
Hill Brothers Chemical Co. – Phoenix Facility 2006	Hill Brothers Chemical Co.	AZ	Maricopa County	Phoenix	Bleach manufacturing	Chlorine	14.00	1,977,071
Verde Water Treatment Plant	City of Phoenix, Water Services Department	AZ	Maricopa County	Scottsdale	Water treatment	Chlorine	2.20	67
Tolleson Wastewater Treatment Plant	City of Tolleson	AZ	Maricopa County	Tolleson	Wastewater treatment	Chlorine	1.00	7,921
91st Avenue WWTP	City of Phoenix, Water Services Department	AZ	Maricopa County	Tolleson	Wastewater treatment	Chlorine	2.20	18,206
Griffith Energy LLC	Griffith Energy LLC Griffith Energy LLC*	AZ	Mohave County	Golden Valley	Electric power generation	Ammonia (anhydrous)	5.40	174
Praxair Distribution, Inc – Kingman, AZ	Praxair, Inc.	AZ	Mohave County	Kingman	Basic chemicals – ACC	Ammonia (anhydrous)	4.00	95
Honeywell Kingman Facility	Honeywell International	AZ	Mohave County	Kingman	Basic chemicals – ACC	Ethylene oxide	5.10	20,395
Lake Havasu City Public Works Department		AZ	Mohave County	Lake Havasu City	Water treatment	Chlorine	1.30	2,926
South Point Energy Center	Calpine Corporation	AZ	Mohave County	Mohave Valley	Electric power generation	Ammonia (anhydrous)	4.40	5,663

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Hasa Inc		AZ	Pinal County	Eloy	Bleach manufacturing	Chlorine	14.00	65,331
Yuma Main Street Treatment Plant	City of Yuma Public Works Dept.*	AZ	Yuma County	Yuma	Water treatment	Chlorine	1.30	<10
Yuma Desalting Plant	U.S. Bureau of Reclamation	AZ	Yuma County	Yuma	Water treatment	Chlorine	3.00	13,543
C A L I F O R N I A								
Bayer HealthCare LLC – Berkeley Site	Bayer HealthCare Pharmaceuticals	CA	Alameda County	Berkeley	Basic chemicals – ACC	Ammonia (anhydrous)	0.40	1,582
Momentive Specialty Chemicals Inc. – Fremont	Momentive Specialty Chemicals Inc.	CA	Alameda County	Fremont	Basic chemicals – ACC	Formaldehyde (solution)	0.08	<10
Fremont EMC / Electronics	Air Liquide Electronics U.S. LP	CA	Alameda County	Fremont	Basic chemicals – ACC	Hydrogen chloride (anhydrous)	0.40	129
Russell City Energy Company, LLC		CA	Alameda County	Hayward	Electric power generation	Ammonia (conc. ≥20%)	0.01	<10
Rohm and Haas – Hayward Plant	Rohm and Haas Company	CA	Alameda County	Hayward	Basic chemicals – ACC	Vinyl acetate monomer	0.73	628
Altamont Landfill and Resource Recovery Facility	Waste Management LNG, Inc. High Mountain Fuels, LLC*	CA	Alameda County	Unincorp Alameda Co	Basic chemicals – ACC	Methane	0.50	26
City Of Jackson		CA	Amador County	Jackson	Wastewater treatment	Chlorine	1.30	576
PID Water Treatment Plant		CA	Butte County	Magalia	Water treatment	Chlorine	0.90	1,535
SC – OR Wastewater Treatment Plant		CA	Butte County	Oroville	Wastewater treatment	Chlorine	1.30	3,941
Miners Ranch Water Treatment Plant	South Feather Water & Power Agency	CA	Butte County	Oroville	Water treatment	Chlorine	2.20	4,597
Jeff Davis Reservoir Water Treatment Plant	Calaveras Public Utility District	CA	Calaveras County	Glencoe	Water treatment	Chlorine	0.90	59
Gateway Generating Station	Pacific Gas and Electric	CA	Contra Costa County	Antioch	Electric power generation	Ammonia (anhydrous)	2.30	21,568
Antioch Water Treatment Plant	City of Antioch	CA	Contra Costa County	Antioch	Water treatment	Chlorine	1.30	29,937
Air Products, Martinez-Tesoro	Air Products and Chemicals, Inc.	CA	Contra Costa County	Martinez	Basic chemicals – ACC	Flammable Mixture	0.10	<10
Air Products Martinez-Shell	Air Products and Chemicals, Inc.	CA	Contra Costa County	Martinez	Basic chemicals – ACC	Flammable Mixture	0.10	17
Shell Chemical LP – Martinez Catalyst Plant	Shell Chemical LP	CA	Contra Costa County	Martinez	Basic chemicals – ACC	Ethylenediamine	0.10	17
Shell Oil Products US, Martinez Refinery	Shell Oil Products US	CA	Contra Costa County	Martinez	Petroleum refinery	Isopentane	1.72	17,289
Solvay, Martinez Plant	Solvay USA Inc.	CA	Contra Costa County	Martinez	Basic chemicals – ACC	Ammonia (anhydrous)	3.60	42,597
Tesoro Golden Eagle Refinery	Tesoro Refining and Marketing Company LLC	CA	Contra Costa County	Martinez	Petroleum refinery	Ammonia (anhydrous)	6.10	173,818
Randall-Bold Water Treatment Plant	Contra Costa Water District	CA	Contra Costa County	Oakley	Water treatment	Chlorine	2.20	51,315
Pittsburg Generating Station	GenOn Delta, LLC	CA	Contra Costa County	Pittsburg	Electric power generation	Ammonia (conc. ≥20%)	0.09	10
Los Medanos Energy Center	Calpine Corporation	CA	Contra Costa County	Pittsburg	Electric power generation	Ammonia (conc. ≥20%)	0.18	42
Pittsburg Water Treatment Plant	City of Pittsburg, California	CA	Contra Costa County	Pittsburg	Water treatment	Chlorine	0.90	11,045

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Delta Energy Center	Delta Energy Center, LLC	CA	Contra Costa County	Pittsburg	Electric power generation	Ammonia (anhydrous)	1.40	14,525
Hasa Inc.- Pittsburg		CA	Contra Costa County	Pittsburg	Bleach manufacturing	Chlorine	14.00	563,240
The Dow Chemical Company, Pittsburg, CA site	The Dow Chemical Company	CA	Contra Costa County	Pittsburg	Basic chemicals – ACC	Sulfur dioxide (anhydrous)	16.00	649,849
K2 Pure Solutions – Pittsburg Plant		CA	Contra Costa County	Pittsburg	Bleach manufacturing	Chlorine	20.00	958,664
General Chemical Bay Point Works	General Chemical West LLC	CA	Contra Costa County	Pittsburg	Basic chemicals – ACC	Hydrofluoric acid (conc. ≥50%)	25.00	2,282,335
General Chemical – Richmond Works	General Chemical West LLC GenTek, Inc.*	CA	Contra Costa County	Richmond	Basic chemicals – ACC	Oleum (Fuming Sulfuric acid)	3.10	102,616
Chevron Richmond Refinery	Chevron U.S.A. Inc.	CA	Contra Costa County	Richmond	Petroleum refinery	Ammonia (anhydrous)	5.00	147,155
Rodeo Hydrogen Plant	Air Liquide Large Industries U.S. LP	CA	Contra Costa County	Rodeo	Basic chemicals – ACC	Hydrogen	0.10	47
San Francisco Refinery at Rodeo, California	Phillips 66 Company	CA	Contra Costa County	Rodeo	Petroleum refinery	Flammable Mixture	1.20	4,323
Sly Park (Res A) Water Treatment Plant		CA	El Dorado County	Pollock Pines	Water treatment	Chlorine	0.90	459
Coalinga Cogeneration Company	Texaco Coalinga Energy Company Silverado Energy Company*	CA	Fresno County	Coalinga	Electric power generation	Ammonia (anhydrous)	3.10	6,515
Wellhead Power Panoche, LLC		CA	Fresno County	Firebaugh	Electric power generation	Ammonia (anhydrous)	1.70	119
Kings River Conservation District Peaker Plant	Kings River Conservation District	CA	Fresno County	Fresno	Electric power generation	Ammonia (conc. ≥20%)	0.40	1,672
Inland Star Distribution Centers, Inc.		CA	Fresno County	Fresno	Basic chemicals – ACC	Ethylene oxide	0.60	1,990
Rio Bravo Fresno		CA	Fresno County	Fresno	Electric power generation	Ammonia (anhydrous)	2.60	26,587
California Dairies, Inc.		CA	Fresno County	Fresno	Ammonia refrigeration	Ammonia (anhydrous)	3.10	129,292
Lamanuzzi & Pantaleo – Dehydrator #1	Lamanuzzi & Pantaleo (Ltd)	CA	Fresno County	Fresno	Fruit fumigation	Sulfur dioxide (anhydrous)	9.60	408,685
Snowden Enterprises – Fresno	Snowden Enterprises, Inc.	CA	Fresno County	Fresno	Chemical distribution	Sulfur dioxide (anhydrous)	15.00	781,879
Kingsburg Cogeneration Facility	KES Kingsburg L.P.	CA	Fresno County	Kingsburg	Electric power generation	Ammonia (anhydrous)	4.40	38,193
Covanta Mendota, L.P.	Covanta Energy Group	CA	Fresno County	Mendota	Electric power generation	Ammonia (anhydrous)	4.50	5,438
Fresno Cogeneration Partners		CA	Fresno County	San Joaquin	Electric power generation	Ammonia (anhydrous)	4.40	1,628
Humboldt Bay Municipal Water District (HBMWD)	Essex Control Center	CA	Humboldt County	Arcata	Water treatment	Chlorine	2.20	4,285
City of Arcata Wastewater Treatment Facility	City of Arcata	CA	Humboldt County	Arcata	Wastewater treatment	Sulfur dioxide (anhydrous)	1.30	4,615
Eureka Wastewater Treatment Plant	City of Eureka	CA	Humboldt County	Eureka	Wastewater treatment	Chlorine	1.50	8,094

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
City of Fortuna Wastewater Treatment Plant		CA	Humboldt County	Fortuna	Wastewater treatment	Chlorine	1.30	2,896
MCS D Wastewater Management Facility	McKinleyville Community Services District	CA	Humboldt County	McKinleyville	Wastewater treatment	Chlorine	3.00	1,364
North Brawley Geothermal Project	ORNI 18, LLC Ormat Nevada, Inc.*	CA	Imperial County	Brawley	Electric power generation	Isopentane	0.30	<10
Calexico Water Treatment Plant	City of Calexico	CA	Imperial County	Calexico	Water treatment	Chlorine	0.90	10,957
City of El Centro Water Treatment Plant	City of El Centro	CA	Imperial County	El Centro	Water treatment	Chlorine	1.30	12,640
El Centro Generating Station	Imperial Irrigation District	CA	Imperial County	El Centro	Electric power generation	Ammonia (anhydrous)	4.40	56,731
Second Imperial Geothermal Company (Heber 2)	Orcal Geothermal, Inc. Ormat Nevada, Inc.*	CA	Imperial County	Heber	Electric power generation	Isopentane	0.30	37
Heber Geothermal Company (Heber 1)	Ormat Nevada, Inc.	CA	Imperial County	Heber	Electric power generation	Isopentane	0.30	37
Ormesa Geothermal Projects	Ormesa, LLC	CA	Imperial County	Holtville	Electric power generation	Isopentane	0.30	<10
Kern River Eastridge Cogeneration Facility	Chevron Corporation	CA	Kern County	Bakersfield	Electric power generation	Ammonia (conc. ≥20%)	0.20	<10
Alon Bakersfield Refining – Area 3	Alon USA Energy, Inc	CA	Kern County	Bakersfield	Petroleum refinery	Flammable Mixture	0.30	165
Kern Oil & Refining Co.		CA	Kern County	Bakersfield	Petroleum refinery	Butane	0.80	481
Mt. Poso Cogeneration Facility	Mt. Poso Cogeneration Company, LLC	CA	Kern County	Bakersfield	Electric power generation	Ammonia (anhydrous)	5.60	1,289
Rio Bravo Poso		CA	Kern County	Bakersfield	Electric power generation	Ammonia (anhydrous)	4.00	1,343
Rio Bravo Jasmin		CA	Kern County	Bakersfield	Electric power generation	Ammonia (anhydrous)	4.00	1,395
Alon Bakersfield Refining – Areas 1&2	Alon USA Energy, Inc.	CA	Kern County	Bakersfield	Petroleum refinery	Flammable Mixture	1.09	3,249
Bear Mountain Limited		CA	Kern County	Bakersfield	Electric power generation	Ammonia (anhydrous)	1.50	7,222
DAI Oildale Inc.	DAI Management Consultants, Inc.	CA	Kern County	Bakersfield	Electric power generation	Ammonia (anhydrous)	2.80	27,002
Mojave Cogeneration Company, L.P.	Lake Shore Mojave LLC	CA	Kern County	Boron	Electric power generation	Ammonia (anhydrous)	4.40	2,420
City of California City WWTP	City of California City	CA	Kern County	California City	Wastewater treatment	Chlorine	2.30	4,550
Naval Air Weapons Station China Lake, CA	Chief of Navy Installations Navy Region Southwest Department of Navy*	CA	Kern County	China Lake	Wastewater treatment	Chlorine	4.50	25,947
Covanta Delano, Inc	Covanta Energy Corporation	CA	Kern County	Delano	Electric power generation	Ammonia (anhydrous)	4.40	40,916
Sunrise Power Company, LLC	Mission Del Sol, LLC Chevron Power Holdings, Inc.*	CA	Kern County	Fellows	Electric power generation	Ammonia (anhydrous)	2.90	231
Mid-Set Cogeneration Company	Texaco Midway Sunset Cogeneration Company Del-Mar Energy Company*	CA	Kern County	Fellows	Electric power generation	Ammonia (anhydrous)	3.10	276
Pastoria Energy Facility	Calpine	CA	Kern County	Lebec	Electric power generation	Ammonia (anhydrous)	6.90	1,255

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Berry Cogen-18 Facility	Berry Petroleum Company	CA	Kern County	Maricopa	Electric power generation	Ammonia (anhydrous)	5.40	14,418
La Paloma Generating Plant	La Paloma Generating Company, LLC	CA	Kern County	McKittrick	Electric power generation	Ammonia (conc. ≥20%)	0.20	<10
Belridge Gas Processing Plant and Cogen Facility	Aera Energy LLC	CA	Kern County	McKittrick	Electric power generation	Ammonia (anhydrous)	4.00	418
Berry Cogen-38 Facility	Berry Petroleum Company	CA	Kern County	Taft	Electric power generation	Ammonia (anhydrous)	4.00	9,859
Taft Manufacturing Company	Baker Hughes Corporation	CA	Kern County	Taft	Specialty chemicals – SOCMA	Acrolein	25.00	583,588
Occidental of Elk Hills, Inc.	Occidental Oil and Gas Chevron, USA*	CA	Kern County	Tupman	Electric power generation	Ammonia (anhydrous)	4.00	424
City of Avenal Water Treatment Plant		CA	Kings County	Avenal	Water treatment	Chlorine	2.20	209
City of Hanford Wastewater Treatment Facility	City of Hanford	CA	Kings County	Hanford	Wastewater treatment	Chlorine	1.30	4,978
Lemoore Wastewater Treatment Plant	City of Lemoore	CA	Kings County	Lemoore	Wastewater treatment	Chlorine	3.00	22,821
CLMSD Wastewater Treatment Plant		CA	Lake County	Lakeport	Wastewater treatment	Chlorine	2.20	3,127
HL Power Company		CA	Lassen County	Wendel	Electric power generation	Ammonia (anhydrous)	4.91	1,827
City of Burbank Water & Power-Valley Pumping Plant	City of Burbank	CA	Los Angeles County	Burbank	Water treatment	Chlorine	1.30	38,970
Air Products, Carson	Air Products and Chemicals, Inc.	CA	Los Angeles County	Carson	Basic chemicals – ACC	Flammable Mixture	0.12	<10
Los Angeles Refinery Carson Plant	Phillips 66 Company	CA	Los Angeles County	Carson	Petroleum refinery	Flammable Mixture	1.00	5,468
Praxair – Carson CA (Long Beach)	Praxair, Inc.	CA	Los Angeles County	Carson	Basic chemicals – ACC	Ammonia (anhydrous)	1.20	13,976
Solvay, Dominguez Plant	Solvay USA Inc.	CA	Los Angeles County	Carson	Basic chemicals – ACC	Sulfur dioxide (anhydrous)	1.60	29,573
TESORO Los Angeles Refinery – Carson Operations	TESORO Refining and Marketing Company LLC	CA	Los Angeles County	Carson	Petroleum refinery, electric power	Ammonia (anhydrous)	3.60	276,161
Los Coyotes Water Reclamation Plant	County Sanitation Districts of Los Angeles County	CA	Los Angeles County	Cerritos	Wastewater treatment	Sulfur dioxide (anhydrous)	2.70	225,994
Hill Brothers Chemical Co. – City of Industry	Hill Brothers Chemical Company	CA	Los Angeles County	City of Industry	Chemical distribution	Ammonia (anhydrous)	4.40	341,935
Miramar Water Treatment Plant		CA	Los Angeles County	Claremont	Water treatment	Chlorine	3.00	78,344
Univar USA Inc.	Univar USA Inc.	CA	Los Angeles County	Commerce	Basic chemicals – ACC	Formaldehyde (solution)	1.00	10,744
Eagle Rock Reservoir Outlet Chlorination Station	City of Los Angeles Department of Water and Power	CA	Los Angeles County	Eagle Rock	Water treatment	Chlorine	1.00	12,217
Air Liquide Large Ind. US, L.P., El Segundo H2 Fac	Air Liquide Large Industries US, L.P.	CA	Los Angeles County	El Segundo	Basic chemicals – ACC	Flammable Mixture	0.20	<10
El Segundo Generating Station	NRG Energy, Inc.	CA	Los Angeles County	El Segundo	Electric power generation	Ammonia (conc. ≥20%)	0.20	25
Chevron El Segundo Refinery – 2006C 6/20/08	Chevron Corporation	CA	Los Angeles County	El Segundo	Petroleum refinery	Ammonia (anhydrous)	1.70	25,919

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Encino Chlorination Station	Los Angeles Department of Water and Power	CA	Los Angeles County	Encino	Water treatment	Chlorine	1.00	8,584
Glorietta Park Pump Station	City of Glendale Water & Power	CA	Los Angeles County	Glendale	Water treatment	Chlorine	1.30	13,612
James M. Rez Pump Station	City of Glendale Water & Power	CA	Los Angeles County	Glendale	Water treatment	Chlorine	1.30	57,634
Joseph Jensen Water Treatment Plant	Metropolitan Water District of Southern California	CA	Los Angeles County	Granada Hills	Water treatment	Chlorine	4.60	226,495
Hollywood Pumping Station Chlorination Station	City of Los Angeles Department of Water and Power	CA	Los Angeles County	Hollywood	Water treatment	Chlorine	1.00	9,439
Custom Alloy Light Metals, Inc.		CA	Los Angeles County	Industry	Secondary aluminum smelting	Chlorine	7.00	973,821
Sanford M. Anderson Water Treatment Plant	City of Inglewood	CA	Los Angeles County	Inglewood	Water treatment	Chlorine	0.90	35,655
Airgas Specialty Products Inc., LaMirada, CA	Airgas Inc.	CA	Los Angeles County	La Mirada	Chemical wholesale	Ammonia (anhydrous)	4.40	447,699
F. E. Weymouth Water Treatment Plant	Metropolitan Water District of So. California	CA	Los Angeles County	La Verne	Water treatment	Chlorine	5.30	308,753
LA County WaterWorks District #40, Antelope Valley	Los Angeles County Department of Public Works	CA	Los Angeles County	Lancaster	Water treatment	Chlorine	1.30	15,217
AES Alamitos, LLC	AES Corporation	CA	Los Angeles County	Long Beach	Electric power generation	Ammonia (conc. ≥20%)	0.10	<10
Haynes Generating Station	City of Los Angeles Department of Water and Power	CA	Los Angeles County	Long Beach	Electric power generation	Ammonia (conc. ≥20%)	0.30	376
Long Beach Groundwater Treatment Plant	Long Beach Water Department	CA	Los Angeles County	Long Beach	Water treatment	Chlorine	0.90	5,787
Marchem Technologies	Marchem Technologies	CA	Los Angeles County	Long Beach	Specialty chemicals – SOCMA	Ethylene oxide	3.30	227,959
Air Products and Chemicals, Inc.	Air Products and Chemicals Inc.	CA	Los Angeles County	Los Angeles	Basic chemicals – ACC	Formaldehyde (solution)	0.10	<10
Brenntag Pacific, Inc. Santa Fe Springs Facility		CA	Los Angeles County	Los Angeles	Basic chemicals – ACC	Hydrofluoric acid (conc. ≥50%)	0.40	1,052
Polychemie Inc. – Los Angeles, CA	SNF Holding Company	CA	Los Angeles County	Los Angeles	Basic chemicals – ACC	Dimethylamine	0.40	3,379
Upper Stone Canyon Chlorination Station	Los Angeles Department of Water and Power	CA	Los Angeles County	Los Angeles	Water treatment	Chlorine	1.00	4,630
Buena Vista Chlorination Station	City of Los Angeles Department of Water and Power	CA	Los Angeles County	Los Angeles	Water treatment	Chlorine	1.00	24,976
Manhattan Wells Chlorination Station	City of Los Angeles Department of Water and Power	CA	Los Angeles County	Los Angeles	Water treatment	Chlorine	1.00	43,679
AMVAC Chemical Corporation	American Vanguard Corporation	CA	Los Angeles County	Los Angeles	Pesticide manufacturing	Chlorine	9.90	3,497,187
Berry Cogen-42 Facility		CA	Los Angeles County	Newhall	Electric power generation	Ammonia (anhydrous)	2.80	48,957
North Hollywood Wells Chlorination Station	City of Los Angeles Department of Water and Power	CA	Los Angeles County	North Hollywood	Water treatment	Chlorine	1.00	41,032

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Santa Ynez Chlorination Station	City of Los Angeles Department of Water and Power	CA	Los Angeles County	Pacific Palisades	Water treatment	Chlorine	1.00	2,576
Paramount Petroleum – Paramount	Paramount	CA	Los Angeles County	Paramount	Petroleum refinery	Flammable Mixture	0.50	9,306
Pasadena Water & Power Broadway Power Plant	City of Pasadena	CA	Los Angeles County	Pasadena	Electric power generation	Ammonia (conc. ≥20%)	0.10	186
Pasadena Water & Power City Yards Facility	City of Pasadena	CA	Los Angeles County	Pasadena	Water treatment	Chlorine	0.40	4,500
Hyperion Treatment Plant	City of Los Angeles	CA	Los Angeles County	Playa Del Rey	Wastewater treatment	Methane	0.08	<10
Scattergood Generating Station	City of Los Angeles Department of Water and Power	CA	Los Angeles County	Playa Del Rey	Electric power generation	Ammonia (conc. ≥20%)	0.20	22
AES Redondo Beach, LLC	AES Corporation	CA	Los Angeles County	Redondo Beach	Electric power generation	Ammonia (conc. ≥20%)	0.10	226
Rio Vista Water Treatment Plant		CA	Los Angeles County	Santa Clarita	Water treatment	Chlorine	1.30	14,750
Phibro-Tech, Inc.	Phibro Animal Health Corporation	CA	Los Angeles County	Santa Fe Springs	Chemical manufacturing	Ammonia (anhydrous)	2.80	180,421
Pioneer Americas LLCd/b/a Olin Chlor Alkali Produc	Pioneer Companies, Inc.	CA	Los Angeles County	Santa Fe Springs	Bleach manufacturing, ACC	Chlorine	9.90	2,570,740
KIK SoCal Inc.	KIK International LLC	CA	Los Angeles County	Santa Fe Springs	Bleach manufacturing	Chlorine	14.00	5,045,709
Hasa Inc. – Saugus		CA	Los Angeles County	Saugus	Bleach manufacturing	Chlorine	14.00	918,791
Rowena Chlorination Station	City of Los Angeles Department of Water and Power	CA	Los Angeles County	Silver Lake	Water treatment	Chlorine	1.00	25,428
Silver Lake Chlorination Station	City of Los Angeles Department of Water and Power	CA	Los Angeles County	Silver Lake	Water treatment	Chlorine	3.00	381,501
Valley Generating Station	City of Los Angeles Department of Water and Power	CA	Los Angeles County	Sun Valley	Electric power generation	Ammonia (conc. ≥20%)	0.20	120
Tujunga Wells Chlorination Station	City of Los Angeles Department of Water and Power	CA	Los Angeles County	Sun Valley	Water treatment	Chlorine	1.00	24,322
Green-Verdugo Chlorination Station	City of Los Angeles Department of Water and Power	CA	Los Angeles County	Sunland	Water treatment	Chlorine	1.00	4,917
Los Angeles Aqueduct Filtration Plant	City of Los Angeles Department of Water and Power	CA	Los Angeles County	Sylmar	Water treatment	Chlorine	5.00	321,639
Arkema Coating Resins Torrance Facility	Arkema	CA	Los Angeles County	Torrance	Basic chemicals – ACC	Vinyl acetate monomer	0.70	9,423
ExxonMobil Torrance Refinery	Exxon Mobil Corporation	CA	Los Angeles County	Torrance	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	3.20	272,144
JCI Jones Chemicals Inc. – Torrance		CA	Los Angeles County	Torrance	Bleach manufacturing, ACC	Sulfur dioxide (anhydrous)	16.00	4,670,233
San Jose Creek Water Reclamation Plant	County Sanitation Districts of Los Angeles County	CA	Los Angeles County	Whittier	Wastewater treatment	Sulfur dioxide (anhydrous)	2.70	101,465
Air Products, Wilmington	Air Products and Chemicals, Inc.	CA	Los Angeles County	Wilmington	Basic chemicals – ACC	Flammable Mixture	0.10	<10

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Harbor Generating Station	City of Los Angeles Department of Water and Power	CA	Los Angeles County	Wilmington	Electric power generation	Ammonia (conc. ≥20%)	0.20	654
Air Liquide Wilmington, CA CO2 Plant	Air Liquide Industrial US L.P.	CA	Los Angeles County	Wilmington	Basic chemicals – ACC	Ammonia (anhydrous)	1.50	50,181
Los Angeles Refinery Wilmington Plant	Phillips 66 Company	CA	Los Angeles County	Wilmington	Petroleum refinery	Ammonia (anhydrous)	2.80	163,961
Harbor Cogeneration Company, LLC –Wilmington Plant	Harbor Cogeneration Company, LLC Southwest Generation Operating Company, LLC*	CA	Los Angeles County	Wilmington	Electric power generation	Ammonia (anhydrous)	3.30	217,866
Tesoro Refining and Marketing Co. LLC LA Refinery	Tesoro Refining and Marketing Company LLC	CA	Los Angeles County	Wilmington	Petroleum refinery	Ammonia (anhydrous)	3.40	242,641
Ultramar Inc. d/b/a Valero Wilmington Refinery	Valero Energy Corporation	CA	Los Angeles County	Wilmington	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	4.30	368,956
Ampersand Chowchilla Biomass LLC	Global Ampersand LLC	CA	Madera County	Chowchilla	Electric power generation	Ammonia (anhydrous)	4.00	12,179
Stafford Water Treatment Plant 2011	North Marin Water District	CA	Marin County	Novato	Water treatment	Chlorine	3.30	22,948
City of Fort Bragg Wastewater Treatment Plant	Vicinity of Soldier Point	CA	Mendocino County	Fort Bragg	Wastewater treatment	Chlorine	3.00	8,131
Willits Water Quality Control Plant		CA	Mendocino County	Willits	Wastewater treatment	Chlorine	0.90	839
Atwater Wastewater Treatment Facility	City of Atwater	CA	Merced County	Atwater	Wastewater treatment	Chlorine	0.90	9,005
Merced Power LLC	Global Ampersand LLC	CA	Merced County	Merced	Electric power generation	Ammonia (anhydrous)	4.70	965
Planada Community Services District Wastewater	Planada Community Services District	CA	Merced County	Planada	Wastewater treatment	Chlorine	0.90	141
City of Alturas Wastewater Treatment Plant	City of Alturas	CA	Modoc County	Alturas	Wastewater treatment	Chlorine	0.80	189
Mammoth Pacific L.P.	Ormammoth LLC ORNI 44 LLC*	CA	Mono County	Mammoth Lakes	Electric power generation	Isobutane	0.30	<10
Wastewater Treatment Plant	Mammoth Community Water District	CA	Mono County	Mammoth Lakes	Wastewater treatment	Chlorine	1.30	671
Lake Mary Water Treatment Plant	Mammoth Community Water District	CA	Mono County	Mammoth Lakes	Water treatment	Chlorine	3.00	1,903
Carmel Area Wastewater District treatment facility		CA	Monterey County	Carmel	Wastewater treatment	Chlorine	1.30	5,544
Calpine King City Cogeneration, LLC	Calpine Corporation	CA	Monterey County	King City	Electric power generation	Ammonia (anhydrous)	2.45	274
Monterey Regional Treatment Plant	Monterey Regional Water Pollution Control Agency	CA	Monterey County	Marina	Wastewater treatment	Chlorine	3.00	19,673
Moss Landing Power Plant	Dynegy Moss Landing, LLC	CA	Monterey County	Moss Landing	Electric power generation	Ammonia (conc. ≥20%)	0.26	61
Growers Ice Company		CA	Monterey County	Salinas	Refrigerated warehouse	Ammonia (anhydrous)	3.58	105,070
Sargent Canyon Cogeneration Company	Texaco San Ardo Cogeneration Company Viejo Energy Company*	CA	Monterey County	San Ardo	Electric power generation	Ammonia (anhydrous)	3.10	81

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Salinas River Cogeneration Company	Texaco Yoakum Energy Company Anacapa Energy Company*	CA	Monterey County	San Ardo	Electric power generation	Ammonia (anhydrous)	3.10	81
Lake of the Pines Water Treatment Plant	Nevada Irrigation District	CA	Nevada County	Auburn	Water treatment	Chlorine	3.00	9,144
Nevada City Wastewater Treatment Plant		CA	Nevada County	Nevada City	Wastewater treatment	Chlorine	0.90	1,362
Tahoe-Truckee Sanitation Agency		CA	Nevada County	Truckee	Wastewater treatment	Chlorine	3.40	9,082
Huntington Beach Utilities – Well Number 7	Huntington Beach Utilities	CA	Orange County	Huntington Beach	Water treatment	Chlorine	1.30	25,332
Huntington Beach Utilities Well Number 13		CA	Orange County	Huntington Beach	Water treatment	Chlorine	1.30	25,855
Huntington Beach Utilities – Well Number 9	Huntington Beach Utilities	CA	Orange County	Huntington Beach	Water treatment	Chlorine	1.30	39,028
Huntington Beach Utilities – Well Number 6	Huntington Beach Utilities	CA	Orange County	Huntington Beach	Water treatment	Chlorine	1.30	42,364
Huntington Beach Utilities – Well Number 10	Huntington Beach Utilities	CA	Orange County	Huntington Beach	Water treatment	Chlorine	1.30	43,154
Rattlesnake Reservoir Disinfection Facility	Irvine Ranch Water District	CA	Orange County	Irvine	Water treatment	Chlorine	0.90	5,151
Joint Regional Plant	South Orange County Wastewater Authority	CA	Orange County	Laguna Niguel	Wastewater treatment	Chlorine	1.50	37,656
City of San Clemente – Water Reclamation Facility	City of San Clemente Utilities Division	CA	Orange County	San Clemente	Wastewater treatment	Chlorine	1.30	16,966
Primary Disinfection Facility	Irvine Ranch Water District	CA	Orange County	Santa Ana	Water treatment	Chlorine	0.90	13,018
Initial Disinfection Facility	Irvine Ranch Water District	CA	Orange County	Santa Ana	Water treatment	Chlorine	0.90	15,859
Robert B. Diemer Water Treatment Plant	Metropolitan Water District of Southern California	CA	Orange County	Yorba Linda	Water treatment	Chlorine	2.30	35,771
Bowman Water Treatment Plant		CA	Placer County	Auburn	Water treatment	Chlorine	0.90	1,058
SMD-1 Wastewater Treatment Plant		CA	Placer County	Auburn	Wastewater treatment	Chlorine	1.30	4,536
San Juan Water District		CA	Placer County	Granite Bay	Water treatment	Chlorine	1.30	8,615
Rio Bravo Rocklin		CA	Placer County	Lincoln	Electric power generation	Ammonia (anhydrous)	4.40	106,668
Blythe Energy, LLC	LS Power	CA	Riverside County	Blythe	Electric power generation	Ammonia (anhydrous)	2.70	188
Water Reclamation Plant No. 7	Coachella Valley Water District	CA	Riverside County	Indio	Wastewater treatment	Chlorine	3.00	31,889
Colmac Energy, Inc.	American Consumer Industries	CA	Riverside County	Mecca	Electric power generation	Ammonia (anhydrous)	4.40	6,246
Inland Empire Energy Center, LLC	Inland Empire Holding Limited I, Inc. Inland Empire Holding Limited II, Inc.*	CA	Riverside County	Menifee	Electric power generation	Ammonia (conc. ≥20%)	0.35	249

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Moreno Valley Regional Water Reclamation Facility	Eastern Municipal Water District	CA	Riverside County	Moreno Valley	Wastewater treatment	Chlorine	5.40	214,804
RCWD Santa Rosa Water Reclamation Facility	Rancho California Water District (RCWD)	CA	Riverside County	Murrieta	Wastewater treatment	Chlorine	0.90	1,526
Water Reclamation Plant No. 10	Coachella Valley Water District	CA	Riverside County	Palm Desert	Wastewater treatment	Chlorine	3.00	48,078
Water Reclamation Plant No. 9	Coachella Valley Water District	CA	Riverside County	Palm Desert	Wastewater treatment	Chlorine	3.00	48,192
Water Reclamation Plant	Desert Water Agency	CA	Riverside County	Palm Springs	Wastewater treatment	Chlorine	1.30	10,042
Perris Valley Regional Water Reclamation Facility	Eastern Municipal Water District	CA	Riverside County	Perris	Wastewater treatment	Chlorine	11.00	384,385
Chemical Unloading Facility	Metropolitan Water District of So. California	CA	Riverside County	Perris	Water treatment	Chlorine	25.00	2,686,424
Henry J. Mills Water Treatment Plant	Metropolitan Water District of Southern California	CA	Riverside County	Riverside	Water treatment	Chlorine	2.00	29,319
Airgas Specialty Products – Riverside, CA	Airgas, Inc.	CA	Riverside County	Riverside	Chemical wholesale	Ammonia (anhydrous)	6.90	462,815
San Jacinto Valley RWRP	Eastern Municipal Water District	CA	Riverside County	San Jacinto	Wastewater treatment	Chlorine	6.70	151,255
Temecula Valley RWRP	Eastern Municipal Water District	CA	Riverside County	Temecula	Wastewater treatment	Chlorine	4.40	100,519
Water Reclamation Plant No. 4	Coachella Valley Water District	CA	Riverside County	Thermal	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	3,927
Robert A. Skinner Water Treatment Plant	Metropolitan Water District of Southern California	CA	Riverside County	Winchester	Water treatment	Chlorine	2.30	16,762
Sacramento Regional Wastewater Treatment Plant		CA	Sacramento County	Elk Grove	Wastewater treatment	Sulfur dioxide (anhydrous)	16.00	1,094,298
Cosumnes Power Plant	Sacramento Municipal Utility District	CA	Sacramento County	Herald	Electric power generation	Ammonia (conc. ≥20%)	0.09	<10
Coloma Treatment Plant	Golden State Water Company	CA	Sacramento County	Rancho Cordova	Water treatment	Chlorine	0.90	8,948
RMCS D Water Treatment Plant		CA	Sacramento County	Rancho Murieta	Water treatment	Chlorine	0.90	141
RMCS D Wastewater Reclamation Facility		CA	Sacramento County	Rancho Murieta	Wastewater treatment	Chlorine	2.20	843
SCA Cogeneration Plant II	Sacramento Cogeneration Authority	CA	Sacramento County	Sacramento	Electric power generation	Ammonia (conc. ≥20%)	0.30	181
Air Products, Sacramento	Air Products and Chemicals, Inc.	CA	Sacramento County	Sacramento	Basic chemicals – ACC	Flammable Mixture	0.38	281
Sacramento River Water Treatment Plant	City of Sacramento, Department of Utilities	CA	Sacramento County	Sacramento	Water treatment	Chlorine	0.90	7,616
E.A. Fairbairn Water Treatment Plant	City of Sacramento, Department of Utilities	CA	Sacramento County	Sacramento	Water treatment	Chlorine	0.90	8,700
HP Hood Sacramento	HP Hood LLC	CA	Sacramento County	Sacramento	Ammonia refrigeration	Ammonia (anhydrous)	3.00	106,724
Carson Energy Cogeneration Plant		CA	Sacramento County	Sacramento	Electric power generation	Ammonia (anhydrous)	3.60	172,762
City of Colton Water Reclamation Facility	City of Colton Utility Department	CA	San Bernardino County	Colton	Wastewater treatment	Chlorine	3.00	86,120

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
GATX – Colton, CA Tank Car Facility	GATX Corporation General American Transportation Corporation*	CA	San Bernardino County	Colton	Railroad tank car service	Bromine	25.00	2,910,909
Huston Creek Wastewater Treatment Plant		CA	San Bernardino County	Crestline	Wastewater treatment	Chlorine	1.30	3,656
Lloyd W. Michael Water Treatment Plant		CA	San Bernardino County	Etiwanda	Water treatment	Chlorine	1.30	10,598
TST Inc.		CA	San Bernardino County	Fontana	Secondary aluminum smelting	Chlorine	7.00	519,734
Grass Valley Wastewater Treatment Plant	Lake Arrowhead Community Services District	CA	San Bernardino County	Lake Arrowhead	Wastewater treatment	Chlorine	1.30	1,749
Praxair – Ontario, CA	Praxair, Inc.	CA	San Bernardino County	Ontario	Basic chemicals – ACC	Hydrogen	0.60	499
KIK Pool Additives, Inc.	KIK International LLC	CA	San Bernardino County	Ontario	Bleach manufacturing	Chlorine	14.00	1,834,292
Henry Tate Water Treatment Plant		CA	San Bernardino County	Redlands	Water treatment	Chlorine	1.30	1,293
Horace Hinckley Water Treatment Plant		CA	San Bernardino County	Redlands	Water treatment	Chlorine	1.30	5,556
Gage Chlorination Station	City of Riverside, Public Utilities	CA	San Bernardino County	San Bernardino	Water treatment	Chlorine	1.70	17,254
Sixth Street Chlorination Station	City of Riverside, Public Utilities	CA	San Bernardino County	San Bernardino	Water treatment	Chlorine	1.70	48,133
Searles Valley Minerals – Westend Facility	Nirma Limited	CA	San Bernardino County	Trona	Basic chemicals – ACC	Ammonia (anhydrous)	2.40	29
ACE Cogeneration Facility	ACE Cogeneration Company	CA	San Bernardino County	Trona	Electric power generation	Ammonia (anhydrous)	4.40	84
Searles Valley Minerals – Trona Facility	Nirma Limited	CA	San Bernardino County	Trona	Basic chemicals – ACC	Formaldehyde (solution)	6.80	189
Agua de Lejos Treatment Plant	Water Facilities Authority Joint Power Agency	CA	San Bernardino County	Upland	Water treatment	Chlorine	1.30	14,748
Seeley Creek Wastewater Treatment Plant		CA	San Bernardino County	Valley of Enchantme	Wastewater treatment	Chlorine	1.30	887
Church & Dwight Co. Inc.	Church & Dwight Co. Inc.	CA	San Bernardino County	Victorville	Basic chemicals – ACC	Flammable Mixture	0.01	<10
High Desert Power Project	High Desert Power Project, LLC	CA	San Bernardino County	Victorville	Electric power generation	Ammonia (conc. ≥20%)	0.64	942
Henry N. Wochholz Wastewater Treatment Facility	Yucaipa Valley Water District	CA	San Bernardino County	Yucaipa	Wastewater treatment	Chlorine	3.00	36,987
VWD Meadowlark Water Reclamation Facility		CA	San Diego County	Carlsbad	Wastewater treatment	Chlorine	1.30	14,040
Carlsbad Municipal Water District Maerkle Facility	Carlsbad Municipal Water District	CA	San Diego County	Carlsbad	Water treatment	Chlorine	3.00	76,802
R.A.R. Desalination Facility	Sweetwater Authority	CA	San Diego County	Chula Vista	Water treatment	Ammonia (conc. ≥20%)	0.09	152
Otay Water Treatment Plant	City of San Diego Water Department*	CA	San Diego County	Chula Vista	Water treatment	Chlorine	3.00	37,661
Goal Line, LP		CA	San Diego County	Escondido	Electric power generation	Ammonia (conc. ≥20%)	0.10	27

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
City of Escondido/ Vista Water Treatment Plant	City of Escondido Vista Irrigation District*	CA	San Diego County	Escondido	Water treatment	Chlorine	4.60	132,925
Wastewater Treatment Plant	Fallbrook Public Utility District	CA	San Diego County	Fallbrook	Wastewater treatment	Chlorine	3.00	13,975
Alvarado Water Treatment Plant	City of San Diego Water Department	CA	San Diego County	La Mesa	Water treatment	Chlorine	2.40	51,033
R.M. Levy Water Treatment Plant	Helix Water District	CA	San Diego County	Lakeside	Water treatment	Chlorine	1.30	12,397
R.E. Badger Filtration Plant	Santa Fe Irrigation District San Dieguito Water District*	CA	San Diego County	Rancho Santa Fe	Water treatment	Chlorine	1.30	3,263
Otay Mesa Energy Center LLC	Calpine Corporation	CA	San Diego County	San Diego	Electric power generation	Ammonia (conc. ≥20%)	0.10	<10
City of Poway Lester J. Berglund – Water Treatment		CA	San Diego County	San Diego	Water treatment	Chlorine	1.30	3,315
North Island Energy Facility	Applied Energy LLC Atlantic Power Corporation*	CA	San Diego County	San Diego	Electric power generation	Ammonia (anhydrous)	1.70	25,334
NTC/MCRD Energy Facility	Applied Energy LLC Atlantic Power Corporation*	CA	San Diego County	San Diego	Electric power generation	Ammonia (anhydrous)	1.60	29,250
Naval Station Energy Facility	Applied Energy LLC Atlantic Power Corporation*	CA	San Diego County	San Diego	Electric power generation	Ammonia (anhydrous)	1.70	57,279
Miramar Water Treatment Plant	City of San Diego Water Department*	CA	San Diego County	San Diego	Water treatment	Chlorine	3.00	94,489
Vallecitos Water District Twin Oaks Reservoir	Vallecitos Water District	CA	San Diego County	San Marcos	Water treatment	Chlorine	2.20	8,972
Water Recycling Facility	Padre Dam Municipal Water District	CA	San Diego County	Santee	Wastewater treatment	Sulfur dioxide (anhydrous)	1.30	6,692
Robert A. Perdue Water Treatment Plant	Sweetwater Authority	CA	San Diego County	Spring Valley	Water treatment	Chlorine	1.50	31,675
Ralph W. Chapman Water Recycling Facility	Otay Water District	CA	San Diego County	Spring Valley	Water treatment	Chlorine	3.00	59,592
Robert A. Weese Water Treatment Plant	City of Oceanside	CA	San Diego County	Vista	Water treatment	Chlorine	3.00	94,620
University of California San Francisco		CA	San Francisco County	San Francisco	Electric power generation	Ammonia (conc. ≥20%)	0.01	<10
Combustion Turbine Project No. 2	Northern California Power Agency	CA	San Joaquin County	Lodi	Electric power generation	Ammonia (anhydrous)	3.40	11,317
Mountain House Community Services District		CA	San Joaquin County	Mountain House	Water treatment	Ammonia (conc. ≥20%)	0.40	238
Ripon Cogeneration Facility	Ripon Cogeneration, LLC	CA	San Joaquin County	Ripon	Electric power generation	Ammonia (anhydrous)	1.80	7,588
Dr. Joe Waidhofer Water Treatment Plant	Stockton East Water District	CA	San Joaquin County	Stockton	Water treatment	Chlorine	0.10	<10
POSDEF Power Company L.P.	NextEra Energy Resources	CA	San Joaquin County	Stockton	Electric power generation	Ammonia (anhydrous)	3.60	128,162
Pacific Ethanol Stockton, LLC	Pacific Ethanol, Inc.	CA	San Joaquin County	Stockton	Ethyl alcohol manufacturing	Ammonia (conc. ≥20%)	4.20	142,924

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
California Ammonia Company dba CALAMCO		CA	San Joaquin County	Stockton	Chemical distribution	Ammonia (anhydrous)	5.00	228,970
Sierra Chemical Co., Stockton Facility		CA	San Joaquin County	Stockton	Bleach manufacturing, ACC	Chlorine	14.00	500,558
City of Stockton Tertiary Treatment Plant	City of Stockton, Municipal Utilities Department	CA	San Joaquin County	Stockton	Wastewater treatment	Chlorine	14.00	530,031
City of Tracy John Jones Water Treatment Plant		CA	San Joaquin County	Tracy	Water treatment	Chlorine	4.40	51,692
City of Tracy Waste Water Treatment Plant		CA	San Joaquin County	Tracy	Wastewater treatment	Chlorine	5.40	86,765
Pioneer Americas LLC dba Olin Chlor Alkali Product	Olin Corporation	CA	San Joaquin County	Tracy	Bleach manufacturing, ACC	Chlorine	25.00	1,087,764
Santa Maria Facility	Phillips 66	CA	San Luis Obispo County	Arroyo Grande	Petroleum refinery	Flammable Mixture	0.08	<10
Polonio Pass Water Treatment Plant	Central Coast Water Authority	CA	San Luis Obispo County	Shandon	Water treatment	Chlorine	0.90	40
City of Santa Maria Blending Station	City of Santa Maria Utilities Department City of Santa Maria*	CA	Santa Barbara County	Santa Maria	Water treatment	Ammonia (conc. ≥20%)	1.00	34,044
Metcalf Energy Center, LLC	Calpine Corporation	CA	Santa Clara County	San Jose	Electric power generation	Ammonia (conc. ≥20%)	0.01	<10
Univar USA Inc.	Univar USA Inc.	CA	Santa Clara County	San Jose	Basic chemicals – ACC	Formaldehyde (solution)	1.00	3,796
OLS Energy Agnews	Calpine Corporation	CA	Santa Clara County	San Jose	Electric power generation	Ammonia (anhydrous)	2.80	80,549
Air Products, Santa Clara	Air Products and Chemical, Inc.	CA	Santa Clara County	Santa Clara	Basic chemicals – ACC	Hydrogen selenide	3.80	207,423
Sunnyvale Water Pollution Control Plant	City of Sunnyvale	CA	Santa Clara County	Sunnyvale	Wastewater treatment	Chlorine	0.60	112
Anderson Wastewater Treatment Plant		CA	Shasta County	Anderson	Wastewater treatment	Chlorine	0.90	1,410
Redding Stillwater Wastewater Treatment Plant		CA	Shasta County	Anderson	Wastewater treatment	Sulfur dioxide (anhydrous)	0.90	1,788
Redding Clear Creek Wastewater Treatment Plant		CA	Shasta County	Anderson	Wastewater treatment	Chlorine	2.20	7,509
Wheelabrator Shasta Energy Company Inc.	Waste Management Inc	CA	Shasta County	Anderson	Electric power generation, ACC	Ammonia (anhydrous)	2.80	12,217
Burney Forest Power	Burney Biomass Power LLC. Forest Products L.P.*	CA	Shasta County	Burney	Electric power generation	Ammonia (anhydrous)	4.00	551
Clear Creek CSD Water Treatment Plant		CA	Shasta County	Redding	Water treatment	Chlorine	0.90	17
Wintu Pumping Plant		CA	Shasta County	Redding	Water treatment	Chlorine	0.90	5,643
Redding Foothill Water Treatment Plant		CA	Shasta County	Redding	Water treatment	Chlorine	1.30	10,375
Redding Buckeye Water Treatment Plant		CA	Shasta County	Shasta	Water treatment	Chlorine	0.90	17

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Shasta Lake Water Treatment Facility		CA	Shasta County	Shasta Lake	Water treatment	Chlorine	3.00	4,495
Shasta Lake Wastewater Treatment Facility	City of Shasta Lake	CA	Shasta County	Shasta Lake	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	17,344
Mt. Shasta Wastewater Treatment Plant		CA	Siskiyou County	Mt. Shasta	Wastewater treatment	Chlorine	0.90	102
Benicia Water Treatment Plant	City of Benicia	CA	Solano County	Benicia	Water treatment	Chlorine	1.30	5,171
Praxair – Benicia, CA	Praxair, Inc.	CA	Solano County	Benicia	Basic chemicals – ACC	Ammonia (anhydrous)	1.50	6,295
Valero Refining Company – CA	Valero Energy Corporation	CA	Solano County	Benicia	Petroleum refinery	Ammonia (anhydrous)	1.70	13,718
Fairfield Suisun Sewer District WWTP		CA	Solano County	Fairfield	Wastewater treatment	Chlorine	2.20	7,106
Cement Hill Water Treatment Plant	Suisun-Solano Water Authority	CA	Solano County	Fairfield	Water treatment	Chlorine	6.70	197,884
Water Treatment Plant	City of Vacaville Public Works Department	CA	Solano County	Vacaville	Water treatment	Chlorine	3.10	86,053
Wastewater Treatment Plant	Bodega Bay Public Utility District	CA	Sonoma County	Bodega Bay	Wastewater treatment	Chlorine	2.20	539
City of Cloverdale Wastewater Treatment Plant		CA	Sonoma County	Cloverdale	Wastewater treatment	Chlorine	0.60	404
SCWA: River Road Chlorine Building	Sonoma County Water Agency	CA	Sonoma County	Forestville	Water treatment	Chlorine	2.60	6,335
SCWA: Mirabel Chlorine Building	Sonoma County Water Agency	CA	Sonoma County	Healdsburg	Water treatment	Chlorine	2.60	5,720
SCWA: Wohler Chlorine Building	Sonoma County Water Agency	CA	Sonoma County	Healdsburg	Water treatment	Chlorine	2.60	6,566
SCWA: Airport SZTP	Sonoma County Water Agency	CA	Sonoma County	Santa Rosa	Wastewater treatment	Chlorine	3.00	29,511
SCWA: Sonoma Valley CSOTP	Sonoma County Water Agency	CA	Sonoma County	Sonoma	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	9,548
Almond Power Plant	Turlock Irrigation District	CA	Stanislaus County	Ceres	Electric power generation	Ammonia (anhydrous)	2.90	49,243
Woodland Generation Station		CA	Stanislaus County	Modesto	Electric power generation	Ammonia (conc. ≥20%)	0.53	2,935
Secondary Wastewater Treatment Plant	City of Modesto	CA	Stanislaus County	Modesto	Wastewater treatment	Sulfur dioxide (anhydrous)	11.00	175,797
Crop Production Services – Modesto	Crop Production Services	CA	Stanislaus County	Modesto	Chemical distribution	Ammonia (anhydrous)	6.90	280,161
Snowden Enterprises – Modesto	Snowden Enterprises, Inc.	CA	Stanislaus County	Modesto	Chemical distribution	Sulfur dioxide (anhydrous)	15.00	512,662
Walnut Energy Center	Walnut Energy Center Authority	CA	Stanislaus County	Turlock	Electric power generation	Ammonia (anhydrous)	2.80	25,344
City of Turlock		CA	Stanislaus County	Turlock	Wastewater treatment	Chlorine	3.20	55,806
Yuba City Energy Center	Gilroy Energy Center, LLC	CA	Sutter County	Yuba City	Electric power generation	Ammonia (conc. ≥20%)	0.01	<10
Feather River Energy Center	Gillroy Energy center, LLC Calpine Corporation*	CA	Sutter County	Yuba city	Electric power generation	Ammonia (conc. ≥20%)	0.01	<10
Yuba City Wastewater Treatment Facility	City Of Yuba City	CA	Sutter County	Yuba City	Wastewater treatment	Chlorine	0.90	6,637
Sutter Energy Center	Calpine Corporation	CA	Sutter County	Yuba City	Electric power generation	Ammonia (anhydrous)	4.00	7,196

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Yuba City Water Treatment Plant		CA	Sutter County	Yuba City	Water treatment	Chlorine	0.90	8,861
Greenleaf 2	Calpine Corporation	CA	Sutter County	Yuba City	Electric power generation	Ammonia (anhydrous)	2.80	59,627
Corning Wastewater Treatment Plant	City of Corning	CA	Tehama County	Corning	Wastewater treatment	Sulfur dioxide (anhydrous)	3.00	2,465
City of Red Bluff Wastewater Reclamation Plant	City of Red Bluff	CA	Tehama County	Red Bluff	Wastewater treatment	Chlorine	1.30	3,855
Trauger Pumping Plant		CA	Tulare County	Lindsay	Water treatment	Chlorine	2.20	8,155
Pixley Cogen Partners	Calgren Renewable Fuels	CA	Tulare County	Pixley	Electric power generation	Ammonia (anhydrous)	5.10	4,113
Community Renewable Energy Services Inc.		CA	Tulare County	Reedley	Electric power generation	Ammonia (anhydrous)	1.20	2,344
Bradford Pumping Plant	Terra Bella Irrigation District	CA	Tulare County	Terra Bella	Water treatment	Chlorine	2.20	830
Visalia Wastewater Treatment Plant	City of Visalia	CA	Tulare County	Visalia	Wastewater treatment	Chlorine	0.10	17
Elbow Farm Supply, Inc.		CA	Tulare County	Visalia	Chemical wholesale	Ammonia (anhydrous)	6.90	130,611
Pacific-Ultrpower Chinese Station		CA	Tuolumne County	Jamestown	Electric power generation	Ammonia (anhydrous)	4.04	5,776
Calleguas MWD Grimes Canyon Disinfection Facility	Calleguas Municipal Water District	CA	Ventura County	Moorpark	Water treatment	Chlorine	2.60	10,503
Ormond Beach Generating Station	NRG California South LP	CA	Ventura County	Oxnard	Electric power generation	Ammonia (conc. ≥20%)	0.40	84
Mandalay Generating Station	NRG California South LP	CA	Ventura County	Oxnard	Electric power generation	Ammonia (conc. ≥20%)	0.40	258
El Rio Booster Plant	United Water Conservation District	CA	Ventura County	Oxnard	Water treatment	Chlorine	0.90	7,965
E. F. Oxnard, LLC	Atlantic Power Corporation	CA	Ventura County	Oxnard	Electric power generation	Ammonia (anhydrous)	2.70	152,634
Baker Petrrote Corporation – Santa Paula		CA	Ventura County	Santa Paula	Specialty chemicals – SOCMA	Acrolein	24.00	875,121
Calleguas MWD Lake Bard Water Filtration Plant	Calleguas Municipal Water District	CA	Ventura County	Thousand Oaks	Water treatment	Chlorine	2.30	28,858
Marion Walker Filtration Plant	Casitas Municipal Water District	CA	Ventura County	Ventura	Water treatment	Chlorine	2.30	2,509
Ventura Water Reclamation Facility	City of San Buenaventura	CA	Ventura County	Ventura	Wastewater treatment	Chlorine	1.30	5,036
Avenue Water Treatment Plant	City of San Buenaventura	CA	Ventura County	Ventura	Water treatment	Chlorine	1.30	5,036
Bailey Water Conditioning Facility	City of San Buenaventura	CA	Ventura County	Ventura	Water treatment	Chlorine	1.30	18,033
Davis Water Pollution Control Plant		CA	Yolo County	Davis	Wastewater treatment	Chlorine	3.10	4,368
Bryte Bend Water Treatment Plant	City of West Sacramento	CA	Yolo County	West Sacramento	Water treatment	Chlorine	0.90	1,943
Woodland Biomass Facility	DTE Energy Services	CA	Yolo County	Woodland	Electric power generation	Ammonia (anhydrous)	3.30	46,164
Linda County Water District		CA	Yuba County	Marysville	Wastewater treatment	Chlorine	2.20	22,432

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
COLORADO								
BASF Construction Chemicals	BASF Corporation	CO	Adams County	Brighton	Basic chemicals – ACC	Toluene diisocyanate (unsp. isomer)	0.31	163
Recycling Plant	Denver Water	CO	Adams County	Commerce City	Wastewater treatment	Chlorine	1.30	5,997
SEUSA Commerce City Refinery	Suncor Energy (USA), Inc. Suncor Energy, Inc.*	CO	Adams County	Commerce City	Petroleum refinery	Hydrogen sulfide	2.40	31,721
Klein Water Treatment Facility	South Adams County Water and Sanitation District	CO	Adams County	Commerce City	Water treatment	Chlorine	3.00	32,876
Thornton Water Treatment Plant	City of Thornton	CO	Adams County	Thornton	Water treatment	Chlorine	1.30	29,980
Binney Water Purification Facility		CO	Arapahoe County	Aurora	Water treatment	Chlorine	1.50	724
Griswold Water Treatment Plant	Aurora Water	CO	Arapahoe County	Aurora	Water treatment	Chlorine	0.90	11,664
Wemlinger WTP	Aurora Water	CO	Arapahoe County	Aurora	Water treatment	Chlorine	0.90	15,017
Spurgeon Water Treatment Plant	Left Hand Water District	CO	Boulder County	Longmont	Water treatment	Chlorine	0.90	382
Dodd Water Treatment Plant	Left Hand Water District	CO	Boulder County	Longmont	Water treatment	Chlorine	0.90	837
Louisville Water Treatment Plant – South Plant	City of Louisville, Colorado	CO	Boulder County	Louisville	Water treatment	Chlorine	1.30	1,754
Louisville Water Treatment Plant – North Plant	City of Louisville, Colorado	CO	Boulder County	Louisville	Water treatment	Chlorine	1.30	2,324
Marston Water Treatment Plant	Denver Water	CO	Denver County	Denver	Water treatment	Chlorine	1.30	15,433
Joseph B. Blake Water Treatment Plant	Centennial Water and Sanitation District	CO	Douglas County	Highlands Ranch	Water treatment	Chlorine	1.30	9,266
Foothills Water Treatment Plant	Denver Water	CO	Douglas County	Littleton	Water treatment	Chlorine	4.40	10,611
Mesa Water Treatment Plant	Colorado Springs Utilities	CO	El Paso County	Colorado Springs	Water treatment	Chlorine	1.30	10,545
Nixon Power Plant	Colorado Springs Utilities	CO	El Paso County	Fountain	Electric power generation	Chlorine	3.00	2,601
Fountain Valley Authority Water Treatment Plant	Fountain Valley Authority	CO	El Paso County	Fountain	Water treatment	Chlorine	3.00	3,089
McCullough Complex	Colorado Springs Utilities	CO	El Paso County	USAir Force Academy	Water treatment	Chlorine	1.30	1,044
Canon City Water Treatment Plant	City of Canon City	CO	Fremont County	Canon City	Water treatment	Chlorine	3.00	10,905
Red Mountain Water Plant	City of Glenwood Springs	CO	Garfield County	Glenwood Springs	Water treatment	Chlorine	2.79	6,949
Praxair – Walden, CO	Praxair, Inc.	CO	Jackson County	Walden	Basic chemicals – ACC	Ammonia (anhydrous)	1.70	<10
Moffat Water Treatment Plant	Denver Water	CO	Jefferson County	Lakewood	Water treatment	Chlorine	1.30	16,610
Bellvue Water Treatment Plant	City of Greeley	CO	Larimer County	Bellvue	Water treatment	Chlorine	2.20	626
Carter Lake Filter Plant	Little Thompson Water District Central Weld County Water District*	CO	Larimer County	Berthoud	Water treatment	Chlorine	2.20	1,695

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Solider Canyon Filter Plant	FCLWD, ELCO, and NWCWD	CO	Larimer County	Fort Collins	Water treatment	Chlorine	1.30	4,027
Fort Collins Water Treatment Facility		CO	Larimer County	Fort Collins	Water treatment	Chlorine	3.00	25,548
Drake Water Reclamation Facility		CO	Larimer County	Fort Collins	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	49,227
City of Loveland Water Treatment Plant	City of Loveland, Colorado	CO	Larimer County	Loveland	Water treatment	Chlorine	1.30	1,024
Boyd Lake Water Treatment Plant	City of Greeley, Colorado	CO	Larimer County	Loveland	Water treatment	Chlorine	2.20	17,392
Peetz Recovered Energy Facility	OREG 4, Inc. Ormat Nevada, Inc.*	CO	Logan County	Peetz	Electric power generation	Pentane	0.30	<10
Charles A. Strain Water Treatment Plant	Clifton Water District	CO	Mesa County	Clifton	Water treatment	Chlorine	1.30	5,355
Cray Vally Grand Junction	Total Holdings, USA	CO	Mesa County	Grand Junction	Basic chemicals – ACC	1,3-Butadiene	0.42	265
City of Grand Junction Water Treatment Plant		CO	Mesa County	Grand Junction	Water treatment	Chlorine	0.90	4,534
Persigo Wastewater Treatment Plant	City of Grand Junction Mesa County*	CO	Mesa County	Grand Junction	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	9,891
Ute Water Treatment Plant	Ute Water Conservancy District	CO	Mesa County	Palisade	Water treatment	Chlorine	0.90	<10
Project 7 Water Authority		CO	Montrose County	Montrose	Water treatment	Chlorine	3.00	6,462
Nucla Station	Tri-State Generation and Transmission Association	CO	Montrose County	Nucla	Electric power generation	Chlorine	1.30	13
City of Fort Morgan Water Treatment Plant		CO	Morgan County	Wiggins	Water treatment	Chlorine	2.20	136
KMG Electronic Chemicals, Inc	KMG Chemicals, Inc	CO	Pueblo County	Pueblo	Basic chemicals – ACC	Ammonia (anhydrous)	1.50	907
Pueblo Wastewater Reclamation Facility	Wastewater Dept. City of Pueblo, Colorado*	CO	Pueblo County	Pueblo	Wastewater treatment	Chlorine	1.30	5,766
BWWP Whitlock Water Treatment Plant	Board of Water Works at Pueblo, Colorado	CO	Pueblo County	Pueblo	Water treatment	Chlorine	1.30	10,833
Pueblo West Water Treatment Plant	Pueblo West Metropolitan District	CO	Pueblo County	Pueblo West	Water treatment	Chlorine	3.07	17,356
Lone Tree Industrial Waste Water Treatment Plant	JBS USA, LLC	CO	Weld County	Greeley	Wastewater treatment	Chlorine	2.20	754
DPC Industries, Inc.	DX Holding Company	CO	Weld County	Hudson	Bleach manufacturing	Sulfur dioxide (anhydrous)	16.00	75,187
Rocky Mountain Energy Center	Public Service Company of Colorado	CO	Weld County	Keenesburg	Electric power generation	Ammonia (anhydrous)	4.70	3,173
Boulder Scientific Company		CO	Weld County	Mead	Specialty chemicals – SOCOMA	Ethyl ether	0.28	25
C O N N E C T I C U T								
R.T. Vanderbilt Company, Inc., Vanderbilt Chemical		CT	Fairfield County	Bethel	Basic chemicals – ACC	Carbon disulfide	0.15	85
Bridgeport Energy, LLC	Emera Energy Generation II LLC	CT	Fairfield County	Bridgeport	Electric power generation	Ammonia (conc. ≥20%)	0.10	115

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Dominion Bridgeport Fuel Cell Park	Bridgeport Fuel Cell, LLC Dominion Resources, Inc.*	CT	Fairfield County	Bridgeport	Electric power generation	Pentane	0.10	201
H. Krevit & Co., Inc.		CT	New Haven County	New Haven	Bleach manufacturing	Chlorine	14.00	651,919
CYTEC Industries Inc., Wallingford CT Plant	CYTEC Industries Inc.	CT	New Haven County	Wallingford	Basic chemicals – ACC	Formaldehyde (solution)	0.67	2,404
Evonik CYRO LLC aka CYRO Industry's prior to 7/1/08	EvonikDegussaCorp aka DegussaPolymr's until 7/1/08	CT	New Haven County	Wallingford	Chemicals – ACC, SOCMA	Acrylonitrile	2.10	23,088
Allyn's Point Latex	Styron LLC	CT	New London County	Gales Ferry	Basic chemicals – ACC	Acrylonitrile	3.10	18,718
City of Groton, Water Treatment Facility	City of Groton	CT	New London County	Groton	Water treatment	Chlorine	1.30	5,594
Dr. Charles W. Solomon Water Purification Plant	Norwich Public Utilites (NPU)	CT	New London County	Lebanon	Water treatment	Chlorine	3.00	4,918
D E L A W A R E								
Honeywell – Delaware Plant	Honeywell International Inc.	DE	New Castle County	Claymont	Basic chemicals – ACC	Hydrofluoric acid (conc. ≥50%)	19.00	2,168,367
Delaware City Refinery	Delaware City Refining Company, LLC	DE	New Castle County	Delaware City	Petroleum refinery	Flammable Mixture	1.00	729
Air Liquide Delaware City, DE CO2 Plant	Air Liquide Industrial US L.P.	DE	New Castle County	Delaware City	Basic chemicals – ACC	Ammonia (anhydrous)	1.20	1,149
Kuehne Chemical Co., Inc. – Delaware City	Kuehne Chemical Co., Inc.	DE	New Castle County	Delaware City	Bleach manufacturing, ACC	Chlorine	13.00	546,199
Dupont – Edge Moor, DE Facility	E.I. duPont DeNemours & Company	DE	New Castle County	Edge Moor	Basic chemicals – ACC	Chlorine	13.20	680,885
Croda, Inc. – Atlas Point		DE	New Castle County	New Castle	Basic chemicals – ACC	Ethylene oxide	2.40	25,588
Aearo Technologies LLC	Aearo Technologies LLC	DE	New Castle County	Newark	Basic chemicals – ACC	Toluene diisocyanate (unsp. isomer)	0.40	1,082
Calpine – Hay Road Energy Center	Calpine Mid-Atlantic Generation, LLC Calpine Corp.*	DE	New Castle County	Wilmington	Electric power generation	Ammonia (anhydrous)	2.80	61,960
Indian River Generating Station	NRG Energy, Inc.	DE	Sussex County	Dagsboro	Electric power generation	Ammonia (conc. ≥20%)	1.90	2,282
Town of Selbyville Wastewater Treatment Facility	Town of Selbyville	DE	Sussex County	Selbyville	Wastewater treatment	Chlorine	1.30	1,003
F L O R I D A								
Murphree Water Treatment Plant	Gainesville Regional Utilities	FL	Alachua County	Gainesville	Water treatment	Chlorine	0.90	487
SiVance LLC		FL	Alachua County	Gainesville	Basic chemicals – ACC	Ammonia (anhydrous)	1.90	2,001
Rock-Tenn CP, LLC	Rock-Tenn CP, LLC	FL	Bay County	Panama City	Pulp and paper	Chlorine dioxide	16.00	150,153
Lansing Smith Electric Generating Plant	Gulf Power Company	FL	Bay County	Southport	Electric power generation	Chlorine	3.00	3,995
Deerfield Beach West Water Treatment Plant	City of Deerfield Beach	FL	Broward County	Deerfield Beach	Water treatment	Chlorine	0.90	11,089
George T. Lohmeyer Wastewater Treatment Plant	City of Fort Lauderdale Public Service Department*	FL	Broward County	Fort Lauderdale	Wastewater treatment	Chlorine	0.90	5,973

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Fiveash Water Treatment Plant	City of Fort Lauderdale Public Services Department&	FL	Broward County	Fort Lauderdale	Water treatment	Chlorine	14.00	1,583,263
Southern Regional WWTP	City of Hollywood, FL Public Utilities	FL	Broward County	Hollywood	Wastewater treatment	Chlorine	0.90	11,299
Lauderhill Water Treatment Plant	City of Lauderhill	FL	Broward County	Lauderhill	Water treatment	Chlorine	0.90	29,197
Pembroke Pines Water Treatment Plant	City of Pembroke Pines	FL	Broward County	Pembroke Pines	Water treatment	Chlorine	1.30	33,609
North Regional Wastewater Treatment Plant	Broward County Water & Wastewater Services	FL	Broward County	Pompano Beach	Wastewater treatment	Chlorine	1.30	15,474
City of Punta Gorda Water Treatment Plant	City of Punt Gorda	FL	Charlotte County	Punta Gorda	Water treatment	Chlorine	3.00	2,197
Telman Road Facility	Englewood Water District	FL	Charlotte County	Rotonda West	Wastewater treatment	Chlorine	1.60	5,360
North County Regional Water Treatment Plant	Collier County Water-Sewer District	FL	Collier County	Naples	Water treatment	Chlorine	0.09	<10
City of Naples Wastewater Treatment Facility	City of Naples	FL	Collier County	Naples	Wastewater treatment	Chlorine	1.30	36
South County Regional Water Treatment Plant	Collier County Water-Sewer District	FL	Collier County	Naples	Water treatment	Chlorine	1.30	7,714
City of Naples Water Treatment Plant	City of Naples	FL	Collier County	Naples	Water treatment	Chlorine	1.30	8,800
Atlantic Beach WTP # 1	City of Atlantic Beach	FL	Duval County	Atlantic Beach	Water treatment	Chlorine	1.30	11,724
Atlantic Beach WWTP # 1	City Of Atlantic Beach	FL	Duval County	Atlantic Beach	Wastewater treatment	Chlorine	1.30	12,571
Atlantic Beach WTP # 2	City of Atlantic Beach	FL	Duval County	Atlantic Beach	Water treatment	Chlorine	1.30	13,678
Atlantic Beach WTP # 3	City of Atlantic Beach	FL	Duval County	Atlantic Beach	Water treatment	Chlorine	1.30	14,199
Cedar Bay Generating Plant	Cogentrix	FL	Duval County	Jacksonville	Electric power generation	Ammonia (conc. ≥20%)	0.10	10
Univar USA Inc	Univar USA Inc	FL	Duval County	Jacksonville	Basic chemicals - ACC	Formaldehyde (solution)	0.10	16
Praxair Distribution - Jacksonville, FL	Praxair, Inc.	FL	Duval County	Jacksonville	Basic chemicals - ACC	Acetylene	0.10	68
Brandy Branch Generating Station	JEA	FL	Duval County	Jacksonville	Electric power generation	Ammonia (conc. ≥20%)	0.60	74
Blanchard Terminal Company - Jacksonville Terminal	Marathon Petroleum Company LP	FL	Duval County	Jacksonville	Basic chemicals - ACC	Butane	0.60	446
St. Johns River Power Park	JEA Florida Power and Light Company*	FL	Duval County	Jacksonville	Electric power generation	Ammonia (anhydrous)	6.10	79,096
IFF Chemical Holdings Inc	International Flavors and Fragrances Inc.	FL	Duval County	Jacksonville	Chemical manufacturing	Chlorine	14.00	637,964
JCI Jones Chemicals Inc. Jacksonville		FL	Duval County	Jacksonville	Bleach manufacturing, ACC	Chlorine	14.00	830,121
City of Jacksonville Beach Pollution Control Plant	City of Jacksonville Beach	FL	Duval County	Jacksonville Beach	Wastewater treatment	Chlorine	0.90	7,389

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
City of Jacksonville Beach Water Plant No. 1	City of Jacksonville Beach	FL	Duval County	Jacksonville Beach	Water treatment	Chlorine	1.30	11,349
City of Jacksonville Beach Water Plant No. 2	City of Jacksonville Beach	FL	Duval County	Jacksonville Beach	Water treatment	Chlorine	1.30	11,465
Pensacola Mill	International Paper Company	FL	Escambia County	Cantonment	Pulp and paper	Chlorine dioxide	11.40	171,185
CEREX Advanced Fabrics, Inc.		FL	Escambia County	Cantonment	Synthetic fabric manufacturing	Hydrogen chloride (anhydrous)	16.00	339,252
Ascend Performance Materials – Pensacola Plant	Ascend Performance Materials Operations LLC	FL	Escambia County	Gonzalez	Basic chemicals – ACC	Butane	1.10	1,448
Crist Electric Generating Facility	Gulf Power Company	FL	Escambia County	Pensacola	Electric power generation	Ammonia (anhydrous)	1.30	3,805
City of Moore Haven WTP		FL	Glades County	Moore Haven	Water treatment	Chlorine	2.20	227
Industrial Wastewater Treatment Plant	The City of Port St. Joe	FL	Gulf County	Port St. Joe	Wastewater treatment	Chlorine	3.00	660
Midulla Generating Station	Seminole Electric Cooperative, Inc.	FL	Hardee County	Bowling Green	Electric power generation	Ammonia (conc. ≥20%)	0.20	<10
Cosme Water Treatment Plant	City of St. Petersburg	FL	Hillsborough County	Odessa	Water treatment	Chlorine	1.09	2,131
Brenntag Mid-South, Inc.	Brenntag U.S.A.	FL	Hillsborough County	Tampa	Basic chemicals – ACC	Chlorine	1.30	7,083
Bayside Power Station	Tampa Electric Company TECO Energy Company*	FL	Hillsborough County	Tampa	Electric power generation	Ammonia (anhydrous)	3.40	27,821
Port Sutton Ammonia Terminal	Yara North America, Inc.	FL	Hillsborough County	Tampa	Chemical storage terminal	Ammonia (anhydrous)	7.80	356,464
David L. Tippin Water Treatment Facility	City of Tampa Water Department*	FL	Hillsborough County	Tampa	Water treatment	Chlorine	9.90	709,159
DPC Enterprises, L.P.		FL	Hillsborough County	Tampa	Bleach manufacturing	Chlorine	14.00	906,640
Chemical Formulators Inc.		FL	Hillsborough County	Tampa	Bleach manufacturing	Chlorine	14.00	1,116,211
City of Tampa – Howard F. Curren AWTP		FL	Hillsborough County	Tampa	Wastewater treatment	Sulfur dioxide (anhydrous)	16.00	1,197,103
City of Vero Beach Waste Water Treatment Plant	City of Vero Beach Water & Sewer Dept.	FL	Indian River County	Vero Beach	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	34,605
City of Vero Beach Water Treatment Plant	City of Vero Beach Water & Sewer Dept.	FL	Indian River County	Vero Beach	Water treatment	Chlorine	3.00	38,045
Turnpike Wastewater Reclamation Facility		FL	Lake County	Leesburg	Wastewater treatment	Chlorine	2.30	3,593
Leesburg Water Treatment Plant		FL	Lake County	Leesburg	Water treatment	Chlorine	1.30	5,140
The Island Water Association Inc.		FL	Lee County	Sanibel	Water treatment	Chlorine	0.90	783
Arvah B. Hopkins Electric Generating Station	City of Tallahassee	FL	Leon County	Tallahassee	Electric power generation	Ammonia (anhydrous)	1.20	967
Thomas P. Smith Water Reclamation Facility	City of Tallahassee	FL	Leon County	Tallahassee	Wastewater treatment	Chlorine	1.30	7,752

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
FPL Manatee Plant	Florida Power & Light Company FPL Group*	FL	Manatee County	Parrish	Electric power generation	Ammonia (anhydrous)	5.40	6,223
Indiantown Cogeneration Company, L.P.		FL	Martin County	Indiantown	Electric power generation	Ammonia (conc. ≥20%)	0.09	<10
FPL Martin Power Plant	Florida Power & Light Company	FL	Martin County	Indiantown	Electric power generation	Ammonia (anhydrous)	5.40	3,728
FCAA/ J. Robert Dean Water Treatment Plant		FL	Miami-Dade County	Florida City	Water treatment	Chlorine	3.00	20,677
John E. Preston Water Treatment Plant	Miami-Dade Water and Sewer Department Miami-Dade County*	FL	Miami-Dade County	Hialeah	Water treatment	Chlorine	9.90	1,604,415
Wittkop Park Water Treatment Plant		FL	Miami-Dade County	Homestead	Water treatment	Chlorine	1.30	23,820
Harris Field Water Treatment Plant		FL	Miami-Dade County	Homestead	Water treatment	Chlorine	1.30	24,853
Central District Wastewater Treatment Plant	Miami-Dade Water and Sewer Department Miami-Dade County*	FL	Miami-Dade County	Miami	Wastewater treatment	Chlorine	3.00	40,688
Alexander Orr Water Treatment Plant	Miami-Dade Water and Sewer Department Miami-Dade County*	FL	Miami-Dade County	Miami	Water treatment	Chlorine	14.00	1,819,814
Sentry Industries, Inc.		FL	Miami-Dade County	Miami	Bleach manufacturing	Chlorine	14.00	2,347,882
Allied Universal Corporation		FL	Miami-Dade County	Miami	Bleach manufacturing	Chlorine	14.00	2,421,806
North District Wastewater Treatment Plant	Miami-Dade Water and Sewer Department Miami-Dade County*	FL	Miami-Dade County	North Miami	Wastewater treatment	Chlorine	1.30	24,764
City of Fernandina Beach Water Plant #3		FL	Nassau County	Fernandina Beach	Water treatment	Chlorine	1.30	2,505
City of Fernandina Beach Water Plant #2		FL	Nassau County	Fernandina Beach	Water treatment	Chlorine	1.30	5,102
City of Fernandina Beach Water Plant #1		FL	Nassau County	Fernandina Beach	Water treatment	Chlorine	1.30	5,454
Rayonier Performance Fibers LLC, Fernandina Mill	Rayonier, Inc.	FL	Nassau County	Fernandina Beach	Pulp and paper	Chlorine	14.00	86,890
George F. French Water Reclamation Facility		FL	Okaloosa County	Destin	Water treatment, wastewater	Chlorine	1.30	4,112
North Beal Extension Site	Okaloosa County Water and Sewer	FL	Okaloosa County	Fort Walton Beach	Water treatment	Chlorine	2.10	17,622
Russell Stephenson Wastewater Treatment Facility	Okaloosa County Water and Sewer Okaloosa County*	FL	Okaloosa County	Mary Esther	Wastewater treatment	Chlorine	2.70	10,608
NV Regional Wastewater Treatment facility	NV Regional Sewer Board, Inc.	FL	Okaloosa County	Niceville	Wastewater treatment	Chlorine	1.30	3,566
Praxair Distribution – Okeechobee, FL	Praxair, Inc.	FL	Okeechobee County	Okeechobee	Basic chemicals – ACC	Acetylene	0.20	32
Western Regional Water Production Facility	Orange County Utilities	FL	Orange County	Apopka	Water treatment	Chlorine	0.90	3,915
Tanner Industries, Inc.	Tanner Industries, Inc.	FL	Orange County	Apopka	Chemical wholesale	Ammonia (anhydrous)	3.70	122,355

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Claude H. Dyal Water Treatment Plant – 2009	City of Cocoa	FL	Orange County	Christmas	Water treatment	Chlorine	1.30	542
Kirkman Water Treatment Plant	Orlando Utilities Commission	FL	Orange County	Orlando	Water treatment	Chlorine	0.20	615
South Water Reclamation Facility	Orange County Utilities	FL	Orange County	Orlando	Wastewater treatment	Chlorine	0.90	692
Southwest Water Treatment Plant	Orlando Utilities Commission	FL	Orange County	Orlando	Water treatment	Chlorine	0.80	3,991
Southeast Water Treatment Plant	Orlando Utilities Commission	FL	Orange County	Orlando	Water treatment	Chlorine	1.40	4,956
Highland Water Treatment Plant	Orlando Utilities Commission	FL	Orange County	Orlando	Water treatment	Chlorine	0.70	5,236
Sky Lake Water Treatment Plant	Orlando Utilities Commission	FL	Orange County	Orlando	Water treatment	Chlorine	0.80	5,555
Navy Water Treatment Plant	Orlando Utilities Commission	FL	Orange County	Orlando	Water treatment	Chlorine	0.80	7,380
Pine Hills Water Treatment Plant	Orlando Utilities Commission	FL	Orange County	Orlando	Water treatment	Chlorine	0.70	8,103
Curtis H. Stanton Energy Center Unit A	Southern Company-Florida LLC Orlando Utilities Commission*	FL	Orange County	Orlando	Electric power generation	Ammonia (anhydrous)	2.10	10,930
Conway Water Treatment Plant	Orlando Utilities Commission	FL	Orange County	Orlando	Water treatment	Chlorine	0.80	11,503
Water Conserv II Water Reclamation Facility	The City of Orlando	FL	Orange County	Orlando	Wastewater treatment	Chlorine	0.90	11,888
Stanton Energy Center	Orlando Utilities Commission	FL	Orange County	Orlando	Electric power generation	Ammonia (anhydrous)	4.40	46,348
Brenntag Mid-South, Inc.	Brenntag U.S.A.	FL	Orange County	Orlando	Bleach manufacturing, ACC	Chlorine	14.00	969,891
Jupiter Water Treatment Plant	Town of Jupiter	FL	Palm Beach County	Jupiter	Water treatment	Chlorine	0.90	5,911
Loxahatchee River Environmental Control District		FL	Palm Beach County	Jupiter	Wastewater treatment	Chlorine	1.30	10,627
Richard Road Water Treatment Plant	Seacoast Utility Authority	FL	Palm Beach County	Lake Park	Water treatment	Chlorine	1.30	20,392
PGA Wastewater Treatment Plant	Seacoast Utility Authority	FL	Palm Beach County	Palm Beach Gardens	Wastewater treatment	Chlorine	1.30	5,379
Hood Road Well Field	Seacoast Utility Authority	FL	Palm Beach County	Palm Beach Gardens	Water treatment	Chlorine	1.30	6,121
Hood Road Water Treatment Plant	Seacoast Utility Authority	FL	Palm Beach County	Palm Beach Gardens	Water treatment	Chlorine	1.30	11,097
Lilac Street Repump Station	Seacoast Utility Authority	FL	Palm Beach County	Palm Beach Gardens	Water treatment	Chlorine	1.30	15,964
Central Water Treatment Plant	City of Riviera Beach	FL	Palm Beach County	Riviera Beach	Water treatment	Chlorine	1.30	16,091
City of Largo Wastewater Reclamation Facility	City of Largo	FL	Pinellas County	Clearwater	Wastewater treatment	Chlorine	1.30	13,379
Brenntag Mid-South, Inc.	Brenntag U.S.A.	FL	Pinellas County	Clearwater	Bleach manufacturing, ACC	Chlorine	14.00	909,300
City of Dunedin Wastewater Treatment Plant		FL	Pinellas County	Dunedin	Wastewater treatment	Chlorine	0.90	7,912

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
City of Dunedin R.O. Water Treatment Plant		FL	Pinellas County	Dunedin	Water treatment	Chlorine	1.30	19,388
W. E. Dunn Wastewater Treatment Plant	Pinellas County Utilities	FL	Pinellas County	Palm Harbor	Wastewater treatment	Chlorine	0.90	4,591
South Cross Bayou Wastewater Treatment Facility	Pinellas County Utilities	FL	Pinellas County	St. Petersburg	Wastewater treatment	Chlorine	0.90	7,168
Washington Terrace Pumping Station	City of St. Petersburg	FL	Pinellas County	St. Petersburg	Water treatment	Chlorine	1.01	11,836
Oberly Pumping Station	City of St. Petersburg	FL	Pinellas County	St. Petersburg	Water treatment	Chlorine	1.02	13,749
Keller Water Treatment Plant	Pinellas County Utilities	FL	Pinellas County	Tarpon Springs	Water treatment	Chlorine	0.90	1,462
City of Tarpon Springs Wastewater Facility	City of Tarpon Springs	FL	Pinellas County	Tarpon Springs	Wastewater treatment	Chlorine	3.10	67,351
Sewell Products of Florida LLC	KIK International Inc.	FL	Polk County	Auburndale	Bleach manufacturing	Chlorine	14.00	410,956
Hines Energy Complex	Duke Energy Florida, Inc.	FL	Polk County	Bartow	Electric power generation	Ammonia (conc. ≥20%)	0.60	41
City of Bartow Water Treatment Facility		FL	Polk County	Bartow	Water treatment	Chlorine	3.00	14,469
Douglas H. Allen Water Reclamation Facility		FL	Polk County	Bartow	Wastewater treatment	Chlorine	3.00	18,317
C.W. Combee Water Treatment Plant	City of Lakeland , Water Utilities Department	FL	Polk County	Lakeland	Water treatment	Chlorine	1.20	1,352
Glendale Waste Water Treatment Plant	City of Lakeland Water Utilities	FL	Polk County	Lakeland	Wastewater treatment	Chlorine	1.30	10,964
Williams Water Treatment Plant	City of Lakeland	FL	Polk County	Lakeland	Water treatment	Chlorine	1.30	11,099
Mcintosh Power Plant/Northside WWTP	City of Lakeland	FL	Polk County	Lakeland	Electric power generation	Ammonia (anhydrous)	6.90	169,723
City of Palatka Platt Drew WWTP	City of Palatka	FL	Putnam County	Palatka	Wastewater treatment	Chlorine	1.30	2,163
R.C. Willis Water Treatment Plant	City of Palatka	FL	Putnam County	Palatka	Water treatment	Chlorine	1.30	2,306
Palatka Operations	Georgia-Pacific Consumer Operations LLC	FL	Putnam County	Palatka	Pulp and paper	Chlorine dioxide	25.00	188,925
City of Milton Wastewater Treatment Plant	City of Milton	FL	Santa Rosa County	Milton	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	9,648
Pace Plant	Air Products and Chemicals Inc.	FL	Santa Rosa County	Pace	Basic chemicals – ACC	Hydrogen	0.70	1,143
Pace Wastewater Reclamation Plant	Pace Property Finance Authority, Inc.	FL	Santa Rosa County	Pace	Wastewater treatment	Chlorine	0.90	1,273
Taminco Pace Plant	Taminco, Inc	FL	Santa Rosa County	Pace	Basic chemicals – ACC	Ammonia (anhydrous)	15.00	306,376
Selma Avenue Facility	Englewood Water District	FL	Sarasota County	Englewood	Water treatment	Chlorine	1.90	8,215
Iron Bridge Water Reclamation Facility	City of Orlando	FL	Seminole County	Oveido	Wastewater treatment	Chlorine	0.90	5,745
Winter Springs WTP #1		FL	Seminole County	Winter Springs	Water treatment	Chlorine	1.30	9,747
City of St. Augustine WTP 2009	City of St. Augustine	FL	St. Johns County	St. Augustine	Water treatment	Chlorine	1.30	9,317

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Henry A. Gahn Water Treatment Plant	Fort Pierce Utilities Authority	FL	St. Lucie County	Fort Pierce	Water treatment	Chlorine	1.00	9,924
James E. Anderson Water Treatment Plant	City of Port St. Lucie Utility Systems Department*	FL	St. Lucie County	Port St. Lucie	Water treatment	Chlorine	3.00	17,448
Westport Wastewater Treatment Plant	City of Port St. Lucie Utility Systems Department*	FL	St. Lucie County	Port St. Lucie	Wastewater treatment	Chlorine	3.00	47,423
Prineville Water Treatment Plant	City of Port St. Lucie Utility Systems Department*	FL	St. Lucie County	Port St. Lucie	Water treatment	Chlorine	3.00	60,385
Mason H. Kelley Water Treatment Plant	City of Perry	FL	Taylor County	Perry	Water treatment	Chlorine	1.00	256
Perry Water Works Water Treatment Plant	City of Perry	FL	Taylor County	Perry	Water treatment	Chlorine	1.00	256
City of Perry Wastewater Treatment Facility	City of Perry	FL	Taylor County	Perry	Wastewater treatment	Chlorine	3.00	3,099
Buckeye Florida, Limited Partnership	Buckeye Technologies Inc.	FL	Taylor County	Perry	Pulp and paper	Chlorine dioxide	25.00	35,028
DeLand Regional Water Reclamation Facility	City of DeLand	FL	Volusia County	DeLand	Wastewater treatment	Chlorine	1.30	10,377
City of Holly Hill		FL	Volusia County	Holly Hill	Water treatment, wastewater	Chlorine	5.40	111,474
Wastewater Treatment Plant	Utilities Commission, City of New Smyrna Beach	FL	Volusia County	New Smyrna Beach	Wastewater treatment	Chlorine	5.40	41,130
Water Treatment Plant	Utilities Commission, City of New Smyrna Beach	FL	Volusia County	New Smyrna Beach	Water treatment	Chlorine	5.40	44,569
G E O R G I A								
Water Pollution Control Plant	City of Milledgeville	GA	Baldwin County	Milledgeville	Wastewater treatment	Chlorine	0.90	668
James Baugh Water Treatment Plant	City of Milledgeville	GA	Baldwin County	Milledgeville	Water treatment	Chlorine	0.90	806
Lamar Ham Water Treatment Plant	City of Milledgeville	GA	Baldwin County	Milledgeville	Water treatment	Chlorine	0.90	1,719
Commerce Water Treatment Plant	City of Commerce	GA	Banks County	Commerce	Water treatment	Chlorine	2.20	2,243
Solvay USA Inc., Winder Facility	Solvay USA Inc.	GA	Barrow County	Winder	Basic chemicals – ACC	Epichlorohydrin	0.60	814
Stepan Company	Stepan Company	GA	Barrow County	Winder	Basic chemicals – ACC	Ethylene oxide	7.40	95,314
NorthStar Chemicals, Inc.		GA	Bartow County	Cartersville	Basic chemicals – ACC	Flammable Mixture	0.30	133
Resource Innovations, Inc.		GA	Bartow County	Cartersville	Specialty chemicals – SOCMA	Carbon disulfide	0.50	244
Plant Bowen	Georgia Power Company	GA	Bartow County	Cartersville	Electric power generation	Ammonia (anhydrous)	1.88	1,571
Clarence B. Walker Water Treatment Plant	City of Cartersville	GA	Bartow County	Cartersville	Water treatment	Chlorine	2.20	3,774
Hercules Inc–Macon Plant	Ashland Inc.	GA	Bibb County	Macon	Basic chemicals – ACC	Cyclohexylamine	0.11	<10
Lower Poplar Street Water Reclamation Facility	Macon Water Authority	GA	Bibb County	Macon	Wastewater treatment	Chlorine	1.30	293

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Rocky Creek Water Reclamation Facility (WRF)	Macon Water Authority	GA	Bibb County	Macon	Wastewater treatment	Chlorine	1.30	386
Ocmulgee River Water Treatment Plant	Butts County, et al. Water & Sewer Authority	GA	Butts County	Jackson	Water treatment	Chlorine	3.00	1,836
City of Kingsland Water Treatment Facility # 2	City of Kingsland	GA	Camden County	Kingsland	Water treatment	Chlorine	0.90	120
City of Kingsland Water Treatment Facility #1	City of Kingsland, Georgia	GA	Camden County	Kingsland	Water treatment	Chlorine	0.90	502
City of Kingsland Wastewater Treatment Plant		GA	Camden County	Kingsland	Wastewater treatment	Chlorine	1.30	1,347
Plant Wansley	Georgia Power Company Oglethorpe Power Co., MEAG, City of Dalton*	GA	Carroll County	Carrollton	Electric power generation	Ammonia (anhydrous)	1.89	795
Weyerhaeuser NR Port Wentworth	Weyerhaeuser NR Weyerhaeuser Company*	GA	Chatham County	Port Wentworth	Pulp and paper	Chlorine dioxide	5.53	30,812
Industrial & Domestic Water Treatment Plant	City of Savannah	GA	Chatham County	Pt. Wentworth	Water treatment	Chlorine	2.20	5,143
Hercules Incorporated – Savannah	Ashland Incorporated	GA	Chatham County	Savannah	Basic chemicals – ACC	Epichlorohydrin	0.38	639
President Street Water Quality Control Plant	City of Savannah	GA	Chatham County	Savannah	Wastewater treatment	Chlorine	0.90	2,553
Tronox Pigments (Savannah) Inc.	Tronox LLC	GA	Chatham County	Savannah	Dye and pigment manufacturing	Chlorine	14.00	265,808
Middle Oconee Water Pollution Control Facility	Athens–Clarke County Public Utilities	GA	Clarke County	Athens	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	39,810
North Oconee Water Pollution Control Facility	Athens–Clarke County Public Utilities	GA	Clarke County	Athens	Wastewater treatment	Chlorine	3.00	57,697
The Dow Chemical Company		GA	Cobb County	Marietta	Basic chemicals – ACC	Toluene diisocyanate (unsp. isomer)	0.40	878
Plant McDonough Combined Cycle	Southern Company	GA	Cobb County	Smyrna	Electric power generation	Ammonia (anhydrous)	1.20	7,802
Water Pollution Control Plant	City of Moultrie, Georgia	GA	Colquitt County	Moultrie	Wastewater treatment	Chlorine	2.20	6,734
Hershall B. Norred Water Treatment Plant	Newnan Utilities	GA	Coweta County	Newnan	Water treatment	Chlorine	1.30	3,990
Dade County Water Treatment Plant		GA	Dade County	Trenton	Water treatment	Chlorine	0.90	240
BASF Corporation – Attapulgus Operations	BASF Corporation	GA	Decatur County	Attapulgus	Basic chemicals – ACC	Ammonia (anhydrous)	4.00	1,562
Snapfinger AWT Facility	DeKalb County, Georgia Dept. of Watershed Management*	GA	DeKalb County	Decatur	Wastewater treatment	Chlorine	0.90	5,505
Pole Bridge AWT Facility	DeKalb County, Georgia Dept. of Watershed Management*	GA	DeKalb County	Lithonia	Wastewater treatment	Chlorine	0.90	1,722
W,G & L Water Filtration Plant	Albany Water Gas & Light Commission	GA	Dougherty County	Albany	Water treatment	Chlorine	3.00	3,918

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Water Pollution Control – Joshua Street Plant	City of Albany, GA	GA	Dougherty County	Albany	Wastewater treatment	Chlorine	3.00	22,614
McIntosh Combined Cycle Facility	Southern Company	GA	Effingham County	Rincon	Electric power generation	Ammonia (anhydrous)	2.10	1,912
City of Fayetteville Water & Wastewater Facilities		GA	Fayette County	Fayetteville	Water treatment, wastewater	Chlorine	1.30	3,668
Crosstown Water Treatment Plant		GA	Fayette County	Peachtree City	Water treatment	Chlorine	1.30	3,994
Plant Hammond	Georgia Power Company	GA	Floyd County	Rome	Electric power generation	Ammonia (anhydrous)	1.54	739
Rome Water Treatment Plant		GA	Floyd County	Rome	Water treatment	Chlorine	1.30	852
Rome–Coosa Water Pollution Control Plant	City of Rome, Georgia	GA	Floyd County	Rome	Wastewater treatment	Chlorine	3.00	2,125
Rome Water Pollution Control Plant	City of Rome, Georgia	GA	Floyd County	Rome	Wastewater treatment	Chlorine	1.30	2,683
city of cumming		GA	Forsyth County	Cumming	Water treatment	Chlorine	3.00	23,022
Brenntag Mid-South, Inc.	Brenntag U.S.A.	GA	Fulton County	East Point	Basic chemicals – ACC	Chlorine	1.30	14,454
East Point Water Department	City of East Point, Georgia	GA	Fulton County	East Point	Water treatment	Chlorine	1.67	16,796
PPG Architectural Coatings Fairburn Distr. Center	PPG Industries, Inc.	GA	Fulton County	Fairburn	Basic chemicals – ACC	Flammable Mixture	0.01	<10
Linde – Union City	Linde Gas North America LLC	GA	Fulton County	Fairburn	Basic chemicals – ACC	Acetylene	0.30	380
Pinova, Inc.	Pinova, Inc.	GA	Glynn County	Brunswick	Basic chemicals – ACC	Trimethyl-chlorosilane	1.00	2,696
Academy Creek Water Pollution Control Plant		GA	Glynn County	Brunswick	Wastewater treatment	chlorosilane	1.30	5,070
Allied Universal Corporation		GA	Glynn County	Brunswick	Bleach manufacturing	Sulfur dioxide (anhydrous)	15.00	72,234
Brunswick Cellulose	Brunswick Cellulose, Inc.	GA	Glynn County	Brunswick	Pulp and paper	Chlorine dioxide	25.00	113,803
OMNOVA Solutions Inc. – Calhoun Latex Plant	OMNOVA Solutions Inc.	GA	Gordon County	Calhoun	Basic chemicals – ACC	Ammonia (conc. ≥20%)	0.70	692
City of Calhoun WTP		GA	Gordon County	Calhoun	Water treatment	Chlorine	3.00	14,018
City of Calhoun WWTP	City of Calhou	GA	Gordon County	Calhoun	Wastewater treatment	Chlorine	3.00	14,924
Allied Universal Corporation		GA	Gordon County	Ranger	Bleach manufacturing	Sulfur dioxide (anhydrous)	15.00	87,360
Lanier Filter Plant	Gwinnett County	GA	Gwinnett County	Buford	Water treatment	Chlorine	0.90	1,961
Shoal Creek Filter Plant	Gwinnett County	GA	Gwinnett County	Buford	Water treatment	Chlorine	0.90	2,825
Univar USA Inc.	Univar USA Inc.	GA	Gwinnett County	Norcross	Basic chemicals – ACC	Ammonia (conc. ≥20%)	0.10	31
City of Gainesville Water Works		GA	Hall County	Gainesville	Water treatment	Chlorine	1.30	4,267
Chattahoochee Energy Facility	Oglethorpe Power Corporation	GA	Heard County	Franklin	Electric power generation	Ammonia (conc. ≥20%)	0.21	<10
Plant Wansley Combined Cycle Units	Southern Power Company	GA	Heard County	Franklin	Electric power generation	Ammonia (anhydrous)	1.36	271

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
MEAG Plant Wansley Unit 9	Municipal Electric Authority of Georgia	GA	Heard County	Franklin	Electric power generation	Ammonia (anhydrous)	2.80	1,413
KIK (Georgia) LLC	KIK International LLC	GA	Henry County	Hampton	Bleach manufacturing	Chlorine	14.00	469,065
Towaliga River Water Treatment Facility	Henry County Water & Sewerage Authority	GA	Henry County	Locust Grove	Water treatment	Chlorine	0.90	714
Mid-Georgia Cogen	Mid-Georgia Cogen Limited Partnership	GA	Houston County	Kathleen	Electric power generation	Ammonia (conc. ≥20%)	0.10	<10
City of Perry Water Pollution Control Plant		GA	Houston County	Perry	Wastewater treatment	Chlorine	3.00	6,311
Sandy Run Creek - WWTP2	City of Warner Robins	GA	Houston County	Warner Robins	Wastewater treatment	Chlorine	1.30	4,364
Bear Creek Water Treatment and Transmission Facility	Upper Oconee Basin Water Authority	GA	Jackson County	Bogart	Water treatment	Chlorine	1.30	925
Amerson Water Treatment Plant	Macon Water Authority	GA	Jones County	Macon	Water treatment	Chlorine	1.30	795
Potato Creek Water Pollution Control Plant	City of Griffin	GA	Lamar County	Griffin	Wastewater treatment	Chlorine	1.30	468
City of Dublin Surface Water Treatment Plant		GA	Laurens County	Dublin	Water treatment	Chlorine	0.90	828
City of Dublin Water Pollution Control Plant		GA	Laurens County	Dublin	Wastewater treatment	Chlorine	0.90	1,351
Interstate Paper, LLC	Interstate Resources, Inc.	GA	Liberty County	Riceboro	Pulp and paper	Chlorine	3.00	843
SNF Holding Company - Riceboro, GA Facilities	SNF Holding Company	GA	Liberty County	Riceboro	Basic chemicals - ACC	Acrylonitrile	17.00	90,090
Withlacoochee River WPCP/ City of Valdosta	City of Valdosta	GA	Lowndes County	Valdosta	Wastewater treatment	Chlorine	0.90	300
Brenntag Mid-South, Inc.	Brenntag U.S.A.	GA	Lowndes County	Valdosta	Basic chemicals - ACC	Chlorine	1.30	1,673
Weyerhaeuser NR Company, Flint River Operations	Weyerhaeuser NR Company	GA	Macon County	Oglethorpe	Pulp and paper	Chlorine dioxide	6.10	6,306
Plant Scherer	Georgia Power Company OPC, MEAG, City of Dalton, FPL, Gulf Power, JEA*	GA	Monroe County	Juliette	Electric power generation	Ammonia (anhydrous)	2.20	674
North Columbus Water Resource Facility (WRF)	Columbus Water Works	GA	Muscogee County	Columbus	Water treatment	Chlorine	2.20	26,325
South Columbus Water Resource Facility	Columbus Water Works	GA	Muscogee County	Columbus	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	29,325
North Columbus River Pump Station	Columbus Water Works	GA	Muscogee County	Columbus	Water treatment	Chlorine	3.00	46,342
Airgas Specialty Products Inc., Columbus, GA	Airgas Inc.	GA	Muscogee County	Columbus	Chemical wholesale	Ammonia (anhydrous)	4.40	111,847
Cornish Creek Water Treatment Plant		GA	Newton County	Covington	Water treatment	Chlorine	3.00	6,182
Waycross Water Pollution Control Plant #2	City of Waycross, Georgia	GA	Pierce County	Blackshear	Wastewater treatment	Chlorine	0.90	659

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Still Branch Water Treatment Plant	City of Griffin, Georgia	GA	Pike County	Concord	Water treatment	Chlorine	2.20	779
4 H Club Road Water Treatment Plant #2	Augusta-Richmond Utilities Department	GA	Richmond County	Augusta	Water treatment	Chlorine	0.90	1,132
Peach Orchard Road Water Treatment Plant #1	Augusta-Richmond Utilities Department	GA	Richmond County	Augusta	Water treatment	Chlorine	0.90	5,878
General Chemical LLC, Augusta Plant	General Chemical LLC	GA	Richmond County	Augusta	Basic chemicals - ACC	Oleum (Fuming Sulfuric acid)	2.90	6,575
International Paper - Augusta Mill	International Paper Company	GA	Richmond County	Augusta	Pulp and paper	Chlorine dioxide	3.90	9,518
DSM Chemicals North America, Inc.	DSM Finance	GA	Richmond County	Augusta	Basic chemicals - ACC	Ammonia (anhydrous)	3.80	17,412
PCS Nitrogen Fertilizer, L.P. Augusta Georgia	PCS Nitrogen Fertilizer Operations, Inc.	GA	Richmond County	Augusta	Fertilizer manufacturing	Ammonia (anhydrous)	17.00	431,082
Olin Corporation Augusta, Georgia Plant	Olin Corporation	GA	Richmond County	Augusta	Bleach manufacturing, ACC	Chlorine	25.00	495,708
Solvay Specialty Polymers USA, L.L.C. - Augusta	Solvay Specialty Polymers USA, LLC, - Alpharetta	GA	Richmond County	Augusta	Chemicals - ACC, SOCMA	Sulfur trioxide	25.00	502,900
Quigg Branch Water Pollution Control Plant	Rockdale County, Georgia	GA	Rockdale County	Conyers	Wastewater treatment	Chlorine	2.20	10,718
Simmons Water Treatment Plant	City of Griffin	GA	Spalding County	Griffin	Water treatment	Chlorine	1.30	5,123
City of Toccoa Water Treatment Facility		GA	Stephens County	Toccoa	Water treatment	Chlorine	0.90	362
Long Cane Creek Water Pollution Control Plant	City of LaGrange, GA	GA	Troup County	LaGrange	Wastewater treatment	Chlorine	1.30	733
Walter D. Williams Water Filter Plant	City of LaGrange	GA	Troup County	LaGrange	Water treatment	Chlorine	0.90	741
Rayonier Performance Fibers, LLC, Jesup Mill	Rayonier Inc.	GA	Wayne County	Jesup	Pulp and paper	Chlorine	14.00	36,872
Styron LLC - Dalton, GA	Styron LLC	GA	Whitfield County	Dalton	Basic chemicals - ACC	Ammonia (conc. ≥20%)	1.10	767
Tiarco Chemical Division	Textile Rubber and Chemical Company	GA	Whitfield County	Dalton	Specialty chemicals - SOCMA	Carbon disulfide	2.10	2,977
Ashland Aqualon Functional Ingredients	Ashland, Inc.	GA	Whitfield County	Dalton	Basic chemicals - ACC	Propylene oxide	1.40	6,367
V.D. Parrott Jr. Water Treatment Plant	Dalton Utilities	GA	Whitfield County	Dalton	Water treatment	Chlorine	2.20	6,530
Land Application System	Dalton Utilities	GA	Whitfield County	Dalton	Wastewater treatment	Chlorine	3.00	10,718
H A W A I I								
Hamakua Energy Partners, L.P.	Great Point Power, Hamakua Holdings, LLC	HI	Hawaii County	Honokaa	Electric power generation	Ammonia (anhydrous)	2.60	417
Puna Geothermal Venture	Orni 8 LLC	HI	Hawaii County	Pahoa	Electric power generation	Pentane	0.30	23
East Honolulu WWTP	HawaiiAmerican Water Co. American Water Western Region*	HI	Honolulu County	Honolulu	Wastewater treatment	Sulfur dioxide (anhydrous)	1.30	7,547
Tesoro Hawaii Corporation-Refinery	Tesoro Corporation	HI	Honolulu County	Kapolei	Petroleum refinery	Flammable Mixture	0.40	<10

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
BEI Hawaii – Barbers Point Facility, Oahu	Phoenix V LLC	HI	Honolulu County	Kapolei	Bleach manufacturing	Chlorine	1.30	195
Chevron Refinery – 2009	Chevron Corporation	HI	Honolulu County	Kapolei	Petroleum refinery	Flammable Mixture	1.50	1,254
AES Hawaii, Inc.	AES Corporation	HI	Honolulu County	Kapolei	Electric power generation	Ammonia (anhydrous)	5.40	46,367
Wailuku/Kahului WWRF	County of Maui	HI	Maui County	Kahului	Wastewater treatment	Chlorine	1.30	1,072
Kihei WWTP	County of Maui	HI	Maui County	Kihei	Wastewater treatment	Chlorine	1.30	9,098
Lahaina WWRF	County of Maui	HI	Maui County	Lahaina	Wastewater treatment	Chlorine	1.30	341
Waihee Deepwells Pump Station	Maui Dept. of Water Supply County of Maui*	HI	Maui County	Wailuku	Water treatment	Chlorine	0.10	<10
I O W A								
Rathbun Regional Water Association, Inc.		IA	Appanoose County	Centerville	Water treatment	Chlorine	0.90	35
Hydrite Chemical Co. – Waterloo	Hydrite Chemical Co.	IA	Black Hawk County	Waterloo	Chemical manufacturing	Sulfur dioxide (anhydrous)	18.00	160,050
Osceola Water Plant		IA	Clarke County	Osceola	Water treatment	Chlorine	2.20	2,637
Vertex Chemical Corporation Camanche, IA	Vertex Chemical Corporation	IA	Clinton County	Camanche	Bleach manufacturing, ACC	CBI Halogens and Halogen Oxides	14.00	57,806
Equistar Chemicals, LP Clinton Plant	Equistar Chemicals, LP	IA	Clinton County	Clinton	Basic chemicals – ACC	Vinyl acetate monomer	4.50	6,980
ADM Clinton Cogeneration	Archer Daniels Midland	IA	Clinton County	Clinton	Electric power generation	Ammonia (anhydrous)	2.30	14,696
Burlington Municipal Waterworks		IA	Des Moines County	Burlington	Water treatment	Chlorine	0.90	1,078
Forest City Distribution Center–3M Company		IA	Hancock County	Forest City	Basic chemicals – ACC	Ethylene oxide	0.01	<10
Air Liquide Industrial US Galva, IA CO2 Facility	Air Liquide Industrial US LP	IA	Ida County	Galva	Basic chemicals – ACC	Ammonia (anhydrous)	2.00	166
Iowa City Water Treatment Facility	City of Iowa City Department of Public Works	IA	Johnson County	Iowa City	Water treatment	Chlorine	0.90	2,425
Iowa City Wastewater Treatment – South Plant	City of Iowa City	IA	Johnson County	Iowa City	Wastewater treatment	Chlorine	1.30	3,732
Iowa City Wastewater Treatment – North plant	City of Iowa City	IA	Johnson County	Iowa City	Wastewater treatment	Chlorine	1.30	26,894
The University of Iowa Water Plant	The University of Iowa	IA	Johnson County	Iowa City	Water treatment	Chlorine	5.40	87,594
Keokuk Water Treatment Plant	Keokuk Municipal Water Department, Keokuk, Iowa	IA	Lee County	Keokuk	Water treatment	Chlorine	1.30	3,983
Roquette America, Inc. (Keokuk)	Roquette America, Inc.	IA	Lee County	Keokuk	Electric power generation	Ammonia (anhydrous)	2.60	8,419
Water Pollution Control Facilities	City of Cedar Rapids	IA	Linn County	Cedar Rapids	Wastewater treatment	Chlorine	1.30	1,413
J Avenue Water Treatment Plant	City of Cedar Rapids	IA	Linn County	Cedar Rapids	Water treatment	Chlorine	1.30	10,586
Penford Products Co.	Penford Corporation	IA	Linn County	Cedar Rapids	Wet corn milling	Ethylene oxide	9.90	190,871

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
ADM Corn Processing – Cedar Rapids	Archer Daniels Midland Company	IA	Linn County	Cedar Rapids	Wet corn milling	Sulfur dioxide (anhydrous)	16.00	242,058
Northwest Water Treatment Plant	City of Cedar Rapids	IA	Linn County	Palo	Water treatment	Chlorine	3.00	15,889
Winterset Water Treatment Plant	Winterset Municipal Utilities	IA	Madison County	Winterset	Water treatment	Chlorine	2.23	1,946
Progress Park Drinking Water Treatment	Muscatine Power and Water	IA	Muscatine County	Muscatine	Water treatment	Chlorine	0.90	94
Grandview Avenue Drinking Water Treatment	Muscatine Power and Water	IA	Muscatine County	Muscatine	Water treatment	Chlorine	0.90	192
Power Generation Station	Muscatine Power and Water	IA	Muscatine County	Muscatine	Electric power generation	Sulfur dioxide (anhydrous)	0.90	816
Drinking Water Treatment at Generation Station	Muscatine Power and Water	IA	Muscatine County	Muscatine	Water treatment	Chlorine	0.90	1,075
Linde – Muscatine	Linde LLC	IA	Muscatine County	Muscatine	Basic chemicals – ACC	Ammonia (anhydrous)	1.50	2,316
Des Moines Wastewater Reclamation Authority	City of Des Moines	IA	Polk County	Des Moines	Wastewater treatment	Chlorine	3.00	46,493
Greater Des Moines Energy Center	MidAmerican Energy Company MidAmerican Holdings Company*	IA	Polk County	Pleasant Hill	Electric power generation	Ammonia (conc. ≥20%)	0.10	<10
Council Bluffs Water Works	NA	IA	Pottawattamie County	Council Bluffs	Water treatment	Chlorine	1.30	12,200
East River Station Water Treatment Plant	Iowa–American Water Company American Water Works Company, Inc.*	IA	Scott County	Davenport	Water treatment	Chlorine	0.90	7,069
Colorbiotics	BASF	IA	Story County	Ames	Chemicals – ACC, SOCMA	Ammonia (conc. ≥20%)	1.50	4,451
Twelve Mile Water Treatment Plant	City of Creston Water Works	IA	Union County	Creston	Water treatment	Chlorine	2.20	164
Ottumwa Water & Hydro		IA	Wapello County	Ottumwa	Water treatment	Chlorine	0.90	2,573
Praxair – Fort Dodge, IA	Praxair, Inc.	IA	Webster County	Duncombe	Basic chemicals – ACC	Ammonia (anhydrous)	1.60	122
City of Sioux City Water Plant		IA	Woodbury County	Sioux City	Water treatment	Chlorine	1.30	135
I D A H O								
City of Pocatello POTW		ID	Bannock County	Pocatello	Wastewater treatment	Chlorine	0.90	2,285
City of Idaho Falls Water Pollution Control Plant		ID	Bonneville County	Idaho Falls	Wastewater treatment	Chlorine	2.20	11,960
Univar USA Inc.	Univar USA Inc.	ID	Canyon County	Nampa	Basic chemicals – ACC	Hydrochloric acid (conc. ≥37%)	0.20	106
Raft River Energy I LLC	U.S. Geothermal Inc.	ID	Cassia County	Malta	Electric power generation	Isopentane	0.50	<10
Coeur d’Alene Advanced Wastewater Treatment Plant	City of Coeur d’Alene, Idaho	ID	Kootenai County	Coeur d’Alene	Wastewater treatment	Chlorine	1.30	7,882
Clearwater Paper Corp. Idaho P&P Divison	Clearwater Paper Corporation	ID	Nez Perce County	Lewiston	Pulp and paper	Chlorine	7.70	43,175

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
ILLINOIS								
City of Quincy Wastewater Treatment Facility		IL	Adams County	Quincy	Wastewater treatment	Chlorine	1.30	3,254
City of Quincy, Water Department Filtration Facility	City of Quincy	IL	Adams County	Quincy	Water treatment	Chlorine	1.30	8,323
Illinois American Water – Champaign West Plant	American Water	IL	Champaign County	Champaign	Water treatment	Chlorine	1.30	11,324
Illinois American Water – Urbana East Plant	American Water	IL	Champaign County	Urbana	Water treatment	Chlorine	1.30	36,724
Kincaid Generation, L.L.C.	Dominion Resources, Inc.	IL	Christian County	Kincaid	Electric power generation	Ammonia (anhydrous)	3.00	1,286
Arkema Coating Resins	Arkema Inc.	IL	Cook County	Alsip	Basic chemicals – ACC	Vinyl acetate monomer	0.90	8,132
Argo Terminal	Kinder Morgan Liquids Terminals, LLC Kinder Morgan, Inc.*	IL	Cook County	Argo	Chemical storage terminal	Vinyl acetate monomer	12.00	2,567,913
Univar USA Inc. – CB	Univar USA Inc.	IL	Cook County	Bedford Park	Basic chemicals – ACC	Formaldehyde (solution)	0.10	77
Ashland Specialty Chemical Co. – Calumet City, IL	Ashland, Inc.	IL	Cook County	Calumet City	Basic chemicals – ACC	Formaldehyde (solution)	0.31	970
Nalco Company – Plant 1	Ecolab	IL	Cook County	Chicago	Basic chemicals – ACC	Epichlorohydrin	0.40	1,999
South Water Purification Plant (SWPP)	City of Chicago Department of Water Management	IL	Cook County	Chicago	Water treatment	Chlorine	1.30	26,587
James W. Jardine Water Purification Plant (JWPP)	City of Chicago Department of Water Management	IL	Cook County	Chicago	Water treatment	Chlorine	1.30	48,546
Chicago Hospitality, Chicago, IL	Tyson Foods Inc	IL	Cook County	Chicago	Ammonia refrigeration	Ammonia (anhydrous)	1.70	105,513
PVS Chemical Solutions, Inc.	PVS Chemicals Incorporated	IL	Cook County	Chicago	Basic chemicals – ACC	Sulfur dioxide (anhydrous)	25.00	4,952,436
Polychemie Inc. – Dolton, IL Facility	SNF Holding Company	IL	Cook County	Dolton	Basic chemicals – ACC	Dimethylamine	0.28	1,501
Evanston Water Utility	City of Evanston	IL	Cook County	Evanston	Water treatment	Chlorine	1.30	26,951
K.A. Steel Chemicals, Inc.		IL	Cook County	Lemont	Bleach manufacturing, ACC	Chlorine	14.00	1,555,061
Pelron		IL	Cook County	Lyons	Chemical manufacturing	Ethylene oxide	8.70	1,715,472
Village of Northbrook, IL – Water Filtration Plant		IL	Cook County	Northbrook	Water treatment	Chlorine	0.90	3,964
Airgas Specialty Products Inc., Riverdale, IL	Airgas Inc.	IL	Cook County	Riverdale	Chemical wholesale	Ammonia (anhydrous)	4.40	262,080
Brenntag Great Lakes, LLC – Chicago	Brenntag North America Inc.	IL	Cook County	Stickney Township	Basic chemicals – ACC	Chloroform	0.05	12
Willow Springs Terminal	Rowell Chemical Corporation	IL	Cook County	Willow Springs	Bleach manufacturing	Chlorine	14.00	2,371,153
Village of Winnetka Water Plant		IL	Cook County	Winnetka	Water treatment	Chlorine	0.50	1,247

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Marathon Petroleum Company LP IRD	Marathon Petroleum Company LP	IL	Crawford County	Robinson	Petroleum refinery, ACC	Hydrofluoric acid (conc. ≥50%)	25.00	81,290
3M DeKalb Distribution Campus – 3M Company		IL	DeKalb County	Dekalb	Basic chemicals – ACC	Methyl ether	0.02	<10
DeKalb Distribution Center (DK1) – 3M Company		IL	DeKalb County	DeKalb	Basic chemicals – ACC	Ethylene oxide	0.01	<10
DeKalb Distribution Center North – 3M Company		IL	DeKalb County	DeKalb	Basic chemicals – ACC	Ethylene oxide	0.01	<10
Air Products, Tuscola IL	Air Products and Chemicals, Inc.	IL	Douglas County	Tuscola	Basic chemicals – ACC	Hydrogen	0.27	14
Equistar Chemicals, LP – Tuscola Plant	Equistar Chemicals, LP	IL	Douglas County	Tuscola	Basic chemicals – ACC	Ethyl ether	0.40	30
Cabot Corporation	Cabot Corporation	IL	Douglas County	Tuscola	Basic chemicals – ACC	Methyl-trichlorosilane	2.20	872
West Chicago Rgnl Wastewater Treatment Facility		IL	DuPage County	West Chicago	Wastewater treatment		3.70	65,212
Duck Creek Power Station	Ameren	IL	Fulton County	Canton	Electric power generation	Ammonia (anhydrous)	4.70	1,692
Equistar Chemicals, LP – Morris Plant	LyondellBasell Industries	IL	Grundy County	Morris	Basic chemicals – ACC	Vinyl acetate monomer	1.40	2,270
Akzo Nobel Surface Chemistry LLC Morris Plant	Akzo Nobel Chemicals Inc.	IL	Grundy County	Morris	Basic chemicals – ACC	Acrylonitrile	14.00	186,362
City of Galesburg – Oquawka Facility		IL	Henderson County	Oquawka	Water treatment	Chlorine	2.20	350
Kinkaid Area Water System	Kinkaid-Reed’s Creek Conservancy District	IL	Jackson County	Murphysboro	Water treatment	Chlorine	3.00	2,197
PPG Architectural Coatings Distribution Center	PPG Industries, Incorporated	IL	Kane County	Aurora	Basic chemicals – ACC	Flammable Mixture	0.01	<10
City of Elgin – Airlite Water Treatment Facility		IL	Kane County	Elgin	Water treatment	Chlorine	1.30	15,781
City of Elgin – Riverside Water Treatment Facility		IL	Kane County	Elgin	Water treatment	Chlorine	1.30	16,426
Aqua Illinois, Inc.	AQUA America Aqua Illinois, Inc.*	IL	Kankakee County	Kankakee	Water treatment	Chlorine	0.90	128
Kankakee Polymer Plant	Rohm and Haas Chemicals LLC	IL	Kankakee County	Kankakee	Basic chemicals – ACC	Vinyl acetate monomer	0.45	726
Kankakee River Metropolitan Agency – KRMA		IL	Kankakee County	Kankakee	Wastewater treatment	Chlorine	2.70	39,239
BASF Corporation – Kankakee, IL, Mfg. Facility	BASF Corporation	IL	Kankakee County	Kankakee	Basic chemicals – ACC	Ammonia (anhydrous)	4.90	40,769
Dynegy Kendall Energy, LLC	Dynegy, Inc.	IL	Kendall County	Minooka	Electric power generation	Ammonia (conc. ≥20%)	1.20	1,352
Fox Metro Water Reclamation District		IL	Kendall County	Oswego	Wastewater treatment	Methane	0.20	283
Agrium US, Inc.		IL	La Salle County	Marseilles	Chemical wholesale	Ammonia (anhydrous)	25.00	210,560
SABIC Innovative Plastics–Ottawa	SABIC US Innovative Plastics Holding US LP	IL	La Salle County	Ottawa	Basic chemicals – ACC	Acrylonitrile	2.80	3,113

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
City of Peru Wastewater Treatment Plant		IL	La Salle County	Peru	Wastewater treatment	Chlorine	1.30	5,990
Petroferm Inc. Gurnee Plant site	HIG Chemicals, Inc.	IL	Lake County	Gurnee	Cleaning agent manufacturing	Ethylene oxide	9.90	393,166
George B. Prindle Water Treatment Plant	City of Highland Park, IL	IL	Lake County	Highland Park	Water treatment	Chlorine	1.30	7,419
North Chicago Water Treatment Plant	City of North Chicago	IL	Lake County	North Chicago	Water treatment	Chlorine	1.30	18,314
City of Waukegan Water Treatment Plant		IL	Lake County	Waukegan	Water treatment	Chlorine	0.70	1,949
Illinois American Water – Streator Plant	American Water	IL	Livingston County	Streator	Water treatment	Chlorine	2.20	4,649
Brenntag Mid-South, Inc.	Brenntag North America	IL	Macon County	Decatur	Basic chemicals – ACC	Chlorine	1.30	4,817
City of Decatur – South Water Treatment Plant	City of Decatur, Illinois	IL	Macon County	Decatur	Water treatment	Chlorine	1.30	14,399
Tate & Lyle – Decatur	Tate & Lyle Ingredients America, Inc	IL	Macon County	Decatur	Wet corn milling	Ethylene oxide	9.90	98,267
Illinois-American Water Company, Alton Plant1		IL	Madison County	Alton	Water treatment	Chlorine	0.90	1,793
Koch Nitrogen Company – Wood River Terminal	Koch Nitrogen Company, LLC Koch Mineral Services, LLC*	IL	Madison County	East Alton	Chemical wholesale	Ammonia (anhydrous)	11.00	273,854
Air Products, Granite City, IL	Air Products and Chemicals, Inc.	IL	Madison County	Granite City	Basic chemicals – ACC	Hydrogen	0.25	348
Illinois-Amer. Water Co, Granite City Facility	American Water Works Company, Inc.	IL	Madison County	Granite City	Water treatment	Chlorine	0.90	4,850
Airgas Specialty Products – Granite City	Airgas, Inc.	IL	Madison County	Granite City	Chemical wholesale	Ammonia (anhydrous)	6.90	350,064
Air Liquide Woodriver, IL CO2 Plant	Air Liquide Industrial US LP	IL	Madison County	Roxana	Basic chemicals – ACC	Ammonia (anhydrous)	1.10	1,407
Phillips 66 Wood River Refinery	Phillips 66 Company	IL	Madison County	Roxana	Petroleum refinery	Flammable Mixture	1.13	1,857
Centralia Water Treatment Plant		IL	Marion County	Centralia	Water treatment	Chlorine	1.30	2,435
Salem Water Treatment Plant		IL	Marion County	Salem	Water treatment	Chlorine	2.60	7,647
Mexichem Specialty Resins, Inc. – Henry Plant	Mexichem, S.A.B. de C.V.	IL	Marshall County	Henry	Basic chemicals – ACC	Vinyl chloride	0.76	590
Emerald Performance Materials – Henry Plant	Emerald Performance Materials, LLC	IL	Marshall County	Henry	Specialty chemicals – SOCOMA	Carbon disulfide	18.00	52,507
Honeywell Metropolis Works	Honeywell International inc.	IL	Massac County	Metropolis	Basic chemicals – ACC	Hydrofluoric acid (conc. ≥50%)	25.00	130,073
Rohm and Haas Chemicals, LLC, Ringwood Facility	Dow Chemical Company	IL	McHenry County	Ringwood	Basic chemicals – ACC	Vinyl acetate monomer	0.40	518
City of Bloomington Water Treatment Plant		IL	McLean County	Hudson	Water treatment	Chlorine	1.30	226

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Town of Normal (Water Department)		IL	McLean County	Normal	Water treatment	Chlorine	0.90	17,008
Coffeen Energy Center	Illinois Power Generating Company	IL	Montgomery County	Coffeen	Electric power generation	Ammonia (anhydrous)	5.30	3,320
Celanese Ltd	Celanese Ltd	IL	Morgan County	Meredosia	Basic chemicals – ACC	Vinyl acetate monomer	1.03	83
Brenntag Mid-South, Inc.	Brenntag U.S.A.	IL	Peoria County	Bartonville	Basic chemicals – ACC	Chlorine	3.00	19,180
Ameren Edwards Station		IL	Peoria County	Bartonville	Electric power generation	Ammonia (anhydrous)	3.20	25,967
Chemtura Corporation – Metal Organics Plant	Chemtura Corporation	IL	Peoria County	Mapleton	Basic chemicals – ACC	Ethylene	0.30	19
Lonza Inc.	Lonza Group Ltd.	IL	Peoria County	Mapleton	Specialty chemicals – SOCMA	Methyl chloride	3.20	2,053
Evonik Goldschmidt Corporation	Evonik Goldschmidt Corporation	IL	Peoria County	Mapleton	Chemicals – ACC, SOCMA	Ammonia (anhydrous)	3.60	4,859
Illinois-American Water Co. Main Station Facility	American Water Works Company, Inc.	IL	Peoria County	Peoria	Water treatment	Chlorine	0.90	2,327
Illinois-American Water Company San Koty facility	American Water Works Company, Inc.	IL	Peoria County	Peoria	Water treatment	Chlorine	0.90	3,080
Dynegy Midwest Generation, Baldwin Energy Complex	Dynegy Midwest Generation LLC.	IL	Randolph County	Baldwin	Electric power generation	Ammonia (anhydrous)	11.00	20,023
City of Olney		IL	Richland County	Olney	Water treatment	Chlorine	2.20	4,093
Cordova Energy Company, LLC	MidAmerican Energy Holdings Company	IL	Rock Island County	Cordova	Electric power generation	Ammonia (conc. ≥20%)	0.50	50
Cordova – 3M Company		IL	Rock Island County	Cordova	Basic chemicals – ACC	Hydrofluoric acid (conc. ≥50%)	25.00	381,454
Rock Island Wastewater Treatment Plant	City of Rock Island, Illinois	IL	Rock Island County	Rock Island	Wastewater treatment	Chlorine	5.40	155,103
Rock Island Water Plant	City of Rock Island	IL	Rock Island County	Rock Island	Water treatment	Chlorine	5.40	172,995
CWLP's Water Purification Plant	City of Springfield	IL	Sangamon County	Springfield	Water treatment	Chlorine	1.30	4,646
CWLP's Dallman Power Station	City of Springfield	IL	Sangamon County	Springfield	Electric power generation	Ammonia (anhydrous)	5.60	103,481
Holland Energy, LLC.	Wabash Valley Power Association Hoosier Energy*	IL	Shelby County	Beecher City	Electric power generation	Ammonia (anhydrous)	4.00	1,624
Solvay Fluorides, LLC – Alorton Plant	Solvay Fluorides, L.L.C.	IL	St. Clair County	Alorton	Chemicals – ACC, SOCMA	Hydrofluoric acid (conc. ≥50%)	16.00	1,224,359
Praxair Distribution – Cahokia IL	Praxair, Inc.	IL	St. Clair County	Cahokia	Basic chemicals – ACC	Acetylene	0.20	95
Vertex Chemical Corporation Dupo, IL	Vertex Chemical Corporation	IL	St. Clair County	Dupo	Bleach manufacturing, ACC	CBI Halogens and Halogen Oxides	14.00	993,614
Illinois-Amer. Water Co., East St. Louis Facility		IL	St. Clair County	East St. Louis	Water treatment	Chlorine	0.90	2,803
Kaskaskia Water District Water Treatment Plant		IL	St. Clair County	New Athens	Water treatment	Chlorine	2.60	1,267

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Solutia W. G. Krummrich Plant	Solutia	IL	St. Clair County	Sauget	Basic chemicals – ACC	Chlorine	14.00	1,127,710
Afton Chemical Corporation	NewMarket Corporation	IL	St. Clair County	Sauget	Basic chemicals – ACC	Chlorine	14.00	1,127,779
Scott Air Force Base	HQ Air Mobility Command HQ USAF*	IL	St. Clair County	Scott AFB	Wastewater treatment	Chlorine	1.30	2,263
City of East Peoria Wastewater Treatment Plant		IL	Tazewell County	East Peoria	Wastewater treatment	Chlorine	1.30	184
Praxair – Pekin, IL	Praxair, Inc.	IL	Tazewell County	Pekin	Basic chemicals – ACC	Ammonia (anhydrous)	1.50	6,764
Aqua Illinois, Inc.	AQUA America AQUA Illinois, Inc.*	IL	Vermilion County	Danville	Water treatment	Chlorine	0.90	3,876
DynaChem, Inc.		IL	Vermilion County	Georgetown	Specialty chemicals – SOCMA	Epichlorohydrin	0.60	259
Prairie State Generating Station		IL	Washington County	Marissa	Electric power generation	Ammonia (anhydrous)	7.70	5,793
ExxonMobil Oil Corporation Joliet Refinery	Exxon Mobil Corporation	IL	Will County	Channahon	Petroleum refinery, ACC	Hydrofluoric acid (conc. ≥50%)	25.00	1,275,778
Stepan Company	Stepan Company	IL	Will County	Elwood	Basic chemicals – ACC	Sulfur trioxide	25.00	1,531,627
PDV Midwest Refining, LLC	CITGO Petroleum Corporation	IL	Will County	Lemont	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	22.00	3,394,412
Solvay University Park Facility	Solvay USA Inc.	IL	Will County	University Park	Basic chemicals – ACC	Epichlorohydrin	0.37	107
The Dow Chemical Company		IL	Will County	Wilmington	Basic chemicals – ACC	Flammable Mixture	0.30	307
Lake of Egypt Water and Sewer District		IL	Williamson County	Marion	Water treatment	Chlorine	1.60	373
Marion Generating Station		IL	Williamson County	Marion	Electric power generation	Ammonia (anhydrous)	4.50	3,388
I N D I A N A								
Brenntag Great Lakes, LLC – Fort Wayne	Brenntag North America, Inc.	IN	Allen County	Fort Wayne	Basic chemicals – ACC	Ammonia (conc. ≥20%)	0.10	17
Three Rivers Filtration Plant	City of Fort Wayne City of Fort Wayne, Division of Utilities*	IN	Allen County	Fort Wayne	Water treatment	Chlorine	1.30	20,948
Columbus Water Treatment Plant No. 2	City of Columbus Utilities	IN	Bartholomew County	Columbus	Water treatment	Chlorine	3.00	11,809
Columbus Water Treatment Plant No. 1	City of Columbus Utilities	IN	Bartholomew County	Columbus	Water treatment	Chlorine	3.00	35,368
Logansport Wastewater Treatment Plant	Logansport Municipal Utilities City of Logansport, Indiana USA*	IN	Cass County	Logansport	Wastewater treatment	Sulfur dioxide (anhydrous)	0.90	3,065
Logansport Water Treatment Plant	Logansport Municipal Utilities City of Logansport*	IN	Cass County	Logansport	Water treatment	Chlorine	0.90	6,511
Town of Clarksville Wastewater Treatment Dept.		IN	Clark County	Clarksville	Wastewater treatment	Chlorine	1.30	11,883
Indiana American Water–Southern Indiana	Thames Water LLC RWE AG*	IN	Clark County	Jeffersonville	Water treatment	Chlorine	1.30	15,418

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
DSM NeoResins – Frankfort	DSM INC	IN	Clinton County	Frankfort	Basic chemicals – ACC	Acrylonitrile	1.20	270
Frankfort Wastewater Treatment Plant		IN	Clinton County	Frankfort	Wastewater treatment	Chlorine	2.60	15,867
Washington, Indiana CO2 Plant	Air Liquid Industrial US	IN	Daviess County	Washington	Basic chemicals – ACC	Ammonia (anhydrous)	2.20	2,152
Air Products, Butler, IN	Air Products and Chemicals	IN	DeKalb County	Butler	Basic chemicals – ACC	Hydrogen	0.30	25
Muncie Wastewater Treatment Plant	Muncie Sanitary District	IN	Delaware County	Muncie	Wastewater treatment	Chlorine	1.30	7,742
Indiana American Water – Muncie	Thames Water LLC RWE AG*	IN	Delaware County	Muncie	Water treatment	Chlorine	1.30	8,272
Patoka Lake Regional Water & Sewer District		IN	Dubois County	Dubois	Wastewater treatment	Chlorine	0.90	82
Jasper Municipal Water Treatment Plant	City of Jasper, Indiana	IN	Dubois County	Jasper	Water treatment	Chlorine	1.30	3,234
Elkhart NW Well Field Water Treatment Plant		IN	Elkhart County	Elkhart	Water treatment	Chlorine	3.30	26,235
Elkhart Wastewater Treatment Plant		IN	Elkhart County	Elkhart	Wastewater treatment	Chlorine	3.20	46,542
Elkhart N. Main St. Water Treatment Plant		IN	Elkhart County	Elkhart	Water treatment	Chlorine	3.20	52,580
Connersville Wastewater Treatment Plant	Connersville Utilities City of Connersville*	IN	Fayette County	Connersville	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	13,613
Gibson Generating Station	Duke Energy Corp.	IN	Gibson County	Owensville	Electric power generation	Ammonia (anhydrous)	1.30	385
Marion Municipal Utilities	City of Marion	IN	Grant County	Marion	Water treatment, wastewater	Chlorine	1.30	270
Indiana American Water – Noblesville	Thames Water LLC RWE AG*	IN	Hamilton County	Noblesville	Water treatment	Chlorine	3.00	29,660
City of Kokomo Waste Water Treatment Facility		IN	Howard County	Kokomo	Wastewater treatment	Chlorine	0.90	6,975
Indiana American Water–Kokomo	Thames Water LLC RWE AG*	IN	Howard County	Kokomo	Water treatment	Chlorine	1.30	8,953
Indiana American Water–Seymour	American Water	IN	Jackson County	Seymour	Water treatment	Chlorine	3.00	18,932
Indiana American Water–Johnson County Sugar Creek	Thames Water LLC RWE AG*	IN	Johnson County	Franklin	Water treatment	Chlorine	3.00	2,699
Indiana American Water – Marlin Plant	Thames Water LLC RWE AG*	IN	Johnson County	Greenwood	Water treatment	Chlorine	3.00	35,935
Edwardsport IGCC	Duke Energy Indiana, Inc.	IN	Knox County	Edwardsport	Electric power generation	Hydrogen sulfide	8.70	9,898
Praxair – Whiting West Side	Praxair, Inc.	IN	Lake County	East Chicago	Basic chemicals – ACC	Hydrogen	0.20	96
Praxair – East Chicago, IN	Praxair, Inc.	IN	Lake County	East Chicago	Basic chemicals – ACC	Hydrogen	0.80	3,593
Praxair – Whiting, IN #5,6	Praxair, Inc.	IN	Lake County	East Chicago	Basic chemicals – ACC	Ammonia (anhydrous)	2.60	34,304
Kemira Water Solutions, Inc.	Kemira	IN	Lake County	East Chicago	Chemical manufacturing	Chlorine	14.00	1,362,857

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Indiana American Water – Northwest, Borman Park	American Water Works Company	IN	Lake County	Gary	Water treatment	Chlorine	1.30	13,587
Linde – Hammond	Linde Gas North America, LLC	IN	Lake County	Hammond	Basic chemicals – ACC	Acetylene	0.10	73
Hammond Water Filtration Plant	City of Hammond	IN	Lake County	Hammond	Water treatment	Chlorine	0.90	4,862
Saniatry District of Hammond		IN	Lake County	Hammond	Wastewater treatment	Chlorine	0.90	12,609
BP Products N.A. Whiting Business Unit	BP America, Inc.	IN	Lake County	Whiting	Petroleum refinery	Hydrogen sulfide	2.04	18,945
Whiting Clean Energy	BP Alternative Energy	IN	Lake County	Whiting	Electric power generation	Ammonia (anhydrous)	2.80	30,775
Alexander Chemical Corporation	Carus Corporation	IN	LaPorte County	Kingsbury	Bleach manufacturing, ACC	Chlorine	25.00	393,169
City of La Porte – Water Works – East Plant		IN	LaPorte County	La Porte	Water treatment	Chlorine	0.40	647
City of La Porte – Water Works – Lake Street Plant		IN	LaPorte County	La Porte	Water treatment	Chlorine	0.40	895
City of La Porte – Wastewater Treatment Plant		IN	LaPorte County	La Porte	Wastewater treatment	Chlorine	1.30	2,650
Michigan City Water Filtration Plant	Michigan City Department of Water Works	IN	LaPorte County	Michigan	Water treatment	Chlorine	0.70	1,465
J.B. Gifford WWTP		IN	LaPorte County	Michigan City	Wastewater treatment	Chlorine	1.30	12,172
OnLine Packaging, Incorporated – Michigan City		IN	LaPorte County	Michigan City	Bleach manufacturing	Chlorine	14.00	125,953
Bedford Illinois Street Water Treatment Plant		IN	Lawrence County	Bedford,	Water treatment	Chlorine	1.30	6,060
City of Anderson, IN – Wheeler Ave Water Plant		IN	Madison County	Anderson	Water treatment	Chlorine	1.30	14,787
City of Anderson, IN – Lafayette Water Plant		IN	Madison County	Anderson	Water treatment	Chlorine	3.00	17,155
JCI Jones Chemicals Inc. Beech Grove, IN		IN	Marion County	Beech Grove	Bleach manufacturing, ACC	Sulfur dioxide (anhydrous)	16.00	1,138,689
Lilly Technology Center	Eli Lilly and Company	IN	Marion County	Indianapolis	Basic chemicals – ACC	Ethylenediamine	0.20	124
Praxair Distribution – Indianapolis, IN	Praxair, Inc.	IN	Marion County	Indianapolis	Basic chemicals – ACC	Propylene	0.30	659
Heritage–Crystal Clean LLC Indianapolis Re-refiner	Heritage–Crystal Clean, Inc.	IN	Marion County	Indianapolis	Specialty chemicals – SOCMA	Hydrogen	0.30	872
Heritage Environmental Services, LLC	Heritage Environmental Services, LLC	IN	Marion County	Indianapolis	Specialty chemicals – SOCMA	Hydrochloric acid (conc. ≥37%)	0.50	1,036
Brenntag Mid–South, Inc.	Brenntag North America, Inc.	IN	Marion County	Indianapolis	Basic chemicals – ACC	Chlorine	1.30	19,975
Vertellus Agriculture & Nutrition Specialties LLC	Vertellus Specialties Inc.	IN	Marion County	Indianapolis	Chemicals – ACC, SOCMA	Ammonia (anhydrous)	5.00	249,780

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Speedway Water Works Surface Water Plant		IN	Marion County	Speedway	Water treatment	Chlorine	0.90	11,319
Indiana American Water–Crawfordsville	Thames Water LLC RWE AG*	IN	Montgomery County	Crawfordsville	Water treatment	Chlorine	3.00	7,587
Indianapolis Power & Light Company	AES Corporation	IN	Pike County	Petersburg	Electric power generation	Ammonia (anhydrous)	4.00	4,191
Praxair – Chesterton, IN	Praxair, Inc.	IN	Porter County	Chesterton	Basic chemicals – ACC	Hydrogen	0.20	23
Indiana American Water, Northwest, Ogdun Dunes	American Water Company	IN	Porter County	Portage	Water treatment	Chlorine	1.30	2,625
Countrymark Co-op, LLP.		IN	Posey County	Mt. Vernon	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	7.50	12,516
SABIC Innovative Plastics – Mt. Vernon	SABIC Innovative Plastics US LLC	IN	Posey County	Mt. Vernon	Basic chemicals – ACC	Phosgene	12.00	22,283
Indiana American Water–Shelbyville	Thames Water LLC RWE AG*	IN	Shelby County	Shelbyville	Water treatment	Chlorine	3.00	1,641
City of South Bend Wastewater Treatment Plant	City of South Bend, Department of Public Works	IN	St. Joseph County	South Bend	Wastewater treatment	Chlorine	1.30	10,805
North Pumping Station and Well Field	City of South Bend	IN	St. Joseph County	South Bend	Water treatment	Chlorine	1.30	19,712
Merom Generating Station	Hoosier Energy Rural Electric Cooperative Inc	IN	Sullivan County	Sullivan	Electric power generation	Ammonia (anhydrous)	6.00	5,569
Tippecanoe Laboratories	Evonik Industries AG	IN	Tippecanoe County	Lafayette	Chemicals – ACC, SOCOMA	Ammonia (anhydrous)	2.60	21,023
Tate & Lyle Sagamore	Staley Holdings, Inc.	IN	Tippecanoe County	Lafayette	Wet corn milling	Sulfur dioxide (anhydrous)	5.60	129,511
Tate & Lyle, Lafayette South	Tate & Lyle Ingredients A.E. Staley Manufacturing Company*	IN	Tippecanoe County	Lafayette	Wet corn milling	Sulfur dioxide (anhydrous)	13.00	177,793
Westside Wastewater Treatment Plant	City of Evansville	IN	Vanderburgh County	Evansville	Wastewater treatment	Chlorine	1.00	2,564
Eastside Wastewater Treatment Plant	Evansville Water & Sewer Utility Environmental Management Corporation*	IN	Vanderburgh County	Evansville	Wastewater treatment	Chlorine	1.00	6,389
Evansville Water Filtration Plant	City of Evansville Indiana	IN	Vanderburgh County	Evansville	Water treatment	Chlorine	1.70	15,070
Clinton Laboratories	Eli Lilly and Company	IN	Vermillion County	Clinton	Basic chemicals – ACC	Ammonia (anhydrous)	2.80	1,202
Terre Haute Wastewater Utility	City of Terre Haute, IN	IN	Vigo County	Terre Haute	Wastewater treatment	Sulfur dioxide (anhydrous)	2.10	10,585
Indiana American Water–Terre Haute	Thames Water LLC RWE AG*	IN	Vigo County	Terre Haute	Water treatment	Chlorine	1.30	10,786
Hydrite Chemical Co. – Terre Haute	Hydrite Chemical Co.	IN	Vigo County	Terre Haute	Chemical manufacturing	Sulfur dioxide (anhydrous)	13.00	111,613
Brenntag Mid-South, Inc.	Brenntag U.S.A.	IN	Vigo County	Terre Haute	Bleach manufacturing, ACC	Chlorine	14.00	117,707
Indiana American Water–Newburgh	Thames Water LLC RWE AG*	IN	Warrick County	Newburgh	Water treatment	Chlorine	3.00	11,674

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Indiana American Water-Richmond Elks Road	Thames Water LLC RWE AG*	IN	Wayne County	Richmond	Water treatment	Chlorine	1.30	4,099
Indiana American Water-Richmond	Thames Water LLC RWE AG*	IN	Wayne County	Richmond	Water treatment	Chlorine	1.30	4,158
Richmond Sanitary District		IN	Wayne County	Richmond	Wastewater treatment	Chlorine	1.30	6,467
Indiana American Water-Richmond 4th Street	Thames Water LLC RWE AG*	IN	Wayne County	Richmond	Water treatment	Chlorine	1.30	13,716
Bluffton Wastewater Treatment Facility		IN	Wells County	Bluffton	Wastewater treatment	Chlorine	1.50	4,451
K A N S A S								
Fort Scott Water Treatment Plant	City of Fort Scott, KS	KS	Bourbon County	Fort Scott	Water treatment	Chlorine	0.90	1,618
City of El Dorado Water Treatment Facility	City of El Dorado	KS	Butler County	El Dorado	Water treatment	Chlorine	1.30	4,018
Frontier El Dorado Refining LLC	HollyFrontier Corporation	KS	Butler County	El Dorado	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	4.80	13,625
Evonik Jayhawk Fine Chemicals	Evonik Industries	KS	Cherokee County	Galena	Chemicals - ACC, SOCMA	Methyl chloroformate	17.00	129,126
Arkansas City Water Treatment Plant	City of Arkansas City, Kansas	KS	Cowley County	Arkansas City	Water treatment	Chlorine	1.30	4,062
City of Winfield Municipal Water Plant		KS	Cowley County	Winfield	Water treatment	Chlorine	1.30	1,872
Pittsburg, Kansas Water Treatment Plan		KS	Crawford County	Pittsburg	Water treatment	Chlorine	2.20	7,846
Tri-District Water Treatment Facility		KS	Douglas County	Berryton	Water treatment	Chlorine	2.20	343
City of Hays Wastewater Treatment Plant	City of Hays	KS	Ellis County	Hays	Wastewater treatment	Chlorine	0.90	2,153
City of Hays Water Softening Plant	City of Hays, Kansas	KS	Ellis County	Hays	Water treatment	Chlorine	0.90	2,841
Praxair - Dodge City, KS	Praxair, Inc.	KS	Ford County	Wright	Basic chemicals - ACC	Ammonia (anhydrous)	1.40	1,390
Ottawa Water Treatment Plant	City of Ottawa, Kansas	KS	Franklin County	Ottawa	Water treatment	Chlorine	1.30	2,750
Junction City Water Treatment Plant	City of Junction City	KS	Geary County	Junction City	Water treatment	Chlorine	0.90	30
Mission Plant	City of Newton	KS	Harvey County	Newton	Water treatment	Chlorine	1.30	157
Olathe Water Treatment Plant No. 2		KS	Johnson County	Lenexa	Water treatment	Chlorine	3.00	10,909
Parsons Water Treatment Plant	City of Parsons, KS	KS	Labette County	Parsons	Water treatment	Chlorine	1.30	1,359
Water Plant #2	Leavenworth Water Dept.	KS	Leavenworth County	Lansing	Water treatment	Chlorine	1.30	2,510
Water Plant #1	Leavenworth Water Dept.	KS	Leavenworth County	Leavenworth	Water treatment	Chlorine	1.30	6,639
LaCygne Generating Station	Kansas City Power & Light Company Great Plains Energy, Inc.*	KS	Linn County	LaCygne	Electric power generation	Ammonia (anhydrous)	8.90	4,783
Emporia Water Treatment Plant		KS	Lyon County	Emporia	Water treatment	Chlorine	2.63	21,113

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
National Cooperative Refinery Association (NCRA)	Cenex-Harvest States (CHS)	KS	McPherson County	McPherson	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	25.00	92,786
City of Gardner, Hillsdale Water Treatment Plant	City of Gardner, Kansas	KS	Miami County	Spring Hill	Water treatment	Chlorine	3.00	1,710
Coffeyville, Kansas Water Treatment Plant	City of Coffeyville, Kansas	KS	Montgomery County	Coffeyville	Water treatment	Chlorine	2.20	6,064
Coffeyville Resources Refining and Marketing, LLC	CVR Refining, LP	KS	Montgomery County	Coffeyville	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	12.00	19,910
Water Treatment Plant	City of Independence, Kansas	KS	Montgomery County	Independence	Water treatment	Chlorine	1.30	3,090
City of Chanute Water Treatment Plant	City of Chanute	KS	Neosho County	Chanute	Water treatment	Chlorine	1.30	1,180
Hutchinson Water Treatment Center	City of Hutchinson	KS	Reno County	Hutchinson	Water treatment	Chlorine	0.80	5,718
Russell Water Treatment Plant	City of Russell	KS	Russell County	Russell	Water treatment	Chlorine	2.90	2,100
Salina Water Treatment Plant	City of Salina, Kansas	KS	Saline County	Salina	Water treatment	Chlorine	1.30	14,731
Air Products Manufacturing Corporation	Air Products and Chemicals Inc.	KS	Sedgwick County	Haysville	Basic chemicals – ACC	Formaldehyde (solution)	22.00	536,536
Brenntag Southwest, Inc. Wichita	Brenntag, Inc.	KS	Sedgwick County	Wichita	Basic chemicals – ACC	Chlorine	1.30	17,472
Water Treatment Plant	City of Wichita, Kansas	KS	Sedgwick County	Wichita	Water treatment	Chlorine	6.20	283,978
Occidental Chemical Corporation	Occidental Chemical Corporation	KS	Sedgwick County	Wichita	Basic chemicals – ACC	Chlorine	25.00	552,723
City of Liberal Domestic Waste Treatment Plant	City of Liberal	KS	Seward County	Liberal	Wastewater treatment	Chlorine	2.60	12,067
Topeka Water Treatment Plant	City of Topeka, Kansas	KS	Shawnee County	Topeka	Water treatment	Chlorine	14.00	181,078
City of Wellington, KS Water Treatment Plant	City of Wellington, KS	KS	Sumner County	Wellington	Water treatment	Chlorine	2.20	92
Hansen Water Treatment Plant	Water District No. 1 of Johnson County	KS	Wyandotte County	Kansas City	Water treatment	Chlorine	0.90	748
Nearman Water Treatment Plant	Board of Public Utilities, Kansas City, KS.	KS	Wyandotte County	Kansas City	Water treatment	Chlorine	1.30	2,595
The Procter & Gamble Manufacturing Company	The Procter & Gamble Company	KS	Wyandotte County	Kansas City	Basic chemicals – ACC	Epichlorohydrin	1.10	6,758
Airgas Specialty Products Inc., Kansas City, KS	Airgas Inc.	KS	Wyandotte County	Kansas City	Chemical wholesale	Ammonia (anhydrous)	4.40	189,902
Harcros Chemicals Inc. – Kansas City		KS	Wyandotte County	Kansas City	Cleaning agent manufacturing	Ethylene oxide	8.70	432,027
KENTUCKY								
MeadWestvaco Virginia Corp-Wickliffe Carbon Plant	MeadWestvaco Corporation	KY	Ballard County	Wickliffe	Basic chemicals – ACC	Ammonia (anhydrous)	4.00	1,477
Wickliffe Paper Company	NewPage Corporation	KY	Ballard County	Wickliffe	Pulp and paper	Chlorine dioxide	25.00	93,579
Lucas Water Treatment Plant	Glasgow Water Company	KY	Barren County	Glasgow	Water treatment	Chlorine	2.20	567

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Glasgow Wastewater Treatment Plant	Glasgow Water Company	KY	Barren County	Glasgow	Wastewater treatment	Chlorine	0.90	812
East Bend Generating Station	Duke Energy Corporation	KY	Boone County	Union	Electric power generation	Ammonia (anhydrous)	1.50	464
Paris Wastewater Treatment Plant	City of Paris	KY	Bourbon County	Paris	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	9,962
Paris Water Treatment Plant	City of Paris Combined Utilities	KY	Bourbon County	Paris	Water treatment	Chlorine	3.00	10,610
Ashland Wastewater Treatment Plant		KY	Boyd County	Ashland	Wastewater treatment	Chlorine	1.30	6,066
Air Products – Catlettsburg, KY	Air Products and Chemicals, Inc.	KY	Boyd County	Catlettsburg	Basic chemicals – ACC	Flammable Mixture	0.06	<10
Catlettsburg Refining, LLC	Marathon Petroleum Company, LP	KY	Boyd County	Catlettsburg	Petroleum refinery, ACC	Hydrofluoric acid (conc. ≥50%)	25.00	303,045
R.T. Vanderbilt Co., Inc. – Murray Division	R.T. Vanderbilt Co., Inc.	KY	Calloway County	Murray	Basic chemicals – ACC	Carbon disulfide	0.86	637
Dow Corning Corporation Carrollton Site	The Dow Chemical Company Corning Incorporated*	KY	Carroll County	Carrollton	Basic chemicals – ACC	Dimethyl-dichlorosilane	25.00	132,840
PMC Organometallics – Carrollton Plant	PMC Group, Inc.	KY	Carroll County	Carrollton	Chemical manufacturing	Chlorine	25.00	136,350
Ghent Station	Kentucky Utilities Company PPL Corp.*	KY	Carroll County	Ghent	Electric power generation	Ammonia (anhydrous)	7.00	11,661
Amfine Chemical Corporation	ADEKA Corporation Mitsubishi Co. Japan/ Mitsubishi Int. USA*	KY	Christian County	Hopkinsville	Basic chemicals – ACC	Phosphorus oxychloride	1.00	107
HWEA: Northside Waste Water Treatment Plant	Hopkinsville Water Environment Authority	KY	Christian County	Hopkinsville	Wastewater treatment	Chlorine	1.30	7,394
HWEA: Moss Water Treatment Plant	Hopkinsville Water Environment Authority	KY	Christian County	Hopkinsville	Water treatment	Chlorine	1.90	11,925
Winchester Water Treatment Plant	Winchester Municipal Utilities	KY	Clark County	Winchester	Water treatment	Chlorine	3.00	14,400
Owensboro Municipal Utilities	Owensboro Municipal Utilities	KY	Daviess County	Owensboro	Electric power generation	Ammonia (anhydrous)	4.40	36,020
Water Plant A	Owensboro Municipal Utilities	KY	Daviess County	Owensboro	Water treatment	Chlorine	3.00	37,591
Kentucky–American Water Company Kentucky River Sta	American Water Works Service Company, Inc.	KY	Fayette County	Lexington	Water treatment	Ammonia (anhydrous)	4.40	4,383
Town Branch WWTP	Lexington–Fayette Urban County Government	KY	Fayette County	Lexington	Wastewater treatment	Chlorine	0.90	6,216
Kentucky American Water Co Richmond Rd Station	American Water Works Service Company, Inc.	KY	Fayette County	Lexington	Water treatment	Chlorine	3.00	104,874
DuPont Wurtland Plant	E. I. du Pont de Nemours and Company	KY	Greenup County	Wurtland	Basic chemicals – ACC	Oleum (Fuming Sulfuric acid)	25.00	309,387
Domtar Paper Company, LLC–Hawesville Mill	Domtar Paper Company, LLC	KY	Hancock County	Hawesville	Pulp and paper	Chlorine dioxide	4.78	12,058
Pirtle Springs Plant	Hardin County Water District #1	KY	Hardin County	Cecilia	Water treatment	Chlorine	1.30	243
Valley Creek Wastewater Treatment Plant	City of Elizabethtown	KY	Hardin County	Elizabethtown	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	4,205
City Spring Water Treatment Plant	City of Elizabethtown	KY	Hardin County	Elizabethtown	Water treatment	Chlorine	2.20	13,692

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Freeman Lake Water Treatment Plant	City of Elizabethtown	KY	Hardin County	Elizabethtown	Water treatment	Chlorine	2.20	21,569
White Mills Treatment Plant	Hardin County Water District No. 2	KY	Hardin County	Glendale	Water treatment	Chlorine	2.20	963
Mosaic Henderson KY Terminal	Mosaic Crop Nutrition, LLC	KY	Henderson County	Henderson	Chemical wholesale	Ammonia (anhydrous)	8.90	37,683
Brenntag Mid-South, Inc.	Brenntag U.S.A.	KY	Henderson County	Henderson	Bleach manufacturing, ACC	Chlorine	25.00	328,509
Momentive Specialty Chemicals Inc. Louisville, KY	Momentive Specialty Chemicals Inc.	KY	Jefferson County	Louisville	Basic chemicals – ACC	Formaldehyde (solution)	1.59	5,936
Brenntag Mid-South, Inc.	Brenntag U.S.A.	KY	Jefferson County	Louisville	Basic chemicals – ACC	Chlorine	1.30	15,703
Mill Creek Station	LG&E and KU Energy, LLC	KY	Jefferson County	Louisville	Electric power generation	Ammonia (anhydrous)	5.60	33,796
Crescent Hill Water Treatment Plant	Louisville Water Company	KY	Jefferson County	Louisville	Water treatment	Ammonia (anhydrous)	2.80	71,708
JBS Louisville Pork Processing Facility	JBS USA LLC	KY	Jefferson County	Louisville	Ammonia refrigeration	Ammonia (anhydrous)	3.20	110,926
Forth Technologies, Inc.		KY	Jefferson County	Louisville	Dye and pigment manufacturing	Oleum (Fuming Sulfuric acid)	3.60	154,974
Lubrizol Advanced Materials, Inc.	The Lubrizol Corporation	KY	Jefferson County	Louisville	Basic chemicals – ACC	Chlorine	14.00	795,131
Dupont Louisville Works	E. I. Dupont de Nemours Inc.	KY	Jefferson County	Louisville	Basic chemicals – ACC	Hydrofluoric acid (conc. ≥50%)	16.00	873,861
B. E. Payne Water Treatment Plant	Louisville Water Company	KY	Jefferson County	Prospect	Water treatment	Chlorine	0.90	1,529
West Hickman Creek WWTP	Lexington–Fayette Urban County Government	KY	Jessamine County	Nicholasville	Wastewater treatment	Chlorine	2.20	22,599
London Water Treatment Plant	Utility Commission of the City of London London Utility Commission*	KY	Laurel County	London	Water treatment	Chlorine	10.00	47,718
Berea Municipal Water Treatment Plant	Berea Municipal Utilities	KY	Madison County	Berea	Water treatment	Chlorine	2.20	3,797
Wacker Chemical Corporation, Polymers Division–Mai		KY	Marshall County	Calvert City	Basic chemicals – ACC	Vinyl acetate monomer	1.10	527
Brenntag Mid-South, Inc.	Brenntag USA	KY	Marshall County	Calvert City	Basic chemicals – ACC	Chlorine	1.30	735
Wacker Chemical Corporation, Polymers Division–VAM		KY	Marshall County	Calvert City	Basic chemicals – ACC	Vinyl acetate monomer	4.00	4,427
ISP Chemicals LLC	ISP Chemco LLC	KY	Marshall County	Calvert City	Basic chemicals – ACC	Ammonia (anhydrous)	8.90	20,215
Westlake Vinyls, Inc.	Westlake Chemical Corporation	KY	Marshall County	Calvert City	Petrochemical manufacturing	Chlorine	25.00	144,474
Arkema Inc. – Calvert City, KY plant	Arkema Delaware Inc.	KY	Marshall County	Calvert City	Basic chemicals – ACC	Hydrofluoric acid (conc. ≥50%)	25.00	146,511
Spurlock Power Station	East Kentucky Power Cooperative, Inc.	KY	Mason County	Maysville	Electric power generation	Ammonia (anhydrous)	6.90	14,059
Arch Chemicals, Inc. – Brandenburg, Ky. Facility	A fully owned subsidiary of Lonza	KY	Meade County	Brandenburg	Specialty chemicals – SOCPMA	Ethylene oxide	12.00	41,438

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Harrodsburg Wastewater Treatment Plant		KY	Mercer County	Harrodsburg	Wastewater treatment	Chlorine	3.00	4,057
Kentucky Utilities – E.W. Brown Station	LG&E and KU Energy LLC	KY	Mercer County	Harrodsburg	Electric power generation	Ammonia (anhydrous)	6.90	20,310
TVA – Paradise Fossil Plant	Tennessee Valley Authority	KY	Muhlenberg County	Drakesboro	Electric power generation	Ammonia (anhydrous)	4.40	3,001
Bardstown Water Treatment Plant	City of Bardstown	KY	Nelson County	Bardstown	Water treatment	Chlorine	3.00	6,704
Bardstown Wastewater Treatment Plant – Town Creek	City of Bardstown	KY	Nelson County	Bardstown	Wastewater treatment	Chlorine	3.00	8,507
Big Rivers Electric Corp. – D. B. Wilson Station	Big Rivers Electric Corp.	KY	Ohio County	Centertown	Electric power generation	Ammonia (anhydrous)	8.00	9,511
Kentucky River Station II		KY	Owen County	Owenton	Water treatment	Chlorine	3.00	1,363
Somerset Water Service	City of Somerset	KY	Pulaski County	Somerset	Water treatment	Chlorine	2.20	4,003
Pitman Creek Wastewater Treatment Plant	City of Somerset, KY	KY	Pulaski County	Somerset	Wastewater treatment	Chlorine	3.00	10,108
Mount Vernon Water Treatment Plant	City of Mount Vernon Mount Vernon Water Works*	KY	Rockcastle County	Mount Vernon	Water treatment	Chlorine	1.90	1,064
Morehead Utility Plant Board Water Treatment Plant	Morehead Utility Plant Board	KY	Rowan County	Morehead	Water treatment	Chlorine	5.00	3,231
Jamestown Wastewater Treatment Plant		KY	Russell County	Jamestown	Wastewater treatment	Chlorine	0.90	308
Jamestown Water Plant		KY	Russell County	Jamestown	Water treatment	Chlorine	3.00	1,597
Brenntag Mid-South, Inc.	Brenntag U.S.A.	KY	Scott County	Georgetown	Basic chemicals – ACC	Chlorine	1.30	504
Shelbyville Water Treatment Plant	Shelbyville Municipal Water & Sewer Commission	KY	Shelby County	Shelbyville	Water treatment	Chlorine	2.63	3,461
Franklin Wastewater Treatment Plant	City of Franklin	KY	Simpson County	Franklin	Wastewater treatment	Chlorine	1.30	703
Campbellsville Wastewater Treatment Plant	Campbellsville Municipal Water and Sewer System	KY	Taylor County	Campbellsville	Wastewater treatment	Chlorine	3.00	7,957
Henry County Water Treatment Plant	Henry County Water District #2	KY	Trimble County	Bedford	Water treatment	Chlorine	2.20	738
Trimble County Station	LG&E and KU Energy LLC Louisville Gas & Electric Company*	KY	Trimble County	Bedford	Electric power generation	Ammonia (anhydrous)	4.40	2,987
BGMU Water Treatment Plant	Bowling Green Municipal Utilities	KY	Warren County	Bowling Green	Water treatment	Chlorine	10.00	101,406
Big Rivers Electric Corp. – Reid/Henderson/Green	Big Rivers Electric Corp.	KY	Webster County	Robards	Electric power generation	Ammonia (anhydrous)	6.90	5,547
Water Treatment Plant		KY	Whitley County	Corbin	Water treatment	Chlorine	0.90	2,016
Versailles Wastewater Treatment Plant		KY	Woodford County	Versailles	Wastewater treatment	Chlorine	1.90	6,452
Versailles Water Treatment Plant	City of Versailles, Kentucky	KY	Woodford County	Versailles	Water treatment	Chlorine	6.30	25,762

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
LOUISIANA								
Louisiana Water Company – Crowley Water Plant	Utility Holdings, Inc.	LA	Acadia Parish	Crowley	Water treatment	Chlorine	1.30	4,001
Acadia Power Station	Cleco Power, LLC	LA	Acadia Parish	Eunice	Electric power generation	Ammonia (anhydrous)	3.30	1,551
City of Rayne Water Treatment Plant		LA	Acadia Parish	Rayne	Water treatment	Chlorine	1.30	2,694
Baker Petrolite Corporation – Rayne Blend Plant		LA	Acadia Parish	Rayne	Specialty chemicals – SOCMA	Acrolein	25.00	425,347
City of Oakdale Treatment Plant	City of Oakdale	LA	Allen Parish	Oakdale	Wastewater treatment	Chlorine	3.00	4,889
DuPont Burnside Plant	E.I. Dupont de Nemours and Company	LA	Ascension Parish	Darrow	Basic chemicals – ACC	Sulfur trioxide	25.00	498,364
Air Products, Geismar 2 SSU Plant	Air Products and Chemicals, Inc.	LA	Ascension Parish	Geismar	Basic chemicals – ACC	Flammable Mixture	0.17	18
Momentive Speciality Chemicals Inc.	Momentive Speciality Chemicals Inc.	LA	Ascension Parish	Geismar	Basic chemicals – ACC	Formaldehyde (solution)	0.54	185
Praxair – Geismar, LA	Praxair, Inc.	LA	Ascension Parish	Geismar	Basic chemicals – ACC	Ammonia (anhydrous)	2.80	4,256
Lion Copolymer Geismar, LLC		LA	Ascension Parish	Geismar	Basic chemicals – ACC	Ammonia (anhydrous)	3.60	8,288
BASF Corporation Geismar Site	BASF Corporation	LA	Ascension Parish	Geismar	Chemicals – ACC, SOCMA	Phosgene	6.80	45,774
Shell Chemical Company LP	Shell Oil Company	LA	Ascension Parish	Geismar	Basic chemicals – ACC	Ethylene oxide	11.00	106,053
Occidental Chemical Corporation – Geismar Plant	Occidental Petroleum Corporation	LA	Ascension Parish	Geismar	Basic chemicals – ACC	Chlorine	25.00	649,226
Rubicon LLC		LA	Ascension Parish	Geismar	Chemical manufacturing	Phosgene	25.00	661,435
Westlake Vinyls Company	Westlake Group of Companies	LA	Ascension Parish	Geismar	Petrochemical manufacturing	Chlorine	25.00	670,922
PCS Nitrogen Fertilizer, L.P.	Potash Corporation of Sacatchewan	LA	Ascension Parish	Geismar	Chemical manufacturing	Oleum (Fuming Sulfuric acid)	25.00	674,944
Honeywell International Inc., Geismar Plant	Honeywell International Inc.	LA	Ascension Parish	Geismar	Basic chemicals – ACC	Hydrofluoric acid (conc. ≥50%)	25.00	687,088
The Dow Chemical Company – Grand Bayou Operations	The Dow Chemical Company	LA	Assumption Parish	Belle Rose	Basic chemicals – ACC	Chlorine	3.00	2,015
Assumption Parish Water Works District #1		LA	Assumption Parish	Napoleonville	Water treatment	Chlorine	2.20	908
City of Bunkie – Waste Water Treatment Plant	The City of Bunkie	LA	Avoyelles Parish	Bunkie	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	1,900
Boise Packaging and Newsprint, LLC	Boise Inc.	LA	Beauregard Parish	DeRidder	Pulp and paper	Chlorine dioxide	14.00	30,600
Bossier City Water Treatment Plant	City of Bossier City	LA	Bossier Parish	Bossier City	Water treatment	Chlorine	1.30	8,361
Northeast Wastewater Treatment Plant	City of Bossier City	LA	Bossier Parish	Bossier City	Wastewater treatment	Chlorine	3.00	13,111
Red River Wastewater Treatment Plant	City of Bossier City	LA	Bossier Parish	Bossier City	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	53,489
Calumet Shreveport Lubricants and Waxes, LLC	Calumet Specialty Products Partners, LP	LA	Caddo Parish	Shreveport	Petroleum refinery	Flammable Mixture	0.80	5,785

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Calcasieu Refining Company	Transworld Oil USA, Inc.	LA	Calcasieu Parish	Lake Charles	Petroleum refinery	Flammable Mixture	0.60	196
GH West Water Plant	City of Lake Charles	LA	Calcasieu Parish	Lake Charles	Water treatment	Chlorine	0.90	2,209
Southwest Water Plant	City of Lake Charles	LA	Calcasieu Parish	Lake Charles	Water treatment	Chlorine	0.90	4,530
City of Lake Charles – Chenault Water Plant	City of Lake Charles	LA	Calcasieu Parish	Lake Charles	Water treatment	Chlorine	1.30	5,108
McNeese Water Plant	City of Lake Charles	LA	Calcasieu Parish	Lake Charles	Water treatment	Chlorine	1.30	12,513
Center West Water Plant	City of Lake Charles	LA	Calcasieu Parish	Lake Charles	Water treatment	Chlorine	1.30	15,773
Center East Water Plant	City of Lake Charles	LA	Calcasieu Parish	Lake Charles	Water treatment	Chlorine	1.30	15,813
CITGO Petroleum Corporation–Refinery		LA	Calcasieu Parish	Lake Charles	Petroleum refinery	Hydrogen sulfide	4.00	22,407
Gradney Street Water Treatment Facility	City of Sulphur, Louisiana	LA	Calcasieu Parish	Sulphur	Water treatment	Chlorine	1.30	6,678
Verdine Street Water Treatment Facility	City of Sulphur, Louisiana	LA	Calcasieu Parish	Sulphur	Water treatment	Chlorine	1.30	8,812
Texas Butylene Chemical Corporation–Lake Charles	Texas Petrochemicals, LLC	LA	Calcasieu Parish	West Lake	Basic chemicals – ACC	Flammable Mixture	1.10	174
Westlake, Louisiana Hydrogen Facility	Air Products and Chemicals, Inc.	LA	Calcasieu Parish	Westlake	Basic chemicals – ACC	Flammable Mixture	0.10	<10
Equistar Chemicals, LP – Lake Charles Polymers	Equistar Chemicals, LP	LA	Calcasieu Parish	Westlake	Basic chemicals – ACC	1-Butene	0.46	18
Phillips 66 Company – Lake Charles Refinery	Phillips 66 Company	LA	Calcasieu Parish	Westlake	Petroleum refinery	Flammable Mixture	0.94	477
Louisiana Pigment Company, L.P.	KRONOS Louisiana, Inc. Tioxide Americas, Inc.*	LA	Calcasieu Parish	Westlake	Dye and pigment manufacturing	Titanium tetrachloride	9.30	128,583
Sasol North America Inc.		LA	Calcasieu Parish	Westlake	Basic chemicals – ACC	Hydrofluoric acid (conc. ≥50%)	17.00	181,892
Eagle US 2 LLC, Lake Charles Plant	Eagle US 2 LLC	LA	Calcasieu Parish	Westlake	Basic chemicals – ACC	Chlorine	21.10	196,808
Arch Chemicals, Inc.	Lonza	LA	Calcasieu Parish	Westlake	Specialty chemicals – SOCMA	Methyl hydrazine	25.00	207,600
Georgia Gulf Lake Charles, LLC	Georgia Gulf Corporation	LA	Calcasieu Parish	Westlake	Basic chemicals – ACC	Hydrogen chloride (anhydrous)	25.00	208,110
Excel Paralubes	Phillips 66 Company FHR Lubricants, LLC*	LA	Calcasieu Parish	Westlake, La	Petroleum refinery	Flammable Mixture	0.38	47
Town of Vidalia Water Treatment Plant		LA	Concordia Parish	Vidalia	Water treatment	Chlorine	1.30	2,538
Town of Vidalia Waste Water Treatment Plant		LA	Concordia Parish	Vidalia	Wastewater treatment	Chlorine	3.00	6,548
Baton Rouge SMR	Air Products and Chemicals, Inc.	LA	East Baton Rouge Parish	Baton Rouge	Basic chemicals – ACC	Flammable Mixture	0.10	<10
ExxonMobil Baton Rouge Polyolefins Plant (BRPO)	Exxon Mobil Corporation	LA	East Baton Rouge Parish	Baton Rouge	Basic chemicals – ACC	Flammable Mixture	0.43	159

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
ExxonMobil Baton Rouge Resin Finishing Plant	ExxonMobil Corporation	LA	East Baton Rouge Parish	Baton Rouge	Basic chemicals – ACC	Pentane	1.20	1,321
ExxonMobil Chemical Co. Baton Rouge Plastics Plant	Exxon Mobil Corporation	LA	East Baton Rouge Parish	Baton Rouge	Basic chemicals – ACC	Vinyl acetate monomer	1.20	3,623
ExxonMobil Refining & Supply – Baton Rouge Refiner	ExxonMobil Corporation	LA	East Baton Rouge Parish	Baton Rouge	Petroleum refinery	Butane	1.50	15,856
Albemarle Corporation Process Development Center	Albemarle Corporation	LA	East Baton Rouge Parish	Baton Rouge	Chemicals – ACC, SOCMA	Bromine	2.77	44,614
North Wastewater Treatment Plant	City of Baton Rouge – East Baton Rouge Parish	LA	East Baton Rouge Parish	Baton Rouge	Wastewater treatment	Chlorine	5.40	77,706
Central Wastewater Treatment Plant	City of Baton Rouge – East Baton Rouge Parish	LA	East Baton Rouge Parish	Baton Rouge	Wastewater treatment	Chlorine	5.40	134,372
Solvay USA Inc., Baton Rouge Facility	Solvay USA Inc.	LA	East Baton Rouge Parish	Baton Rouge	Basic chemicals – ACC	Propionitrile	6.80	170,240
Lion Copolymer, Baton Rouge Plant	Lion Copolymer, Inc.	LA	East Baton Rouge Parish	Baton Rouge	Basic chemicals – ACC	Acrylonitrile	11.00	368,900
ExxonMobil Baton Rouge Chemical Plant	Exxon Mobil Corporation	LA	East Baton Rouge Parish	Baton Rouge	Basic chemicals – ACC	Chlorine	14.00	475,951
Formosa Plastics Corp., LA	Formosa Plastics Corp., USA	LA	East Baton Rouge Parish	Baton Rouge	Petrochemical manufacturing	Hydrogen chloride (anhydrous)	25.00	701,578
Honeywell International Inc. Baton Rouge Plant	Honeywell International inc.	LA	East Baton Rouge Parish	Baton Rouge	Basic chemicals – ACC	Hydrofluoric acid (conc. ≥50%)	40.00	871,143
BASF-Zachary	BASF Americas Corporation	LA	East Baton Rouge Parish	Zachary	Basic chemicals – ACC	Methyl chloride	3.70	6,956
Port Hudson Operations	Georgia-Pacific Consumer Operations LLC	LA	East Baton Rouge Parish	Zachary	Pulp and paper	Chlorine dioxide	25.00	565,273
Myriant Lake Providence, Inc.	Myriant Corporation	LA	East Carroll Parish	Lake Providence	Chemicals – ACC, SOCMA	Ammonia (anhydrous)	8.00	3,988
Evangeline Power Station	CLECO Evangeline, LLC CLECO Mid Stream Resources, LLC*	LA	Evangeline Parish	St. Landry	Electric power generation	Ammonia (anhydrous)	4.00	2,102
Tete Bayou Waste Water Treatment Plant	Iberia Parish Sewerage District #1 City of New Iberia*	LA	Iberia Parish	New Iberia	Wastewater treatment	Chlorine	1.30	1,671
CVD, Inc	The Dow Chemical Company	LA	Iberia Parish	New Iberia	Basic chemicals – ACC	Methyl-trichlorosilane	6.20	3,860
Highway 14 Wastewater Treatment Plant	City of New Iberia	LA	Iberia Parish	New Iberia	Wastewater treatment	Chlorine	1.30	7,204
Louisiana Water Company – New Iberia Water Plant	Utility Holdings, Inc.	LA	Iberia Parish	New Iberia	Water treatment	Chlorine	1.30	15,406
Flopam, Inc.	SNF Holding Company	LA	Iberville Parish	Plaquemine	Basic chemicals – ACC	Acrylonitrile	17.00	490,678
The Dow Chemical Company-Louisiana Operations	The Dow Chemical Company	LA	Iberville Parish	Plaquemine	Basic chemicals – ACC	Hydrogen chloride (anhydrous)	19.00	517,411
Shintech Plaquemine Plant 1	Shintech Incorporated C-K Tech, Inc.*	LA	Iberville Parish	Plaquemine	Plastics manufacturing	Hydrogen chloride (anhydrous)	23.00	634,108
Axiall Corporation – Plaquemine Facility		LA	Iberville Parish	Plaquemine	Basic chemicals – ACC	Chlorine	25.00	654,413

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Brenntag Southwest St Gabriel	Brenntag, Inc.	LA	Iberville Parish	St. Gabriel	Basic chemicals – ACC	Formaldehyde (solution)	1.40	829
Brenntag Southwest, Inc. St. Gabriel Bleach Plant	Brenntag, Inc.	LA	Iberville Parish	St. Gabriel	Bleach manufacturing, ACC	Chlorine	5.40	11,066
St. Gabriel Plant	Taminco, Inc.	LA	Iberville Parish	St. Gabriel	Basic chemicals – ACC	Ethylene oxide	15.00	393,855
Balchem Corporation – St. Gabriel	Balchem Corporation	LA	Iberville Parish	St. Gabriel	Animal food manufacturing	Ethylene oxide	18.00	516,011
Mexichem Fluor Inc. – St. Gabriel Site	Mexichem Fluor SA de CV	LA	Iberville Parish	St. Gabriel	Basic chemicals – ACC	Hydrofluoric acid (conc. ≥50%)	22.00	609,157
Pioneer Americas LLC d/b/a/ Olin Chlor Alkali	Olin Chlor Alkali	LA	Iberville Parish	St. Gabriel	Basic chemicals – ACC	Chlorine	25.00	689,240
Delta St. Gabriel	Delta Petroleum Company Grief*	LA	Iberville Parish	St. Gabriel	Chemical wholesale	Toluene 2,6-diisocyanate	25.00	691,740
City of Gretna Wastewater Treatment Plant		LA	Jefferson Parish	Gretna	Wastewater treatment	Chlorine	0.90	9,613
City of Gretna Water Treatment Plant		LA	Jefferson Parish	Gretna	Water treatment	Chlorine	0.90	10,006
East Jefferson Water Treatment Plant	Jefferson Parish Water Department	LA	Jefferson Parish	Jefferson	Water treatment	Chlorine	0.50	3,005
West Bank Water Treatment Plant	Jefferson Parish Department of Water	LA	Jefferson Parish	Marrero	Water treatment	Chlorine	0.90	7,939
Evonik CYRO – Fortier Plant	EVONIK CYRO Industries LLC	LA	Jefferson Parish	Waggaman	Chemicals – ACC, SOCMA	Hydrocyanic acid	1.40	4,771
Cornerstone Chemical Company		LA	Jefferson Parish	Waggaman	Chemical manufacturing	Hydrocyanic acid	6.80	232,598
City of Westwego's Wastewater Treatment Plant		LA	Jefferson Parish	Westwego	Wastewater treatment	Chlorine	0.72	3,191
City of Westwego Water Treatment Plant		LA	Jefferson Parish	Westwego	Water treatment	Chlorine	0.72	3,825
South Water Treatment Plant		LA	Lafayette Parish	Lafayette	Water treatment	Chlorine	1.30	4,498
North Water Treatment Plant		LA	Lafayette Parish	Lafayette	Water treatment	Chlorine	0.90	8,736
East Sewage Treatment Plant		LA	Lafayette Parish	Lafayette	Wastewater treatment	Chlorine	1.30	9,449
Ambassador Caffery Treatment Plant		LA	Lafayette Parish	Lafayette	Wastewater treatment	Chlorine	1.30	11,722
South Wastewater Treatment Plant		LA	Lafayette Parish	Lafayette	Wastewater treatment	Chlorine	1.30	13,883
Northeast Waste Water Treatment Plant		LA	Lafayette Parish	Lafayette	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	21,387
Lafourche Parish Water District No. 1– South Plant		LA	Lafourche Parish	Lockport	Water treatment	Chlorine	3.00	4,745
Lafourche Parish Water District No. 1– North Plant		LA	Lafourche Parish	Thibodaux	Water treatment	Chlorine	3.00	17,990
Air Products New Orleans Terminal	Air Products and Chemicals, Inc	LA	Orleans Parish	New Orleans	Basic chemicals – ACC	Hydrogen	0.20	<10
Air Products, New Orleans H2 Facility	Air Products and Chemicals Inc	LA	Orleans Parish	New Orleans	Basic chemicals – ACC	Hydrogen	0.80	301

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Westbank Sewage Treatment Plant	Sewerage & Water Board of New Orleans	LA	Orleans Parish	New Orleans	Wastewater treatment	Chlorine	1.30	5,821
Carrollton Water Purification Plant	Sewerage and Water Board of New Orleans	LA	Orleans Parish	New Orleans	Water treatment	Chlorine	9.90	751,074
East Bank Wastewater Treatment Plant	Sewerage & Water Board of New Orleans	LA	Orleans Parish	New Orleans	Wastewater treatment	Chlorine	14.00	758,182
City of Monroe Water Treatment Plant		LA	Ouachita Parish	Monroe	Water treatment	Chlorine	4.49	70,835
Perryville Electric Generating Plant	Entergy Louisiana, Inc.	LA	Ouachita Parish	Sterlington	Electric power generation	Ammonia (anhydrous)	2.60	2,327
Angus Chemical Company – Sterlington Plant	The Dow Chemical Company	LA	Ouachita Parish	Sterlington	Basic chemicals – ACC	Sulfur dioxide (anhydrous)	11.00	52,336
City of West Monroe Wastewater Treatment Plant		LA	Ouachita Parish	West Monroe	Wastewater treatment	Chlorine	1.30	2,353
Chevron Oronite Company LLC – Oak Point Plant	Chevron Corporation	LA	Plaquemines Parish	Belle Chasse	Basic chemicals – ACC	Boron trifluoride	3.40	7,655
Phillips 66 Company Alliance Refinery	Phillips 66 Company	LA	Plaquemines Parish	Belle Chasse	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	25.00	703,760
Momentive Speciality Chemicals Inc.	Momentive Speciality Chemicals Holdings LLC	LA	Rapides Parish	Alexandria	Basic chemicals – ACC	Formaldehyde (solution)	0.57	592
Water Department, Ground Storage Castor Plunge	City of Alexandria	LA	Rapides Parish	Alexandria	Water treatment	Chlorine	3.00	612
Water Department, Hwy. 28 West Site	City of Alexandria	LA	Rapides Parish	Alexandria	Water treatment	Chlorine	1.90	1,943
WW Treatment Plant, Hudson Site	City of Alexandria	LA	Rapides Parish	Alexandria	Wastewater treatment	Chlorine	1.30	3,823
Water Department, Lewis Site	City of Alexandria	LA	Rapides Parish	Alexandria	Water treatment	Chlorine	1.90	12,975
Water Department, Hamilton Site	City of Alexandria	LA	Rapides Parish	Alexandria	Water treatment	Chlorine	1.90	16,626
Water Department, Hwy 1 Site	City of Alexandria	LA	Rapides Parish	Alexandria	Water treatment	Chlorine	3.00	22,706
Water Department, Armory Site	City of Alexandria	LA	Rapides Parish	Alexandria	Water treatment	Chlorine	3.00	28,920
Water Department, City Park Station	City of Alexandria	LA	Rapides Parish	Alexandria	Water treatment	Chlorine	3.00	36,541
Water Department, Sterkx Road	City of Alexandria	LA	Rapides Parish	Alexandria	Water treatment	Chlorine	3.00	36,695
Water Department, Adams Station	City of Alexandria	LA	Rapides Parish	Alexandria	Water treatment	Chlorine	11.00	84,923
Odor-Tech LLC	Arkema Delaware Inc.	LA	Rapides Parish	Pineville	Basic chemicals – ACC	Ethyl mercaptan	0.32	30
Water Department, Libuse Water Well	City of Pineville	LA	Rapides Parish	Pineville	Water treatment	Chlorine	1.30	463
Water Department, Janet Drive Water Well	City of Pineville	LA	Rapides Parish	Pineville	Water treatment	Chlorine	1.30	642
Water Department, Highway 107	City of Pineville	LA	Rapides Parish	Pineville	Water treatment	Chlorine	1.30	1,874
Water Department, Jefferson Hwy Water Well	City of Pineville	LA	Rapides Parish	Pineville	Water treatment	Chlorine	1.30	4,677
City of Pineville Paper Mill Road Wells	City of Pineville	LA	Rapides Parish	Pineville	Water treatment	Chlorine	3.00	4,822

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Water Department, Lakeview Water Well	City of Pineville	LA	Rapides Parish	Pineville	Water treatment	Chlorine	1.30	4,953
Wastewater Treatment Plant	City of Pineville	LA	Rapides Parish	Pineville	Wastewater treatment	Chlorine	1.30	6,208
Many Water Treatment Plant		LA	Sabine Parish	Many	Water treatment	Chlorine	3.00	523
St. Bernard Parish Water Treatment Plant	Department of Public Works St. Bernard Parish Government*	LA	St. Bernard Parish	Chalmette	Water treatment	Chlorine	1.30	11,164
Chalmette Refining, L.L.C.	Chalmette Refining, L.L.C.	LA	St. Bernard Parish	Chalmette	Petroleum refinery, ACC	Hydrofluoric acid (conc. ≥50%)	25.00	920,095
Meraux Refinery	Valero Refining – Meraux LLC	LA	St. Bernard Parish	Meraux	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	25.00	913,057
Praxair Distribution – Taft, LA	Praxair, Inc.	LA	St. Charles Parish	Hahnville	Basic chemicals – ACC	Ethylene	0.20	20
Galata Chemicals – Taft Facility	Galata Chemicals, LLC	LA	St. Charles Parish	Hahnville	Basic chemicals – ACC	Ammonia (anhydrous)	6.90	34,985
Arkema Coating Resins– Hahnville	Arkema Inc.	LA	St. Charles Parish	Hahnville	Basic chemicals – ACC	Acrylonitrile	7.40	48,083
Occidental Chemical Taft Plant	Occidental Petroleum Corporation	LA	St. Charles Parish	Hahnville	Basic chemicals – ACC	Chlorine	25.00	759,471
Air Products, Luling H2	Air Products and Chemicals, Inc	LA	St. Charles Parish	Luling	Basic chemicals – ACC	Flammable Mixture	0.11	19
St. Charles Parish Waterworks District 2		LA	St. Charles Parish	Luling	Water treatment	Chlorine	3.00	18,063
Luling Oxidation Pond	St. Charles Parish Council	LA	St. Charles Parish	Luling	Wastewater treatment	Chlorine	6.00	25,865
Monsanto Company Luling Plant		LA	St. Charles Parish	Luling	Chemical manufacturing	Phosphorus trichloride	16.00	530,484
St. Charles Parish Waterworks District 1		LA	St. Charles Parish	New Sarpy	Water treatment	Chlorine	2.20	8,419
Praxair 416 SMR HYCO Site (St. Charles)	Praxair, Inc.	LA	St. Charles Parish	Norco	Basic chemicals – ACC	Flammable Mixture	0.07	<10
Cypress Catalyst Plant	W.R. Grace & Conn. – Conn. W.R. Grace & Co.*	LA	St. Charles Parish	Norco	Basic chemicals – ACC	Titanium tetrachloride	0.60	1,224
Norco Chemical Plant – West Site	Shell Chemical LP	LA	St. Charles Parish	Norco	Basic chemicals – ACC	Butane	1.80	3,626
Norco Chemical Plant – East Site	Shell Chemical LP	LA	St. Charles Parish	Norco	Basic chemicals – ACC	Chlorine	3.00	8,745
Valero St. Charles Refinery	Valero Refining–New Orleans, L.L.C.	LA	St. Charles Parish	Norco	Petroleum refinery	Hydrogen sulfide	2.40	10,854
MOTIVA Enterprises, LLC – Norco, LA Refinery	Motiva Enterprises, LLC	LA	St. Charles Parish	Norco	Petroleum refinery	Hydrochloric acid (conc. ≥37%)	4.10	16,354
Momentive Specialty Chemicals Inc. Norco Facility	Momentive Specialty Chemicals Holdings LLC	LA	St. Charles Parish	Norco	Basic chemicals – ACC	Chlorine	16.00	317,596
St. Rose Facility	Equilon Enterprises LLC dba Shell Oil Products US	LA	St. Charles Parish	St. Rose	Petroleum refinery, ACC	Hydrogen sulfide	12.00	320,361
St. Charles Operations	Union Carbide Corporation The Dow Chemical Company*	LA	St. Charles Parish	Taft	Basic chemicals – ACC	Acrolein	25.00	796,239

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Convent, Louisiana Hydrogen Facility	Air Products and Chemicals, Inc.	LA	St. James Parish	Convent	Basic chemicals - ACC	Flammable Mixture	0.10	<10
Motiva Enterprises LLC - Convent Refinery 2012	Motiva Enterprises, LLC	LA	St. James Parish	Convent	Petroleum refinery	Butane	1.10	220
Occidental Chemical Corporation Convent Plant	Occidental Petroleum Corporation	LA	St. James Parish	Convent	Basic chemicals - ACC	Chlorine	25.00	316,251
Faustina Plant	Mosaic Fertilizer, LLC Mosaic Fertilizer, LLC*	LA	St. James Parish	St. James	Fertilizer manufacturing	Ammonia (anhydrous)	25.00	403,278
Garyville, LA SMR	Air Products and Chemicals, Inc.	LA	St. John the Baptist Parish	Garyville	Basic chemicals - ACC	Flammable Mixture	0.11	15
Nalco Company - Garyville, LA facility	Nalco Company	LA	St. John the Baptist Parish	Garyville	Basic chemicals - ACC	Ammonia (anhydrous)	3.60	5,333
Marathon Petroleum Company LP LA Refining Division	Marathon Petroleum Company LP	LA	St. John the Baptist Parish	Garyville	Petroleum refinery, ACC	Hydrofluoric acid (conc. ≥50%)	25.00	943,819
River Road Treatment Plant	St. John the Baptist Parish	LA	St. John the Baptist Parish	LaPlace	Wastewater treatment	Chlorine	1.90	5,004
Woodland Treatment Plant	St. John the Baptist Parish	LA	St. John the Baptist Parish	LaPlace	Wastewater treatment	Chlorine	1.90	16,217
DuPont Pontchartrain Site	E.I. du Pont de Nemours & Co., Inc.	LA	St. John the Baptist Parish	LaPlace	Basic chemicals - ACC	Ammonia (anhydrous)	6.90	43,533
DuPont Performance Elastomers L.L.C., Pont. Site	E.I. duPont de Nemours & Company	LA	St. John the Baptist Parish	LaPlace	Basic chemicals - ACC	Chlorine	16.00	138,734
Lyons Water plant	St. John the Baptist Parish	LA	St. John the Baptist Parish	Reserve	Water treatment	Chlorine	1.30	1,506
Air Products, Reserve, LA	Air Products Performance Manufacturing, Inc. Air Products and Chemicals, Inc.*	LA	St. John the Baptist Parish	Reserve	Basic chemicals - ACC	Ethylene oxide	9.90	58,433
DPC Enterprises, L.P.		LA	St. John the Baptist Parish	Reserve	Bleach manufacturing	Chlorine	14.00	85,109
Ruddock Water Well	St. John the Baptist Parish	LA	St. John the Baptist Parish	Ruddock	Water treatment	Chlorine	5.20	1,180
Louisiana Water Company - Eunice Water Plant	Utility Holdings, Inc.	LA	St. Landry Parish	Eunice	Water treatment	Chlorine	1.30	7,807
Alon Refining Krotz Springs, Inc.	Alon USA Energy, Inc.	LA	St. Landry Parish	Krotz Springs	Petroleum refinery	Ammonia (anhydrous)	4.40	1,329
City of Opelousas Water Department		LA	St. Landry Parish	Opelousas	Water treatment	Chlorine	1.30	10,898
Breaux Bridge Water Treatment Plant		LA	St. Martin Parish	Breaux Bridge	Water treatment	Chlorine	3.00	8,738
Breaux Bridge Wastewater Treatment Plant		LA	St. Martin Parish	Breaux Bridge	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	10,263
The Village of Parks Water Treatment Plant	The Village of Parks	LA	St. Martin Parish	Parks	Water treatment	Chlorine	1.30	913
St. Martin Parish Water Treatment Plant		LA	St. Martin Parish	St. Martinville	Water treatment	Chlorine	3.00	3,463
City of St. Martinville Wastewater		LA	St. Martin Parish	St. Martinville	Wastewater treatment	Chlorine	3.00	4,685
St. Martinville Water Treatment Plant	City of St. Martinville	LA	St. Martin Parish	St. Martinville	Water treatment	Chlorine	3.00	7,235
Berwick/Bayou Vista Joint Waterworks		LA	St. Mary Parish	Berwick	Water treatment	Chlorine	1.30	2,605

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
City of Morgan City Water Plant		LA	St. Mary Parish	Morgan City	Water treatment	Chlorine	0.90	5,138
City of Slidell – Robert Road Water Tower		LA	St. Tammany Parish	Slidell	Water treatment	Chlorine	1.30	11,724
TPCG Pollution Control – South Treatment Plant	Terrebonne Parish Consolidated Government	LA	Terrebonne Parish	Houma	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	3,398
TPCG Pollution Control – North Treatment Plant	Terrebonne Parish Consolidated Government	LA	Terrebonne Parish	Houma	Wastewater treatment	Chlorine	1.30	11,480
Schriever Water Treatment Plant	Consolidated Waterworks District No. 1	LA	Terrebonne Parish	Schriever	Water treatment	Chlorine	3.00	11,385
Farmerville Waste Water Treatment Plant	Town of Farmerville	LA	Union Parish	Farmerville	Wastewater treatment	Chlorine	1.30	1,395
Abbeville Water Treatment Plant	City of Abbeville	LA	Vermilion Parish	Abbeville	Water treatment	Chlorine	1.30	5,201
City of Bogalusa Well Site #5	City of Bogalusa	LA	Washington Parish	Bogalusa	Water treatment	Chlorine	3.00	8,643
City of Bogalusa Well Site #1	City of Bogalusa	LA	Washington Parish	Bogalusa	Water treatment	Chlorine	3.00	9,484
City of Bogalusa Well Site #4		LA	Washington Parish	Bogalusa	Water treatment	Chlorine	3.00	10,411
City of Bogalusa Well Site #6	City of Bogalusa	LA	Washington Parish	Bogalusa	Water treatment	Chlorine	3.00	10,518
City of Bogalusa Well Site #2		LA	Washington Parish	Bogalusa	Water treatment	Chlorine	3.00	11,092
City of Bogalusa Well Site #3		LA	Washington Parish	Bogalusa	Water treatment	Chlorine	3.00	11,210
City of Bogalusa Waste Water Treatment Plant	City of Bogalusa	LA	Washington Parish	Bogalusa	Wastewater treatment	Chlorine	3.00	11,380
Cotton Valley Refinery	Calumet Lubricants Co., L.P. Asphalt Material, Inc.*	LA	Webster Parish	Cotton Valley	Petroleum refinery	Flammable Mixture	0.48	33
Intercontinental Terminals Co.– Anchorage Terminal	Intercontinental Terminals Company, LLC	LA	West Baton Rouge Parish	Port Allen	Basic chemicals – ACC	1,3-Butadiene	1.70	3,338
Placid Refining Co. L.L.C. –Port Allen Refinery		LA	West Baton Rouge Parish	Port Allen	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	12.00	384,879
City of Winnfield – Wastewater Treatment Facility		LA	Winn Parish	Winnfield	Wastewater treatment	Chlorine	5.00	6,117
City of Winnfield – Water Treatment Facility		LA	Winn Parish	Winnfield	Water treatment	Chlorine	5.00	6,151
M A S S A C H U S E T T S								
ISP Freetown Fine Chemicals Inc.	ISP Chemicals LLC	MA	Bristol County	Assonet	Basic chemicals – ACC	Vinyl acetate monomer	0.33	143
Fall River Water Filtration Plant		MA	Bristol County	Fall River	Water treatment	Chlorine	0.60	2,708
Borden & Remington Corp		MA	Bristol County	Fall River	Bleach manufacturing	Chlorine	14.00	479,142
North Attleborough Wastewater Treatment Facility	Town of North Attleborough	MA	Bristol County	North Attleborough	Wastewater treatment	Chlorine	1.30	7,710
Town of Somerset Water Treatment Facility		MA	Bristol County	Somerset	Water treatment	Chlorine	3.04	23,897

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Somerset Water Pollution Control	Town of Somerset	MA	Bristol County	Somerset	Wastewater treatment	Chlorine	3.04	86,477
Lynn Regional Wastewater Treatment Plant	Lynn Water and Sewer Commission	MA	Essex County	Lynn	Wastewater treatment	Chlorine	1.30	38,457
Lynn Water Treatment Plant	Lynn Water and Sewer Commission	MA	Essex County	Lynn	Water treatment	Chlorine	1.30	39,094
Springfield Regional Wastewater Treatment Facility	Springfield Water & Sewer Commission United Water*	MA	Hampden County	Agawam	Wastewater treatment	Chlorine	0.90	9,706
Hercules Incorporated	Ashland Incorporated	MA	Hampden County	Chicopee	Basic chemicals – ACC	Epichlorohydrin	1.50	27,654
Holyoke Water Treatment Facility		MA	Hampden County	Holyoke	Water treatment	Chlorine	1.30	3,428
Solutia Inc., Indian Orchard Plant	Solutia Inc.	MA	Hampden County	Springfield	Basic chemicals – ACC	Vinyl acetate monomer	6.20	289,692
West Parish Filters	Springfield Water and Sewer Commission	MA	Hampden County	Westfield	Water treatment	Chlorine	1.30	7,771
Northampton Wastewater Treatment Plant		MA	Hampshire County	Northampton	Wastewater treatment	Chlorine	1.30	9,866
Air Products, Marlborough	Air Products and Chemicals, Inc.	MA	Middlesex County	Marlborough	Basic chemicals – ACC	Hydrogen	0.25	132
NeoResins Inc.	DSM	MA	Middlesex County	Wilmington	Basic chemicals – ACC	Toluene 2,4-diisocyanate	0.06	15
OMNOVA Solutions Fitchburg Plant	OMNOVA Solutions Inc.	MA	Worcester County	Fitchburg	Basic chemicals – ACC	Acrylonitrile	0.70	1,117
Worcester Water Filtration Plant		MA	Worcester County	Holden	Water treatment	Chlorine	0.90	1,235
Webster WWTF		MA	Worcester County	Webster	Wastewater treatment	Chlorine	3.00	22,140
Warren Wastewater Treatment Plant		MA	Worcester County	West Warren	Wastewater treatment	Chlorine	1.30	1,215
M A R Y L A N D								
Cumberland Wastewater Treatment Plant	City of Cumberland	MD	Allegany County	Cumberland	Wastewater treatment	Chlorine	0.90	4,967
AES Warrior Run	The AES Corporation	MD	Allegany County	Cumberland	Electric power generation	Ammonia (anhydrous)	2.60	5,731
Luke Paper Company	NewPage Corporation	MD	Allegany County	Luke	Pulp and paper	Chlorine dioxide	11.12	30,451
Broadneck Water Reclamation Facility	Anne Arundel County Dept. of Public Works*	MD	Anne Arundel County	Annapolis	Wastewater treatment	Sulfur dioxide (anhydrous)	2.90	12,893
Brandon Shores Power Plant	Constellation Energy Group	MD	Anne Arundel County	Baltimore	Electric power generation	Ammonia (conc. ≥20%)	0.20	113
Cox Creek Water Reclamation Plant	Anne Arundel County Maryland Dept. of Public Works*	MD	Anne Arundel County	Curtis Bay	Wastewater treatment	Sulfur dioxide (anhydrous)	2.90	34,226
Patapsco Wastewater Treatment Facility		MD	Baltimore city	Baltimore	Wastewater treatment	Chlorine	0.90	<10
Kemira Water Solutions, Inc.	Kemira Chemicals, Inc.	MD	Baltimore city	Baltimore	Chemical manufacturing	Chlorine	14.00	1,483,457
Grace – Davison Curtis Bay	W R Grace & Co. – Conn	MD	Baltimore County	Baltimore	Basic chemicals – ACC	Titanium tetrachloride	0.60	612
Ashburton Chlorinator Station	City of Baltimore – Department of Public Works Bureau of Water and Wastewater*	MD	Baltimore County	Baltimore	Water treatment	Chlorine	1.30	45,587

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Montebello Filtration Plant E Building	City of Baltimore – Department of Public Works Bureau of Water and Wastewater*	MD	Baltimore County	Baltimore	Water treatment	Chlorine	1.30	47,521
Guilford Chlorinator Station	City of Baltimore – Department of Public Works Bureau of Water and Wastewater*	MD	Baltimore County	Baltimore	Water treatment	Chlorine	1.30	53,528
Druid Lake Influent Chlorinator Station	City of Baltimore – Department of Public Works Bureau of Water and Wastewater*	MD	Baltimore County	Baltimore	Water treatment	Chlorine	1.30	61,931
Druid Lake Effluent Chlorinator Station	City of Baltimore – Department of Public Works Bureau of Water and Wastewater*	MD	Baltimore County	Baltimore	Water treatment	Chlorine	1.30	64,995
Towson Chlorinator Station	City of Baltimore – Department of Public Works Bureau of Waste and Wastewater*	MD	Baltimore County	Towson	Water treatment	Chlorine	1.30	28,076
Perryville Wastewater Treatment Plant	Town of Perryville	MD	Cecil County	Perryville	Wastewater treatment	Chlorine	1.30	2,968
Monocacy Water Treatment Plant	City of Frederick, MD	MD	Frederick County	Frederick	Water treatment	Chlorine	0.40	1,187
City of Frederick Wastewater Treatment Plant–2012	City of Frederick, Maryland	MD	Frederick County	Frederick	Wastewater treatment	Chlorine	1.30	5,602
Linganore Water Treatment Plant	City of Frederick	MD	Frederick County	Frederick	Water treatment	Chlorine	1.30	6,076
Fort Detrick		MD	Frederick County	Frederick	Water treatment	Chlorine	1.30	14,310
New Design Road Water Treatment Plant	Frederick County Board of County Commissioners Frederick County DUSWM*	MD	Frederick County	Tuscarora	Water treatment	Chlorine	0.90	691
Abingdon Water Treatment Plant	Harford County Government Department of Public Works*	MD	Harford County	Abingdon	Water treatment	Chlorine	1.30	635
U.S. Army Garrison Aberdeen Proving Ground	U.S. Department of Defense	MD	Harford County	APG	Water treatment, wastewater	Chlorine	3.00	8,819
Sod Run Wastewater Treatment Plant	Harford County Government Department of Public Works*	MD	Harford County	Perryman	Wastewater treatment	Chlorine	1.30	240
GTS Welco – Jessup, MD	Praxair, Inc. GT&S, Inc.*	MD	Howard County	Jessup	Basic chemicals – ACC	Acetylene	0.10	34
Potomac Water Filtration Plant	Washington Suburban Sanitary Commission	MD	Montgomery County	Potomac	Water treatment	Chlorine	1.30	2,635
Patuxent Water Filtration Plant	Washington Suburban Sanitary Commission	MD	Prince George's County	Laurel	Water treatment	Chlorine	1.30	9,022
Maryland Correctional Facility WWTF	State of Maryland	MD	Washington County	Hagerstown	Wastewater treatment	Sulfur dioxide (anhydrous)	1.30	7,346

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
R.C. Willson Water Treatment Plant	City of Hagerstown Water Department	MD	Washington County	Williamsport	Water treatment	Chlorine	2.30	7,349
City of Salisbury Wastewater Treatment Plant		MD	Wicomico County	Salisbury	Wastewater treatment	Chlorine	0.90	3,027
Ocean City Water Plant 44th Street	Town of Ocean City, Maryland Public Works Division Water Department*	MD	Worcester County	Ocean City	Water treatment	Chlorine	0.50	288
Ocean City Wastewater Treatment Plant	Town of Ocean City, Maryland Public Works Division Wastewater Department*	MD	Worcester County	Ocean City	Wastewater treatment	Chlorine	0.90	806
Ocean City Water Treatment Plant 15th Street	Town of Ocean City, Maryland Public Works Division Water Department*	MD	Worcester County	Ocean City	Water treatment	Chlorine	0.90	1,355
Ocean City Water Treatment Plant 136th Street	Town of Ocean City, Maryland Public Works Division Water Department*	MD	Worcester County	Ocean City	Water treatment	Chlorine	0.90	2,235
M A I N E								
Westbrook Energy Center	Calpine O&M Company	ME	Cumberland County	Westbrook	Electric power generation	Ammonia (anhydrous)	4.40	49,447
Rumford Paper Company	NewPage Corporation	ME	Oxford County	Rumford	Pulp and paper	Chlorine dioxide	2.40	1,159
Rumford Power, Inc.	Capital Power Corporation	ME	Oxford County	Rumford	Electric power generation	Ammonia (anhydrous)	4.00	4,523
Red Shield Acquisition, LLC		ME	Penobscot County	Old Town	Pulp and paper	Chlorine dioxide	9.30	39,913
Casco Bay Energy Company, LLC	Dynegy Power, LLC	ME	Penobscot County	Veazie	Electric power generation	Ammonia (conc. ≥20%)	0.30	166
S.D. Warren Somerset Mill	S. D. W. Holdings Corporation	ME	Somerset County	Skowhegan	Pulp and paper	Chlorine dioxide	2.00	1,420
GAC Chemical – New England	GAC Chemical Corporation	ME	Waldo County	Searsport	Bleach manufacturing	Chlorine	25.00	126,229
Domtar Maine LLC	Domtar, Corporation	ME	Washington County	Baileyville	Pulp and paper	Chlorine dioxide	25.00	13,136
M I C H I G A N								
Whitestone Pumping Facility	Saginaw–Midland Municipal Water Supply Corporation	MI	Arenac County	Au Gres	Water treatment	Chlorine	1.30	58
Bay City Terminal	Marathon Petroleum Company LP	MI	Bay County	Bay City	Basic chemicals – ACC	Butane	0.60	1,532
Bay Metro Water Treatment Plant	City of Bay City	MI	Bay County	Bay City	Water treatment	Chlorine	0.90	1,792
West Bay County Department of Water/Sewer		MI	Bay County	Bay City	Wastewater treatment	Chlorine	0.90	2,044
St. Joseph Water Filtration Plant	City of St. Joseph, Michigan	MI	Berrien County	St. Joseph	Water treatment	Chlorine	1.30	348
City of Benton Harbor Water Plant	City of Benton Harbor	MI	Berrien County	St. Joseph	Water treatment	Chlorine	1.30	4,371
CBPU Water Treatment Plant	City of Coldwater	MI	Branch County	Coldwater	Water treatment	Chlorine	0.10	52
Wastewater Treatment Plant	City of Battle Creek Department of Public Works*	MI	Calhoun County	Battle Creek	Wastewater treatment	Chlorine	1.30	3,131

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Verona Pumping Station	City of Battle Creek	MI	Calhoun County	Battle Creek	Water treatment	Chlorine	1.30	5,921
Sault Ste. Marie Water Treatment Facility		MI	Chippewa County	Sault Ste. Marie	Water treatment	Chlorine	1.30	1,000
Sault Ste. Marie Wastewater Treatment Plant		MI	Chippewa County	Sault Ste. Marie	Wastewater treatment	Chlorine	1.30	2,472
Escanaba Paper Company	NewPage Corporation	MI	Delta County	Escanaba	Pulp and paper	Chlorine dioxide	17.00	34,079
Verso Paper Quinnesec Mill	Verso Paper Corporation	MI	Dickinson County	Quinnesec	Pulp and paper	Chlorine dioxide	5.80	15,291
Flint Water Pollution Control Facilities	City of Flint	MI	Genesee County	Flint	Wastewater treatment	Chlorine	1.30	5,824
Anthony Ragnone Wastewater Treatment Plant	Genesee County Division of Water and Waste	MI	Genesee County	Montrose	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	6,786
Dow AgroSciences L.L.C., Harbor Beach, Michigan	The Dow Chemical Company	MI	Huron County	Harbor Beach	Basic chemicals – ACC	Ammonia (anhydrous)	2.80	565
Alexander Chemical Corporation, Mason, MI Facility	Alexander Chemical Corporation	MI	Ingham County	Mason	Basic chemicals – ACC	Chlorine	1.30	641
Huron Shore Regional Utility Authority	Huron Shore Regional Utility Authority	MI	Iosco County	East Tawas	Water treatment	Chlorine	3.00	3,071
City of Jackson Water Treatment Plant		MI	Jackson County	Jackson	Water treatment	Chlorine	4.70	71,542
Water Station #1	City of Kalamazoo	MI	Kalamazoo County	Kalamazoo	Water treatment	Chlorine	1.30	21,804
City of Wyoming Clean Water Plant	City of Wyoming	MI	Kent County	Wyoming	Wastewater treatment	Chlorine	1.30	7,397
ADC-SCP	Anderson Development Company	MI	Lenawee County	Adrian	Basic chemicals – ACC	Titanium tetrachloride	0.90	5,129
Great Lakes Chemical	Great Lakes Chemical Corporation Chemtura Corporation*	MI	Lenawee County	Adrian	Basic chemicals – ACC	Chlorine	14.00	88,627
Air Products, Midland MI	Air Products and Chemicals, Inc.	MI	Midland County	Midland	Basic chemicals – ACC	Hydrogen	0.20	35
Midland Water Treatment Plant	City of Midland, Michigan	MI	Midland County	Midland	Water treatment	Chlorine	0.90	1,765
Midland Wastewater Treatment Plant	City of Midland	MI	Midland County	Midland	Wastewater treatment	Chlorine	0.90	2,563
Midland Styron Manufacturing		MI	Midland County	Midland	Basic chemicals – ACC	Ammonia (conc. ≥20%)	3.20	29,032
Dow Corning – Midland Plant	The Dow Chemical Company Corning, Inc.*	MI	Midland County	Midland	Basic chemicals – ACC	Hydrogen chloride (anhydrous)	16.00	220,722
Dow Chemical Midland Operations	The Dow Chemical Company	MI	Midland County	Midland	Basic chemicals – ACC	Hydrogen chloride (anhydrous)	19.00	292,932
Burdick & Jackson	Honeywell	MI	Muskegon County	Muskegon	Basic chemicals – ACC	Chloroform	0.53	2,122
Bayer CropScience–Muskegon Site	Bayer CropScience AG (Germany) Bayer CropScience L.P. (United States)*	MI	Muskegon County	Muskegon	Basic chemicals – ACC	Ammonia (anhydrous)	4.40	37,817
MacDermid, Inc.		MI	Oakland County	Ferndale	Chemical manufacturing	Formaldehyde (solution)	3.80	230,495

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
J. B. Sims Generating Station	City of Grand Haven Board of Light & Power	MI	Ottawa County	Grand Haven	Electric power generation	Chlorine	3.00	21,814
Grand Haven/Spring Lake Wastewater Treatment Plant		MI	Ottawa County	Grand Haven	Wastewater treatment	Sulfur dioxide (anhydrous)	3.30	30,990
City of Grand Rapids Lake Michigan Filtration Plan		MI	Ottawa County	West Olive	Water treatment	Chlorine	3.00	3,353
Vertellus Health & Specialty Products LLC	Vertellus Specialties, Inc.	MI	Ottawa County	Zeeland	Chemicals – ACC, SOCMA	Methyl chloride	0.10	58
Praxair – Hemlock MI	Praxair, Inc.	MI	Saginaw County	Hemlock	Basic chemicals – ACC	Hydrogen	0.20	38
Hemlock Semiconductor Corp.	Dow Corning Corp. Shinetsu Handotai*	MI	Saginaw County	Hemlock	Basic chemicals – ACC	Hydrogen chloride (anhydrous)	20.00	330,920
City of Saginaw Wastewater Treatment Plant	City of Saginaw, Michigan	MI	Saginaw County	Saginaw	Wastewater treatment	Chlorine	0.90	1,534
Saginaw Water Treatment Plant	City of Saginaw	MI	Saginaw County	Saginaw	Water treatment	Chlorine	1.30	14,998
DWSD – Lake Huron Water Treatment Plant	Detroit Water and Sewerage Department	MI	St. Clair County	Fort Gratiot	Water treatment	Chlorine	3.00	5,517
Albemarle Corporation	Albemarle Corporation	MI	Van Buren County	South Haven	Chemicals – ACC, SOCMA	Hydrogen chloride (anhydrous)	1.10	2,897
DWSD – Southwest Water Treatment Plant	Detroit Water and Sewerage Department	MI	Wayne County	Allen Park	Water treatment	Chlorine	1.30	26,507
Linde – Canton	Linde North America, Inc.	MI	Wayne County	Canton	Basic chemicals – ACC	Acetylene	0.03	<10
DWSD – Springwells Water Treatment Plant	Detroit Water and Sewerage Department	MI	Wayne County	Dearborn	Water treatment	Chlorine	1.30	36,106
Alpha Resins, LLC	Technisand Inc.	MI	Wayne County	Detroit	Specialty chemicals – SOCMA	Formaldehyde (solution)	0.30	1,193
DWSD – Water Works Park Water Treatment Plant	Detroit Water and Sewerage Department	MI	Wayne County	Detroit	Water treatment	Chlorine	1.30	16,721
DWSD – Northeast Water Treatment Plant	Detroit Water and Sewerage Department	MI	Wayne County	Detroit	Water treatment	Chlorine	1.30	26,173
Michigan Refining Division	Marathon Petroleum Company LP	MI	Wayne County	Detroit	Petroleum refinery, ACC	Flammable Mixture	2.50	60,633
Woodworth Inc.	Woodworth Inc	MI	Wayne County	Detroit	Metal heat treating	Ammonia (anhydrous)	2.30	75,389
PVS Technologies, Inc. (Detroit)	PVS Chemicals, Inc.	MI	Wayne County	Detroit	Basic chemicals – ACC	Chlorine	14.00	1,600,188
Detroit WWTP – Chlorination/Dechlorination Facility	City of Detroit	MI	Wayne County	Detroit	Wastewater treatment	Sulfur dioxide (anhydrous)	16.00	1,825,983
Grosse Pointe Farms Water Treatment Plant	City of Grosse Pointe Farms	MI	Wayne County	Grosse Pointe Farms	Water treatment	Chlorine	1.50	14,576
Praxair – Ecorse, MI	Praxair, Inc.	MI	Wayne County	River Rouge	Basic chemicals – ACC	Hydrogen	0.20	49
JCI Jones Chemicals Inc. – Riverview		MI	Wayne County	Riverview	Bleach manufacturing, ACC	Chlorine	14.00	829,271

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
City of Trenton WWTP		MI	Wayne County	Trenton	Wastewater treatment	Chlorine	2.70	35,695
Solutia Trenton Plant	Solutia Inc.	MI	Wayne County	Trenton	Basic chemicals - ACC	Vinyl acetate monomer	5.60	114,708
Polychemie Inc. - Wayne, MI	SNF Holding Company	MI	Wayne County	Wayne	Basic chemicals - ACC	Dimethylamine	0.24	302
MPL Woodhaven Cavern Facility	Marathon Pipe Line Company, LLC	MI	Wayne County	Woodhaven	Basic chemicals - ACC	Flammable Mixture	0.70	2,487
BASF Corporation - Wyandotte Site	BASF Corporation	MI	Wayne County	Wyandotte	Chemicals - ACC, SOCMA	Ethylene oxide	3.20	89,180
MINNESOTA								
Columbia Heights Membrane Plant	Minneapolis Water Works	MN	Anoka County	Columbia Heights	Water treatment	Chlorine	0.90	12,285
City of Coon Rapids Water Treatment Plant - West	City of Coon Rapids, MN	MN	Anoka County	Coon Rapids	Water treatment	Chlorine	1.30	15,394
City of Coon Rapids Water Treatment Plant - East	City of Coon Rapids, MN	MN	Anoka County	Coon Rapids	Water treatment	Chlorine	1.30	17,319
Fridley Complex	Minneapolis Water Works	MN	Anoka County	Minneapolis	Water treatment	Chlorine	5.20	338,477
Sauk Rapids Water Treatment Plant	City of Sauk Rapids	MN	Benton County	Sauk Rapids	Water treatment	Chlorine	1.30	7,489
City of Mankato Water Treatment Plant	City of Mankato	MN	Blue Earth County	Mankato	Water treatment	Chlorine	1.30	9,237
Mankato Energy Center	Mankato Energy Center, LLC	MN	Blue Earth County	Mankato	Electric power generation	Ammonia (anhydrous)	2.90	22,030
Moorhead Wastewater Treatment Facility		MN	Clay County	Moorhead	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	49,907
Moorhead Water Plant	Moorhead Public Service	MN	Clay County	Moorhead	Water treatment	Chlorine	2.90	56,159
Moorhead Simplot Grower Solutions	J.R. Simplot Company	MN	Clay County	Moorhead	Chemical wholesale	Ammonia (anhydrous)	6.90	135,036
Apple Valley Water Treatment Facility		MN	Dakota County	Apple Valley	Water treatment	Chlorine	2.63	61,483
Black Dog Generating Plant	Xcel Energy	MN	Dakota County	Burnsville	Electric power generation	Ammonia (conc. ≥20%)	0.90	2,402
City of Burnsville Water Treatment Plant	City of Burnsville, Minnesota	MN	Dakota County	Burnsville	Water treatment	Chlorine	3.00	65,147
Coachman Point Water Treatment Facility		MN	Dakota County	Eagan	Water treatment	Chlorine	1.30	9,324
Cliff Road Water Treatment Facility		MN	Dakota County	Eagan	Water treatment	Chlorine	1.30	9,708
Inver Grove Heights Water Treatment Facility		MN	Dakota County	Inver Grove Heights	Water treatment	Chlorine	1.30	7,405
City of Lakeville Water Treatment Facility		MN	Dakota County	Lakeville	Water treatment	Chlorine	1.30	227
Flint Hills Resources Pine Bend, LLC	Flint Hills Resources, LP	MN	Dakota County	Rosemount	Petroleum refinery	Flammable Mixture	1.40	1,306
DPC Industries, Inc.	DX Holding Company	MN	Dakota County	Rosemount	Bleach manufacturing	Sulfur dioxide (anhydrous)	16.00	978,056
Airgas Specialty Products Inc., S. St. Paul, MN	Airgas Specialty Products Inc. Airgas Inc.*	MN	Dakota County	South St. Paul	Chemical wholesale	Ammonia (anhydrous)	6.90	335,691

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
ALASD Wastewater Treatment Facility		MN	Douglas County	Alexandria	Wastewater treatment	Chlorine	1.30	1,833
City of Bloomington Water Treatment Plant	City of Bloomington	MN	Hennepin County	Bloomington	Water treatment	Chlorine	3.00	67,711
Brooklyn Park Water Treatment Plant	City of Brooklyn Park, MN	MN	Hennepin County	Brooklyn Park	Water treatment	Chlorine	1.30	19,470
Eden Prairie Water Treatment Plant		MN	Hennepin County	Eden Prairie	Water treatment	Chlorine	1.30	11,027
Cambridge Wastewater Treatment Facility	City of Cambridge	MN	Isanti County	Cambridge	Wastewater treatment	Chlorine	0.90	889
Willmar Municipal Utilities (Northeast Plant)		MN	Kandiyohi County	Willmar	Water treatment	Chlorine	1.30	1,936
Willmar Municipal Utilities (Southwest Plant)		MN	Kandiyohi County	Willmar	Water treatment	Chlorine	1.30	6,373
Boise White Paper, LLC- International Falls, MN	Boise Paper Holdings, LLC	MN	Koochiching County	International Falls	Pulp and paper	Chlorine dioxide	6.00	7,817
CS-12 Recovered Energy Facility	Ormat Technologies, Inc. Ormat Nevada, Inc.*	MN	Lyon County	Garvin	Electric power generation	Pentane	0.20	<10
CS-13 Recovered Energy Facility	Ormat Technologies, Inc. Ormat Nevada, Inc.*	MN	Martin County	Trimont	Electric power generation	Pentane	0.20	<10
City of Austin Wastewater Treatment Facility		MN	Mower County	Austin	Wastewater treatment	Chlorine	1.30	11,935
Worthington Industrial Treatment Facility		MN	Nobles County	Worthington	Wastewater treatment	Chlorine	3.00	6,167
Worthington Municipal Wastewater Treatment Plant	City of Worthington	MN	Nobles County	Worthington	Wastewater treatment	Chlorine	3.00	8,883
Worthington Water Treatment Facility	City of Worthington, MN	MN	Nobles County	Worthington	Water treatment	Chlorine	3.00	10,892
Rochester Water Reclamation Plant	City of Rochester	MN	Olmsted County	Rochester	Wastewater treatment	Chlorine	1.30	13,133
City of Fergus Falls Wastewater Treatment Plant		MN	Otter Tail County	Fergus Falls	Wastewater treatment	Chlorine	0.90	988
City of Fergus Falls Water Treatment Plant		MN	Otter Tail County	Fergus Falls	Water treatment	Chlorine	1.30	2,059
Thief River Falls Water Treatment Plant	City of Thief River Falls, Minnesota	MN	Pennington County	Thief River Falls	Water treatment	Chlorine	2.20	8,236
East Grand Forks Water Treatment Plant		MN	Polk County	East Grand Forks	Water treatment	Chlorine	2.70	27,727
St. Paul Regional Water Services-McCarron	St. Paul Regional Water Services	MN	Ramsey County	Maplewood	Water treatment	Chlorine	9.90	971,468
Hawkins Water Treatment Group - Red Rock	Hawkins, Inc.	MN	Ramsey County	St. Paul	Bleach manufacturing	Chlorine	14.00	1,185,186
City of Fairbault Water Treatment Plant		MN	Rice County	Fairbault	Water treatment	Chlorine	1.30	8,255

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Faribault Energy Park	Minnesota Municipal Power Agency	MN	Rice County	Faribault, MN	Electric power generation	Ammonia (conc. ≥20%)	2.20	5,608
Blue Lake Wastewater Treatment Plant	Metropolitan Council	MN	Scott County	Shakopee	Wastewater treatment	Sulfur dioxide (anhydrous)	1.90	10,312
Lakewood Water Treatment Plant	City of Duluth Public Works and Utilities	MN	St. Louis County	Duluth	Water treatment	Chlorine	3.03	4,575
Cloquet Pump Station No. 2	City of Cloquet, Minnesota	MN	St. Louis County	Duluth	Water treatment	Chlorine	3.03	17,437
St. Cloud Wastewater Treatment Facility		MN	Stearns County	St. Cloud	Wastewater treatment	Sulfur dioxide (anhydrous)	1.30	454
St. Cloud Water Treatment Facility	City of St. Cloud	MN	Stearns County	St. Cloud	Water treatment	Chlorine	0.90	7,752
Cottage Grove – 3M Company		MN	Washington County	Cottage Grove	Basic chemicals – ACC	Hydrofluoric acid (conc. ≥50%)	4.20	32,450
Saint Paul Park Refining Company LLC	Northern Tier Energy	MN	Washington County	St. Paul Park	Petroleum refinery, ACC	Hydrofluoric acid (conc. ≥50%)	25.00	2,325,820
City of Winona Main Water Treatment Plant	City of Winona	MN	Winona County	Winona	Water treatment	Chlorine	1.30	100
City of Winona Main Water Treatment Plant	City of Winona	MN	Winona County	Winona	Water treatment	Sulfur dioxide (anhydrous)	3.10	13,992
MISSOURI								
Kirkville Water Treatment Plant	City of Kirkville	MO	Adair County	Kirkville	Water treatment	Chlorine	1.30	1,732
Savannah Drinking WTP	City of Savannah, Missouri	MO	Andrew County	Amazonia	Water treatment	Chlorine	1.30	400
City of Monett Wastewater Treatment Facility	City of Monett, MO	MO	Barry County	Monett	Wastewater treatment	Chlorine	0.80	868
Water Treatment Plant, City of Lamar		MO	Barton County	Lamar	Water treatment	Chlorine	2.20	3,722
City of Columbia Water Treatment Plant	City of Columbia	MO	Boone County	Columbia	Water treatment	Chlorine	1.30	850
Missouri American Water Co. St. Joseph Plant	Missouri American Water Company	MO	Buchanan County	St. Joseph	Water treatment	Chlorine	3.00	14,249
Cape Rock Treatment Plant #1	City of Cape Girardeau	MO	Cape Girardeau County	Cape Girardeau	Water treatment	Chlorine	0.90	1,481
Church & Dwight Co., Inc.	Church & Dwight Co., Inc.	MO	Cass County	Harrisonville	Basic chemicals – ACC	Flammable Mixture	0.01	<10
Dogwood Energy Facility	Dogwood Power Management LLC	MO	Cass County	Pleasant Hill	Electric power generation	Ammonia (anhydrous)	4.90	17,884
Excelsior Springs Water Treatment Plant		MO	Clay County	Excelsior Springs	Water treatment	Chlorine	0.90	411
Kansas City, Missouri Water Treatment Plant		MO	Clay County	Kansas City	Water treatment	Chlorine	14.00	892,213
Cameron Municipal Water Treatment Plant	City of Cameron	MO	DeKalb County	Cameron	Water treatment	Chlorine	0.90	850
Springfield – 3M Company	3M	MO	Greene County	Springfield	Basic chemicals – ACC	Toluene diisocyanate (unsp. isomer)	0.02	<10
Fulbright Water Treatment Plant	City Utilities of Springfield, Missouri	MO	Greene County	Springfield	Water treatment	Chlorine	1.30	3,985

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Blackman Water Treatment Plant	City Utilities of Springfield, Missouri	MO	Greene County	Springfield	Water treatment	Chlorine	1.30	7,177
Brenntag Mid-South, Inc.	Brenntag U.S.A.	MO	Greene County	Springfield	Basic chemicals – ACC	Chlorine	1.30	13,068
Trenton Municipal Utilities Water Treatment Plant	City of Trenton, Missouri	MO	Grundy County	Trenton	Water treatment	Chlorine	1.30	1,382
Henry County Water Company Water Treatment Plant		MO	Henry County	Clinton	Water treatment	Chlorine	2.20	5,294
KCPL – Hawthorn Generating Facility	Kansas City Power & Light Company Great Plains Energy, Inc.*	MO	Jackson County	Kansas City	Electric power generation	Ammonia (anhydrous)	4.40	95,124
Brenntag Mid-South, Inc.	Brenntag, Inc.	MO	Jackson County	Kansas City	Bleach manufacturing, ACC	Chlorine	14.00	898,701
Bayer CropScience		MO	Jackson County	Kansas City	Basic chemicals – ACC	Chlorine	14.00	911,932
Courtney Bend Water Treatment Plant	City of Independence	MO	Jackson County	Sugar Creek	Water treatment	Chlorine	3.00	12,009
Asbury Power Plant	The Empire Distric Electric Company	MO	Jasper County	Asbury	Electric power generation	Ammonia (anhydrous)	4.70	6,284
Carthage Water and Electric	City of Carthage	MO	Jasper County	Carthage	Water treatment	Chlorine	0.90	2,119
DPC Enterprises, L.P.		MO	Jefferson County	Festus	Bleach manufacturing	Chlorine	14.00	105,645
The Dow Chemical Company	The Dow Chemical Company	MO	Jefferson County	Pevely	Basic chemicals – ACC	Difluoroethane	0.40	309
Chillicothe Municipal Utilities	City of Chillicothe	MO	Livingston County	Chillicothe	Water treatment	Chlorine	0.90	3,061
Wastewater Treatment Plant	Hannibal Board of Public Works	MO	Marion County	Hannibal	Wastewater treatment	Chlorine	1.30	7,320
Air Products, Hannibal	Air Products and Chemicals, Inc.	MO	Marion County	Palmyra	Basic chemicals – ACC	Hydrogen	0.25	<10
BASF – Hannibal Plant	BASF	MO	Marion County	Palmyra	Chemicals – ACC, SOCMA	Bromine	6.00	13,082
Clarence Cannon Wholesale Water Commission		MO	Monroe County	Stoutsville	Water treatment	Chlorine	2.50	290
Shoal Creek Wastewater Treatment Facility	City of Joplin, Missouri	MO	Newton County	Joplin	Wastewater treatment	Chlorine	2.20	2,687
Water Filtration Plant		MO	Newton County	Neosho	Water treatment	Chlorine	0.90	469
Crowder Wastewater Plant		MO	Newton County	Neosho	Wastewater treatment	Chlorine	2.20	1,160
Sedalia Water Treatment Plant	Sedalia Water Department City of Sedalia, Missouri*	MO	Pettis County	Sedalia	Water treatment	Chlorine	1.30	1,271
Iatan Power Plant	Kansas City Power & Light Great Plains Energy*	MO	Platte County	Weston	Electric power generation	Ammonia (anhydrous)	4.40	1,591
C.P.W.S.D. # 2 of Ray County		MO	Ray County	Orrick	Water treatment	Chlorine	3.00	1,445
Chain of Rocks Water Treatment Plant	City of St. Louis Water Division	MO	St. Louis city	St. Louis	Water treatment	Chlorine	1.30	7,375
Brenntag Mid-South, Inc.	Brenntag North America	MO	St. Louis city	St. Louis	Basic chemicals – ACC	Ammonia (anhydrous)	2.30	45,765

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Missouri American Water Company Central Plant	American Water Works Company	MO	St. Louis County	Chesterfield	Water treatment	Chlorine	1.30	3,996
Howard Bend Water Treatment Plant	City of St. Louis Water Division	MO	St. Louis County	Chesterfield	Water treatment	Chlorine	1.30	8,866
Missouri American Water Company North Plant	American Water Works Company	MO	St. Louis County	Florissant	Water treatment	Chlorine	1.30	6,535
Whitmire Micro-Gen Research Laboratories, Inc.	BASF	MO	St. Louis County	Kirkwood	Chemicals – ACC, SOCMA	Isobutane	0.30	506
MarChem Corporation	Dash Multi-Corp	MO	St. Louis County	Maryland Heights	Specialty chemicals – SOCMA	Toluene diisocyanate (unsp. isomer)	0.40	558
Brenntag Mid-South, Inc.	Brenntag U.S.A.	MO	St. Louis County	St. Louis	Basic chemicals – ACC	Chlorine	1.30	18,661
NCMRWC Water Plant		MO	Sullivan County	Milan	Water treatment	Chlorine	0.90	99
Compton Drive Wastewater Treatment Plant	City of Branson	MO	Taney County	Branson	Wastewater treatment	Chlorine	0.90	761
Meadows Water Treatment Plant	City of Branson	MO	Taney County	Branson	Water treatment	Chlorine	0.90	1,336
MISSISSIPPI								
Natchez Waste Water Treatment Plant	Natchez Water Works	MS	Adams County	Natchez	Wastewater treatment	Chlorine	2.20	213
Natchez Water Treatment Plant	City of Natchez	MS	Adams County	Natchez	Water treatment	Chlorine	2.20	4,188
Quantum Choctaw Power, LLC	Quantum Utility Generation, LLC	MS	Choctaw County	Ackerman	Electric power generation	Ammonia (conc. ≥20%)	1.00	49
Choctaw County Generating Station	NRG Wholesale Generation LP NRG Energy, Inc.*	MS	Choctaw County	French Camp	Electric power generation	Ammonia (conc. ≥20%)	0.20	<10
J. N. Orr Water Treatment Plant	City of West Point	MS	Clay County	West Point	Water treatment	Chlorine	4.20	10,128
MI College Water Treatment Plant	City of West Point	MS	Clay County	West Point	Water treatment	Chlorine	4.20	10,422
The Valvoline Company	Ashland, Inc.	MS	DeSoto County	Hernando	Basic chemicals – ACC	Ethyl ether	0.30	33
Hattiesburg Water Plant #1	City of Hattiesburg	MS	Forrest County	Hattiesburg	Water treatment	Chlorine	0.90	80
Hattiesburg South Lagoon	City of Hattiesburg	MS	Forrest County	Hattiesburg	Wastewater treatment	Chlorine	0.90	1,093
Hattiesburg Water Plant #2		MS	Forrest County	Hattiesburg	Water treatment	Chlorine	1.00	4,087
SABIC Innovative Plastics – Bay St. Louis	SABIC Innovative Plastics Holding US LP	MS	Hancock County	Bay St. Louis	Basic chemicals – ACC	Acrylonitrile	5.22	3,827
Polychemie Inc. – Pearlinton, MS Facility	SNF Holding Company	MS	Hancock County	Pearlington	Basic chemicals – ACC	Ammonia (conc. ≥20%)	1.10	82
Keegan Bayou Wastewater Treatment Plant		MS	Harrison County	Biloxi	Wastewater treatment	Chlorine	3.00	24,348
West Biloxi Wastewater Treatment Plant		MS	Harrison County	Biloxi	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	33,744
D'Iberville Wastewater Treatment Plant		MS	Harrison County	D'Iberville	Wastewater treatment	Chlorine	3.00	34,004

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Channel Chemical Corporation		MS	Harrison County	Gulfport	Specialty chemicals – SOCMA	Formaldehyde (solution)	0.20	76
South Gulfport Wastewater Treatment Plant		MS	Harrison County	Gulfport	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	36,472
Long Beach / Pass Christian Treatment Plant		MS	Harrison County	Pass Christian	Wastewater treatment	Chlorine	2.20	3,974
DuPont DeLisle Plant	E.I. du Pont de Nemours & Co., Inc.	MS	Harrison County	Pass Christian	Basic chemicals – ACC	Chlorine	25.00	259,722
Brighton Well	City of Clinton	MS	Hinds County	Clinton	Water treatment	Chlorine	3.00	17,914
Ballpark Well	City of Clinton	MS	Hinds County	Clinton	Water treatment	Chlorine	3.00	23,738
Armory Well	City of Clinton	MS	Hinds County	Clinton	Water treatment	Chlorine	3.00	24,174
Cascades Circle West Well	City of Clinton	MS	Hinds County	Clinton	Water treatment	Chlorine	3.00	24,681
Trahon / Big Creek Wastewater Treatment Plant	City of Jackson Water / Sewer Utilities	MS	Hinds County	Jackson	Wastewater treatment	Chlorine	1.30	954
Savanna Street Wastewater Treatment Plant	City of Jackson Water / Sewer Utilities	MS	Hinds County	Jackson	Wastewater treatment	Chlorine	1.30	4,090
J.H. Fewell Water Treatment Plant	City of Jackson, Mississippi	MS	Hinds County	Jackson	Water treatment	Ammonia (anhydrous)	2.60	26,499
NeMRWSD Treatment Plant	Northeast Regional Water Supply District	MS	Itawamba County	Fulton	Water treatment	Chlorine	1.30	1,958
Daniel Electric Generating Plant	Mississippi Power Company Southern Company*	MS	Jackson County	Escatawpa	Electric power generation	Ammonia (anhydrous)	1.50	553
Gautier Regional WWTP	Jackson County Utility Authority	MS	Jackson County	Gautier	Wastewater treatment	Chlorine	5.40	26,068
West Jackson County WWTP	Jackson County Utility Authority	MS	Jackson County	Ocean Springs	Wastewater treatment	Chlorine	5.40	21,364
Pascagoula / Moss Point WWTP	Jackson County Utility Authority	MS	Jackson County	Pascagoula	Wastewater treatment	Chlorine	5.40	40,717
Chevron Pascagoula Refinery	Chevron Corporation	MS	Jackson County	Pascagoula	Petroleum refinery	Ammonia (anhydrous)	10.00	48,212
First Chemical Corporation	Chemfirst, Inc. E.I. du Pont de Nemours and Company*	MS	Jackson County	Pascagoula	Basic chemicals – ACC	Ammonia (anhydrous)	12.00	63,435
Allied Universal Corporation		MS	Jones County	Ellisville	Bleach manufacturing	Chlorine	14.00	64,064
Municipal Plant #2		MS	Jones County	Laurel	Water treatment	Chlorine	1.30	3,095
Municipal Plant #3		MS	Jones County	Laurel	Water treatment	Chlorine	1.30	4,531
Hunt Southland Refining Company – Sandersville	Hunt Refining Company	MS	Jones County	Sandersville	Petroleum refinery	Pentane	0.70	117
Meridian Wastewater Treatment Plant		MS	Lauderdale County	Meridian	Wastewater treatment	Chlorine	1.30	2,297
City of Meridian Freshwater Treatment Plant, North	City of Meridian	MS	Lauderdale County	Meridian	Water treatment	Chlorine	1.30	4,522
City of Meridian Freshwater Treatment Plant, South	City of Meridian	MS	Lauderdale County	Meridian	Water treatment	Chlorine	1.30	6,373
Tupelo Wastewater Treatment Branch	City of Tupelo	MS	Lee County	Tupelo	Wastewater treatment	Chlorine	2.20	8,640

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
City of Greenwood, MS – Wastewater Treatment Plant	City of Greenwood, MS	MS	Leflore County	Greenwood	Wastewater treatment	Chlorine	1.90	10,678
Sam A Head, Jr. Water Plant	Columbus Light and Water Department	MS	Lowndes County	Columbus	Water treatment	Chlorine	1.30	1,806
Reynolds R. Ridgely Wastewater Plant	Columbus Light and Water Department	MS	Lowndes County	Columbus	Wastewater treatment	Chlorine	1.30	5,443
North Water Plant	Columbus Light and Water Department	MS	Lowndes County	Columbus	Water treatment	Chlorine	1.30	5,806
Weyerhaeuser Columbus Cellulose Fibers	Weyerhaeuser NR Company	MS	Lowndes County	Columbus	Pulp and paper	Chlorine dioxide	25.00	131,633
Canton West Water Plant	Canton Municipal Utilities	MS	Madison County	Canton	Water treatment	Chlorine	2.20	5,942
Tip H. Allen Water Treatment Plant	Canton Municipal Utilities	MS	Madison County	Canton	Water treatment	Chlorine	2.20	9,916
Western Water Tank and Well	City of Ridgeland	MS	Madison County	Ridgeland	Water treatment	Chlorine	3.00	8,232
Hardy Road Water Well	City of Ridgeland	MS	Madison County	Ridgeland	Water treatment	Chlorine	3.00	10,195
Old Canton Road Well	City of Ridgeland	MS	Madison County	Ridgeland	Water treatment	Chlorine	3.00	37,333
School Street Well	City of Ridgeland	MS	Madison County	Ridgeland	Water treatment	Chlorine	3.00	42,329
O.B.Curtis Water Treatment Plant	City of Jackson	MS	Madison County	Ridgeland	Water treatment	Ammonia (anhydrous)	3.60	48,756
Axiall, LLC		MS	Monroe County	Aberdeen	Basic chemicals – ACC	Chlorine	1.30	1,664
Aberdeen East Lagoon Facility	City of Aberdeen, Mississippi	MS	Monroe County	Aberdeen	Wastewater treatment	Chlorine	1.30	2,059
Starkville Wastewater Treatment Facility		MS	Oktibbeha County	Starkville	Wastewater treatment	Chlorine	2.20	7,486
Leaf River Cellulose, LLC	GP Cellulose, LLC	MS	Perry County	New Augusta	Pulp and paper	Chlorine dioxide	24.00	135,954
McComb Water Treatment Plant		MS	Pike County	McComb	Water treatment	Chlorine	1.30	5,277
City of Forest POTW	City of Forest	MS	Scott County	Forest	Wastewater treatment	Chlorine	1.30	572
City of Forest (Hwy 80 & 21 waterwell)	City of Forest	MS	Scott County	Forest	Water treatment	Chlorine	1.30	1,094
City of Forest (I–20 waterwell)	City of Forest	MS	Scott County	Forest	Water treatment	Chlorine	1.30	1,177
City of Forest (Cedar Street Waterwell)	City of Forest	MS	Scott County	Forest	Water treatment	Chlorine	1.30	1,393
City of Forest (Hwy 80 west waterwell)	City of Forest	MS	Scott County	Forest	Water treatment	Chlorine	1.30	1,564
City of Forest (Oak Park)	City of Forest	MS	Scott County	Forest	Water treatment	Chlorine	1.30	1,924
City of Forest (Trenton Road waterwell)	City of Forest	MS	Scott County	Forest	Water treatment	Chlorine	1.30	1,934
City of Forest (Little Princess Waterwell)	City of Forest	MS	Scott County	Forest	Water treatment	Chlorine	1.30	2,030
City Of Indianola Public Works Department	City of Indianola	MS	Sunflower County	Indianola	Water treatment, wastewater	Chlorine	2.63	5,303
Ergon Refining, Inc.	Ergon Inc	MS	Warren County	Vicksburg	Petroleum refinery	Propane	0.61	21

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
M O N T A N A								
Hardin Generating Station	Rocky Mountain Power Bicent Power*	MT	Big Horn County	Hardin	Electric power generation	Ammonia (anhydrous)	2.60	111
City of Great Falls Water Treatment Plant	City of Great Falls	MT	Cascade County	Great Falls	Water treatment	Chlorine	1.30	8,264
Great Falls Wastewater Treatment Plant		MT	Cascade County	Great Falls	Wastewater treatment	Chlorine	1.30	11,569
Montana Refining Company, Inc.	Connacher Oil and Gas, Limited	MT	Cascade County	Great Falls	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	7.50	66,526
Bozeman Water Treatment Plant	City of Bozeman	MT	Gallatin County	Bozeman	Water treatment	Chlorine	3.00	1,328
Ten Mile Water Treatment Plant	City of Helena Public Works, Water Department*	MT	Lewis and Clark County	Helena	Water treatment	Chlorine	1.30	91
Momentive Specialty Chemicals Inc. – Missoula	Momentive Specialty Chemicals Holdings LLC	MT	Missoula County	Missoula	Basic chemicals – ACC	Formaldehyde (solution)	0.71	2,968
CS-3 Recovered Energy Facility	Ormat Technologies, Inc. Ormat Nevada, Inc.*	MT	Roosevelt County	Culbertson	Electric power generation	Pentane	0.20	<10
Basin Creek Reservoir	Butte–Silver Bow Water Utility Division Butte–Silver Bow City/ County Government*	MT	Silver Bow County	Butte	Water treatment	Chlorine	1.30	43
Big Hole Water Treatment Facility	Butte–Silver Bow Water Utility Division Butte–Silver Bow City/ County Government*	MT	Silver Bow County	Divide	Water treatment	Chlorine	3.00	230
Praxair – Butte, MT	Praxair, Inc.	MT	Silver Bow County	Silverbow	Basic chemicals – ACC	Hydrogen	0.10	<10
City of Billings Water Treatment Plant	City of Billings, Montana	MT	Yellowstone County	Billings	Water treatment	Chlorine	0.90	3,020
Phillips 66 Billings Refinery	Phillips 66 Company	MT	Yellowstone County	Billings	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	14.00	124,339
CHS INC. – Laurel Refinery	CHS INC.	MT	Yellowstone County	Laurel	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	15.00	92,497
ExxonMobil Billings Refinery	Exxon Mobil Corporation	MT	Yellowstone County	Near Billings	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	8.70	97,569
N O R T H C A R O L I N A								
J.D. Mackintosh, Jr. Water Treatment Plant	City of Burlington	NC	Alamance County	Burlington	Water treatment	Chlorine	1.30	2,206
East Burlington Wastewater Treatment Plant	City of Burlington	NC	Alamance County	Burlington	Wastewater treatment	Chlorine	0.90	3,010
South Burlington Wastewater Treatment Plant	City of Burlington	NC	Alamance County	Graham	Wastewater treatment	Chlorine	1.30	2,188
City of Washington Regional Water Treatment Plant		NC	Beaufort County	Washington	Water treatment	Chlorine	1.30	887
Town of Elizabethtown Wastewater Treatment Plant	Town of Elizabethtown	NC	Bladen County	Elizabethtown	Wastewater treatment	Chlorine	1.30	392
DuPont – Fayetteville Works	E.I. DuPont de Nemours & Company, Inc.	NC	Bladen County	Fayetteville	Basic chemicals – ACC	Oleum (Fuming Sulfuric acid)	3.00	1,842

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Northwest Water Treatment Plant		NC	Brunswick County	Leland	Water treatment	Chlorine	1.86	1,983
Highway 211 Water Treatment Plant		NC	Brunswick County	Southport	Water treatment	Chlorine	2.80	7,421
Ivy River Treatment Plant	Town of Weaveerville	NC	Buncombe County	Weaverville	Water treatment	Chlorine	2.30	2,678
Momentive Specialty Chemicals Inc. Morganton Plant	Momentive Specialty Chemicals Inc.	NC	Burke County	Morganton	Basic chemicals – ACC	Formaldehyde (solution)	0.42	363
Catawba River Wastewater Treatment Plant	City of Morganton	NC	Burke County	Morganton	Wastewater treatment	Chlorine	3.00	13,700
Town of Valdese Water Treatment Plant	Town of Valdese	NC	Burke County	Valdese	Water treatment	Chlorine	1.30	2,297
Town of Valdese Wastewater Treatment Plant	Town of Valdese	NC	Burke County	Valdese	Wastewater treatment	Chlorine	1.30	2,445
SAFT America, Inc.	SAFT America, Inc.	NC	Burke County	Valdese	Battery manufacturing	Sulfur dioxide (anhydrous)	13.00	176,108
Lower Creek Wastewater Treatment Plant	City of Lenoir	NC	Caldwell County	Lenoir	Wastewater treatment	Chlorine	0.90	1,102
City of Hickory Henry Fork WWTP	City of Hickory	NC	Catawba County	Hickory	Wastewater treatment	Chlorine	0.90	1,466
City of Hickory Northeast WWTP	City of Hickory	NC	Catawba County	Hickory	Wastewater treatment	Chlorine	0.90	2,610
City Of Newton WTP	City of Newton City of Newton Water Plant*	NC	Catawba County	Newton	Water treatment	Chlorine	5.40	33,735
Town of Pittsboro Water Treatment Plant	Town of Pittsboro	NC	Chatham County	Pittsboro	Water treatment	Chlorine	2.20	1,707
Pilot Creek WWTP	City Of Kings Mountain	NC	Cleveland County	Kings Mountain	Wastewater treatment	Chlorine	1.33	1,598
T.J. Ellison Water Plant	City Of Kings Mountain	NC	Cleveland County	Kings Mountain	Water treatment	Chlorine	1.33	2,033
Cleveland County Sanitary District		NC	Cleveland County	Lawndale	Water treatment	Chlorine	0.90	348
First Broad Wastewater Treatment Plant	City of Shelby	NC	Cleveland County	Shelby	Wastewater treatment	Chlorine	1.30	1,997
Shelby Water Treatment Plant	City of Shelby	NC	Cleveland County	Shelby	Water treatment	Chlorine	1.30	4,793
Momentive Specialty Chemicals Inc. Acme Plant	Momentive Specialty Chemicals Holdings LLC	NC	Columbus County	Riegelwood	Basic chemicals – ACC	Ammonia (anhydrous)	5.60	5,838
International Paper Company – Riegelwood Mill	International Paper Company, Purchase, NY	NC	Columbus County	Riegelwood	Pulp and paper	Chlorine dioxide	8.42	10,681
Momentive Specialty Chemicals Inc., Fayetteville	Momentive Specialty Chemicals Holdings LLC	NC	Cumberland County	Fayetteville	Basic chemicals – ACC	Ammonia (anhydrous)	4.40	46,872
North Reverse Osmosis Plant	Dare County	NC	Dare County	Kill Devil Hills	Water treatment	Chlorine	2.40	7,944
Davidson Water, Inc., Water Plant	Davidson Water, Inc.	NC	Davidson County	Lexington	Water treatment	Chlorine	0.90	351
Brenntag Mid-South Inc.	Brenntag Inc.	NC	Durham County	Durham	Basic chemicals – ACC	Formaldehyde (solution)	1.00	11,662

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Tar River Regional Wastewater Treatment Plant	City of Rocky Mount	NC	Edgecombe County	Rocky Mount	Wastewater treatment	Chlorine	1.30	661
City of Belmont Water Treatment Plant	City of Belmont	NC	Gaston County	Belmont	Water treatment	Chlorine	1.30	4,197
City of Belmont Water Pollution Control Facility	City of Belmont	NC	Gaston County	Belmont	Wastewater treatment	Chlorine	3.00	18,597
J.V. Tarpley Water Treatment Facility	City of Bessemer City	NC	Gaston County	Bessemer City	Water treatment	Chlorine	0.80	334
City of Cherryville Water Plant		NC	Gaston County	Cherryville	Water treatment	Chlorine	1.60	1,851
Long Creek Wastewater Treatment Plant	City of Gastonia	NC	Gaston County	Dallas	Wastewater treatment	Sulfur dioxide (anhydrous)	1.33	4,128
Chemtura Corporation	Chemtura Corporation	NC	Gaston County	Gastonia	Basic chemicals – ACC	Toluene 2,4-diisocyanate	0.01	<10
Lubrizol	The Lubrizol Company	NC	Gaston County	Gastonia	Basic chemicals – ACC	Vinyl acetate monomer	0.90	1,239
Crowder's Creek Wastewater Treatment Plant	City of Gastonia	NC	Gaston County	Gastonia	Wastewater treatment	Chlorine	1.30	2,026
City of Mount Holly Water Treatment Plant	City of Mount Holly	NC	Gaston County	Mount Holly	Water treatment	Chlorine	3.00	22,184
City of Mount Holly Wastewater Treatment Plant	City of Mount Holly	NC	Gaston County	Mount Holly	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	27,874
Clariant Mt Holly Plant	Clariant Corporation	NC	Gaston County	Mt. Holly	Basic chemicals – ACC	Ethylene oxide	10.00	284,220
DSM Desotech, Inc.	DSM Desotech, Inc.	NC	Gaston County	Stanley	Basic chemicals – ACC	Toluene diisocyanate (unsp. isomer)	0.10	11
Brenntag Mid-South Inc.	Brenntag Inc.	NC	Guilford County	Grennsboro	Basic chemicals – ACC	Ammonia (conc. ≥20%)	0.10	19
Kao Specialties Americas LLC	Kao Chemicals Americas Corporation	NC	Guilford County	High Point	Basic chemicals – ACC	Ethylene oxide	6.50	144,300
Canton Pre-Chlorination Treatment Facility	Town of Canton	NC	Haywood County	Canton	Wastewater treatment	Chlorine	1.90	4,290
Blue Ridge Paper Products Inc.	Blue Ridge Holding Corporation	NC	Haywood County	Canton	Pulp and paper	Chlorine dioxide	25.00	382,223
Waynesville Water Treatment Plant	Town of Waynesville	NC	Haywood County	Waynesville	Water treatment	Chlorine	2.63	4,371
Town Of Waynesville Wastewater Treatment Plant	Town of Waynesville	NC	Haywood County	Waynesville	Wastewater treatment	Chlorine	2.30	6,160
City of Hendersonville Water Treatment Plant	City of Hendersonville	NC	Henderson County	Mills River	Water treatment	Chlorine	2.20	3,483
Fourth Creek Wastewater Treatment Plant	City of Statesville, North Carolina	NC	Iredell County	Statesville	Wastewater treatment	Chlorine	2.60	4,356
Third Creek Wastewater Treatment Plant	City of Statesville, North Carolina	NC	Iredell County	Statesville	Wastewater treatment	Chlorine	2.60	5,006
Blanchard Terminal Company LLC – Selma Terminal	Marathon Petroleum Company LP	NC	Johnston County	Selma	Basic chemicals – ACC	Butane	0.50	258

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Smithfield Water Treatment Plant	Town of Smithfield	NC	Johnston County	Smithfield	Water treatment	Chlorine	0.91	1,294
City of Sanford Big Buffalo WWTP	City of Sanford	NC	Lee County	Sanford	Wastewater treatment	Chlorine	0.90	288
City of Lincolnton Water Treatment Plant	City of Lincolnton, NC	NC	Lincoln County	Lincolnton	Water treatment	Chlorine	2.70	7,250
Marion Water Treatment Plant	City of Marion	NC	McDowell County	Marion	Water treatment	Chlorine	2.64	6,703
Emerald Carolina Chemical, LLC	Emerald Performance Materials, LLC	NC	Mecklenburg County	Charlotte	Specialty chemicals - SOCMA	Formaldehyde (solution)	0.31	91
Univar USA Inc	Univar USA Inc	NC	Mecklenburg County	Charlotte	Basic chemicals - ACC	Ammonia (conc. ≥20%)	0.20	166
Blanchard Terminal Company LLC - Charlotte Terminal	Marathon Petroleum Company LP	NC	Mecklenburg County	Charlotte	Basic chemicals - ACC	Butane	0.50	1,316
Franklin Water Treatment Plant	Charlotte-Mecklenburg Utilities	NC	Mecklenburg County	Charlotte	Water treatment	Chlorine	1.30	8,866
Vest Water Treatment Plant	Charlotte-Mecklenburg Utilities	NC	Mecklenburg County	Charlotte	Water treatment	Chlorine	1.30	16,199
Rohm and Haas Chemicals LLC - Charlotte Plant	Rohm and Haas Chemicals LLC	NC	Mecklenburg County	Charlotte	Basic chemicals - ACC	Acrylonitrile	1.79	33,569
Brenntag Southeast Inc	Brenntag Inc.	NC	Mecklenburg County	Charlotte	Basic chemicals - ACC	Formaldehyde (solution)	3.00	42,156
JCI Jones Chemicals Inc - Charlotte		NC	Mecklenburg County	Charlotte	Bleach manufacturing, ACC	Sulfur dioxide (anhydrous)	16.00	1,100,335
Lee S. Dukes Jr. Water Treatment Plant		NC	Mecklenburg County	Huntersville	Water treatment	Chlorine	1.30	8,387
Montgomery County Water Treatment Plant	Montgomery County	NC	Montgomery County	Mt. Gilead	Water treatment	Chlorine	1.30	286
Town of Southern Pines Water Treatment Plant	Town of Southern Pines, North Carolina	NC	Moore County	Pinebluff	Water treatment	Chlorine	0.90	256
Tar River Water Treatment Plant	City of Rocky Mount	NC	Nash County	Rocky Mount	Water treatment	Chlorine	1.30	1,398
M'Kean Maffitt Wastewater Treatment Plant	Cape Fear Public Utility Authority	NC	New Hanover County	Wilmington	Wastewater treatment	Chlorine	0.90	2,055
Dixon Water Treatment Plant	Onslow Water and Sewer Authority (ONWASA)	NC	Onslow County	Holly Ridge	Water treatment	Chlorine	2.20	764
City of Jacksonville Land Treatment System	City of Jacksonville	NC	Onslow County	Jacksonville	Wastewater treatment	Chlorine	0.90	292
Town of Hillsborough Water Treatment Plant	Town of Hillsborough	NC	Orange County	Hillsborough	Water treatment	Chlorine	0.90	1,331
Rogerson Wastewater Treatment Facility	City of Elizabeth City	NC	Pasquotank County	Elizabeth City	Wastewater treatment	Chlorine	0.90	1,021
Elizabeth City Water Treatment Facility	City of Elizabeth City	NC	Pasquotank County	Elizabeth City	Water treatment	Chlorine	0.90	4,235
Mayo Plant SCR	Progress Energy Carolinas, Inc.	NC	Person County	Roxboro	Electric power generation	Ammonia (anhydrous)	1.10	249
City of Roxboro Water Treatment Plant	City of Roxboro	NC	Person County	Roxboro	Water treatment	Chlorine	1.30	1,522

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Roxboro Steam Electric Plant	Carolina Power and Light Company (d.b.a. Progress Energy Carolinas, Inc.)*	NC	Person County	Semora	Electric power generation	Ammonia (anhydrous)	0.99	175
Town of Farmville Wastewater Treatment Plant	Town of Farmville	NC	Pitt County	Farmville	Wastewater treatment	Chlorine	0.90	564
Trinity Manufacturing, Inc.	Trical, Inc.	NC	Richmond County	Hamlet	Basic chemicals – ACC	Chlorine	14.00	61,697
Lumberton Wastewater Treatment Plant	City of Lumberton, North Carolina	NC	Robeson County	Lumberton	Wastewater treatment	Chlorine	1.90	9,085
Lumberton Water Treatment Plant	City of Lumberton, North Carolina	NC	Robeson County	Lumberton	Water treatment	Chlorine	2.70	15,758
City of Eden, Mebane Bridge WWTP		NC	Rockingham County	Eden	Wastewater treatment	Chlorine	5.40	24,826
City of Eden, Robert A. Harris Water Plant		NC	Rockingham County	Eden	Water treatment	Chlorine	5.40	24,925
City of Reidsville Wastewater Treatment Plant	City of Reidsville, North Carolina	NC	Rockingham County	Reidsville	Wastewater treatment	Chlorine	0.90	1,090
City of Reidsville Water Treatment Plant	City of Reidsville, North Carolina	NC	Rockingham County	Reidsville	Water treatment	Chlorine	1.30	1,882
DyStar LP		NC	Rockingham County	Reidsville	Specialty chemicals – SOCMA	Formaldehyde (solution)	3.80	15,561
Akzo Nobel Surface Chemistry LLC.	Akzo Nobel Inc.	NC	Rowan County	Salisbury	Basic chemicals – ACC	Vinyl acetate monomer	0.77	1,204
Cliffside Steam Station	Duke Energy	NC	Rutherford County	Cliffside	Electric power generation	Ammonia (anhydrous)	4.40	10,544
Belews Creek Steam Station	Duke Energy Company	NC	Stokes County	Belews Creek	Electric power generation	Ammonia (anhydrous)	5.60	13,621
City of Monroe Wastewater Treatment Plant		NC	Union County	Monroe	Wastewater treatment	Chlorine	1.80	3,854
City of Monroe John Glenn Water Treatment Plant		NC	Union County	Monroe	Water treatment	Chlorine	1.87	4,158
Mallinckrodt Inc.	Mallinckrodt Inc.	NC	Wake County	Raleigh	Pharmaceutical manufacturing	Ammonia (anhydrous)	4.40	110,852
North Wilkesboro Water Treatment Plant		NC	Wilkes County	North Wilkesboro	Water treatment	Chlorine	1.20	2,315
Wilkesboro Water Treatment Plant	Town of Wilkesboro	NC	Wilkes County	Wilkesboro	Water treatment	Chlorine	0.90	686
City of Wilson Wiggins Mill Water Treatment Plant	City of Wilson, North Carolina	NC	Wilson County	Wilson	Water treatment	Chlorine	1.30	3,893
City of Wilson Toisnot Water Treatment Plant	City of Wilson, North Carolina	NC	Wilson County	Wilson	Water treatment	Chlorine	1.30	7,996
Town of Yadkinville Wastewater Treatment Plant	Town of Yadkinville	NC	Yadkin County	Yadkinville	Wastewater treatment	Chlorine	4.30	8,801
NORTH DAKOTA								
Valley City Water Treatment Plant, North Dakota		ND	Barnes County	Valley City	Water treatment	Chlorine	0.90	2,205
Bismarck Water Treatment Facility	City of Bismarck	ND	Burleigh County	Bismarck	Water treatment	Chlorine	0.90	4,078

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Bismarck Wastewater Treatment Plant	City of Bismarck	ND	Burleigh County	Bismarck	Wastewater treatment	Chlorine	1.30	4,468
City of Fargo Wastewater Treatment Plant	City of Fargo	ND	Cass County	Fargo	Wastewater treatment	Sulfur dioxide (anhydrous)	1.30	10,202
City of Fargo Water Treatment Plant	City of Fargo	ND	Cass County	Fargo	Water treatment	Chlorine	1.30	23,175
SWA Dodge Pumping Station	Southwest Water Authority	ND	Dunn County	Dodge	Water treatment	Chlorine	3.10	55
CS-5 Recovered Energy Facility	OREG-2, Inc. Ormat Nevada, Inc.*	ND	Dunn County	Manning	Electric power generation	Pentane	0.30	<10
Grand Forks Water Treatment	City of Grand Forks	ND	Grand Forks County	Grand Forks	Water treatment	Chlorine	1.30	11,703
CS-8 Recovered Energy Facility	OREG 2, Inc. Ormat Nevada, Inc.*	ND	McIntosh County	Zeeland	Electric power generation	Pentane	0.30	<10
Coal Creek Station		ND	McLean County	Underwood	Electric power generation	Chlorine	2.00	32
Great Plains Synfuels Plant	Basin Electric Power Cooperative	ND	Mercer County	Beulah	Basic chemicals - ACC	Ammonia (anhydrous)	4.50	188
MDU CS-6 Recovered Energy Generation Facility	MDU Resources Group, Inc. Montana-Dakota Utilities Co.*	ND	Morton County	Glen Ullin	Electric power generation	Pentane	0.30	<10
Mandan Water Treatment Plant	City of Mandan	ND	Morton County	Mandan	Water treatment	Chlorine	3.00	10,813
Tesoro Mandan Refinery	Tesoro Refining & Marketing Company LLC	ND	Morton County	Mandan	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	9.50	90,890
CS-7	OREG1 Ormat Nevada, Inc.*	ND	Morton County	St. Anthony	Electric power generation	Pentane	0.30	<10
SWA Water Treatment Plant	Southwest Water Authority	ND	Stark County	Dickinson	Water treatment	Chlorine	0.90	3,510
Jamestown Wastewater Treatment Facility	City of Jamestown, ND	ND	Stutsman County	Jamestown	Wastewater treatment	Sulfur dioxide (anhydrous)	2.30	2,182
Jamestown Water Treatment Plant	City of Jamestown, ND	ND	Stutsman County	Jamestown	Water treatment	Chlorine	0.90	3,440
Grafton Water Department	City of Grafton	ND	Walsh County	Grafton	Water treatment	Chlorine	3.00	4,312
City of Minot Water Treatment Plant	City of Minot, North Dakota	ND	Ward County	Minot	Water treatment	Chlorine	0.90	2,168
Williston Water Treatment Plant	City of Williston	ND	Williams County	Williston	Water treatment	Chlorine	0.90	<10
NEBRASKA								
Whelan Energy Center Unit 2	Public Power Generation Agency (PPGA)	NE	Adams County	Hastings	Electric power generation	Ammonia (anhydrous)	2.50	2,828
Platte West Water Treatment plant	Metropolitan Utilities District	NE	Douglas County	Omaha	Water treatment	Chlorine	2.20	12,048
Florence Water Treatment Plant	Metropolitan Utilities District	NE	Douglas County	Omaha	Water treatment	Chlorine	14.00	636,897
Rokeby Generating Station	Lincoln Electric System	NE	Lancaster County	Lincoln	Electric power generation	Ammonia (anhydrous)	0.26	21
Terry Bundy Generating Station	Lincoln Electric System	NE	Lancaster County	Lincoln	Electric power generation	Ammonia (anhydrous)	1.00	133
City Of Norfolk West Water Plant	City Of Norfolk	NE	Madison County	Norfolk	Water treatment	Chlorine	1.30	756
City Of Norfolk East Water Plant	City Of Norfolk	NE	Madison County	Norfolk	Water treatment	Chlorine	1.30	9,374

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Omaha Public Power Nebraska City Power Station	Omaha Public Power District	NE	Otoe County	Nebraska City	Electric power generation	Ammonia (anhydrous)	4.10	1,898
Nebraska City Water Treatment Plant	Nebraska City Utilities	NE	Otoe County	Nebraska City	Water treatment	Chlorine	0.90	2,344
Platte River Water Treatment Plant	Metropolitan Utilities District	NE	Sarpy County	Omaha	Water treatment	Chlorine	2.20	3,374
DPC Industries, Inc.	DX Holding Company	NE	Sarpy County	Omaha	Bleach manufacturing	Sulfur dioxide (anhydrous)	16.00	753,723
Ashland Water Treatment Facility	City of Lincoln, Nebraska	NE	Saunders County	Ashland	Water treatment	Chlorine	1.30	728
Blair Water Treatment Facility	City of Blair, Nebraska	NE	Washington County	Blair	Water treatment	Chlorine	1.30	1,178
N E W H A M P S H I R E								
Nashua Corporation – Merrimack Facility	Cenveo Corporation	NH	Hillsborough County	Merrimack	Pulp and paper	Vinyl acetate monomer	0.40	395
JCI Jones Chemicals, Inc. – Merrimack		NH	Hillsborough County	Merrimack	Bleach manufacturing, ACC	Chlorine	14.00	465,822
PSNH Merrimack Generating Station	Northeast Utilities Public Service of New Hampshire*	NH	Merrimack County	Bow	Electric power generation	Ammonia (anhydrous)	4.40	18,570
Essential Power Newington, LLC	Essential Power, LLC	NH	Rockingham County	Newington	Electric power generation	Ammonia (anhydrous)	1.70	3,157
N E W J E R S E Y								
Delaware River Regional Water Treatment Plant	New Jersey American Water American Water*	NJ	Burlington County	Delran	Water treatment	Chlorine	0.90	4,809
CVC Specialty Chemicals, Inc. – Maple Shade Plant	Emerald Performance Materials	NJ	Burlington County	Maple Shade	Specialty chemicals – SOCMA	Epichlorohydrin	2.20	44,370
Dow Chemical Pennsauken Site	The Dow Chemical Company	NJ	Camden County	Pennsauken	Basic chemicals – ACC	Pentane	0.40	501
Wildwood/Lower Region	Cape May County Municipal Utilities Authority	NJ	Cape May County	Rio Grande	Wastewater treatment	Chlorine	0.55	140
Deltech Resin Company	Newchem, Inc.	NJ	Essex County	Newark	Specialty chemicals – SOCMA	Toluene diisocyanate (unsp. isomer)	0.10	17
Cardolite Corporation	Cardolite Corporation	NJ	Essex County	Newark	Specialty chemicals – SOCMA	Epichlorohydrin	1.10	6,602
Ferro Delaware River Plant	Ferro Corporation	NJ	Gloucester County	Bridgeport	Basic chemicals – ACC	Chlorine	7.50	253,639
Paulsboro Refining Company LLC	PBF Holding Company LLC	NJ	Gloucester County	Paulsboro	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	19.00	3,219,850
Logan Generating Co., L.P.		NJ	Gloucester County	Swedesboro	Electric power generation	Ammonia (conc. ≥20%)	0.07	<10
Johnson Matthey Inc.	Johnson Matthey Plc.	NJ	Gloucester County	West Deptford	Basic chemicals – ACC	Chlorine	1.30	5,926
Thorofare Plant	Solvay Specialty Polymers USA, LLC	NJ	Gloucester County	West Deptford	Chemicals – ACC, SOCMA	Hydrofluoric acid (conc. ≥50%)	25.00	4,267,539
Bayonne Plant Holding L.L.C.		NJ	Hudson County	Bayonne	Electric power generation	Ammonia (anhydrous)	2.13	122,188
PSEG Fossil, LLC – Hudson Generating Station	PSEG Power LLC	NJ	Hudson County	Jersey City	Electric power generation	Ammonia (conc. ≥20%)	0.10	<10

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Kuehne Chemical Co., Inc.		NJ	Hudson County	South Kearny	Bleach manufacturing, ACC	Chlorine	14.00	9,039,893
PSEG Fossil, LLC – Mercer Generating Station	PSEG Power, LLC	NJ	Mercer County	Hamilton	Electric power generation	Ammonia (conc. ≥20%)	0.10	47
Trenton Water Works – Filtration Plant – EPARMP		NJ	Mercer County	Trenton	Water treatment	Chlorine	0.20	794
Grace Edison Plant	W.R. Grace & Co. Conn.	NJ	Middlesex County	Edison	Basic chemicals – ACC	Titanium tetrachloride	0.90	3,836
Equistar Chemicals, LP	LyondellBasell Industries	NJ	Middlesex County	Edison	Basic chemicals – ACC	Titanium tetrachloride	6.20	406,649
DuPont – Parlin	E.I.DuPont de Nemours & Co. Inc.	NJ	Middlesex County	Parlin	Basic chemicals – ACC	Acrylonitrile	0.43	1,747
Hercules Incorporated – Parlin Plant	Ashland Incorporated	NJ	Middlesex County	Parlin	Basic chemicals – ACC	Ethylene oxide	5.50	267,547
Air Liquide America Specialty Gases, LLC.	American Air Liquide Holdings, Inc.	NJ	Middlesex County	South Plainfield	Basic chemicals – ACC	Chlorine	0.20	197
Swimming River Water Treatment Plant	New Jersey American Water American Water*	NJ	Monmouth County	Colts Neck	Water treatment	Chlorine	0.90	2,055
Jumping Brook Water Treatment Plant	New Jersey American Water American Water*	NJ	Monmouth County	Neptune	Water treatment	Chlorine	0.90	4,864
Brick Township Municipal Utilities Authority		NJ	Ocean County	Brick	Water treatment	Chlorine	0.90	7,001
Church & Dwight Company Inc.		NJ	Ocean County	Lakewood	Basic chemicals – ACC	Flammable Mixture	0.28	309
Pequannock Water Treatment Plant	City of Newark NWCDC*	NJ	Passaic County	West Milford	Water treatment	Chlorine	1.30	1,130
Carneys Point Generating Co., L.P.		NJ	Salem County	Carneys Point	Electric power generation	Ammonia (conc. ≥20%)	0.09	<10
DuPont Performance Polymers – Chambers Works	E.I. DuPont de Nemours & Co. , Inc.	NJ	Salem County	Deepwater	Basic chemicals – ACC	Hydrogen chloride (anhydrous)	13.00	562,775
DuPont Chambers Works	E.I. DuPont de Nemours and Co., Inc.	NJ	Salem County	Deepwater	Basic chemicals – ACC	Chlorine	25.00	2,161,351
Mexichem Specialty Resins, Inc.	Mexichem Specialty Resins, Inc.	NJ	Salem County	Pedricktown	Basic chemicals – ACC	Vinyl chloride	0.22	14
Oxy Vinyls, LP	Occidental Petroleum Corporation	NJ	Salem County	Pedricktown	Basic chemicals – ACC	Ammonia (anhydrous)	1.80	1,010
Lubrizol Advanced Materials, Inc Pedricktown Plant	The Lubrizol Corporation	NJ	Salem County	Pedricktown	Basic chemicals – ACC	Acrylonitrile	3.10	8,116
Siegfried USA, LLC	Siegfried Holding AG	NJ	Salem County	Pennsville	Specialty chemicals – SOCMA	Ethyl ether	0.04	<10
Cogen Technologies Linden Venture, LP	East Coast Power LLC	NJ	Union County	Linden	Electric power generation	Ammonia (conc. ≥20%)	0.20	49
Bayway Refinery	Phillips 66 Company	NJ	Union County	Linden	Petroleum refinery	Flammable Mixture	1.40	28,657
Infineum USA L.P. Bayway Chemical Plant	Infineum USA Inc.	NJ	Union County	Linden	Basic chemicals – ACC	Chlorine	14.00	4,488,369
BASF Corporation Washington	BASF Corporation	NJ	Warren County	Washington	Chemicals – ACC, SOCMA	Ethylene oxide	3.58	18,993

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
NEW MEXICO								
Southside Water Reclamation Plant	Albuquerque Bernalillo County Water Utility Author	NM	Bernalillo County	Albuquerque	Wastewater treatment	Chlorine	5.40	159,879
DPC Industries, Inc	DX Holding Company	NM	Bernalillo County	Albuquerque	Bleach manufacturing	Chlorine	14.00	658,598
Jacob A. Hands Wastewater Treatment Facility	City of Las Cruces	NM	Dona Ana County	Las Cruces	Wastewater treatment	Chlorine	1.30	3,019
Navajo Refining Company	Holly Corporation	NM	Eddy County	Artesia	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	11.00	14,435
Navajo Refining Company, LLC- Lovington, NM	HollyFrontier Corporation	NM	Lea County	Lovington	Petroleum refinery	Flammable Mixture	0.30	<10
Santa Fe Pump Station/Water Chlorination Facility	City of Gallup Joint Utilities	NM	McKinley County	Gallup	Water treatment	Chlorine	0.30	194
City of Gallup Wastewater Treatment Plant	City of Gallup Joint Utilities	NM	McKinley County	Gallup	Wastewater treatment	Chlorine	2.20	3,153
Gallup Refinery	Western Refining Southwest, Inc.	NM	McKinley County	Jamestown	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	5.90	1,281
Yah-ta-hey PumpStation Water Chlorination Facility	City of Gallup Joint Utilities	NM	McKinley County	Yah Ta Hey	Water treatment	Chlorine	2.20	327
Holloman Air Force Base	U. S. Air Force Air Combat Command, 49th Fighter W	NM	Otero County	Holloman AFB	Wastewater treatment	Chlorine	0.80	10
NEVADA								
Soda Lake I Geothermal Project		NV	Churchill County	Fallon	Electric power generation	Isopentane	0.02	<10
Enel Salt Wells, LLC	Enel North America	NV	Churchill County	Fallon	Electric power generation	Isobutane	0.40	<10
Enel Stillwater, LLC	Enel North America	NV	Churchill County	Fallon	Electric power generation	Isobutane	0.40	<10
Soda Lake II Geothermal Project		NV	Churchill County	Fallon	Electric power generation	Isopentane	0.29	<10
Brady Geothermal Power Plant	ORNI 1, LLC ORNI 2, LLC*	NV	Churchill County	Fallon	Electric power generation	Pentane	0.30	<10
Desert Peak II	ORNI 3, LLC	NV	Churchill County	Fallon	Electric power generation	Pentane	0.30	<10
Desert Star Energy Center	San Diego Gas and Electric	NV	Clark County	Boulder City	Electric power generation	Ammonia (conc. ≥20%)	0.70	<10
Southern Nevada Water System	Southern Nevada Water Authority	NV	Clark County	Boulder City	Water treatment	Chlorine	6.00	3,980
Saguaro Power Company	NRG Energy Inc.	NV	Clark County	Henderson	Electric power generation	Ammonia (anhydrous)	1.50	18,237
Thatcher Company of Nevada, Inc.		NV	Clark County	Henderson	Bleach manufacturing	Chlorine	14.00	1,137,040
Pioneer Americas LLC dba Olin Chlor Alkali Product	Olin Corporation	NV	Clark County	Henderson	Bleach manufacturing, ACC	Chlorine	18.00	1,586,954
Goodsprings Energy Recovery Station	NV Energy	NV	Clark County	Jean	Electric power generation	Pentane	0.20	<10
Apex Generating Station	Las Vegas Power Company LLC Broadway Gen. Funding LLC*	NV	Clark County	Las Vegas	Electric power generation	Ammonia (anhydrous)	3.70	28

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Silverhawk Generating Station	NV Energy	NV	Clark County	North Las Vegas	Electric power generation	Ammonia (conc. ≥20%)	0.20	<10
Walter M. Higgins III Generating Station	NV Energy	NV	Clark County	Primm	Electric power generation	Ammonia (conc. ≥20%)	0.20	<10
Tuscorora Geothermal	Ormat Technologies, Inc. Ormat Nevada, Inc.*	NV	Elko County	Tuscorora	Electric power generation	Butane	0.40	<10
Blue Mountain Faulkner 1	NGP Blue Mountain I LLC	NV	Humboldt County	Winnemucca	Electric power generation	Isopentane	0.40	<10
McGinness Hills	Ormat Technologies, Inc. Ormat Nevada, Inc.*	NV	Lander County	Austin	Electric power generation	Pentane	0.40	<10
Hawthorne Army Depot	Department of Army Department of Defense*	NV	Mineral County	Hawthorne	Water treatment	Chlorine	3.40	562
Wild Rose	Ormat Technologies, inc. ORNI 47 LLC*	NV	Mineral County	Luning	Electric power generation	Butane	0.40	<10
Jersey Valley	Ormat Technologies, Inc. Ormat Nevada, Inc.*	NV	Pershing County	Battle Mountain	Electric power generation	Pentane	0.40	<10
TRI-Center Power Plant	Naniwa Energy LLC	NV	Storey County	McCarran	Electric power generation	Ammonia (anhydrous)	4.00	463
Steamboat Geothermal Power Complex	Ormat Technologies, Inc.	NV	Washoe County	Reno	Electric power generation	Isobutane	0.40	143
Sierra Chemical Co., Sparks Facility		NV	Washoe County	Sparks	Bleach manufacturing, ACC	Sulfur dioxide (anhydrous)	16.00	401,965
NEW YORK								
Surpass Chemical Company, Inc. Bridge Street Plant		NY	Albany County	Albany	Bleach manufacturing	Chlorine	14.00	539,167
Feura Bush Filtration Plant	Albany Water Board	NY	Albany County	Feura Bush	Water treatment	Chlorine	1.30	1,830
Guilderland Water Treatment Plant	Town of Guilderland	NY	Albany County	Guilderland Center	Water treatment	Chlorine	3.00	10,342
Mohawk View Water Treatment Plant	Town of Colonie Division of Latham Water	NY	Albany County	Latham	Water treatment	Chlorine	1.30	4,606
Town of Bethlehem Dinmore Rd. Chlorination Station	Town of Bethlehem Department of Public Works	NY	Albany County	Selkirk	Water treatment	Chlorine	0.40	111
Town of Bethlehem Water Treatment Plant – Selkirk	Town of Bethlehem Department of Public Works	NY	Albany County	Selkirk	Water treatment	Chlorine	1.30	1,194
Town of Bethlehem Wastewater Treatment Plant	Town of Bethlehem Department of Public Works	NY	Albany County	Selkirk	Wastewater treatment	Chlorine	1.30	2,205
Town of Bethlehem Water Treatment Plant–Vly Creek	Town of Bethlehem Department of Public Works	NY	Albany County	Voorheesville	Water treatment	Chlorine	0.40	54
CYTEC Olean Inc	CYTEC Industries Inc.	NY	Cattaraugus County	Olean	Basic chemicals – ACC	Toluene diisocyanate (unsp. isomer)	0.03	<10
Dunkirk Wastewater Treatment Facility		NY	Chautauqua County	Dunkirk	Wastewater treatment	Chlorine	1.30	5,756
Dunkirk Water Filtration Plant	City of Dunkirk	NY	Chautauqua County	Dunkirk	Water treatment	Chlorine	1.30	7,479
Elmira Water Board Filtration Plant	Elmira Water Board	NY	Chemung County	Elmira	Water treatment	Chlorine	1.30	14,469

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Saranac Power Partners, L.P.	CalEnergy Company, Inc.	NY	Clinton County	Plattsburgh	Electric power generation	Ammonia (conc. ≥20%)	0.60	2,095
Leroy R. Summerson WWTF	City of Cortland, NY	NY	Cortland County	Cortland	Wastewater treatment	Chlorine	0.90	5,563
City of Beacon Wastewater Treatment Facility	The City of Beacon	NY	Dutchess County	Beacon	Wastewater treatment	Chlorine	3.00	55,801
DuPont Yerkes Plant	E. I. DuPont de Nemours & Co. Inc.	NY	Erie County	Buffalo	Basic chemicals – ACC	Vinyl fluoride	0.12	25
City of Buffalo Water Facility		NY	Erie County	Buffalo	Water treatment	Chlorine	1.30	22,423
Tyson Deli, Buffalo, NY	Tyson Foods Inc.	NY	Erie County	Buffalo	Ammonia refrigeration	Ammonia (anhydrous)	2.80	85,000
PVS Chemical Solutions, Inc.	PVS Chemicals, Inc.	NY	Erie County	Buffalo	Basic chemicals – ACC	Sulfur dioxide (anhydrous)	6.50	378,302
Sturgeon Point Water Treatment Plant	Erie County Water Authority	NY	Erie County	Derby	Water treatment	Chlorine	3.00	5,166
Van de Water, Water Treatment Plant	Erie County Water Authority	NY	Erie County	Tonawanda	Water treatment	Chlorine	1.30	2,261
Town of Tonawanda Wastewater Treatment Plant		NY	Erie County	Tonawanda	Wastewater treatment	Chlorine	0.90	3,861
Town of Tonawanda Water Treatment Plant		NY	Erie County	Tonawanda	Water treatment	Chlorine	0.90	6,982
Tonawanda – 3M Company		NY	Erie County	Tonawanda	Basic chemicals – ACC	Carbon disulfide	2.40	34,851
FMC Corporation – Peroxygens Tonawanda	FMC Corporation	NY	Erie County	Tonawanda	Basic chemicals – ACC	Ammonia (anhydrous)	6.90	352,383
International Paper – Ticonderoga Mill	International Paper	NY	Essex County	Ticonderoga	Pulp and paper	Chlorine dioxide	2.00	635
Warneck Pump Station	Development Authority of the North Country	NY	Jefferson County	Watertown	Wastewater treatment	Chlorine	1.30	1,713
Watertown Water Filtration Plant	City of Watertown, NY	NY	Jefferson County	Watertown	Water treatment	Chlorine	1.30	8,932
Lakeside Beaver Falls, LLC	Lakeside New York, LLC	NY	Lewis County	Beaver Falls	Electric power generation	Ammonia (conc. ≥20%)	0.60	28
JCI Jones Chemicals, Inc. – Caledonia		NY	Livingston County	Caledonia	Bleach manufacturing, ACC	Sulfur dioxide (anhydrous)	25.00	877,870
Arkema Inc.	Arkema Delaware Inc.	NY	Livingston County	Piffard	Basic chemicals – ACC	Propyl chloroformate	1.70	681
Monroe County Water Authority – Shoremont Facility	Monroe County Water Authority	NY	Monroe County	Rochester	Water treatment	Chlorine	2.20	22,929
Arch Chemicals, Inc. – Rochester, NY Facility	Arch Chemicals, Inc.	NY	Monroe County	Rochester	Specialty chemicals – SOCMA	Chlorine	25.00	886,626
Somerset Operating Company, LLC	Upstate New York Power Producers, Inc.	NY	Niagara County	Barker	Electric power generation	Ammonia (anhydrous)	4.90	3,730
VanDeMark Chemical Inc.	Buckingham VanDeMark Holding Corp	NY	Niagara County	Lockport	Chemicals – ACC, SOCMA	Chlorine	14.00	240,997
Twin Lake Chemical, Inc.		NY	Niagara County	Lockport	Chemical manufacturing	Phosgene	15.00	293,421
Praxair – Niagara Falls, NY	Praxair, Inc.	NY	Niagara County	Niagara Falls	Basic chemicals – ACC	Hydrogen	0.70	3,156
Michael C. O’Laughlin Municipal Water Plant	Niagara Falls Water Board	NY	Niagara County	Niagara Falls	Water treatment	Chlorine	1.30	8,524

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
NCWD Williams Road Treatment Plant		NY	Niagara County	Niagara Falls	Water treatment	Chlorine	2.60	30,785
Niacet Corporation		NY	Niagara County	Niagara Falls	Basic chemicals – ACC	Chlorine	14.00	411,475
Olin Corporation, Niagara Falls, NY – Foote Yard	Olin Corporation	NY	Niagara County	Niagara Falls	Basic chemicals – ACC	Chlorine	25.00	942,369
Olin Corporation – Niagara Falls, New York Plant	Olin Corporation	NY	Niagara County	Niagara Falls	Bleach manufacturing, ACC	Chlorine	25.00	960,730
Occidental Chemical Corporation – Niagara Plant	Occidental Petroleum Corporation	NY	Niagara County	Niagara Falls	Bleach manufacturing, ACC	Chlorine	25.00	974,770
North Tonawanda Wastewater Treatment Facility	City of North Tonawanda, NY	NY	Niagara County	North Tonawanda	Wastewater treatment	Chlorine	1.30	12,260
City of Rome Water Filtration Plant	City of Rome	NY	Oneida County	Lee Center	Water treatment	Chlorine	1.30	1,058
Hinckley Water Treatment Plant	Upper Mohawk Valley Regional Water Board	NY	Oneida County	Prospect	Water treatment	Chlorine	1.30	385
City of Oneida Water Treatment Plant	City of Oneida	NY	Oneida County	Taberg	Water treatment	Chlorine	1.30	188
Skaneateles Water Treatment Plant		NY	Onondaga County	Skaneateles	Water treatment	Chlorine	0.90	409
Lakeside Syracuse, LLC	Lakeside New York, LLC	NY	Onondaga County	Solvay	Electric power generation	Ammonia (conc. ≥20%)	0.60	1,749
Onondaga Renewables LLC	Onondaga Renewables LLC	NY	Onondaga County	Syracuse	Electric power generation	Ammonia (conc. ≥20%)	0.09	76
General Chemical LLC – Syracuse Works	General Chemical LLC	NY	Onondaga County	Syracuse	Basic chemicals – ACC	Ammonia (anhydrous)	4.40	176,756
JCI Jones Chemicals Inc. – Warwick		NY	Orange County	Warwick	Bleach manufacturing, ACC	Sulfur dioxide (anhydrous)	16.00	324,901
City of Fulton Water Pollution Control Plant		NY	Oswego County	Fulton	Wastewater treatment	Chlorine	1.30	6,125
Eastside Wastewater Treatment Plant	City of Oswego	NY	Oswego County	Oswego	Wastewater treatment	Chlorine	1.30	6,240
City of Oswego Water Treatment Facility	City of Oswego, New York	NY	Oswego County	Oswego	Water treatment	Chlorine	1.30	6,387
Westside Wastewater Treatment Plant	City of Oswego	NY	Oswego County	Oswego	Wastewater treatment	Chlorine	1.30	8,162
Melrose Chlorination Station	City of Troy	NY	Rensselaer County	Melrose	Water treatment	Chlorine	3.00	4,472
John P. Buckley Water Treatment Plant	City of Troy Department of Public Utilities	NY	Rensselaer County	Troy	Water treatment	Chlorine	1.30	8,780
Joint Regional Sewerage Board WWTP	Joint Regional Sewerage Board	NY	Rockland County	West Haverstraw	Wastewater treatment	Chlorine	1.30	17,791
Momentive Specialty Chemicals Inc., Moreau	Momentive Specialty Chemicals Inc.	NY	Saratoga County	South Glens Falls	Basic chemicals – ACC	Formaldehyde (solution)	0.27	133
MPM Silicones, LLC	Momentive Performance Materials USA, Inc.	NY	Saratoga County	Waterford	Basic chemicals – ACC	Dimethyl-dichlorosilane	7.50	165,013
SI Group		NY	Schenectady County	Rotterdam Junction	Basic chemicals – ACC	Formaldehyde (solution)	25.00	842,753

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Massena Energy Facility	Power City Partners, L.P.	NY	St. Lawrence County	Massena	Electric power generation	Ammonia (anhydrous)	3.60	8,384
City Of Ogdensburg Wastewater Treatment Plant	City Of Ogdensburg	NY	St. Lawrence County	Ogdensburg	Wastewater treatment	Chlorine	0.90	250
City of Hornell Water Treatment Plant		NY	Steuben County	Hornell	Water treatment	Chlorine	0.90	198
Village of Monticello Water Department		NY	Sullivan County	Kiamesha Lake	Water treatment	Chlorine	2.20	4,561
SCLIWC Bolton Point Water System	Southern Cayuga Lake Intermunicipal Water Com.	NY	Tompkins County	Ithaca	Water treatment	Chlorine	1.80	5,155
Cayuga Operating Company LLC		NY	Tompkins County	Lansing	Electric power generation	Ammonia (anhydrous)	2.30	1,106
Finch Paper LLC	Finch Paper Holdings LLC	NY	Warren County	Glens Falls	Pulp and paper	Sulfur dioxide (anhydrous)	16.00	141,165
Thatcher Company of New York		NY	Wayne County	Williamson	Industrial gas manufacturing	Sulfur dioxide (anhydrous)	16.00	160,850
Kensico (Shaft 18)	New York City Dept. of Environmental Protection	NY	Westchester County	Valhalla	Water treatment	Chlorine	1.33	5,849
Hillview Reservoir	New York City Environmental Protection	NY	Westchester County	Yonkers	Water treatment	Chlorine	1.30	62,025
Attica Wastewater Treatment Plant	Village of Attica	NY	Wyoming County	Attica	Wastewater treatment	Chlorine	1.30	227
Attica Water Treatment Plant	Village of Attica	NY	Wyoming County	Attica	Water treatment	Chlorine	1.30	1,140
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DP&L – J.M. Stuart Generating Station	AES Corporation	OH	Adams County	Aberdeen	Electric power generation	Ammonia (anhydrous)	6.10	11,593
DP&L – Killen Electric Generating Station	DPL Inc.	OH	Adams County	Manchester	Electric power generation	Ammonia (anhydrous)	6.90	7,011
Cairo Sulphur Products	Chemtrade Logistics, Inc.	OH	Allen County	Cairo	Basic chemicals – ACC	Oleum (Fuming Sulfuric acid)	4.60	8,575
PPG Refinish – Lima, OH	PPG Industries Ohio, Inc.	OH	Allen County	Lima	Basic chemicals – ACC	Flammable Mixture	0.01	<10
ISP Lima LLC	International Specialty Products	OH	Allen County	Lima	Basic chemicals – ACC	Butane	0.30	197
Fort Amanda Specialties LLC	Akzo Nobel Functional Chemicals LLC BASF Corporation*	OH	Allen County	Lima	Basic chemicals – ACC	Hydrocyanic acid	0.60	683
Linde – Lima	Linde LLC	OH	Allen County	Lima	Basic chemicals – ACC	Ammonia (anhydrous)	1.50	6,027
Lima Refining Company	Husky Energy Corporation	OH	Allen County	Lima	Petroleum refinery	Butane	1.50	8,870
Lima Water Treatment Plant	City of Lima, Ohio	OH	Allen County	Lima	Water treatment	Chlorine	1.30	9,128
PCS Nitrogen Ohio L.P.	Potash Corporation of Saskatchewan Inc.	OH	Allen County	Lima	Fertilizer manufacturing	Ammonia (anhydrous)	17.00	149,789
Ineos USA LLC		OH	Allen County	Lima	Petrochemical manufacturing	Acrylonitrile	25.00	238,295
Gabriel Performance Products, LLC		OH	Ashtabula County	Ashtabula	Specialty chemicals – SOCMA	Hydrogen sulfide	16.00	90,647
ASHTA Chemicals Incorporated	ASHTA Chemicals Incorporated	OH	Ashtabula County	Ashtabula	Basic chemicals – ACC	Chlorine	17.00	95,214
Detrex Chemicals	Detrex Corporation	OH	Ashtabula County	Ashtabula	Chemical manufacturing	Chlorine	25.00	161,102

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Univar USA Inc. – Cincinnati Branch	Univar USA Inc.	OH	Butler County	Cincinnati	Bleach manufacturing, ACC	Chlorine	14.00	987,758
Charles M. Bolton Plant	Greater Cincinnati Water Works	OH	Butler County	Fairfield	Water treatment	Chlorine	3.00	25,270
Air Products, Middletown, OH	Air Products and Chemicals Inc.	OH	Butler County	Middletown	Basic chemicals – ACC	Hydrogen	0.30	323
Pilot Chemical Company of Ohio Middletown Plant	Pilot Chemical Corporation	OH	Butler County	Middletown	Chemicals – ACC, SOCMA	Sulfur trioxide	2.90	32,900
Water Treatment Plant	City of Springfield, Ohio	OH	Clark County	Springfield	Water treatment	Chlorine	1.30	5,759
Clermont County Bob McEwen WTP	Clermont County Sewer and Water District	OH	Clermont County	Batavia	Water treatment	Chlorine	1.30	1,753
Clermont County Pierce–Union–Batavia WTP	Clermont County Sewer and Water District	OH	Clermont County	New Richmond	Water treatment	Chlorine	1.30	1,840
Heritage–WTI, Inc	Heritage–WTI, LLC.	OH	Columbiana County	East Liverpool	Specialty chemicals – SOCMA	Furan	3.90	22,161
Coshocton Water Treatment Plant	City of Coshocton	OH	Coshocton County	Coshocton	Water treatment	Chlorine	1.30	4,841
City of Bucyrus, Ohio – Water Department		OH	Crawford County	Bucyrus	Water treatment	Chlorine	1.30	6,185
McGean–Rohco, Inc.		OH	Cuyahoga County	Cleveland	Specialty chemicals – SOCMA	Epichlorohydrin	0.04	<10
Air Products, Cleveland Ohio	Air Products and Chemicals, Inc.	OH	Cuyahoga County	Cleveland	Basic chemicals – ACC	Hydrogen	0.25	72
Ashland Inc.	Ashland Inc.	OH	Cuyahoga County	Cleveland	Basic chemicals – ACC	Formaldehyde (solution)	0.20	569
Greenville Water Treatment Plant	City of Greenville	OH	Darke County	Greenville	Water treatment	Chlorine	3.00	14,484
Defiance Water Pollution Control Plant	City of Defiance, Ohio	OH	Defiance County	Defiance	Wastewater treatment	Chlorine	1.30	2,632
PPG Industries Ohio, Inc.	PPG Industries, Inc.	OH	Delaware County	Delaware	Basic chemicals – ACC	Acrylonitrile	0.22	179
City of Delaware Ohio Water Treatment Plant	City of Delaware Ohio	OH	Delaware County	Delaware	Water treatment	Chlorine	2.60	11,033
The Glidden Company	Akzo Nobel	OH	Erie County	Huron	Basic chemicals – ACC	Vinyl acetate monomer	1.30	1,423
Capital Resin Corporation		OH	Franklin County	Columbus	Specialty chemicals – SOCMA	Formaldehyde (solution)	0.62	1,437
Hap Cremean Water Plant	City of Columbus Division of Power & Water	OH	Franklin County	Columbus	Water treatment	Chlorine	3.00	80,638
Parsons Avenue Water Plant	City of Columbus Division of Power & Water	OH	Franklin County	Lockbourne	Water treatment	Chlorine	3.00	18,739
City of Westerville Water Plant	City of Westerville	OH	Franklin County	Westerville	Water treatment	Chlorine	1.30	13,543
MPC – Fairborn	Miami Products and Chemical Company	OH	Greene County	Fairborn	Bleach manufacturing	Chlorine	14.00	555,208
Wetzler/Haynes Water Filtration Plant	Village of Byesville	OH	Guernsey County	Byesville	Water treatment	Chlorine	3.00	4,816
Cambridge Water Treatment Plant		OH	Guernsey County	Cambridge	Water treatment	Chlorine	1.30	5,216

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Air Products, Cincinnati, OH	Air Products and Chemicals Inc.	OH	Hamilton County	Cincinnati	Basic chemicals – ACC	Hydrogen	0.30	687
EMD Chemicals Inc.	EMD Chemicals Inc.	OH	Hamilton County	Cincinnati	Basic chemicals – ACC	Chloroform	0.70	5,632
Richard Miller Water Treatment Plant	Greater Cincinnati Water Works	OH	Hamilton County	Cincinnati	Water treatment	Chlorine	1.30	5,706
Emerald Hilton Davis, LLC	Emerald Performance Materials, LLC	OH	Hamilton County	Cincinnati	Specialty chemicals – SOCMA	Oleum (Fuming Sulfuric acid)	1.00	15,886
PMC Cincinnati, Inc.	PMC-Group	OH	Hamilton County	Cincinnati	Chemical manufacturing	Chlorine	14.00	1,221,515
Pilot Chemical Company of Ohio Lockland Plant	Pilot Chemical Corporation	OH	Hamilton County	Lockland	Chemicals – ACC, SOCMA	Sulfur trioxide	3.80	101,103
Agrium , North Bend Nitrogen Operation	Agrium U.S. Inc.	OH	Hamilton County	North Bend	Chemical manufacturing	Ammonia (anhydrous)	19.00	875,066
DuPont Fort Hill Plant		OH	Hamilton County	North Bend	Basic chemicals – ACC	Sulfur trioxide	25.00	1,353,900
City of Norwalk Water Treatment		OH	Huron County	Norwalk	Water treatment	Chlorine	1.30	5,480
W. H. Sammis Plant	First Energy Generation Corp	OH	Jefferson County	Stratton	Electric power generation	Ammonia (conc. ≥20%)	0.60	48
Painesville Water Treatment Plant	City of Painesville	OH	Lake County	Mentor	Water treatment	Chlorine	1.30	1,168
NOVA Chemicals, Inc	NOVA Chemicals, Inc	OH	Lake County	Painesville	Basic chemicals – ACC	Pentane	0.40	406
Lake County Water Treatment East	Lake County Commissioners	OH	Lake County	Painesville	Water treatment	Chlorine	1.30	2,630
The Lubrizol Corporation, Painesville Facility	The Lubrizol Corporation	OH	Lake County	Painesville	Basic chemicals – ACC	Hydrogen sulfide	4.70	83,330
Willoughby Quartz Plant	Momentive Performance Materials, Quartz Inc.	OH	Lake County	Willoughby	Basic chemicals – ACC	Hydrofluoric acid (conc. ≥50%)	1.68	29,197
Brenntag Mid-South, Inc.	Brenntag U.S.A.	OH	Licking County	Hebron	Basic chemicals – ACC	Chlorine	3.00	7,941
PolyOne Corporation Avon Lake Facility	PolyOne Corporation (Formerly The Geon Company)	OH	Lorain County	Avon Lake	Basic chemicals – ACC	Vinyl chloride	0.35	347
Avon Lake Water Filtration Plant		OH	Lorain County	Avon Lake	Water treatment	Chlorine	3.00	25,354
City of Elyria Wastewater Pollution Control Plant		OH	Lorain County	Elyria	Wastewater treatment	Chlorine	1.30	10,085
3M Elyria		OH	Lorain County	Elyria	Basic chemicals – ACC	Carbon disulfide	2.10	21,452
City of Elyria Water Works		OH	Lorain County	Lorain	Water treatment	Chlorine	1.30	7,527
Lorain Water Purification Plant	City of Lorain	OH	Lorain County	Lorain	Water treatment	Chlorine	1.30	11,265
The Andersons Maumee Terminal	The Andersons, Inc.	OH	Lucas County	Maumee	Chemical wholesale	Ammonia (anhydrous)	5.00	113,380
BP-Husky Refining LLC	Toledo Refinery Holding Company LLC Husky Oil Toledo Company*	OH	Lucas County	Oregon	Petroleum refinery	Flammable Mixture	1.40	2,626
City of Oregon Water Plant	City of Oregon	OH	Lucas County	Oregon	Water treatment	Chlorine	3.00	4,574
Oregon Wastewater Treatment Plant	City of Oregon	OH	Lucas County	Oregon	Wastewater treatment	Chlorine	3.00	13,755

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Toledo Refining Company LLC	PBF Holding Company LLC	OH	Lucas County	Oregon	Petroleum refinery	Flammable Mixture	1.62	27,059
Oregon Refinery Services	Chemtrade Logistics Inc.	OH	Lucas County	Oregon	Basic chemicals – ACC	Oleum (Fuming Sulfuric acid)	3.70	48,601
Perstorp Polyols, Inc.	Perstorp Inc.	OH	Lucas County	Toledo	Basic chemicals – ACC	Formaldehyde (solution)	0.62	1,666
City of Toledo Division of Water Reclamation		OH	Lucas County	Toledo	Wastewater treatment	Chlorine	1.30	7,356
Specialty Gases of America, Inc.	Praxair Distribution, Inc.	OH	Lucas County	Toledo	Basic chemicals – ACC	Methyl chloride	1.70	11,080
City of Toledo Division of Water Treatment	City of Toledo	OH	Lucas County	Toledo	Water treatment	Chlorine	1.90	19,346
Aqua Ohio Struthers Division WTP	Aqua America	OH	Mahoning County	Poland	Water treatment	Chlorine	1.50	5,678
Waste Water Treatment Plant	City of Youngstown	OH	Mahoning County	Youngstown	Wastewater treatment	Sulfur dioxide (anhydrous)	1.30	8,731
Aqua Ohio Water Company, Inc.	Aqua America, Inc.	OH	Marion County	Marion	Water treatment	Chlorine	3.00	11,827
City of Marion, Ohio Division of Water Pollution C		OH	Marion County	Marion	Wastewater treatment	Chlorine	3.00	16,245
Medina County – Liverpool WWTP (SD #500)	Medina County Board of Commissioners Medina County Sanitary Engineers*	OH	Medina County	Valley City	Wastewater treatment	Chlorine	1.30	1,263
City of Piqua Water Treatment Plant	City of Piqua	OH	Miami County	Piqua	Water treatment	Chlorine	1.30	3,307
City of Piqua Wastewater Plant	City of Piqua	OH	Miami County	Piqua	Wastewater treatment	Chlorine	1.30	3,579
City of Troy, Ohio – Water Treatment Plant		OH	Miami County	Troy	Water treatment	Chlorine	1.30	3,333
Tri-Cities North Regional Wastewater Authority	TCA	OH	Montgomery County	Dayton	Wastewater treatment	Chlorine	1.30	6,268
City of Dayton Ottawa Water Treatment Plant	City of Dayton	OH	Montgomery County	Dayton	Water treatment	Chlorine	1.30	16,206
City of Dayton Miami Water Treatment Plant	City of Dayton	OH	Montgomery County	Dayton	Water treatment	Chlorine	3.00	55,064
City of Zanesville Wastewater Treatment Plant	City of Zanesville	OH	Muskingum County	Zanesville	Wastewater treatment	Chlorine	3.00	21,549
Ottawa County Regional Water Treatment Plant		OH	Ottawa County	Port Clinton	Water treatment	Chlorine	1.30	3,937
PPG Industries Ohio, – Circleville, Ohio Plant	PPG Industries, Inc.	OH	Pickaway County	Circleville	Basic chemicals – ACC	Toluene diisocyanate (unsp. isomer)	0.40	30
City of Kent Water Treatment Plant	City of Kent, Ohio	OH	Portage County	Kent	Water treatment	Chlorine	0.90	4,565
OMNOVA Solutions Inc., Performance Chemicals	OMNOVA Solutions Inc.	OH	Portage County	Mogadore	Basic chemicals – ACC	Ammonia (conc. ≥20%)	3.20	36,661
City of Ravenna Water Treatment Plant	City of Ravenna, Ohio	OH	Portage County	Ravenna	Water treatment	Chlorine	1.30	3,785
Mansfield Water Treatment Plant – R1		OH	Richland County	Mansfield	Water treatment	Chlorine	1.30	2,473

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Mansfield Wastewater Treatment Plant		OH	Richland County	Mansfield	Wastewater treatment	Chlorine	1.30	6,358
P.H. Glatfelter Company – Chillicothe Facility	P.H. Glatfelter Company	OH	Ross County	Chillicothe	Pulp and paper	Chlorine dioxide	13.00	73,755
City of Clyde Water Treatment Plant		OH	Sandusky County	Clyde	Water treatment	Chlorine	1.30	4,316
City of Fremont Water Treatment Plant		OH	Sandusky County	Fremont	Water treatment	Chlorine	1.30	3,439
Church & Dwight Co., Inc.	Church & Dwight Co., Inc.	OH	Seneca County	Fostoria	Basic chemicals – ACC	Flammable Mixture	0.01	<10
Aqua Ohio Inc. – Tiffin Division	AQUA America Aqua America Inc*	OH	Seneca County	Tiffin	Water treatment	Chlorine	1.30	2,814
City of Sidney, Ohio – Water Treatment Plant		OH	Shelby County	Sidney	Water treatment	Chlorine	3.00	18,463
Alliance Water Tr. Plant and Wastewater Tr. Plant	City of Alliance	OH	Stark County	Alliance	Water treatment, wastewater	Chlorine	0.90	543
Canton Northwest Water Treatment Plant	City of Canton	OH	Stark County	Canton	Water treatment	Chlorine	1.30	12,434
Canton Northeast Water Treatment Plant	City of Canton	OH	Stark County	Canton	Water treatment	Chlorine	1.30	18,141
Ohio Refining Division MPC	Marathon Petroleum Company LP	OH	Stark County	Canton	Petroleum refinery, ACC	Hydrofluoric acid (conc. ≥50%)	25.00	925,034
OMNOVA Solutions Inc. – Akron Plant	OMNOVA Solutions Inc.	OH	Summit County	Akron	Basic chemicals – ACC	Acrylonitrile	0.40	1,617
Emerald Polymer Additives, LLC	Emerald Performance Materials, LLC	OH	Summit County	Akron	Specialty chemicals – SOCMA	Acrylonitrile	9.30	424,705
JCI Jones Chemicals Inc. – Barberton, Ohio		OH	Summit County	Barberton	Bleach manufacturing, ACC	Sulfur dioxide (anhydrous)	25.00	1,289,178
PPG Industries, Barberton	PPG Industries, Inc.	OH	Summit County	Barberton	Basic chemicals – ACC	Phosgene	25.00	1,347,751
City of Cuyahoga Falls Water Treatment Plant	City of Cuyahoga Falls	OH	Summit County	Cuyahoga Falls	Water treatment	Chlorine	1.30	17,174
Linde – Twinsburg		OH	Summit County	Twinsburg	Basic chemicals – ACC	Acetylene	0.10	52
Nexeo Solutions – Twinsburg, OH	Nexeo Solutions LLC TPG Capital*	OH	Summit County	Twinsburg	Basic chemicals – ACC	Pentane	0.43	409
Albemarle Sorbent Technologies	Albemarle Corporation	OH	Summit County	Twinsburg	Basic chemicals – ACC	Bromine	0.70	964
Mahoning Valley Sanitary District		OH	Trumbull County	Mineral Ridge	Water treatment	Chlorine	3.00	24,046
Dover Chemical Corporation	ICC Industries Inc.	OH	Tuscarawas County	Dover	Basic chemicals – ACC	Chlorine	14.00	104,629
Canton Sugar Creek Water Treatment Plant	City of Canton	OH	Tuscarawas County	Strasburg	Water treatment	Chlorine	3.00	4,023
Franklin Area Wastewater Treatment Plant	Veolia Water North America	OH	Warren County	Franklin	Wastewater treatment	Chlorine	3.00	30,785
Solvay Specialty Polymers USA, L.L.C.	Solvay America, Inc.	OH	Washington County	Marietta	Chemicals – ACC, SOCMA	Methyl chloride	1.20	552

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Orrville Department of Public Utilities		OH	Wayne County	Orrville	Water treatment	Chlorine	3.00	11,042
O K L A H O M A								
City of Durant Water Treatment Plant		OK	Bryan County	Armstrong	Water treatment	Chlorine	1.30	358
El Reno Waterworks Treatment Plant	City of El Reno	OK	Canadian County	El Reno	Water treatment	Chlorine	3.10	11,600
Brenntag Southwest, OKC 6-09	Brenntag, Inc	OK	Canadian County	Oklahoma City	Basic chemicals – ACC	Chlorine	1.30	3,375
City of Ardmore Water Plant		OK	Carter County	Ardmore	Water treatment	Chlorine	1.30	1,123
Ardmore Wastewater Treatment Plant	City of Ardmore, OK	OK	Carter County	Ardmore	Wastewater treatment	Chlorine	2.20	3,583
Valero Refining Company – Oklahoma	Valero Energy Corporation	OK	Carter County	Ardmore	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	11.00	36,049
OnLine Packaging, Incorporated – Ardmore Plant		OK	Carter County	Ardmore	Bleach manufacturing	Chlorine	14.00	37,192
Tahlequah Water Pumping and Treatment Facility		OK	Cherokee County	Tahlequah	Water treatment	Chlorine	1.30	3,170
Vernon Campbell Water Treatment Plant	City of Norman, Oklahoma	OK	Cleveland County	Norman	Water treatment	Chlorine	1.30	5,805
South Canadian Wastewater Treatment Plant (SCWWTP)	Oklahoma City Water Utilities Trust City of Oklahoma City*	OK	Cleveland County	Oklahoma City	Wastewater treatment	Chlorine	1.30	4,266
Draper Water Treatment Plant	City of Oklahoma City Utilities Department	OK	Cleveland County	Oklahoma City	Water treatment	Chlorine	11.00	377,602
Vinita Water Treatment Plant	Vinita Utility Authority	OK	Craig County	Vinita	Water treatment	Chlorine	1.30	97
Creek County Rural Water District No. 1		OK	Creek County	Kellyville	Water treatment	Chlorine	1.30	114
Weatherford Public Works Authority	City of Weatherford	OK	Custer County	Weatherford	Wastewater treatment	Chlorine	4.20	5,665
City of Enid Water Plant #2 PWSID 2002445		OK	Garfield County	Enid	Water treatment	Chlorine	0.90	1,063
City of Enid Water Plant #1 PWSID 2002412		OK	Garfield County	Enid	Water treatment	Chlorine	0.90	5,378
Wynnewood Refining Company, LLC	CVR Refining, LP	OK	Garvin County	Wynnewood	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	12.00	19,113
Altus Water Treatment Plant		OK	Jackson County	Altus	Water treatment	Chlorine	1.20	12
Blackwell Water Plant		OK	Kay County	Blackwell	Water treatment	Chlorine	3.00	1,232
Ponca City Waste Water Treatment Plant		OK	Kay County	Ponca City	Wastewater treatment	Chlorine	1.30	1,380
Ponca City Water Treatment Plant		OK	Kay County	Ponca City	Water treatment	Chlorine	1.30	2,413
Phillips 66 Refinery – Ponca City, Oklahoma	Phillips 66 Company Phillips 66*	OK	Kay County	Ponca City	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	12.00	32,951
Poteau Valley Improvement Authority		OK	Le Flore County	Wister	Water treatment	Chlorine	0.60	17

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
City of Chandler Waste Water Treatment Plant	City of Chandler, Oklahoma	OK	Lincoln County	Chandler	Wastewater treatment	Chlorine	0.90	174
City of Chandler Water Plant	City of Chandler, Oklahoma	OK	Lincoln County	Chandler	Water treatment	Chlorine	0.90	193
City of Chandler New Water Plant	City of Chandler, Oklahoma	OK	Lincoln County	Chandler	Water treatment	Chlorine	2.20	492
MidAmerica Industrial Park Water Plant	Oklahoma Ordnance Works Authority	OK	Mayes County	Pryor	Water treatment	Chlorine	2.20	739
AECI CC Power Plant – Chouteau Power Plant	Associated Electric Cooperative Incorporated	OK	Mayes County	Pryor	Electric power generation	Ammonia (anhydrous)	3.60	2,290
Pryor Chemical Company	LSB Industries, Inc.	OK	Mayes County	Pryor	Fertilizer manufacturing	Ammonia (anhydrous)	25.00	138,951
BSW Nowata	Brenntag, Inc	OK	Nowata County	Nowata	Bleach manufacturing, ACC	Chlorine	25.00	101,119
City of Edmond – Water Treatment Plant	City of Edmond	OK	Oklahoma County	Arcadia	Water treatment	Chlorine	3.00	3,211
City of Del City Pollution Control Plant		OK	Oklahoma County	Del City	Wastewater treatment	Chlorine	5.90	170,185
City of Del City Water Treatment Plant		OK	Oklahoma County	Del City	Water treatment	Chlorine	5.90	194,867
Deer Creek Wastewater Plant	City of Oklahoma City	OK	Oklahoma County	Edmond	Wastewater treatment	Chlorine	0.90	345
Coffee Creek Wastewater Treatment Plant	City of Edmond	OK	Oklahoma County	Edmond	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	8,128
North Canadian Wastewater Plant	City of Oklahoma City	OK	Oklahoma County	Jones	Wastewater treatment	Chlorine	2.20	1,885
Midwest City Wastewater Treatment Facility	City of Midwest City	OK	Oklahoma County	Midwest City	Wastewater treatment	Chlorine	2.50	18,081
Midwest City water treatment plant	City of Midwest City Oklahoma	OK	Oklahoma County	Midwest City	Water treatment	Chlorine	2.50	21,009
Hefner Water Treatment Plant	City of Oklahoma City Water & Wastewater Utilities	OK	Oklahoma County	Oklahoma City	Water treatment	Chlorine	1.30	9,909
Okmulgee Water Treatment Plant	City of Okmulgee	OK	Okmulgee County	Okmulgee	Water treatment	Chlorine	1.30	1,330
Baker Petrolite Corporation – Barnsdall, OK	Baker Hughes	OK	Osage County	Barnsdall	Specialty chemicals – SOCMA	Ethylene	0.40	<10
Chevron Phillips Chemical Company LP – Bartlesvill	Chevron Phillips Chemical Company LP	OK	Osage County	Bartlesville	Basic chemicals – ACC	Ethylene	0.20	<10
City of Bartlesville Ted D. Lockin Water Tmt Plant		OK	Osage County	Bartlesville	Water treatment	Chlorine	6.20	33,048
Stillwater Water Treatment Plant	City of Stillwater	OK	Payne County	Stillwater	Water treatment	Chlorine	1.50	275
OSU Water Treatment Plant	Oklahoma State University	OK	Payne County	Stillwater	Water treatment	Chlorine	0.90	5,602
City of Shawnee Water Treatment Plant		OK	Pottawatomie County	Shawnee	Water treatment	Chlorine	0.90	1,582
Advance Research Chemicals, Inc.		OK	Rogers County	Catoosa	Specialty chemicals – SOCMA	Hydrofluoric acid (conc. ≥50%)	0.81	651

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Air Products Catoosa ESM Facility	Air Products and Chemicals, Inc.	OK	Rogers County	Catoosa	Basic chemicals - ACC	Arsine	1.60	2,353
Brenntag Southwest, Inc. Port of Catoosa	Brenntag, Inc.	OK	Rogers County	Catoosa	Bleach manufacturing, ACC	Sulfur dioxide (anhydrous)	25.00	773,313
City of Claremore WWTP	City of Claremore	OK	Rogers County	Claremore	Wastewater treatment	Chlorine	3.00	1,340
Claremore Water Treatment Plant	City of Claremore	OK	Rogers County	Claremore	Water treatment	Chlorine	2.50	7,276
Duncan Water Treatment Plant		OK	Stephens County	Duncan	Water treatment	Chlorine	1.20	137
Lynn Lane Waste Water Treatment Plant	City of Broken Arrow	OK	Tulsa County	Broken Arrow	Wastewater treatment	Chlorine	0.90	900
Haikey Creek Wastewater Treatment Plant	Regional Metropolitan Utility Authority	OK	Tulsa County	Broken Arrow	Wastewater treatment	Chlorine	1.30	1,639
Sand Springs Water Treatment Plant	City of Sand Springs	OK	Tulsa County	Sand Springs	Water treatment	Chlorine	1.30	4,023
Brenntag Southwest, Inc. Sand Springs	Brenntag, Inc.	OK	Tulsa County	Sand Springs	Basic chemicals - ACC	Formaldehyde (solution)	3.00	18,020
Baker Petrolite Corporation - Sand Springs	Baker Hughes, Inc.	OK	Tulsa County	Sand Springs	Specialty chemicals - SOCMA	Formaldehyde (solution)	20.00	680,987
Holly Refining & Marketing - Tulsa (East) LLC	Holly Corporation	OK	Tulsa County	Tulsa	Petroleum refinery	Flammable Mixture	1.30	9,375
Holly Refining & Marketing - Tulsa LLC	Holly Corporation	OK	Tulsa County	Tulsa	Petroleum refinery	Flammable Mixture	1.50	11,985
ChemTrade Refinery Services, Inc.		OK	Tulsa County	Tulsa	Basic chemicals - ACC	Oleum (Fuming Sulfuric acid)	4.60	62,986
A.B. Jewell Water Treatment Plant	City of Tulsa	OK	Tulsa County	Tulsa	Water treatment	Chlorine	9.30	288,604
Mohawk Water Treatment Plant	City of Tulsa	OK	Tulsa County	Tulsa	Water treatment	Chlorine	9.30	301,262
Bartlesville Chickasaw Wastewater Plant	City of Bartlesville	OK	Washington County	Bartlesville	Wastewater treatment	Chlorine	0.90	3,017
Clinton Water Treatment Plant	City of Clinton, Oklahoma Severn Trent Environmental Services Contract Operat*	OK	Washita County	Foss	Water treatment	Chlorine	0.90	48
O R E G O N								
Oak Lodge Sanitary District		OR	Clackamas County	Milwaukie	Wastewater treatment	Chlorine	1.50	21,026
Tri-City Water Pollution Control Plant	Clackamas County	OR	Clackamas County	Oregon City	Wastewater treatment	Chlorine	1.30	13,235
Headworks	City of Portland Water Bureau	OR	Clackamas County	Sandy	Water treatment	Chlorine	0.70	15
City of Astoria Waste Water Treatment Facility		OR	Clatsop County	Astoria	Wastewater treatment	Chlorine	0.90	18
Wauna Mill	Fort James Operating Company Georgia-Pacific Corporation*	OR	Clatsop County	Clatskanie	Pulp and paper	Chlorine dioxide	14.00	10,627
City of Astoria Headworks		OR	Clatsop County	Svensen	Water treatment	Chlorine	0.90	20

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Dyno Nobel Inc. – St. Helens Plant	Incitec Pivot, Ltd.	OR	Columbia County	Deer Island	Fertilizer manufacturing	Ammonia (anhydrous)	18.00	222,065
Pony Creek Water Treatment Plant	Coos Bay – North Bend Water Board	OR	Coos County	Coos Bay	Water treatment	Chlorine	2.63	20,575
City of North Bend Wastewater Treatment Plant	City of North Bend, OR	OR	Coos County	North Bend	Wastewater treatment	Chlorine	1.20	281
City of Bend Wastewater Control Plant		OR	Deschutes County	Bend	Wastewater treatment	Chlorine	2.20	1,052
City of Bend Water Supply Contact Time Basin		OR	Deschutes County	Bend	Water treatment	Chlorine	2.10	5,994
Linde – Medford	Linde LLC	OR	Jackson County	White City	Basic chemicals – ACC	Chlorine	1.30	1,261
Klamath Cogeneration Project	Iberdrola Renewables LLC	OR	Klamath County	Klamath Falls	Electric power generation	Ammonia (anhydrous)	3.60	6,993
Momentive Specialty Chemicals Inc. – Springfield	Momentive Specialty Chemicals Holdings LLC	OR	Lane County	Springfield	Basic chemicals – ACC	Formaldehyde (solution)	0.27	226
Hayden Bridge Filtration Plant	Eugene Water & Electric Board	OR	Lane County	Springfield	Water treatment	Chlorine	0.90	2,532
ATI Wah Chang	Allegheny Technologies	OR	Linn County	Albany	Nonferrous metal smelting	Chlorine	14.00	166,325
Cascade Pacific Pulp, Halsey Pulp Mill	Cascade Pacific Pulp	OR	Linn County	Halsey	Pulp and paper	Chlorine dioxide	3.70	1,902
Coyote Springs Plant	Portland General Electric	OR	Morrow County	Boardman	Electric power generation	Ammonia (anhydrous)	4.70	1,111
Univar USA Inc.	Univar USA Inc.	OR	Multnomah County	Portland	Basic chemicals – ACC	Formaldehyde (solution)	1.00	744
Siltronic Corporation	Siltronic AG Wacker Chemie*	OR	Multnomah County	Portland	Basic chemicals – ACC	Hydrogen chloride (anhydrous)	0.40	753
Rivergate Terminal	J.R. Simplot Company, dba Simplot Agribusiness	OR	Multnomah County	Portland	Chemical wholesale	Ammonia (anhydrous)	7.20	183,488
Hercules Incorporated –Portland Plant	Ashland Inc	OR	Multnomah County	Portland	Basic chemicals – ACC	Epichlorohydrin	4.20	217,613
City of Dallas Water Treatment Plant	City of Dallas, Oregon	OR	Polk County	Dallas	Water treatment	Chlorine	0.90	319
Monmouth Wastewater Treatment Plant	City of Monmouth	OR	Polk County	Monmouth	Wastewater treatment	Chlorine	1.30	6,688
Hermiston Generating Plant	Perennial Power Company, LLC PacifiCorp Energy*	OR	Umatilla County	Hermiston	Electric power generation	Ammonia (conc. ≥20%)	0.20	34
City of Hermiston Wastewater Treatment Plant	City of Hermiston	OR	Umatilla County	Hermiston	Wastewater treatment	Chlorine	1.30	1,373
City of Hermiston Water Treatment Plant	City of Hermiston Port of Umatilla*	OR	Umatilla County	Hermiston	Water treatment	Chlorine	2.20	4,104
City of Hermiston Public Well No. 5	City of Hermiston	OR	Umatilla County	Hermiston	Water treatment	Chlorine	2.20	7,604
Hermiston Power, LLC	Calpine Corporation	OR	Umatilla County	Hermiston	Electric power generation	Ammonia (anhydrous)	4.90	16,927
Momentive Specialty Chemicals Inc. – La Grande	Momentive Specialty Chemicals Holdings LLC	OR	Union County	Island City	Basic chemicals – ACC	Formaldehyde (solution)	0.61	110

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Joint Commission Water Treatment Plant	Joint Water Commission	OR	Washington County	Forest Grove	Water treatment	Chlorine	2.20	7,999
Intel Corporation Ronler Acres Campus	Intel Corporation	OR	Washington County	Hillsboro	Semiconductor manufacturing	Ammonia (anhydrous)	3.40	113,953
Tualatin	Air Products and Chemicals, Inc	OR	Washington County	Tualatin	Basic chemicals – ACC	Hydrogen chloride (anhydrous)	1.10	7,742
Waste Water Treatment Plant, Newberg Oregon	City of Newberg, Oregon	OR	Yamhill County	Newberg	Wastewater treatment	Chlorine	1.30	14,017
P E N N S Y L V A N I A								
Hunterstown Combined-Cycle Power Plant	NRG Wholesale Generation LP NRG Energy, Inc.*	PA	Adams County	Gettysburg	Electric power generation	Ammonia (conc. ≥20%)	0.50	112
Hanover Regional Wastewater Treatment Facility	Borough of Hanover	PA	Adams County	McSherrystown	Wastewater treatment	Sulfur dioxide (anhydrous)	1.30	5,636
Allison Park Water Pollution Control Plant		PA	Allegheny County	Allison Park	Wastewater treatment	Chlorine	1.30	7,597
Univar USA Inc., Bunola Branch 4-10	Univar USA Inc.	PA	Allegheny County	Bunola	Basic chemicals – ACC	Chlorine	14.00	679,870
Eastman Chemical Company – Jefferson Site	Eastman Chemical Company	PA	Allegheny County	Jefferson Borough	Basic chemicals – ACC	1,3-Pentadiene	1.60	5,149
McKeesport Water Treatment Plant		PA	Allegheny County	McKeesport	Water treatment	Chlorine	1.30	19,172
Hulton Treatment Plant	Mun. Auth. of the Borough of Oakmont	PA	Allegheny County	Oakmont	Water treatment	Chlorine	1.30	10,408
Allegheny Valley Joint Sewage Authority		PA	Allegheny County	Pittsburgh	Wastewater treatment	Chlorine	1.30	7,004
Neville Island Treatment Plant	Municipal Authority of the Borough of West View	PA	Allegheny County	Pittsburgh	Water treatment	Chlorine	1.30	19,039
Piney Fork Sewage Treatment Plant	Bethel Park Municipal Authority	PA	Allegheny County	South Park	Wastewater treatment	Chlorine	0.90	3,944
W.P.J.W.A. Nadine Road Pump Station	Wilkesburg-Penn Joint Water Authority	PA	Allegheny County	Verona	Water treatment	Chlorine	1.50	13,258
W.P.J.W.A. Treatment Plant	Wilkesburg-Penn Joint Water Authority	PA	Allegheny County	Verona	Water treatment	Chlorine	1.50	23,030
Praxair – Bagdad, PA	Praxair, Inc.	PA	Armstrong County	Leechburg	Basic chemicals – ACC	Hydrogen	0.20	29
Keystone Station	GenOn Northeast Management Company	PA	Armstrong County	Shelocta	Electric power generation	Ammonia (conc. ≥20%)	0.70	92
Chippewa Township San. Authority POTW		PA	Beaver County	Beaver Falls	Wastewater treatment	Chlorine	2.50	25,586
NOVA Chemicals Inc., Beaver Valley Site	NOVA Chemicals Corporation	PA	Beaver County	Monaca	Basic chemicals – ACC	Isopentane	0.30	132
BASF Corporation Monaca Site	BASF Corporation	PA	Beaver County	Monaca	Chemicals – ACC, SOCMA	Acrylonitrile	0.68	624
First Energy Bruce Mansfield Plant	First Energy Generation LLC	PA	Beaver County	Shippingport	Electric power generation	Ammonia (conc. ≥20%)	0.30	27
Evitts Creek Water Company	City of Cumberland Water Filtration Plant	PA	Bedford County	Bedford	Water treatment	Chlorine	2.20	624
Maiden Creek Filtration Plant	Reading Area Water Authority City of Reading*	PA	Berks County	Ontelaunee Township	Water treatment	Chlorine	1.30	2,747

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Brenntag Northeast, Inc.	Brenntag North America	PA	Berks County	Reading	Basic chemicals – ACC	Hydrofluoric acid (conc. ≥50%)	1.00	2,664
Fritz Island Waste Water Treatment Plant	City of Reading, PA	PA	Berks County	Reading	Wastewater treatment	Chlorine	0.90	3,076
Ontelaunee Energy Center	Dynergy Gas Holdings, LLC Dynergy, Inc.*	PA	Berks County	Reading	Electric power generation	Ammonia (anhydrous)	4.00	40,819
Western Berks Water Authority		PA	Berks County	Sinking Spring	Water treatment	Chlorine	6.40	189,695
Univar USA Inc., Altoona Branch	Univar USA Inc.	PA	Blair County	Altoona	Basic chemicals – ACC	Sulfur dioxide (anhydrous)	1.30	4,594
Albemarle Corporation– Tyrone Facility	Albemarle Corporation	PA	Blair County	Tyrone	Chemicals – ACC, SOCMA	Ammonia (anhydrous)	3.20	1,467
Bristol Boro Water Treatment Plant	Aqua America, Inc.	PA	Bucks County	Bristol	Water treatment	Chlorine	0.90	8,892
Rohm and Haas Company Bristol Plant	Rohm and Haas Company	PA	Bucks County	Croydon	Basic chemicals – ACC	Acrylonitrile	1.67	5,323
LBCJMA Wastewater Treatment Plant		PA	Bucks County	Levittown	Wastewater treatment	Chlorine	0.90	6,431
Praxair Distribution / Mid Atlantic	Praxair, Inc. GTS–Welco, Inc.*	PA	Bucks County	Morrisville	Basic chemicals – ACC	Hydrogen chloride (anhydrous)	1.10	1,192
Morrisville ESG / Electronics	Air Liquide Electronics U.S. LP	PA	Bucks County	Morrisville	Basic chemicals – ACC	Hydrogen chloride (anhydrous)	2.40	23,503
Neshaminy Pumping Station	Aqua America, Inc.	PA	Bucks County	Oakford	Water treatment	Chlorine	0.90	7,291
LBCJMA Water Filtration Plant		PA	Bucks County	Tullytown	Water treatment	Chlorine	1.30	11,615
Yardley Water Treatment Plant	Pennsylvania American Water American Water*	PA	Bucks County	Yardley	Water treatment	Chlorine	0.90	5,219
Morrisville Water Filtration Plant	Morrisville Borough Municipal Authority	PA	Bucks County	Yardley	Water treatment	Chlorine	1.30	30,710
Oneida Valley Treatment Plant	Pennsylvania American Water American Water*	PA	Butler County	Butler	Water treatment	Chlorine	0.90	910
Butler Area Sewer Authority Wastewater Treatment		PA	Butler County	Butler	Wastewater treatment	Chlorine	1.30	6,681
BASF Corporation – Evans City Site	BASF Corporation	PA	Butler County	Evans City	Chemicals – ACC, SOCMA	Boron trifluoride	3.80	19,220
Air Products Butler, PA	Air Products and Chemicals, Inc.	PA	Butler County	Lyndora	Basic chemicals – ACC	Hydrogen	0.40	351
James Austin Company		PA	Butler County	Mars	Bleach manufacturing	Chlorine	12.00	277,399
INDSPEC Chemical Corporation	Occidental Petroleum Corporation	PA	Butler County	Petrolia	Basic chemicals – ACC	Oleum (Fuming Sulfuric acid)	25.00	241,854
Colver Power Project	Inter–Power/AhlCon Partners, L.P.	PA	Cambria County	Colver	Electric power generation	Ammonia (anhydrous)	4.00	4,619
Cambria Cogen Company	Northern Star Generation Services	PA	Cambria County	Ebensburg	Electric power generation	Ammonia (conc. ≥20%)	0.30	35
City of Johnstown Wastewater Treatment Plant		PA	Cambria County	Johnstown	Wastewater treatment	Chlorine	1.30	6,488

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Riverside Water Treatment Plant	Greater Johnstown Water Authority	PA	Cambria County	Johnstown, PA 15904	Water treatment	Chlorine	2.63	25,063
Panther Creek Energy Facility	Panther Creek Partners, Inc.	PA	Carbon County	Nesquehoning	Electric power generation	Ammonia (anhydrous)	2.70	8,137
Airgas Specialty Products Inc., Palmerton, PA	Airgas Inc.	PA	Carbon County	Palmerton	Chemical wholesale	Ammonia (anhydrous)	21.00	745,192
Downingtown Regional Water Pollution Cont. Center		PA	Chester County	Downingtown	Wastewater treatment	Chlorine	1.30	9,768
Pickering Creek West Water Treatment Plant	Aqua America, Inc.	PA	Chester County	Phoenixville	Water treatment	Chlorine	0.90	2,529
Pickering Creek East Water Treatment Plant	Aqua America, Inc.	PA	Chester County	Phoenixville	Water treatment	Chlorine	0.90	2,529
Phoenixville Water Works	Borough of Phoenixville	PA	Chester County	Phoenixville	Water treatment	Chlorine	1.30	12,545
Home Water Treatment Plant	Pennsylvania American Water American Water*	PA	Chester County	Spring City	Water treatment	Chlorine	2.20	17,762
Ingram's Mill Water Treatment Plant	Aqua America, Inc.	PA	Chester County	West Chester	Water treatment	Chlorine	0.90	1,162
Taylor Run Wastewater Treatment Plant	Borough of West Chester	PA	Chester County	West Chester	Wastewater treatment	Chlorine	1.30	9,133
Goose Creek Wastewater Treatment Plant	Borough of West Chester	PA	Chester County	West Chester	Wastewater treatment	Chlorine	1.30	17,710
PAW Clarion Wastewater	Pennsylvania American Water American Water Works*	PA	Clarion County	Clarion	Wastewater treatment	Chlorine	1.30	4,506
City of DuBois Sewage Treatment Plant	City of DuBois	PA	Clearfield County	DuBois	Wastewater treatment	Chlorine	1.90	8,601
Shawville Station	NRG REMA LLC	PA	Clearfield County	Shawville	Electric power generation	Ammonia (anhydrous)	2.60	708
Avery Dennison Performance Polymers	Avery Dennison	PA	Clinton County	Mill Hall	Basic chemicals – ACC	Vinyl acetate monomer	0.11	<10
Croda, Inc. – Mill Hall, PA	Croda International Plc	PA	Clinton County	Mill Hall	Basic chemicals – ACC	Ethylene oxide	9.30	24,385
Carlisle Region Water Pollution Control Facility	Borough of Carlisle Sewer System Authority	PA	Cumberland County	Carlisle	Wastewater treatment	Chlorine	1.30	1,434
Borough of Carlisle Water Treatment Plant	Borough of Carlisle Municipal Authority	PA	Cumberland County	Carlisle	Water treatment	Chlorine	1.30	8,390
Silver Spring Water Treatment Plant	Pennsylvania American Water American Water*	PA	Cumberland County	Mechanicsburg	Water treatment	Chlorine	1.30	4,313
Harrisburg Advanced Wastewater Treatment Facility	City of Harrisburg The Harrisburg Authority*	PA	Dauphin County	Harrisburg	Wastewater treatment	Chlorine	1.30	16,919
Dr. Robert E. Young Water Services Center	City of Harrisburg The Harrisburg Authority*	PA	Dauphin County	Harrisburg	Water treatment	Chlorine	1.30	21,490
Hershey Water Treatment Plant	Pennsylvania American Water American Water*	PA	Dauphin County	Hummelstown	Water treatment	Chlorine	0.90	1,257

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Univar USA Inc. – Middletown Branch	Univar USA Inc.	PA	Dauphin County	Middletown PA	Bleach manufacturing, ACC	Sulfur dioxide (anhydrous)	16.00	614,582
DELCTORA–Western Regional Treatment Plant		PA	Delaware County	Chester	Wastewater treatment	Chlorine	0.90	5,513
Braskem Marcus Hook Polymers	Braskem America, Inc	PA	Delaware County	Marcus Hook	Basic chemicals – ACC	Propylene	0.50	2,094
Marcus Hook Industrial Complex	Sunoco Logistics LP	PA	Delaware County	Marcus Hook	Petroleum refinery	Ethylene oxide	9.90	502,779
Ridley Creek Water Treatment Plant	Aqua America, Inc.	PA	Delaware County	Media	Water treatment	Chlorine	0.90	2,912
Crum Creek Water Treatment Plant	Aqua America, Inc.	PA	Delaware County	Springfield	Water treatment	Chlorine	0.90	6,306
Trainer Refinery	Monroe Energy LLC	PA	Delaware County	Trainer	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	19.00	2,459,900
Domtar – Johnsonburg Mill (formerly Weyerhaeuser)	Domtar Paper Company, LLC (formerly Weyerhaeuser)	PA	Elk County	Johnsonburg	Pulp and paper	Chlorine dioxide	2.48	2,912
Chestnut Filtration Plant	Erie Water Works	PA	Erie County	Erie	Water treatment	Chlorine	0.90	2,656
City of Erie, PA – Wastewater Treatment Plant		PA	Erie County	Erie	Wastewater treatment	Chlorine	3.00	81,716
Connellsville Water Treatment Plant		PA	Fayette County	Connellsville	Water treatment	Chlorine	1.30	2,715
Filtration Plant A	North Fayette County Municipal Authority	PA	Fayette County	Connellsville	Water treatment	Chlorine	1.90	5,161
Washington Township Municipal Authority WWTP	Washington Township Municipal Authority	PA	Franklin County	Waynesboro	Wastewater treatment	Chlorine	0.90	901
Southwestern Pennsylvania Water Authority – WTP		PA	Greene County	Rices Landing	Water treatment	Chlorine	2.20	2,942
Huntingdon Wastewater Treatment Plant	Borough of Huntingdon	PA	Huntingdon County	Huntingdon	Wastewater treatment	Chlorine	0.90	1,076
Huntingdon Water Treatment Plant	Borough of Huntingdon	PA	Huntingdon County	Huntingdon	Water treatment	Chlorine	0.90	1,852
Homer City Generating Station	Homer City Generation LP	PA	Indiana County	Homer City	Electric power generation	Ammonia (anhydrous)	5.00	10,445
Two Lick Creek Water Treatment Plant	Pennsylvania American Water American Water*	PA	Indiana County	Indiana	Water treatment	Chlorine	0.90	244
Seward Station	NRG Wholesale Generation LP	PA	Indiana County	New Florence	Electric power generation	Ammonia (conc. ≥20%)	0.10	<10
Conemaugh Station	GenOn Northeast Management Company	PA	Indiana County	New Florence	Electric power generation	Ammonia (conc. ≥20%)	0.30	16
Brownell Water Treatment Plant	PA–American Water Company American Water Works Service Company*	PA	Lackawanna County	Carbondale	Water treatment	Chlorine	0.90	1,239
Lake Scranton Plant	Pennsylvania American Water Company American Water Works Service Company*	PA	Lackawanna County	Moscow	Water treatment	Chlorine	1.30	1,485
The Scranton Sewer Authority		PA	Lackawanna County	Scranton	Wastewater treatment	Chlorine	1.30	761

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Polychemie Inc. – Taylor, PA Facility	SNF Holding Company	PA	Lackawanna County	Taylor	Basic chemicals – ACC	Dimethylamine	0.24	227
Ephrata Borough Wastewater Treatment Plant # 1		PA	Lancaster County	Ephrata	Wastewater treatment	Chlorine	1.30	10,340
Air Products and Chemicals, Inc	Air Products and Chemicals, Inc	PA	Lancaster County	Lancaster	Basic chemicals – ACC	Hydrogen	0.30	534
City of Lancaster Wastewater Treatment Plant		PA	Lancaster County	Lancaster	Wastewater treatment	Chlorine	1.30	29,341
Octoraro Water Treatment Plant	Chester Water Authority	PA	Lancaster County	Little Britain	Water treatment	Chlorine	3.00	6,806
Ellwood City Water Treatment Plant	PA–American Water American Water*	PA	Lawrence County	Ellwood City	Water treatment	Chlorine	0.90	1,960
New Castle Wastewater Treatment Plant		PA	Lawrence County	New Castle	Wastewater treatment	Chlorine	3.00	13,360
New Castle Water Treatment Plant	Pennsylvania American Water American Water*	PA	Lawrence County	New Castle	Water treatment	Chlorine	1.60	13,362
City of Lebanon Authority Water Treatment Plant	City of Lebanon Authority	PA	Lebanon County	Lebanon	Water treatment	Chlorine	3.00	8,719
PPL Ironwood, LLC	PPL Ironwood, LLC The PPL Corporation*	PA	Lebanon County	South Lebanon Twp	Electric power generation	Ammonia (conc. ≥20%)	0.20	29
City of Allentown Wastewater Treatment Plant	City of Allentown	PA	Lehigh County	Allentown	Wastewater treatment	Chlorine	1.30	38,023
Huntsville Water Treatment Plant	PA–American Water Company American Water Works Service Company*	PA	Luzerne County	Dallas	Water treatment	Chlorine	0.90	110
Lower Lackawanna Valley Sanitary Authority		PA	Luzerne County	Duryea	Wastewater treatment	Chlorine	4.50	55,022
Wyoming Valley Sanitary Authority		PA	Luzerne County	Hanover Township	Wastewater treatment	Chlorine	5.40	116,396
Hazleton City Authority – Roan Filtration Facility		PA	Luzerne County	Hazleton	Water treatment	Chlorine	3.00	31,280
Ceastown Water Treatment Plant	PA–American Water Company American Water Works Service Company*	PA	Luzerne County	Hunlock Creek	Water treatment	Chlorine	0.90	328
Crystal Lake Water Treatment Plant	PA–American Water Company American Water Works Service Company*	PA	Luzerne County	Mountaintop	Water treatment	Chlorine	0.90	360
Nesbitt Water Treatment Plant	PA–American Water Company American Water Works Service Company*	PA	Luzerne County	Pittston	Water treatment	Chlorine	0.90	146
Watres Water Treatment Plant	PA – American Water Company American Water Works Service Company*	PA	Luzerne County	Plains Township	Water treatment	Chlorine	0.90	634
Montoursville Regional Sewer System WWTP	Lycoming County Water and Sewer Authority	PA	Lycoming County	Montoursville	Wastewater treatment	Chlorine	0.90	268
WMWA Filtration Plant		PA	Lycoming County	Williamsport	Water treatment	Chlorine	2.60	6,817

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Williamsport Sanitary Authority – Central Plant		PA	Lycoming County	Williamsport	Wastewater treatment	Chlorine	2.60	35,079
Lonza, Inc.		PA	Lycoming County	Williamsport	Specialty chemicals – SOCMA	Chlorine	14.00	107,763
American Refining Group, Bradford Refinery	American Refining Group, Inc.	PA	McKean County	Bradford	Petroleum refinery	Propane	0.30	441
Momentive Specialty Chemicals Inc., Mount Jewett	Momentive Specialty Chemicals Inc.	PA	McKean County	Mount Jewett	Basic chemicals – ACC	Formaldehyde (solution)	0.53	11
Greenville Wastewater Treatment Plant		PA	Mercer County	Greenville	Wastewater treatment	Chlorine	1.30	2,883
Aqua Pennsylvania, Inc.	Aqua America Inc.	PA	Mercer County	Sharon	Water treatment	Chlorine	1.40	12,360
Vertellus Health & Specialty Products LLC	Vertellus Specialties Inc.	PA	Monroe County	Delaware Water Gap	Chemicals – ACC, SOCMA	Ammonia (anhydrous)	2.60	15,749
Stony Garden Water Treatment Plant	Pennsylvania American Water American Water*	PA	Monroe County	Hamilton Township	Water treatment	Chlorine	0.90	371
Norristown Water Treatment Plant	Pennsylvania American Water American Water*	PA	Montgomery County	Norristown	Water treatment	Chlorine	1.90	55,006
Pottstown Wastewater Treatment Plant	Pottstown Borough Pottstown WWTP*	PA	Montgomery County	Pottstown	Wastewater treatment	Chlorine	1.30	12,166
Pottstown Water Filtration Plant	Pottstown Borough	PA	Montgomery County	Stowe	Water treatment	Chlorine	1.30	4,293
Montour Steam Electric Station (SES)	PPL Montour, LLC PPL Generation LLC*	PA	Montour County	Washingtonville	Electric power generation	Ammonia (anhydrous)	8.90	28,615
GTS Welco – Bethlehem, PA	Praxair, Inc. GT&S, Inc.*	PA	Northampton County	Bethlehem	Basic chemicals – ACC	Ethylene	0.20	88
Piramal Critical Care Inc.		PA	Northampton County	Bethlehem	Specialty chemicals – SOCMA	Hydrofluoric acid (conc. ≥50%)	1.80	13,280
Bethlehem Energy Center	Calpine Corporation	PA	Northampton County	Bethlehem	Electric power generation	Ammonia (anhydrous)	2.60	28,098
City of Bethlehem Wastewater Treatment Plant	City of Bethlehem	PA	Northampton County	Bethlehem	Wastewater treatment	Chlorine	3.00	73,404
City of Bethlehem Water Treatment Plant	City of Bethlehem, PA	PA	Northampton County	Lehigh Township	Water treatment	Chlorine	2.20	5,550
Northampton Generating Plant	Northampton Generating Company, LP	PA	Northampton County	Northampton	Electric power generation	Ammonia (conc. ≥20%)	0.05	24
Roaring Creek Water Treatment Plant	Aqua Pennsylvania, Inc.	PA	Northumberland County	Elysburg	Water treatment	Chlorine	0.90	441
Milton Wastewater Treatment Plant	Milton Regional Sewer Authority Milton Regional Sewer Authority*	PA	Northumberland County	Milton	Wastewater treatment	Chlorine	1.30	4,192
Milton Filter Plant	Pennsylvania American Water American Water*	PA	Northumberland County	Milton	Water treatment	Chlorine	1.30	4,583
Shamokin–Coal Township Joint Sewer Authority		PA	Northumberland County	Shamokin	Electric power generation	Chlorine	2.00	6,567

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
City of Sunbury Water Filtration Plant		PA	Northumberland County	Sunbury	Water treatment	Chlorine	1.30	8,081
Tanner Industries, Inc.	Tanner Industries, Inc.	PA	Philadelphia County	Philadelphia	Chemical wholesale	Ammonia (anhydrous)	3.70	369,864
Philadelphia Refining Complex	Philadelphia Energy Solutions	PA	Philadelphia County	Philadelphia	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	8.04	1,435,188
Broad Mountain WTP	Schuylkill County Municipal Authority	PA	Schuylkill County	Pottsville	Water treatment	Chlorine	0.80	194
Shenandoah Water Treatment Plant		PA	Schuylkill County	Raven Run	Water treatment	Chlorine	0.90	657
Still Creek Water Treatment Plant		PA	Schuylkill County	Tamaqua	Water treatment	Chlorine	5.20	18,446
Air Products and Chemicals, Inc. (Hometown)	Air Products and Chemicals, Inc.	PA	Schuylkill County	Tamaqua	Basic chemicals – ACC	Hydrogen chloride (anhydrous)	16.00	192,573
Somerset Borough Wastewater Treatment Plant		PA	Somerset County	Somerset	Wastewater treatment	Chlorine	3.50	11,770
Merisol Antioxidants LLC, Oil City, PA	Merisol LP	PA	Venango County	Cornplanter TWP	Basic chemicals – ACC	2-Methylpropene	0.46	28
United Refining Company	United Refining company	PA	Warren County	Warren	Petroleum refinery	Flammable Mixture	0.40	1,017
Authority of the Borough of Charleroi		PA	Washington County	Charleroi	Water treatment	Chlorine	1.30	8,704
Flexsys America L.P.	Solutia, Inc.	PA	Washington County	Monongahela	Basic chemicals – ACC	Carbon disulfide	2.20	10,317
Washington-East Washington Joint Authority		PA	Washington County	Washington	Wastewater treatment	Chlorine	7.40	75,315
Greater Greensburg Wastewater Treatment Plant		PA	Westmoreland County	Greensburg	Wastewater treatment	Chlorine	1.30	8,342
Mun. Sanitary Auth. of the City of New Kensington		PA	Westmoreland County	New Kensington	Wastewater treatment	Chlorine	2.50	29,316
H. Burns Smith Water Treatment Plant	Municipal Authority of the City of New Kensington	PA	Westmoreland County	New Kensington	Water treatment	Chlorine	2.63	37,092
George Sweeney Water Treatment Plant		PA	Westmoreland County	Saltsburg	Water treatment	Chlorine	1.30	797
The Procter & Gamble Paper Products Co. –Mehoopany	The Procter & Gamble Company	PA	Wyoming County	Tunkhannock	Pulp and paper	Chlorine	3.00	1,018
York Energy Center	Calpine Mid-Merit, LLC Calpine Corporation*	PA	York County	Delta	Electric power generation	Ammonia (anhydrous)	2.80	4,190
Hanover Municipal Water Works – Filter Plant	Borough of Hanover	PA	York County	Hanover	Water treatment	Chlorine	1.30	1,652
Penn Township WWTP	Penn Township	PA	York County	Hanover	Wastewater treatment	Chlorine	0.90	2,380
West Shore Regional Water Treatment Plant	Pennsylvania American Water American Water*	PA	York County	New Cumberland	Water treatment	Chlorine	1.30	3,876
Church & Dwight Company, Inc.	Church & Dwight Company, Inc.	PA	York County	York	Basic chemicals – ACC	Flammable Mixture	0.01	<10
Springettsbury Wastewater Treatment Plant		PA	York County	York	Wastewater treatment	Chlorine	2.20	14,104

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
R H O D E I S L A N D								
City of Newport Station 1 Water Plant	City of Newport	RI	Newport County	Newport	Water treatment	Chlorine	1.30	15,839
Lawton Valley Water Plant	City of Newport	RI	Newport County	Portsmouth	Water treatment	Chlorine	1.30	2,808
Tiverton Power	Tiverton Power LLC Emera Energy Generation II, Inc.*	RI	Newport County	Tiverton	Electric power generation	Ammonia (anhydrous)	3.10	35,983
Tanner Industries, Inc.	Tanner Industries, Inc.	RI	Providence County	East Providence	Chemical wholesale	Ammonia (anhydrous)	3.70	207,558
TCLP Ocean State Power	TransCanada	RI	Providence County	Harrisville	Electric power generation	Ammonia (conc. ≥20%)	1.60	2,155
Philip J. Holton Water Purification Works	City of Providence, Rhode Island	RI	Providence County	Hope	Water treatment	Chlorine	2.30	7,195
Univar USA Inc., Providence Branch	Univar USA Inc.	RI	Providence County	Providence	Bleach manufacturing, ACC	Chlorine	14.00	957,980
Charles Hamman Water Treatment Plant	City of Woonsocket, RI	RI	Providence County	Woonsocket	Water treatment	Chlorine	0.30	667
S O U T H C A R O L I N A								
Abbeville Water Treatment Plant	City of Abbeville	SC	Abbeville County	Abbeville	Water treatment	Chlorine	1.30	315
North Augusta Water Treatment Plant	City of North Augusta	SC	Aiken County	North Augusta	Water treatment	Chlorine	0.90	4,655
Halocarbon Products Corp.		SC	Aiken County	North Augusta	Chemicals – ACC, SOCMA	Hydrofluoric acid (conc. ≥50%)	9.90	222,760
Generostee Creek Wastewater Treatment Plant		SC	Anderson County	Anderson	Wastewater treatment	Chlorine	1.90	2,655
Leo Fisher Wastewater treatment Plant (Ducworth)	City of Belton Combined Utilities	SC	Anderson County	Belton	Wastewater treatment	Chlorine	2.20	2,976
Belton–Honea Path Water Treatment Plant	Belton–Honea Path Water Authority	SC	Anderson County	Honea–Path	Water treatment	Chlorine	1.75	1,320
Bamberg BPW Wastewater Treatment Plant		SC	Bamberg County	Bamberg	Wastewater treatment	Chlorine	1.30	259
Barnwell Wastewater Treatment Plant	City of Barnwell	SC	Barnwell County	Barnwell	Wastewater treatment	Chlorine	1.52	592
Broad Creek Public Service District		SC	Beaufort County	Hilton Head Island	Wastewater treatment	Chlorine	1.30	3,813
Reclaimed Water Plant	South Island Public Service District	SC	Beaufort County	Hilton Head Island	Wastewater treatment	Sulfur dioxide (anhydrous)	2.20	7,222
LANXESS Bushy Park Plant	Lanxess Deutschland GmbH	SC	Berkeley County	Goose Creek	Chemicals – ACC, SOCMA	Cyclohexylamine	0.10	<10
Sun Chemical Corporation, Bushy Park Facility	Sun Chemical Corporation DIC Americas Incorporated*	SC	Berkeley County	Goose Creek	Specialty chemicals – SOCMA	Ammonia (anhydrous)	3.60	4,755
South Carolina Electric & Gas, Williams Station	SCANA	SC	Berkeley County	Goose Creek	Electric power generation	Ammonia (anhydrous)	6.90	42,898
Hanahan Water Treatment Plant	Charleston Water System	SC	Berkeley County	Hanahan	Water treatment	Chlorine	1.50	13,638
Santee Cooper Regional Water System	South Carolina Public Service Authority	SC	Berkeley County	Moncks Corner	Water treatment	Chlorine	1.24	991

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Santee Cooper Cross Generating Station	Santee Cooper	SC	Berkeley County	Pineville	Electric power generation	Ammonia (anhydrous)	2.90	769
Brenntag Mid-South Inc.	Brenntag Inc.	SC	Charleston County	Charleston	Basic chemicals – ACC	Chlorine	0.40	601
Solvay USA Inc. – Charleston, SC Plant	Solvay SA	SC	Charleston County	Charleston	Basic chemicals – ACC	Phosphorus oxychloride	24.00	597,861
MeadWestvaco S. Carolina, LLC –Chas. Chem. Plant	MeadWestvaco Corporation	SC	Charleston County	N. Charleston	Basic chemicals – ACC	Formaldehyde (solution)	0.12	71
Milliken Chemical Allen Plant	Milliken & Company	SC	Cherokee County	Blacksburg	Basic chemicals – ACC	Phosphorus oxychloride	1.16	665
Broad River Waste Water Treatment Plant	Gaffney Board of Public Works	SC	Cherokee County	Gaffney	Wastewater treatment	Chlorine	0.90	87
Clary Waste Water Treatment Plant	Gaffney Board of Public Works	SC	Cherokee County	Gaffney	Wastewater treatment	Chlorine	0.90	87
Cherokee Water Treatment Plant	Gaffney Board of Public Works	SC	Cherokee County	Gaffney	Water treatment	Chlorine	0.90	112
Victor Gaffney Water Treatment Plant	Gaffney Board of Public Works	SC	Cherokee County	Gaffney	Water treatment	Chlorine	0.90	114
Chemtrade Performance Chemicals US LLC Leeds Site	Chemtrade Logistics	SC	Chester County	Carlisle	Basic chemicals – ACC	Sulfur dioxide (anhydrous)	25.00	93,654
OMNOVA Solutions Inc.	OMNOVA Solutions Inc.	SC	Chester County	Chester	Basic chemicals – ACC	Vinyl acetate monomer	7.40	15,141
CMD – Filter Plant	Chester Metropolitan	SC	Chester County	Ft. Lawn	Water treatment	Chlorine	2.20	1,372
Walterboro Wastewater Treatment Plant		SC	Colleton County	Walterboro	Wastewater treatment	Chlorine	3.70	8,699
Summerville CPW Wastewater Treatment Plant	Summerville Commissioners of Public Works	SC	Dorchester County	Summerville	Wastewater treatment	Chlorine	1.30	8,628
ECW&SA Water Treatment Plant	Edgefield County Water & Sewer Authority	SC	Edgefield County	North Augusta	Water treatment	Chlorine	1.30	773
Winnsboro Wastewater Treatment Plant	Town of Winnsboro	SC	Fairfield County	Winnsboro	Wastewater treatment	Chlorine	1.50	727
Lake City Wastewater Treatment Plant	City of Lake City	SC	Florence County	Lake City	Wastewater treatment	Chlorine	1.50	1,181
Santee Cooper Winyah Generating Station		SC	Georgetown County	Georgetown	Electric power generation	Ammonia (anhydrous)	2.30	2,215
City of Georgetown Wastewater Treatment Plant	City of Georgetown	SC	Georgetown County	Georgetown	Wastewater treatment	Chlorine	1.47	2,261
City of Georgetown Water Treatment Plant	City of Georgetown	SC	Georgetown County	Georgetown	Water treatment	Chlorine	1.46	2,383
International Paper Georgetown Mill	International Paper	SC	Georgetown County	Georgetown	Pulp and paper	Chlorine dioxide	7.90	24,074
Murrells Inlet Wastewater Treatment Plant	Georgetown County Water and Sewer District	SC	Georgetown County	Murrells Inlet	Wastewater treatment	Chlorine	2.20	12,999
Waccamaw Neck Water Plant	Georgetown County water and Sewer District	SC	Georgetown County	Pawleys Island	Water treatment	Chlorine	2.20	4,663
Pawleys Island Wastewater Treatment Plant	Georgetown County Water and Sewer District	SC	Georgetown County	Pawleys Island	Wastewater treatment	Chlorine	2.20	5,492

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Tiarco Chemical	Textile Rubber and Chemical Company	SC	Greenville County	Greenville	Specialty chemicals - SOCMA	Sulfur trioxide	3.80	27,843
Ethox Chemicals LLC.	Piedmont Chemical Industries, Inc.	SC	Greenville County	Greenville	Specialty chemicals - SOCMA	Ethylene oxide	11.00	315,669
City of Greer Water Treatment Plant	Greer Commission of Public Works	SC	Greenville County	Greer	Water treatment	Chlorine	1.90	9,053
BASF Corporation Mauldin Plant	BASF Corporation	SC	Greenville County	Mauldin	Basic chemicals - ACC	Ethylene oxide	9.90	308,488
Cytec Carbon Fibers LLC, Greenville, SC	Cytec Industries, Inc.	SC	Greenville County	Piedmont	Basic chemicals - ACC	Acrylonitrile	2.50	8,207
Ashland Inc.	Ashland Inc.	SC	Greenville County	Piedmont	Basic chemicals - ACC	Vinyl acetate monomer	5.35	38,354
LANXESS Southeast Dist Center, Simpsonville, SC	Lanxess AG	SC	Greenville County	Simpsonville	Chemicals - ACC, SOCMA	Toluene diisocyanate (unsp. isomer)	0.01	<10
Table Rock and North Saluda Filtration Plant	Greenville Water System	SC	Greenville County	Travelers Rest	Water treatment	Chlorine	1.90	534
Dairy Street Wastewater Treatment Plant	Town of Ware Shoals	SC	Greenwood County	Ware Shoals	Wastewater treatment	Sulfur dioxide (anhydrous)	2.18	1,073
Hampton Wastewater Treatment Plant	Town of Hampton	SC	Hampton County	Hampton	Wastewater treatment	Chlorine	2.20	967
City of Camden WTP	City of Camden	SC	Kershaw County	Camden	Water treatment	Chlorine	1.90	325
City of Camden WWTP	City of Camden	SC	Kershaw County	Camden	Wastewater treatment	Chlorine	1.90	3,219
Weylchem US Inc	International Chemicals Investor Group	SC	Kershaw County	Elgin	Specialty chemicals - SOCMA	Chlorine	2.20	3,101
Lake Wateree Water Treatment Plant	Lugoff-Elgin Water Authority	SC	Kershaw County	Ridgeway	Water treatment	Chlorine	3.00	1,664
City of Clinton Water Treatment Plant	City of Clinton	SC	Laurens County	Clinton	Water treatment	Chlorine	1.50	1,977
Clinton/Joanna Wastewater Treatment Plant	Laurens County Water and Sewer Commission	SC	Laurens County	Kinards	Wastewater treatment	Chlorine	1.30	257
Little River Wastewater Treatment Plant	Commission of Public Works	SC	Laurens County	Laurens	Wastewater treatment	Chlorine	1.30	1,862
Saxon Street Water Treatment Plant	Commission of Public Works	SC	Laurens County	Laurens	Water treatment	Chlorine	1.30	3,826
Batesburg-Leesville Wastewater Treatment Plant	Town of Batesburg-Leesville	SC	Lexington County	Batesburg-Leesville	Wastewater treatment	Chlorine	1.34	669
Batesburg-Leesville Water Treatment Plant	Town of Batesburg-Leesville	SC	Lexington County	Batesburg-Leesville	Water treatment	Chlorine	1.50	2,837
E.H. Huestess Waste Water Treatment Plant	City of Cayce - Public Utilities	SC	Lexington County	Cayce	Wastewater treatment	Chlorine	1.30	2,558
Stanley L. Goodwin Water Treatment Plant	City of Cayce - Public Utilities	SC	Lexington County	Cayce	Water treatment	Chlorine	1.30	3,590
Lake Murray Water Treatment Plant	City of Columbia	SC	Lexington County	Columbia	Water treatment	Chlorine	1.90	9,537
City of Bennettsville Wastewater Treatment Plant	City of Bennettsville	SC	Marlboro County	Bennettsville	Wastewater treatment	Chlorine	1.20	493

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
City of Bennettsville Water Treatment Plant	City of Bennettsville	SC	Marlboro County	Bennettsville	Water treatment	Chlorine	1.10	787
Marlboro Paper Mill	Domtar Paper Company, LLC	SC	Marlboro County	Bennettsville	Pulp and paper	Chlorine dioxide	6.10	10,009
Bush River Wastewater Treatment Plant	City of Newberry	SC	Newberry County	Newberry	Wastewater treatment	Chlorine	1.30	117
George Hugh Connelly Water Treatment Plant	City of Newberry	SC	Newberry County	Silverstreet	Water treatment	Chlorine	3.00	637
Coneross Creek Wastewater Treatment Facility	Oconee Joint Regional Sewer Authority	SC	Oconee County	Seneca	Wastewater treatment	Chlorine	0.90	547
Seneca Water Treatment Plant	Seneca Light and Water	SC	Oconee County	Seneca	Water treatment	Chlorine	2.20	4,402
South Carolina Electric and Gas Company	Scana	SC	Orangeburg County	Cope	Electric power generation	Ammonia (anhydrous)	5.60	3,833
Orangeburg DPU Wastewater Treatment Plant	Orangeburg Department of Utilities	SC	Orangeburg County	Orangeburg	Wastewater treatment	Chlorine	1.30	471
Orangeburg DPU Water Treatment Plant	Orangeburg Department of Public Utilities	SC	Orangeburg County	Orangeburg	Water treatment	Chlorine	1.30	5,346
Albemarle Corporation	Albemarle Corporation	SC	Orangeburg County	Orangeburg	Chemicals – ACC, SOCMA	Hydrogen chloride (anhydrous)	20.00	93,546
Gulbrandsen Chemicals	Gulbrandsens	SC	Orangeburg County	Orangeburg	Chemical manufacturing	Chlorine	25.00	125,466
Don L Moore Water Treatment Plant	Easley Combined Utilities	SC	Pickens County	Easley	Water treatment	Chlorine	0.90	806
Ortec, Inc.		SC	Pickens County	Easley	Specialty chemicals – SOCMA	Acrylonitrile	1.70	7,640
Witty Adkins Water Treatment Plant	Greenville Water System	SC	Pickens County	Six Mile	Water treatment	Chlorine	1.15	341
Columbia Canal Water Treatment Plant	City of Columbia	SC	Richland County	Columbia	Water treatment	Chlorine	1.15	8,792
International Paper Eastover Mill	International Paper	SC	Richland County	Eastover	Pulp and paper	Chlorine dioxide	4.00	3,187
South Carolina Electric and Gas, Wateree Station	SCANA Corporation	SC	Richland County	Eastover	Electric power generation	Ammonia (anhydrous)	5.60	4,233
Brenntag Mid-South inc.	Brenntag Inc.	SC	Spartanburg County	Duncan	Basic chemicals – ACC	Sulfur dioxide (anhydrous)	3.10	9,682
Celanese Emulsions	Celanese Ltd.	SC	Spartanburg County	Enoree	Basic chemicals – ACC	Vinyl acetate monomer	4.90	7,478
City of Inman Wastewater Treatment Plant		SC	Spartanburg County	Inman	Wastewater treatment	Chlorine	3.00	14,095
Milliken Chemical – Dewey Plant	Milliken & Company	SC	Spartanburg County	Inman	Basic chemicals – ACC	Ethylene oxide	14.39	292,348
Momentive Specialty Chemicals Inc.		SC	Spartanburg County	Roebuck	Basic chemicals – ACC	Acrylonitrile	0.34	237
SantoLubes Mfg, LLC dba Blackman Uhler Specialties		SC	Spartanburg County	Spartanburg	Specialty chemicals – SOCMA	Methyl chloride	0.33	174
Univar USA Inc.	Univar USA Inc.	SC	Spartanburg County	Spartanburg	Basic chemicals – ACC	Ammonia (conc. ≥20%)	0.60	686

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Lake Blalock Water Treatment Plant	Spartanburg Water System	SC	Spartanburg County	Spartanburg	Water treatment	Chlorine	1.35	1,921
BASF Corporation Whitestone Site	BASF Corporation	SC	Spartanburg County	Spartanburg	Chemicals – ACC, SOCMA	Ethylene oxide	2.11	2,397
Fairforest Wastewater Treatment Plant	Spartanburg Water Spartanburg Sanitary Sewer District*	SC	Spartanburg County	Spartanburg	Wastewater treatment	Chlorine	1.52	4,658
Solvay USA Inc., Spartanburg Facility	Solvay USA Inc.	SC	Spartanburg County	Spartanburg	Basic chemicals – ACC	Ethylene oxide	4.03	53,321
Pocotaligo Wastewater Treatment Plant	City of Sumter	SC	Sumter County	Sumter	Wastewater treatment	Chlorine	3.00	5,022
Tosches Creek Wastewater Treatment Plant		SC	Union County	Union	Wastewater treatment	Chlorine	1.30	1,489
Kingstree Wastewater Treatment Plant	Town of Kingstree	SC	Williamsburg County	Kingstree	Wastewater treatment	Chlorine	1.50	508
Resolute Catawba	Resolute Forest Products	SC	York County	Catawba	Pulp and paper	Chlorine dioxide	8.87	55,699
Manchester Creek Waste Water Treatment Plant	City of Rock Hill	SC	York County	Rock Hill	Wastewater treatment	Chlorine	1.30	2,976
Lake Wylie Raw Water Pump Station	City of Rock Hill	SC	York County	Rock Hill	Water treatment	Chlorine	1.30	5,936
InChem Corporation ReSubmit-2004	InChem Holdings	SC	York County	Rock Hill	Specialty chemicals – SOCMA	Epichlorohydrin	1.70	9,416
Cherry Road Filter Plant	City of Rock Hill	SC	York County	Rock Hill	Water treatment	Chlorine	1.30	9,851
City of York – Fishing Creek WWTP	City of York	SC	York County	York	Wastewater treatment	Chlorine	1.30	901
York Water Filter Plant	City of York	SC	York County	York	Water treatment	Chlorine	1.30	2,944
S O U T H D A K O T A								
Aberdeen Water Works	City of Aberdeen, South Dakota	SD	Brown County	Aberdeen	Water treatment	Chlorine	3.04	215
CS-10	OREG1 Ormat Nevada Inc.*	SD	Clark County	Clark	Electric power generation	Pentane	0.30	<10
City of Mitchell Water Treatment Facility	City of Mitchell, South Dakota	SD	Davison County	Mitchell	Water treatment	Chlorine	1.30	847
CS-11	OREG1 Ormat Nevada Inc.*	SD	Deuel County	Estelline	Electric power generation	Pentane	0.30	<10
CS-9	OREG1 Ormat Nevada Inc.*	SD	Edmunds County	Wetonka	Electric power generation	Pentane	0.30	<10
Mid-Dakota Water Treatment Plant	Mid-Dakota Rural Water System, Inc.	SD	Hughes County	Pierre	Water treatment	Chlorine	2.20	61
Mid-Dakota Chemical Feed Building	Mid-Dakota Rural Water System, Inc.	SD	Hughes County	Pierre	Water treatment	Chlorine	2.20	270
Sioux Falls Water Purification Plant	City of Sioux Falls Public Works	SD	Minnehaha County	Sioux Falls	Water treatment	Chlorine	1.20	5,195
Web Water Plant	Web Water Development Association, Inc.	SD	Walworth County	Selby	Water treatment	Chlorine	3.04	69
B-Y Rural Water District	B-Y Rural Water District	SD	Yankton County	Tabor	Water treatment	Chlorine	2.20	161

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
T E N N E S S E E								
TVA Bull Run Fossil Plant	Tennessee Valley Authority	TN	Anderson County	Clinton	Electric power generation	Ammonia (anhydrous)	4.40	30,844
Oak Ridge Water Treatment Plant		TN	Anderson County	Oak Ridge	Water treatment	Chlorine	4.30	28,755
Hallsdale Powell Utility District Melton Hill WTP		TN	Anderson County	Powell	Water treatment	Chlorine	3.70	28,329
Bedford County Utility District Water Treatment		TN	Bedford County	Shelbyville	Water treatment	Chlorine	2.20	978
Shelbyville Water Plant	Shelbyville Power, Water and Sewerage System	TN	Bedford County	Shelbyville	Water treatment	Chlorine	1.30	2,097
City of Maryville Wastewater Treatment Plant		TN	Blount County	Louisville	Wastewater treatment	Chlorine	2.20	5,897
City of Maryville, TN Water Filtration Plant		TN	Blount County	Maryville	Water treatment	Chlorine	2.20	7,086
Hiwassee Utilities Commission Water Treatment Plt.		TN	Bradley County	Charleston	Water treatment	Chlorine	2.60	5,180
Cleveland Utilities Wastewater Treatment Plant		TN	Bradley County	Charleston	Wastewater treatment	Sulfur dioxide (anhydrous)	2.80	5,346
Olin Chlor-Alkali, Charleston Plant	Olin Corporation	TN	Bradley County	Charleston	Bleach manufacturing, ACC	Chlorine	25.00	297,451
MSD Consumer Care, Inc.	Merck & Co., Inc.	TN	Bradley County	Cleveland	Basic chemicals - ACC	Isobutane	0.40	121
Cleveland Utilities Water Treatment Plant		TN	Bradley County	Cleveland	Water treatment	Chlorine	2.60	5,575
SI Group Inc.	SI Group Inc.	TN	Cocke County	Newport	Basic chemicals - ACC	2-Methylpropene	0.50	141
Duck River Utility Commission		TN	Coffee County	Tullahoma	Water treatment	Chlorine	0.77	291
Wastewater Treatment Plant	Tullahoma Utilities Board	TN	Coffee County	Tullahoma	Wastewater treatment	Chlorine	0.90	1,742
Madison Suburban Utility District		TN	Davidson County	Madison	Water treatment	Chlorine	0.90	5,477
Dry Creek Wastewater Treatment Plant	Metro Water and Sewer Department	TN	Davidson County	Madison	Wastewater treatment	Chlorine	2.20	24,721
Blanchard Terminal Company LLC -Nashville Terminal	Marathon Petroleum Company LP	TN	Davidson County	Nashville	Basic chemicals - ACC	Butane	0.50	1,236
Harpeth Valley Utilities District		TN	Davidson County	Nashville	Water treatment	Chlorine	1.30	1,273
Brenntag Mid-South, Inc.	Brenntag U.S.A.	TN	Davidson County	Nashville	Basic chemicals - ACC	Chlorine	1.30	2,482
K. R. Harrington Water Treatment Plant	Metro Water and Sewer Department	TN	Davidson County	Nashville	Water treatment	Chlorine	2.20	17,083
Omohundro Water Treatment Plant	Metro Water and Sewer Department	TN	Davidson County	Nashville	Water treatment	Chlorine	20.00	1,001,312
Central Wastewater Treatment Plant	Metro Water and Sewer Department	TN	Davidson County	Nashville	Wastewater treatment	Chlorine	25.00	1,142,054
Winchester Water Treatment Plant		TN	Franklin County	Winchester	Water treatment	Chlorine	0.90	791
Pulaski Water Treatment Plant		TN	Giles County	Pulaski	Water treatment	Chlorine	0.90	191

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Denzil Bowman Wastewater Treatment Plant	Greenville Water Commission	TN	Greene County	Greenville	Wastewater treatment	Chlorine	0.90	850
Greenville Water Treatment Plant	Greenville Water Commission	TN	Greene County	Greenville	Water treatment	Chlorine	0.90	1,953
Jarden Zinc Products, LLC	Jarden Corporation	TN	Greene County	Greenville	Metal products manufacturing	Chlorine	25.00	291,164
Brenntag Mid-South, Inc.	Brenntag U.S.A.	TN	Greene County	Midway	Basic chemicals – ACC	Chlorine	2.20	1,063
Roy S. Oakes Water Treatment Plant	Morristown Utility Systems – Water System	TN	Hamblen County	Morristown	Water treatment	Chlorine	3.00	26,663
BASF Corporation Chattanooga Polymer Drive Site	BASF Corporation	TN	Hamilton County	Chattanooga	Chemicals – ACC, SOCMA	1,3-Butadiene	0.41	593
AkzoNobel Surface Chemistry LLC	AkzoNobel NV	TN	Hamilton County	Chattanooga	Basic chemicals – ACC	Carbon disulfide	0.53	714
BASF Corporation Chattanooga Amnicola Highway Site	BASF Corporation	TN	Hamilton County	Chattanooga	Chemicals – ACC, SOCMA	Ammonia (anhydrous)	0.94	2,817
Eastside Utility Water Treatment Plant (WTP)		TN	Hamilton County	Chattanooga	Water treatment	Chlorine	1.30	3,285
Chattem Chemicals, Inc.	Sun Pharmaceutical Industry, Inc.	TN	Hamilton County	Chattanooga	Specialty chemicals – SOCMA	Ammonia (anhydrous)	1.30	5,403
Citico Water Treatment Plant	Tennessee American Water American Water Works Company*	TN	Hamilton County	Chattanooga	Water treatment	Chlorine	1.30	14,055
Moccasin Bend Wastewater Treatment Plant	Moccasin Bend Wastewater Treatment Plant	TN	Hamilton County	Chattanooga	Wastewater treatment	Chlorine	2.60	20,728
Lamberti Synthesis USA, Inc.	Lamberti S.p.a	TN	Hamilton County	Chattanooga	Chemical manufacturing	Ethylene oxide	7.50	212,020
Brenntag Mid-South, Inc.	Brenntag U.S.A.	TN	Hamilton County	Chattanooga	Bleach manufacturing, ACC	Chlorine	14.00	310,592
DPC Enterprises, L.P.		TN	Hamilton County	Chattanooga	Bleach manufacturing	Sulfur dioxide (anhydrous)	16.00	418,812
Holston Army Ammunition Plant	Ordnance Systems Inc. BAE Systems Holdings Inc.*	TN	Hawkins County	Kingsport	Manufacturing	Nitric acid (conc. ≥80%)	13.00	134,054
L.T. “Pie” Hay Filter Plant	City of Lexington	TN	Henderson County	Lexington	Water treatment	Chlorine	0.90	366
DuPont Johnsonville Plant	E. I. DuPont de Nemours & Co. Inc.	TN	Humphreys County	New Johnsonville	Basic chemicals – ACC	Chlorine	25.00	72,235
TIN dba Temple-Inland (Inland Paperboard and Pkg)	Temple-Inland	TN	Humphreys County	Waverly	Pulp and paper	Ammonia (anhydrous)	4.40	2,629
Loves Creek Wastewater Treatment Plant	Knoxville Utilities Board	TN	Knox County	Knoxville	Wastewater treatment	Chlorine	3.00	16,071
Rohm and Haas Chemicals LLC	Rohm and Haas Company	TN	Knox County	Knoxville	Basic chemicals – ACC	Acrylonitrile	1.70	29,085
Fourth Creek Wastewater Treatment Plant	Knoxville Utilities Board	TN	Knox County	Knoxville	Wastewater treatment	Chlorine	3.00	32,388
Mark B. Whitaker Water Treatment Plant	Knoxville Utilities Board	TN	Knox County	Knoxville	Water treatment	Chlorine	3.00	53,400

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Kuwahee Wastewater Treatment Plant	Knoxville Utilities Board	TN	Knox County	Knoxville	Wastewater treatment	Chlorine	3.00	56,834
FPU Water Treatment Plant		TN	Lincoln County	Fayetteville	Water treatment	Chlorine	2.20	1,742
Lewisburg Water Treatment Plant		TN	Marshall County	Lewisburg	Water treatment	Chlorine	0.90	1,302
Columbia Water System Filter Plant	Board of Public Utilities of the City of Columbia	TN	Maury County	Columbia	Water treatment	Chlorine	3.00	18,411
AbiBow US Inc. – Calhoun Operations	AbitibiBowater Inc.	TN	McMinn County	Calhoun	Pulp and paper	Chlorine dioxide	7.70	27,910
Tellico Area Service System WTP	Tellico Area Service System	TN	Monroe County	Vonore	Water treatment	Chlorine	1.30	258
Cunningham–East Montgomery Water Plant		TN	Montgomery County	Clarksville	Water treatment	Chlorine	0.90	352
Hemlock Semiconductor, L.L.C.		TN	Montgomery County	Clarksville	Basic chemicals – ACC	Hydrogen chloride (anhydrous)	3.40	11,646
Cookeville Water Treatment Plant		TN	Putnam County	Baxter	Water treatment	Chlorine	2.60	1,675
TVA Kingston Fossil Plant	Tennessee Valley Authority	TN	Roane County	Harriman	Electric power generation	Ammonia (anhydrous)	4.40	16,487
Springfield Water Treatment Plant	City of Springfield	TN	Robertson County	Cedar Hill	Water treatment	Chlorine	3.30	1,254
K.Thomas Hutchinson Water Treatment Plant	Consolidated Utilities District of Rutherford County*	TN	Rutherford County	Murfreesboro	Water treatment	Chlorine	1.20	1,733
Brenntag Mid–South, Inc	Brenntag U.S.A.	TN	Shelby County	Memphis	Basic chemicals – ACC	Chlorine	1.30	34
TVA – Allen Fossil Plant	Tennessee Valley Authority	TN	Shelby County	Memphis	Electric power generation	Ammonia (anhydrous)	3.30	17,398
LucyWoodstock Marine Terminal	Terminal Pipeline Management DuPont*	TN	Shelby County	Memphis	Basic chemicals – ACC	Butane	1.70	32,858
PMC Biogenix Inc	PMC Group	TN	Shelby County	Memphis	Chemical manufacturing	Ammonia (anhydrous)	6.50	360,636
Vertex Chemical Corporation Memphis, TN	Vertex Chemical Corporation	TN	Shelby County	Memphis	Bleach manufacturing, ACC	CBI Halogens and Halogen Oxides	14.00	521,110
Valero Memphis Refinery	Valero Refining Company–Tennessee, L.L.C.	TN	Shelby County	Memphis	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	16.00	800,973
Buckeye Technologies Inc. – Memphis Plant	Buckeye Technologies Inc.	TN	Shelby County	Memphis	Pulp and paper	Chlorine	14.00	895,153
Lucite International		TN	Shelby County	Memphis	Basic chemicals – ACC	Oleum (Fuming Sulfuric acid)	20.00	949,636
DuPont Memphis Plant	E. I. DuPont de Nemours and Company	TN	Shelby County	Memphis	Basic chemicals – ACC	Oleum (Fuming Sulfuric acid)	24.00	1,120,829
Helm Fertilizer Terminal, Inc.	Helm Dungemittle	TN	Shelby County	Memphis	Chemical storage terminal	Ammonia (anhydrous)	25.00	1,134,738
Velsicol Chemical LLC (Memphis)	Velsicol Chemical LLC	TN	Shelby County	Memphis	Chemical manufacturing	Chlorine	25.00	1,173,206
Pennakem, LLC	Minafin SARL	TN	Shelby County	Memphis	Specialty chemicals – SOCMA	Furan	25.00	1,176,101
Millington, TN Wastewater Treatment Plant	City of Millington, TN	TN	Shelby County	Millington	Wastewater treatment	Chlorine	1.30	1,055

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
TVA – Cumberland Fossil Plant	Tennessee Valley Authority	TN	Stewart County	Cumberland City	Electric power generation	Ammonia (anhydrous)	4.40	2,536
City of Kingsport – Water Treatment Plant	City of Kingsport	TN	Sullivan County	Kingsport	Water treatment	Chlorine	3.00	26,691
Tennessee Operations	Eastman Chemical Company	TN	Sullivan County	Kingsport	Basic chemicals – ACC	Ammonia (anhydrous)	5.60	70,362
Domtar Paper Company, LLC – Kingsport Mill	Domtar Paper Company, LLC	TN	Sullivan County	Kingsport	Pulp and paper	Chlorine dioxide	9.10	109,370
Air Products, Gallatin	Air Products and Chemicals, Inc.	TN	Sumner County	Gallatin	Basic chemicals – ACC	Hydrogen	0.25	27
Gallatin Water Treatment Plant	City of Gallatin – Department of Public Utilities	TN	Sumner County	Gallatin	Water treatment	Chlorine	2.20	6,938
Hendersonville Utility Dist. Water Treatment Plant		TN	Sumner County	Hendersonville	Water treatment	Chlorine	2.60	27,410
White House Utility District Water Treatment Plant		TN	Sumner County	Hendersonville	Water treatment	Chlorine	3.00	35,277
Covington Wastewater Treatment Plant	City of Covington, TN	TN	Tipton County	Covington	Wastewater treatment	Chlorine	2.50	1,984
Brush Creek Waste Water Treatment Plant	City of Johnson City	TN	Washington County	Johnson City	Wastewater treatment	Chlorine	1.10	964
Watauga Water Treatment Plant	City of Johnson City	TN	Washington County	Johnson City	Water treatment	Chlorine	1.10	1,179
Lebanon Water Treatment Plant		TN	Wilson County	Lebanon	Water treatment	Chlorine	3.00	3,297
West Wilson Utility District		TN	Wilson County	Mount Juliet	Water treatment	Chlorine	3.00	26,611
T E X A S								
Town Creek Wastewater Treatment Plant		TX	Anderson County	Palestine	Wastewater treatment	Chlorine	3.00	4,349
City of Palestine Water Treatment Plant		TX	Anderson County	Palestine	Water treatment	Chlorine	3.00	7,296
Momentive Specialty Chemicals Inc. – Diboll TX	Momentive Specialty Chemicals Holdings LLC	TX	Angelina County	Diboll	Basic chemicals – ACC	Formaldehyde (solution)	0.61	154
City of Lufkin Water Plant		TX	Angelina County	Lufkin	Water treatment	Chlorine	3.00	16,395
City of Lufkin Wastewater Treatment Plant		TX	Angelina County	Lufkin	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	17,772
City of Rockport Wastewater Treatment Plant		TX	Aransas County	Rockport	Wastewater treatment	Chlorine	0.90	2,528
Sudan Pump Station	City of Lubbock, TX	TX	Bailey County	Muleshoe	Water treatment	Chlorine	3.00	186
S Pump Station	Aqua Water Supply	TX	Bastrop County	Bastrop	Water treatment	Chlorine	2.60	1,927
Camp Swift Pump Station	Aqua Water Supply Corporation	TX	Bastrop County	Bastrop	Water treatment	Chlorine	2.60	2,661
Lost Pines 1 Power Plant	Gentex Power Corp. Lower Colorado River Authority*	TX	Bastrop County	Bastrop	Electric power generation	Ammonia (anhydrous)	2.80	3,234
L Pump Station	Aqua Water Supply Corporation	TX	Bastrop County	Smithville	Water treatment	Chlorine	2.60	450

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
North Central Texas Municipal Water Authority WTP	North Central Texas Municipal Water Authority	TX	Baylor County	Seymour	Water treatment	Chlorine	3.10	103
Bell County WCID #1 Water Treatment Facility	Bell Co. Water Control & Improvement District #1	TX	Bell County	Belton	Water treatment	Chlorine	3.00	9,290
Temple-Belton Regional Sewerage System	Brazos River Authority	TX	Bell County	Belton	Wastewater treatment	Chlorine	3.10	15,371
Central Texas Water Supply Corporation		TX	Bell County	Harker Heights	Water treatment	Chlorine	3.00	17,105
Bell County WCID #1 Wastewater Treatment Facility	Bell Co. Water Control & Improvement District #1	TX	Bell County	Killeen	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	69,706
Bluebonnet Water Supply Corporation		TX	Bell County	Temple	Water treatment	Chlorine	3.00	2,194
Temple Water Treatment Plant	City of Temple	TX	Bell County	Temple	Water treatment	Chlorine	3.00	16,764
Doshier Farm Wastewater Treatment Plant	City of Temple, Texas	TX	Bell County	Temple	Wastewater treatment	Chlorine	3.10	21,717
VP Racing Fuels, Inc. San Antonio Facility	Texas Allied Holdings, Inc	TX	Bexar County	Elmendorf	Petroleum refinery	Isoprene	0.09	<10
Clearwater International, L.L.C.	Weatherford International	TX	Bexar County	Elmendorf	Specialty chemicals - SOCMA	Formaldehyde (solution)	0.60	196
SAWS Twin Oaks Water Treatment Plant	San Antonio Water System	TX	Bexar County	Elmendorf	Water treatment	Chlorine	3.00	3,478
Brenntag Southwest-Elmendorf 12-2012	Brenntag	TX	Bexar County	Elmendorf	Basic chemicals - ACC	Chlorine	3.00	3,673
Wurzbach Pumping Station	San Antonio Water System	TX	Bexar County	Leon Valley	Water treatment	Chlorine	1.30	24,156
Univar USA, Inc.--San Antonio-Director		TX	Bexar County	San Antonio	Basic chemicals - ACC	Ammonia (conc. ≥20%)	0.10	42
Calumet San Antonio Refining, LLC	Calumet Specialty Products	TX	Bexar County	San Antonio	Petroleum refinery	Flammable Mixture	0.50	553
Leon Creek Water Recycling Center	San Antonio Water System	TX	Bexar County	San Antonio	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	5,027
Dos Rios Water Recycling Center	San Antonio Water System	TX	Bexar County	San Antonio	Wastewater treatment	Chlorine	3.00	5,831
Oliver Ranch Pumping Station	San Antonio Water System	TX	Bexar County	San Antonio	Water treatment	Chlorine	1.30	6,689
Salado Creek Chemical Storage Facility	San Antonio Water System	TX	Bexar County	San Antonio	Wastewater treatment	Chlorine	3.00	7,347
Seale Pumping Station	San Antonio Water System	TX	Bexar County	San Antonio	Water treatment	Chlorine	1.30	9,455
Maltsberger Pumping Station	San Antonio Water System	TX	Bexar County	San Antonio	Water treatment	Chlorine	1.30	12,183
Artesia Pumping Station	San Antonio Water System	TX	Bexar County	San Antonio	Water treatment	Chlorine	1.30	13,880
Randolph Pumping Station	San Antonio Water System	TX	Bexar County	San Antonio	Water treatment	Chlorine	1.30	15,422
Basin Pumping Station	San Antonio Water System	TX	Bexar County	San Antonio	Water treatment	Chlorine	1.30	18,487
Micron Primary Pump Station	San Antonio Water System	TX	Bexar County	San Antonio	Water treatment	Chlorine	1.30	20,584
Marbach Pumping Station	San Antonio Water System	TX	Bexar County	San Antonio	Water treatment	Chlorine	1.30	21,375

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Nacogdoches Pumping Station	San Antonio Water System	TX	Bexar County	San Antonio	Water treatment	Chlorine	1.30	25,975
34th Street Pumping Station	San Antonio Water System	TX	Bexar County	San Antonio	Water treatment	Chlorine	1.30	32,973
Anderson Pumping Station	San Antonio Water System	TX	Bexar County	San Antonio	Water treatment	Chlorine	3.00	72,854
Mission Pumping Station	San Antonio Water System	TX	Bexar County	San Antonio	Water treatment	Chlorine	2.60	111,172
Cibolo Creek Municipal Authority WWTP		TX	Bexar County	Schertz	Wastewater treatment	Chlorine	3.00	34,377
Wright Patman Water Plant		TX	Bowie County	Texarkana	Water treatment	Chlorine	2.60	686
Equistar Chemicals, LP Chocolate Bayou Polymers	Equistar Chemicals, LP	TX	Brazoria County	Alvin	Basic chemicals – ACC	Isobutane	0.60	17
Equistar Chemicals, LP Chocolate Bayou Chemicals	Equistar Chemicals, LP	TX	Brazoria County	Alvin	Basic chemicals – ACC	Flammable Mixture	3.30	506
Ascend Performance Materials LLC	Ascend Performance Materials LLC	TX	Brazoria County	Alvin	Basic chemicals – ACC	Acrylonitrile	25.00	768,548
Oyster Creek Wastewater Treatment Plant	City of Angleton, Texas	TX	Brazoria County	Angleton	Wastewater treatment	Chlorine	1.30	458
Chevron Phillips Chemical Co. LP Clemens Terminal	Chevron Phillips Chemical Co. LP	TX	Brazoria County	Brazoria	Basic chemicals – ACC	Flammable Mixture	1.20	764
Clute/Richwood Wastewater Treatment Facility	City of Clute/Richwood	TX	Brazoria County	Clute	Wastewater treatment	Chlorine	1.30	3,584
Air Liquide Large Industries U.S. LP – Freeport HPU	Air Liquide Large Industries U.S. LP	TX	Brazoria County	Freeport	Basic chemicals – ACC	Flammable Mixture	0.10	<10
Braskem Oyster Creek Plant	Braskem America, INC.	TX	Brazoria County	Freeport	Basic chemicals – ACC	Propylene	0.30	11
DSM Nutritional Products, Inc.		TX	Brazoria County	Freeport	Basic chemicals – ACC	Ammonia (anhydrous)	1.40	325
SI Group Texas Operations	SI Group, Inc.	TX	Brazoria County	Freeport	Basic chemicals – ACC	2-Methylpropene	0.90	468
Freeport Wastewater Treatment Plant	The City of Freeport, Texas	TX	Brazoria County	Freeport	Wastewater treatment	Chlorine	1.30	1,271
Hydrochlor LLC		TX	Brazoria County	Freeport	Basic chemicals – ACC	Hydrogen chloride (anhydrous)	3.40	20,085
BASF Corporation – Freeport Terminal	BASF Corporation	TX	Brazoria County	Freeport	Basic chemicals – ACC	Ammonia (anhydrous)	8.90	36,025
Nalco		TX	Brazoria County	Freeport	Basic chemicals – ACC	Ethylene oxide	10.41	60,233
BASF Corporation – Freeport Site	BASF Corporation	TX	Brazoria County	Freeport	Basic chemicals – ACC	Oleum (Fuming Sulfuric acid)	8.60	63,963
The Dow Chemical Company, Texas Operations	The Dow Chemical Company	TX	Brazoria County	Freeport	Basic chemicals – ACC	Phosgene	25.00	129,515
Brazosport Water Authority		TX	Brazoria County	Lake Jackson	Water treatment	Chlorine	1.30	4,537
Dyson Campbell Water Reclamation Center	City of Lake Jackson	TX	Brazoria County	Lake Jackson	Wastewater treatment	Chlorine	1.30	6,614
Sweeny Cogeneration Facility	Sweeny Cogeneration Limited Partnership	TX	Brazoria County	Old Ocean	Electric power generation	Ammonia (anhydrous)	3.60	2,259

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Phillips 66 Company – Sweeny Refinery	Phillips 66 Company Phillips 66*	TX	Brazoria County	Old Ocean	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	16.00	57,065
Brazoria Co. Municipal Utility District No. 3 WTP	Brazoria County Municipal Utility District No. 3	TX	Brazoria County	Pearland	Wastewater treatment	Chlorine	0.90	6,268
Chevron-Phillips Chemical Company LP, Sweeny	Chevron Phillips Chemical Company LP	TX	Brazoria County	Sweeny	Basic chemicals – ACC	Chlorine	3.00	1,342
Sandy Point Road Pump Station	City of College Station, Texas	TX	Brazos County	Bryan	Water treatment	Chlorine	2.20	1,098
Well Field Pump Station		TX	Brazos County	Bryan	Water treatment	Chlorine	1.30	3,288
Still Creek Wastewater Treatment Plant		TX	Brazos County	Bryan	Wastewater treatment	Chlorine	1.30	3,548
Burton Creek Wastewater Treatment Plant	City of Bryan, Texas	TX	Brazos County	Bryan	Wastewater treatment	Chlorine	1.30	15,594
Honeywell Electronic Chemicals, L.L.C.	Honeywell International, Inc.	TX	Brazos County	Bryan	Basic chemicals – ACC	Hydrofluoric acid (conc. ≥50%)	25.00	223,459
Dowling Road Pump Station	City of College Station, Texas	TX	Brazos County	College Station	Water treatment	Chlorine	2.20	38,604
MMWA Treatment Plant	Mackenzie Municipal Water Authority	TX	Briscoe County	Silverton	Water treatment	Chlorine	3.00	63
BCWID # 1 Water Treatment Plant	Brown County Water Improvement District #1	TX	Brown County	Brownwood	Water treatment	Chlorine	3.00	15,469
City of Brownwood Wastewater Treatment Plant		TX	Brown County	Brownwood	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	16,341
Delhi Treatment Plant	Aqua Water Supply Corporation	TX	Caldwell County	Delhi	Water treatment	Chlorine	3.00	550
Lockhart Water Works	Guadalupe-Blanco River Authority City of Lockhart*	TX	Caldwell County	Lockhart	Water treatment	Chlorine	1.30	129
Lockhart Wastewater Reclamation Division	Guadalupe-Blanco River Authority City of Lockhart*	TX	Caldwell County	Lockhart	Wastewater treatment	Chlorine	1.90	5,101
Luling Water Treatment Plant	Guadalupe-Blanco River Authority	TX	Caldwell County	Luling	Water treatment	Chlorine	1.90	2,800
Hays Caldwell Water Treatment Plant	Canyon Regional Water Authority	TX	Caldwell County	San Marcos	Water treatment	Chlorine	2.20	6,036
San Marcos Water Treatment Plant	Guadalupe Blanco River Authority	TX	Caldwell County	San Marcos	Water treatment	Chlorine	2.10	8,927
Seadrift Operations	Union Carbide The Dow Chemical Company*	TX	Calhoun County	North Seadrift	Basic chemicals – ACC	Ethylene oxide	12.00	14,400
GBRA Port Lavaca Water Treatment Plant	Guadalupe Blanco River Authority	TX	Calhoun County	Port Lavaca	Water treatment	Chlorine	3.00	1,093
Ineos USA LLC.	Ineos USA LLC.	TX	Calhoun County	Port Lavaca	Chemical manufacturing	Hydrocyanic acid	25.00	102,098
Braskem America Seadrift Operations	Braskem America, Inc.	TX	Calhoun County	Seadrift	Basic chemicals – ACC	Propylene	0.30	<10
Robindale Wastewater Treatment Plant	Brownsville Public Utilities Board	TX	Cameron County	Brownsville	Wastewater treatment	Chlorine	1.30	9,478
South Wastewater Treatment Plant	Brownsville Public Utilities Board	TX	Cameron County	Brownsville	Wastewater treatment	Chlorine	0.90	12,671

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Reverse Osmosis Water Treatment Facility	Southmost Regional Water Authority Brownsville Public Utilities Board*	TX	Cameron County	Brownsville	Water treatment	Chlorine	3.00	14,190
Water Plant #1	Brownsville Public Utilities Board	TX	Cameron County	Brownsville	Water treatment	Chlorine	1.30	14,780
Water Plant #2	Brownsville Public Utilities Board	TX	Cameron County	Brownsville	Water treatment	Chlorine	1.30	21,383
Waste Water Treatment Plant #2	City of Harlingen Water Works System	TX	Cameron County	Harlingen	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	30,220
Dixieland Water Treatment Plant	City of Harlingen Water Works System	TX	Cameron County	Harlingen	Water treatment	Chlorine	3.00	38,401
Downtown Water Treatment Plant	City of Harlingen Water Works System	TX	Cameron County	Harlingen	Water treatment	Chlorine	3.00	53,433
La Feria Wastewater Treatment Plant #2		TX	Cameron County	La Feria	Wastewater treatment	Chlorine	1.30	3,101
The City of La Feria Water Treatment Plant		TX	Cameron County	La Feria	Water treatment	Chlorine	1.30	3,479
Laguna Vista Water Treatment Plant	Laguna Madre Water District	TX	Cameron County	Laguna Vista	Water treatment	Chlorine	0.90	177
Laguna Vista Wastewater Treatment Plant	Laguna Madre Water District	TX	Cameron County	Laguna Vista	Wastewater treatment	Chlorine	1.30	228
Port Isabel Wastewater Treatment Plant	Laguna Madre Water District	TX	Cameron County	Port Isabel	Wastewater treatment	Chlorine	0.90	2,467
Port Isabel Water Treatment Plant	Laguna Madre Water District	TX	Cameron County	Port Isabel	Water treatment	Chlorine	0.90	2,708
City of San Benito WTP #2		TX	Cameron County	San Benito	Water treatment	Chlorine	0.90	161
Martha Ann Simpson Water Treatment Plant	East Rio Hondo Water Supply Corporation	TX	Cameron County	San Benito	Water treatment	Chlorine	3.00	5,065
City of San Benito		TX	Cameron County	San Benito	Water treatment	Chlorine	1.30	10,508
Isla Blanca Wastewater Treatment Plant	Laguna Madre Water District	TX	Cameron County	South Padre Island	Wastewater treatment	Chlorine	0.90	209
Andy Bowie Wastewater Treatment Plant	Laguna Madre Water District	TX	Cameron County	South Padre Island	Wastewater treatment	Chlorine	0.90	290
Carson County Pump Station	City of Amarillo Utilities Division*	TX	Carson County	Amarillo	Water treatment	Chlorine	3.00	198
Plains Water Station	WRB Refining, LP	TX	Carson County	Panhandle	Water treatment	Chlorine	3.00	198
Northeast Texas Municipal Water District Mims		TX	Cass County	Avinger	Water treatment	Chlorine	3.07	768
Texarkana Mill	International Paper Company	TX	Cass County	Queen City	Pulp and paper	Chlorine dioxide	7.20	7,536
Texarkana Water Utilities I. P. Chlorine Building	City of Texarkana, Texas	TX	Cass County	Texarkana	Water treatment	Chlorine	2.60	821
Momentive Specialty Chemicals Inc. – Baytown TX	Momentive Specialty Chemicals Holdings LLC	TX	Chambers County	Baytown	Basic chemicals – ACC	Formaldehyde (solution)	0.32	60
LANXESS Baytown Plant	Lanxess AG	TX	Chambers County	Baytown	Chemicals – ACC, SOGMA	Butane	0.40	94
El Dorado Nitrogen, L. P.	LSB Industries	TX	Chambers County	Baytown	Basic chemicals – ACC	Ammonia (anhydrous)	1.50	3,943

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Chemicals Incorporated		TX	Chambers County	Baytown	Specialty chemicals – SOCMA	Hydrochloric acid (conc. ≥37%)	2.70	4,879
FloMin Inc.	SNF Holding Company	TX	Chambers County	Baytown	Basic chemicals – ACC	Carbon disulfide	2.40	5,965
Baytown Energy Center	Calpine Corporation	TX	Chambers County	Baytown	Electric power generation	Ammonia (anhydrous)	3.00	15,525
Delta Baytown	Delta Petroleum Company, Inc.	TX	Chambers County	Baytown	Warehousing and distribution	Propionitrile	25.00	1,172,193
Bayer MaterialScience – Baytown	Bayer MaterialScience	TX	Chambers County	Baytown	Basic chemicals – ACC	Chlorine	25.00	1,309,721
Cedar Bayou Electric Generating Station	NRG Texas Power LLC	TX	Chambers County	Eldon	Electric power generation	Ammonia (conc. ≥20%)	0.50	538
ExxonMobil Chem. Co. (Mont Belvieu Plastics Plant)	Exxon Mobil Corp.	TX	Chambers County	Mont Belvieu	Basic chemicals – ACC	Ethylene	0.47	90
Enterprise Products – Mont Belvieu Facility	Enterprise Products Texas Operating L.P.	TX	Chambers County	Mont Belvieu	Petroleum refinery	Chlorine	3.00	5,660
West Regional Water Treatment Plant	Lower Neches Valley Authority	TX	Chambers County	Winnie	Water treatment	Chlorine	2.20	645
Kickapoo Street Water Treatment Plant	City of Jacksonville	TX	Cherokee County	Jacksonville	Water treatment	Chlorine	1.30	1,774
Canada Street Wastewater Treatment Plant	City of Jacksonville	TX	Cherokee County	Jacksonville	Wastewater treatment	Chlorine	1.30	4,566
Double Creek Wastewater Treatment Plant	City of Jacksonville	TX	Cherokee County	Jacksonville	Wastewater treatment	Chlorine	3.00	5,413
Rusk Wastewater Treatment Plant	City of Rusk	TX	Cherokee County	Rusk	Wastewater treatment	Chlorine	1.30	409
City of Coleman Water Treatment Plant	City of Coleman, Texas	TX	Coleman County	Coleman	Water treatment	Chlorine	1.30	935
Wilson Creek Regional Wastewater Treatment Plant	North Texas Municipal Water District	TX	Collin County	Lucas	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	8,959
Rowlett Creek Regional WWTP		TX	Collin County	Plano	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	76,475
Texas Instruments – RFAB	Texas Instruments Incorporated	TX	Collin County	Richardson	Semiconductor manufacturing	Hydrogen chloride (anhydrous)	6.20	474,245
NTMWD Wylie Water Treatment Plant	North Texas Municipal Water District	TX	Collin County	Wylie	Water treatment	Chlorine	25.00	2,646,818
Western Canyon Water Treatment Plant	Guadalupe-Blanco River Authority	TX	Comal County	Canyon Lake	Water treatment	Chlorine	3.00	2,937
NBU Surface Water Treatment Plant	New Braunfels Utility	TX	Comal County	New Braunfels	Water treatment	Chlorine	1.30	7,701
Kuehler Wastewater Treatment Plants (N & S)	New Braunfels Utility	TX	Comal County	New Braunfels	Wastewater treatment	Chlorine	1.30	8,724
City of Gainesville Wastewater Treatment Plant		TX	Cooke County	Gainesville	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	9,245
Gatesville Regional Water Plant	City of Gatesville	TX	Coryell County	Gatesville	Water treatment	Chlorine	2.60	673
Stillhouse Wastewater Treatment Plant	City of Gatesville, Texas	TX	Coryell County	Gatesville	Wastewater treatment	Chlorine	2.60	1,628

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
White River M.W.D. Water Treatment Plant		TX	Crosby County	Spur	Water treatment	Chlorine	3.10	166
Elm Fork Water Treatment Plant	Dallas Water Utilities	TX	Dallas County	Carrollton	Water treatment	Chlorine	14.00	1,776,705
TI Boulevard Gas Plant	Air Liquide Electronics U.S. LP	TX	Dallas County	Dallas	Basic chemicals – ACC	Propane	0.30	861
Dallas Chemical Center	Air Liquide Electronics U. S. LP	TX	Dallas County	Dallas	Basic chemicals – ACC	Hydrochloric acid (conc. ≥37%)	0.30	948
Air Products and Chemicals, Inc.–Dallas, TX	Air Products and Chemicals, Inc.	TX	Dallas County	Dallas	Basic chemicals – ACC	Hydrochloric acid (conc. ≥37%)	0.70	1,237
Univar USA Inc. – Dallas, TX	Univar USA Inc.	TX	Dallas County	Dallas	Basic chemicals – ACC	Formaldehyde (solution)	1.00	9,031
Tyson Prepared Foods, Dallas	Tyson Foods Inc.	TX	Dallas County	Dallas	Ammonia refrigeration	Ammonia (anhydrous)	3.60	139,116
Pierce Chemicals / Royal Bond		TX	Dallas County	Dallas	Specialty chemical manufacturing	Formaldehyde (solution)	5.72	315,220
Bachman Water Treatment Plant	Dallas Water Utilities	TX	Dallas County	Dallas	Water treatment	Chlorine	9.90	1,101,515
Southside WWTP	Dallas Water Utilities City of Dallas*	TX	Dallas County	Dallas	Wastewater treatment	Sulfur dioxide (anhydrous)	19.00	1,558,532
Central Wastewater Treatment Plant	Dallas Water Utilities	TX	Dallas County	Dallas	Wastewater treatment	Chlorine	14.00	1,742,816
Petra Chemical Company	Petra Chemical Company	TX	Dallas County	Dallas	Bleach manufacturing	Chlorine	14.00	2,039,384
Ten Mile Creek Regional Wastewater System	Trinity River Authority of Texas	TX	Dallas County	Ferris	Wastewater treatment	Sulfur dioxide (anhydrous)	19.00	1,081,241
Rowlett Creek Wastewater Treatment Plant		TX	Dallas County	Garland	Wastewater treatment	Chlorine	0.30	1,038
Central Regional Wastewater System	Trinity River Authority of Texas	TX	Dallas County	Grand Prairie	Wastewater treatment	Sulfur dioxide (anhydrous)	25.00	4,470,864
Brenntag Southwest, Inc. Lancaster	Brenntag, Inc	TX	Dallas County	Lancaster	Basic chemicals – ACC	Chlorine	3.00	27,662
South Mesquite Regional Wastewater Treatment Plant	North Texas Municipal Water District	TX	Dallas County	Mesquite	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	37,275
Eastside Water Treatment Plant	Dallas Water Utilities City of Dallas*	TX	Dallas County	Sunnyvale	Water treatment	Chlorine	25.00	2,733,416
Lake Ray Roberts Water Treatment Plant	City of Denton	TX	Denton County	Aubrey	Water treatment	Chlorine	7.50	28,485
Stewart Creek West Wastewater Treatment Plant		TX	Denton County	Frisco	Wastewater treatment	Chlorine	3.00	61,008
Lewisville Prairie Creek Wastewater Trmt Plant	City of Lewisville, Texas	TX	Denton County	Lewisville	Wastewater treatment	Chlorine	1.67	8,249
Lewisville C.R. (Tommy) Feaster Water Trmt Plant	City of Lewisville, Texas	TX	Denton County	Lewisville	Water treatment	Chlorine	1.40	9,573
Champion Technologies' Odessa Plant	Permian Mud Services, Inc.	TX	Ector County	Odessa	Basic chemicals – ACC	Sulfur dioxide (anhydrous)	7.30	106,202
Fred Hervey Water Reclamation Plant	El Paso Water Utilities–Public Service Board	TX	El Paso County	El Paso	Wastewater treatment	Chlorine	3.00	5,989
Western Refining	Western Refining Company, L. P.	TX	El Paso County	El Paso	Petroleum refinery	Flammable Mixture	1.10	9,446

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Canutillo Station	El Paso Water Utilities-Public Service Board	TX	El Paso County	El Paso	Water treatment	Chlorine	2.50	12,921
Jonathan Rogers Water Treatment Plant	El Paso Water Utilities-Public Service Board	TX	El Paso County	El Paso	Water treatment	Chlorine	2.50	23,302
Roberto Bustamante Wastewater Treatment Plant	El Paso Water Utilities-Public Service Board	TX	El Paso County	El Paso	Wastewater treatment	Chlorine	2.50	26,673
Robertson-Umbenhauer Water Treatment Plant	El Paso Water Utilities-Public Service Board	TX	El Paso County	El Paso	Water treatment	Chlorine	2.50	32,903
Artcraft Station	El Paso Water Utilities-Public Service Board	TX	El Paso County	El Paso	Water treatment	Chlorine	2.50	39,599
Americas Station	El Paso Water Utilities-Public Service Board	TX	El Paso County	El Paso	Water treatment	Chlorine	2.50	41,880
Loop 375 Station	El Paso Water Utilities-Public Service Board	TX	El Paso County	El Paso	Water treatment	Chlorine	2.50	45,512
Northeast Station	El Paso Water Utilities-Public Service Board	TX	El Paso County	El Paso	Water treatment	Chlorine	2.50	46,804
Northwest Water Treatment Plant	El Paso Water Utilities-Public Service Board	TX	El Paso County	El Paso	Wastewater treatment	Chlorine	3.00	50,910
McRae Station	El Paso Water Utilities-Public Service Board	TX	El Paso County	El Paso	Water treatment	Chlorine	2.50	52,289
Lindbergh Station	El Paso Water Utilities-Public Service Board	TX	El Paso County	El Paso	Water treatment	Chlorine	2.50	52,903
Haskell R. Street Wastewater Treatment Plant	El Paso Water Utilities-Public Service Board	TX	El Paso County	El Paso	Wastewater treatment	Chlorine	2.50	60,491
Montana Station	El Paso Water Utilities-Public Service Board	TX	El Paso County	El Paso	Water treatment	Chlorine	2.50	61,286
Nevins Station	El Paso Water Utilities-Public Service Board	TX	El Paso County	El Paso	Water treatment	Chlorine	2.50	64,313
Pebble Hills Booster Station	El Paso Water Utilities-Public Service Board	TX	El Paso County	El Paso	Water treatment	Chlorine	2.50	88,787
Ennis Power Company, LLC	Suez Energy Generation North America IPR-GDF Suez*	TX	Ellis County	Ennis	Electric power generation	Ammonia (conc. ≥20%)	0.40	131
City of Ennis Water Treatment Plant		TX	Ellis County	Ennis	Water treatment	Chlorine	1.30	189
City of Ennis Wastewater Treatment Plant	City of Ennis, Texas	TX	Ellis County	Ennis	Wastewater treatment	Chlorine	1.30	3,417
Midlothian Water Treatment Plant	Midlothian Texas	TX	Ellis County	Midlothian	Water treatment	Chlorine	1.30	1,265
City of Waxahachie Surface Water Treatment Plant	City of Waxahachie	TX	Ellis County	Waxahachie	Water treatment	Chlorine	2.10	8,480
Magnablend, Inc.	Magnablend, Inc.	TX	Ellis County	Waxahachie	Specialty chemicals - SOCMA	Ammonia (anhydrous)	2.60	9,719
Stephenville Wastewater Treatment Plant		TX	Erath County	Stephenville	Wastewater treatment	Chlorine	3.00	10,418
Winchester Power Park	Lower Colorado River Authority	TX	Fayette County	Winchester	Electric power generation	Ammonia (anhydrous)	3.60	747
Champion Technologies' Fresno Facility	Champion Technologies, Inc. Permian Mud Services, Inc.*	TX	Fort Bend County	Fresno	Basic chemicals - ACC	Formaldehyde (solution)	19.00	2,391,602
Ridgemont Plant		TX	Fort Bend County	Houston	Water treatment	Chlorine	1.30	20,421

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
City of Katy Waste Water Treatment Plant		TX	Fort Bend County	Katy	Wastewater treatment	Chlorine	1.30	8,009
City of Rosenberg - WWTP 1A	City of Rosenberg, Texas	TX	Fort Bend County	Rosenberg	Wastewater treatment	Chlorine	3.00	37,392
Nalco Sugar Land Plant	Nalco Company	TX	Fort Bend County	Sugar Land	Basic chemicals - ACC	Vinyl acetate monomer	3.40	103,316
W.A. Parish Electric Generating Station	NRG Texas Power LLC	TX	Fort Bend County	Thompsons	Electric power generation	Ammonia (conc. ≥20%)	0.40	48
Galveston County W.C.I.D. #1		TX	Galveston County	Dickinson	Wastewater treatment	Chlorine	1.30	6,493
Airport Water Pump Station		TX	Galveston County	Galveston	Water treatment	Chlorine	3.00	23,970
Galveston Airport Wastewater Treatment Plant		TX	Galveston County	Galveston	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	26,315
59th Street Water Pump Station	City of Galveston, Texas	TX	Galveston County	Galveston	Water treatment	Chlorine	3.00	33,729
Galveston Main Wastewater Treatment Plant		TX	Galveston County	Galveston	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	34,961
Main Water Pump Station		TX	Galveston County	Galveston	Water treatment	Chlorine	3.00	35,773
City of La-Marque Wastewater Treatment Facility		TX	Galveston County	La-Marque	Wastewater treatment	Chlorine	0.10	101
Praxair - BP Texas City TX	Praxair, Inc.	TX	Galveston County	Texas City	Basic chemicals - ACC	Flammable Mixture	0.05	<10
ISP Technologies - Texas City	International Specialty Products Inc.	TX	Galveston County	Texas City	Basic chemicals - ACC	Vinyl acetate monomer	2.00	3,631
Eastman Chemical Texas City, Inc.		TX	Galveston County	Texas City	Basic chemicals - ACC	Chlorine	1.90	10,398
Thomas S. Mackey Water Treatment Plant	Gulf Coast Water Authority	TX	Galveston County	Texas City	Water treatment	Chlorine	3.00	36,245
Union Carbide Corporation TCO	UCC a Subsidiary of The Dow Chemical Company	TX	Galveston County	Texas City	Basic chemicals - ACC	Vinyl acetate monomer	6.20	63,860
Valero Refining - Texas, L.P.	Valero Energy Corporation	TX	Galveston County	Texas City	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	12.00	163,026
Oil tanking Texas City		TX	Galveston County	Texas City	Chemical storage terminal	Vinyl acetate monomer	25.00	600,751
Marathon Petroleum Company Texas Refining	Marathon Petroleum Company LP	TX	Galveston County	Texas City	Petroleum refinery, ACC	Hydrofluoric acid (conc. ≥50%)	25.00	646,496
Blanchard Refining Company LLC - Galveston Bay Ref	Blanchard Holdings Company LLC	TX	Galveston County	Texas City	Petroleum refinery, ACC	Hydrofluoric acid (conc. ≥50%)	25.00	701,992
Gonzales Surface Water Treatment Plant	City of Gonzales, Texas	TX	Gonzales County	Gonzales	Water treatment	Chlorine	1.30	3,245
Schertz/Seguin Water Treatment Plant	Schertz/Seguin Local Government Corporation	TX	Gonzales County	Rural Gonzales Co.	Water treatment	Chlorine	3.00	568
Pampa Wastewater Treatment Plant		TX	Gray County	Pampa	Wastewater treatment	Chlorine	3.30	12,240
Pampa Water Treatment Plant		TX	Gray County	Pampa	Water treatment	Chlorine	3.30	16,818
Water Treatment Plant, City of Denison	City of Denison	TX	Grayson County	Denison	Water treatment	Chlorine	3.00	7,698

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
City of Sherman Water Treatment Plant	City Of Sherman	TX	Grayson County	Sherman	Water treatment	Chlorine	3.00	7,512
BSW Longview 6-2009	Brenntag, Inc.	TX	Gregg County	Longview	Basic chemicals - ACC	Chlorine	1.30	2,775
Sabine River Water Treatment Plant		TX	Gregg County	Longview	Water treatment	Chlorine	2.20	10,775
Cherokee Water Treatment Plant		TX	Gregg County	Longview	Water treatment	Chlorine	3.70	21,606
Lake O the Pines Water Treatment Plant	City of Longview	TX	Gregg County	Longview	Water treatment	Chlorine	4.30	29,549
City of Navasota Water Plant	City of Navasota, TX.	TX	Grimes County	Navasota	Water treatment	Chlorine	1.30	306
City of Navasota Wastewater Treatment Plant		TX	Grimes County	Navasota	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	1,618
Canyon Regional Water Authority - Lake Dunlap WTP		TX	Guadalupe County	New Braunfels	Water treatment	Chlorine	2.20	5,199
Wells Ranch Water Treatment Plant	Canyon Regional Water Authority	TX	Guadalupe County	Seguin	Water treatment	Chlorine	2.20	417
Seguin Water Plant	City of Seguin	TX	Guadalupe County	Seguin	Water treatment	Chlorine	0.90	2,613
Geronimo Creek Wastewater Treatment Plant	City of Seguin	TX	Guadalupe County	Seguin	Wastewater treatment	Chlorine	2.20	3,549
Walnut Branch Wastewater Treatment Plant	City of Seguin	TX	Guadalupe County	Seguin	Wastewater treatment	Chlorine	0.90	4,314
Springs Hill Water Treatment Plant	Springs Hill Water Supply Corporation	TX	Guadalupe County	Seguin	Water treatment	Chlorine	3.00	13,147
Jack Skaggs Municipal Water Treatment Plant		TX	Hale County	Plainview	Water treatment	Chlorine	1.30	7,247
City of Plainview Water Reclamation Plant		TX	Hale County	Plainview	Wastewater treatment	Chlorine	3.00	8,795
Lumberton Municipal Utility District		TX	Hardin County	Lumberton	Wastewater treatment	Chlorine	3.00	8,456
City of Beaumont Loeb Chlorination Facility	City of Beaumont	TX	Hardin County	Lumberton	Water treatment	Chlorine	3.00	10,750
Sour Lake Storage Facility	Port Arthur Refinery Motiva Enterprises LLC*	TX	Hardin County	Sour Lake	Petroleum refinery	Flammable Mixture	0.20	<10
Air Products LLC (Baytown)	Air Products and Chemicals Inc.	TX	Harris County	Baytown	Basic chemicals - ACC	Flammable Mixture	0.40	72
ExxonMobil Chemical Company Baytown Olefins Plant	Exxon Mobil Corporation	TX	Harris County	Baytown	Basic chemicals - ACC	Chlorine	1.30	3,587
Lynchburg Pump Station	Coastal Water Authority	TX	Harris County	Baytown	Water treatment	Chlorine	3.00	11,006
Chevron Phillips Chemical Company LP - Cedar Bayou	Chevron Phillips Chemical Company LP	TX	Harris County	Baytown	Basic chemicals - ACC	Boron trifluoride	3.20	12,048
Northeast District Wastewater Treatment Plant	City of Baytown	TX	Harris County	Baytown	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	15,826

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
West District Wastewater Treatment Plant	City of Baytown	TX	Harris County	Baytown	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	23,240
East District Wastewater Treatment Plant	City of Baytown	TX	Harris County	Baytown	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	30,486
Central District Wastewater Treatment Plant	City of Baytown	TX	Harris County	Baytown	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	34,519
Baytown Area Water Authority		TX	Harris County	Baytown	Water treatment	Ammonia (anhydrous)	4.00	38,026
ExxonMobil Baytown Refinery	Exxon Mobil Corporation	TX	Harris County	Baytown	Petroleum refinery	Hydrogen sulfide	4.10	58,418
ExxonMobil Baytown Chemical Plant	ExxonMobil Corporation	TX	Harris County	Baytown	Basic chemicals – ACC	Bromine	4.70	63,902
Solvay USA Inc., Baytown Plant	Solvay USA Inc.	TX	Harris County	Baytown	Chemicals – ACC, SOCMA	Carbon disulfide	9.90	226,729
TPC Group LLC – Baytown	TPC Group LLC	TX	Harris County	Baytown Texas	Basic chemicals – ACC	Flammable Mixture	0.80	2,649
Harris County WCID # 84	Harris County Water Control & Improvement District	TX	Harris County	Channelview	Wastewater treatment	Chlorine	1.90	16,672
Equistar Chemicals – Channelview Operations	Lyondell Chemical Company	TX	Harris County	Channelview	Basic chemicals – ACC	Ammonia (anhydrous)	2.80	28,326
Harris County Fresh Water Supply District No. 51		TX	Harris County	Channelview	Wastewater treatment	Chlorine	3.00	85,218
Lyondell Chemical Company – Channelview Operations	Lyondell Chemical Company	TX	Harris County	Channelview	Basic chemicals – ACC	Propylene oxide	7.40	173,937
Stolthaven Houston Inc.	Stolt-Nielsen USA Inc. Stolt-Nielsen Limited*	TX	Harris County	Channelview	Chemical storage terminal	Vinyl acetate monomer	8.70	442,977
KMCO, LLC		TX	Harris County	Crosby	Specialty chemicals – SOCMA	Ethylene oxide	3.50	12,246
Arkema Inc. – Crosby Plant	Arkema, Inc.	TX	Harris County	Crosby	Basic chemicals – ACC	Sulfur dioxide (anhydrous)	23.00	1,272,453
Rohm and Haas Chemicals LLC, Lone Star Plant	Rohm and Haas Chemicals LLC	TX	Harris County	Deer Park	Basic chemicals – ACC	Acrylonitrile	1.40	1,314
Oxy Vinyls, LP – Deer Park PVC Plant	Occidental Petroleum Corporation	TX	Harris County	Deer Park	Basic chemicals – ACC	Ammonia (anhydrous)	1.90	3,269
Shell Deer Park Refinery	Deer Park Refining, LP	TX	Harris County	Deer Park	Petroleum refinery	Pentane	1.80	6,692
Shell Chemical L.P. – Deer Park Plant	Shell Oil Company	TX	Harris County	Deer Park	Basic chemicals – ACC	Isoprene	1.30	6,875
Occidental Chemical Corp. – Deer Park VCM Site 3	Occidental Petroleum Corporation	TX	Harris County	Deer Park	Basic chemicals – ACC	Vinyl chloride	1.30	6,940
The Lubrizol Corporation – Deer Park Plant		TX	Harris County	Deer Park	Basic chemicals – ACC	Chlorine	2.90	27,633
Rohm and Haas Texas Incorporated	Rohm and Haas Company	TX	Harris County	Deer Park	Basic chemicals – ACC	Ammonia (anhydrous)	3.40	28,799
Deer Park Energy Center, LP	Calpine Corporation	TX	Harris County	Deer Park	Electric power generation	Ammonia (anhydrous)	3.40	63,095
Momentive Specialty Chemicals Inc.	Momentive Specialty Chemicals Holdings LLC	TX	Harris County	Deer Park	Basic chemicals – ACC	Methyl mercaptan	6.80	275,302

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
GEO Specialty Chemicals (formerly Hampshire)	GEO Specialty Chemicals, Inc.	TX	Harris County	Deer Park	Chemical manufacturing	Hydrocyanic acid	15.00	1,087,979
Delta Deer Park	Delta Petroleum Company Grief*	TX	Harris County	Deer Park	Chemical wholesale	Toluene 2,6-diisocyanate	22.00	2,241,597
Occidental Chemical Corp. – Deer Park VCM Plant	Occidental Petroleum Corporation	TX	Harris County	Deer Park	Basic chemicals – ACC	Hydrogen chloride (anhydrous)	25.00	2,957,917
City of Deer Park Surface Water Treatment Plant	City of Deer Park, Texas	TX	Harris County	Deer Park,	Water treatment	Chlorine	1.40	14,684
GIM Channelview Cogeneration, LLC	GIM Channelview Cogeneration, LLC	TX	Harris County	Houston	Electric power generation	Ammonia (conc. ≥20%)	0.20	64
Westhollow Technology Center	Shell Chemical, L.P. Shell Oil Company*	TX	Harris County	Houston	Basic chemicals – ACC	Ethylene	0.10	80
Univar USA, Inc. – Houston, TX	Univar USA, Inc.	TX	Harris County	Houston	Basic chemicals – ACC	Cyclohexylamine	0.20	115
Ashland Hercules Water Technologies – Houston, TX	Ashland, Inc.	TX	Harris County	Houston	Basic chemicals – ACC	Cyclohexylamine	0.30	251
Brenntag Southwest Inc., Houston 1-13 Update	Brenntag, Inc	TX	Harris County	Houston	Basic chemicals – ACC	Cyclohexylamine	0.50	563
Robert T. Savely Water Reclamation Facility	Clear Lake City Water Authority	TX	Harris County	Houston	Wastewater treatment	Chlorine	1.30	5,908
Katy Addicks Plant		TX	Harris County	Houston	Water treatment	Chlorine	1.30	10,584
Katy Addicks Surface Water Pump Station		TX	Harris County	Houston	Water treatment	Chlorine	1.30	10,650
HRSC Milk Plant	H. E. Butt Grocery Company	TX	Harris County	Houston	Ammonia refrigeration	Ammonia (anhydrous)	1.00	11,744
Jersey Village Plant		TX	Harris County	Houston	Water treatment	Chlorine	1.30	12,254
Valero Refining Texas – L. P.	Valero Energy Corporation	TX	Harris County	Houston	Petroleum refinery	Flammable Mixture	1.60	13,344
Houston Refining LP	Lyondellbasell Industries	TX	Harris County	Houston	Petroleum refinery, ACC	Pentane	1.70	14,984
Lake Forest Regional Wastewater Treatment Plant		TX	Harris County	Houston	Wastewater treatment	Chlorine	1.30	16,082
Kleinwood Central Wastewater Treatment Plant	Kleinwood Joint Powers Board	TX	Harris County	Houston	Wastewater treatment	Chlorine	1.30	16,516
Sims Bayou Plant		TX	Harris County	Houston	Water treatment	Chlorine	1.30	16,898
Acres Homes Plant		TX	Harris County	Houston	Water treatment	Chlorine	1.30	17,262
Ponderosa Joint Powers Agency WWTP		TX	Harris County	Houston	Wastewater treatment	Chlorine	1.30	20,914
Spears Road Regional Pumping Station		TX	Harris County	Houston	Water treatment	Chlorine	1.30	25,832
Heights Plant		TX	Harris County	Houston	Water treatment	Chlorine	1.30	25,954
Harris County Municipal Utility District #170		TX	Harris County	Houston	Wastewater treatment	Chlorine	1.30	27,028
Spring Branch Plant		TX	Harris County	Houston	Water treatment	Chlorine	1.30	31,644
Chelford City Regional Wastewater Treatment Plant	Chelford City Municipal Utility District	TX	Harris County	Houston	Wastewater treatment	Chlorine	1.30	32,010

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Southwest Plant		TX	Harris County	Houston	Water treatment	Chlorine	1.30	32,891
District 158 Plant		TX	Harris County	Houston	Water treatment	Chlorine	1.30	33,680
Memorial Villages Water Authority WWTP		TX	Harris County	Houston	Wastewater treatment	Chlorine	1.30	37,806
Johann Haltermann Ltd.		TX	Harris County	Houston	Specialty chemicals – SOCMA	Vinyl acetate monomer	4.11	40,573
Bellaire Braes Plant		TX	Harris County	Houston	Water treatment	Chlorine	1.30	41,152
Cray Valley Wallisville Road	Total Holdings, USA	TX	Harris County	Houston	Basic chemicals – ACC	Boron trifluoride	3.40	41,156
TPC Group LLC	TPC Group LLC	TX	Harris County	Houston	Basic chemicals – ACC	1,3-Butadiene	1.70	46,198
Channel Energy Center		TX	Harris County	Houston	Electric power generation	Ammonia (anhydrous)	2.60	62,493
City of Houston Southeast Water Purification Plant		TX	Harris County	Houston	Water treatment	Chlorine	3.00	77,380
Akzo Nobel Surface Chemistry LLC Houston Plant	Akzo Nobel Chemicals Inc.	TX	Harris County	Houston	Basic chemicals – ACC	Ethylene oxide	12.00	1,247,041
GB Biosciences Corporation/Greens Bayou Plant	Syngenta Crop Protection, Inc.	TX	Harris County	Houston	Pesticide manufacturing	Chlorine	14.00	1,314,099
Brenntag Southwest – Greens Bayou	Brenntag, Inc.	TX	Harris County	Houston	Bleach manufacturing	Chlorine	14.00	1,371,400
East Water Purification Plant		TX	Harris County	Houston	Water treatment	Chlorine	14.00	1,508,560
DXI Industries, Inc.	DPC Industries, Inc.	TX	Harris County	Houston	Bleach manufacturing	Sulfur dioxide (anhydrous)	16.00	1,558,769
Arkema Inc. – Houston Plant	Arkema Inc.	TX	Harris County	Houston	Basic chemicals – ACC	Hydrogen sulfide	16.00	1,693,865
KIK (Houston) Inc.	KIK International LLC	TX	Harris County	Houston	Bleach manufacturing	Chlorine	14.00	2,313,284
Solvay USA Inc., Houston Plant	Solvay USA Inc.	TX	Harris County	Houston	Chemicals – ACC, SOCMA	Oleum (Fuming Sulfuric acid)	25.00	4,062,378
White Oak Bayou Joint Powers Board WWTP		TX	Harris County	Jersey Village	Wastewater treatment	Chlorine	1.30	14,748
West Memorial Wastewater Treatment Plant		TX	Harris County	Katy	Wastewater treatment	Chlorine	1.30	26,986
North Park Water Treatment Plant A		TX	Harris County	Kingwood	Water treatment	Chlorine	1.30	492
Rustic Wood Water Treatment Plant B		TX	Harris County	Kingwood	Water treatment	Chlorine	1.30	508
Mills Branch Water Treatment Plant C		TX	Harris County	Kingwood	Water treatment	Chlorine	1.30	14,136
Air Liquide Large Industries U.S. LP–La Porte SMR	Air Liquide Large Industries U.S. LP	TX	Harris County	La Porte	Basic chemicals – ACC	Flammable Mixture	0.10	<10
Braskem America, Inc. La Porte Plant	Braskem America, Inc.	TX	Harris County	La Porte	Basic chemicals – ACC	Propylene	0.58	289
La Porte Polypropylene Plant	Total Petrochemicals USA Inc.	TX	Harris County	La Porte	Basic chemicals – ACC	Propylene	1.00	379
Noltex La Porte, Texas Plant	Nippon Gohsel USA 79% Mitsubishi Chemicals USA 21%*	TX	Harris County	La Porte	Basic chemicals – ACC	Vinyl acetate monomer	1.40	1,472

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Akzo Nobel Polymer Chemicals LLC – Deer Park	Akzo Nobel Chemicals Inc.	TX	Harris County	La Porte	Basic chemicals – ACC	Methyl chloride	1.10	2,208
Little Cedar Bayou Wastewater Plant # 1	City of La Porte	TX	Harris County	La Porte	Wastewater treatment	Chlorine	1.30	2,209
Gas Innovations		TX	Harris County	La Porte	Chemical wholesale	Hydrogen chloride (anhydrous)	4.50	46,756
Intercontinental Terminals Company		TX	Harris County	La Porte	Basic chemicals – ACC	Vinyl acetate monomer	5.60	133,853
Rohm and Haas Chemicals LLC, Bayport Plant	Rohm and Haas Company (subs. of Dow Chemical)	TX	Harris County	La Porte	Basic chemicals – ACC	Ethylene oxide	8.70	278,355
Eagle US 2 LLC – La Porte	Axiall Corporation	TX	Harris County	La Porte	Basic chemicals – ACC	Chlorine	12.38	630,459
Clean Harbors Deer Park, LP	Clean Harbors Environmental Services, Inc.	TX	Harris County	La Porte	Hazardous waste incineration	Chloromethyl methyl ether	22.00	2,137,906
La Porte Plant	DuPont	TX	Harris County	La Porte	Basic chemicals – ACC	Hydrofluoric acid (conc. ≥50%)	25.00	2,187,121
Occidental Chemical Corp. – BG Chlor-Alkali–VCM	Occidental Petroleum Corporation	TX	Harris County	La Porte	Basic chemicals – ACC	Chlorine	25.00	2,658,707
South Coast Terminals	South Coast Acquisition South Coast Delaware*	TX	Harris County	LaPorte	Specialty chemicals – SOCMA	Toluene 2,4–diisocyanate	0.10	<10
Air Products LLC (LaPorte)	Air Products and Chemicals, Inc.	TX	Harris County	LaPorte	Basic chemicals – ACC	Hydrogen	0.25	26
Equistar Chemicals–LaPorte	LyondellBasell Industries–LaPorte	TX	Harris County	LaPorte	Basic chemicals – ACC	1,3–Butadiene	1.20	1,063
Linde Gas North America LLC		TX	Harris County	LaPorte	Basic chemicals – ACC	Chlorine	1.30	1,228
LyondellBasell Acetyls LLC (formerly Millennium)	LyondellBasell Industries	TX	Harris County	LaPorte	Basic chemicals – ACC	Vinyl acetate monomer	5.60	96,898
INVISTA Intermediates LaPorte Plant	INVISTA S.a.r.l.	TX	Harris County	LaPorte	Chemical manufacturing	Formaldehyde (solution)	25.00	2,189,102
Air Liquide Large Industries U.S. LP–Bayport SMR	Air Liquide Large Industries U.S. LP	TX	Harris County	Pasadena	Basic chemicals – ACC	Flammable Mixture	0.10	<10
Air Products, LLC (Pasadena)	Air Products and Chemicals, Inc.	TX	Harris County	Pasadena	Basic chemicals – ACC	Flammable Mixture	0.10	20
Linde – Clear Lake	Linde, LLC	TX	Harris County	Pasadena	Basic chemicals – ACC	Propylene	0.20	23
Centauri Technologies, LP		TX	Harris County	Pasadena	Specialty chemicals – SOCMA	Methylamine	0.20	23
Akzo Nobel Polymer Chemicals – Pasadena	Akzo Nobel Inc.	TX	Harris County	Pasadena	Basic chemicals – ACC	Allyl alcohol	0.33	63
Equistar Chemicals, LP.	Lyondell Chemical Company	TX	Harris County	Pasadena	Basic chemicals – ACC	Propylene	0.60	208
BASF Corporation Pasadena Texas Plant	BASF Corporation	TX	Harris County	Pasadena	Basic chemicals – ACC	Flammable Mixture	0.60	564
Occidental Chemical Corporation – Pasadena PVC Plant	Occidental Petroleum Corporation	TX	Harris County	Pasadena	Basic chemicals – ACC	Vinyl chloride	0.88	1,074
Dixie Chemical Company	DX Holding Company	TX	Harris County	Pasadena	Specialty chemicals – SOCMA	Acrylonitrile	1.10	1,491

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Air Liquide Large Industries U.S. LP	Air Liquide America L.P.	TX	Harris County	Pasadena	Basic chemicals – ACC	Chlorine	1.30	1,861
Pasadena Plastics Complex	Chevron Phillips Chemical Company LP Chevron Phillips Chemical Company LP*	TX	Harris County	Pasadena	Basic chemicals – ACC	Chlorine	1.30	3,733
Axiall, LLC – Pasadena	Axiall Corporation	TX	Harris County	Pasadena	Basic chemicals – ACC	Flammable Mixture	1.60	4,736
Golden Acres Waste Water Treatment Plant	City of Pasadena, Texas	TX	Harris County	Pasadena	Wastewater treatment	Chlorine	0.90	9,776
Red Bluff Water Treatment Plant	Coastal Water Authority	TX	Harris County	Pasadena	Water treatment	Chlorine	1.30	10,113
The Lubrizol Corporation – Bayport Plant	Berkshire Hathaway	TX	Harris County	Pasadena	Basic chemicals – ACC	Acrylonitrile	2.20	14,673
SSI Chusei, Inc.	SSI Chusei, Inc.	TX	Harris County	Pasadena	Specialty chemicals – SOCMA	Allyl alcohol	2.70	17,975
Total Petrochemicals & Ref USA, Inc. Bayport HDPE	Total Holdings USA, Inc.	TX	Harris County	Pasadena	Basic chemicals – ACC	Titanium tetrachloride	4.10	29,504
Albemarle Corporation, Pasadena Plant	Albemarle Corporation	TX	Harris County	Pasadena	Chemicals – ACC, SOCMA	Methyl chloride	2.70	30,600
Lyondell Chemical – Bayport Plant	Lyondell Chemical Company	TX	Harris County	Pasadena	Basic chemicals – ACC	Propylene oxide	6.10	135,374
BASF Corporation – Pasadena Catalyst Site	BASF Corporation	TX	Harris County	Pasadena	Chemicals – ACC, SOCMA	Titanium tetrachloride	6.50	164,684
E. R. Carpenter L.P. – Powell Plant	Carpenter Urethanes I, LLC	TX	Harris County	Pasadena	Chemical manufacturing	Ethylene oxide	8.70	271,946
Clariant Clear Lake Plant	Clariant Corporation	TX	Harris County	Pasadena	Basic chemicals – ACC	Sulfur dioxide (anhydrous)	8.80	323,723
AES Deepwater	AES Corporation AES Deepwater*	TX	Harris County	Pasadena	Electric power generation	Ammonia (anhydrous)	6.10	413,118
Pasadena Refinery	Pasadena Refining Systems, Inc.	TX	Harris County	Pasadena	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	9.30	756,630
Houston Plant	Ethyl Corporation	TX	Harris County	Pasadena	Basic chemicals – ACC	Chlorine	14.00	1,321,135
Equistar Chemicals L.P. – Bayport Underwood	Lyondell Chemical Company	TX	Harris County	Pasadena	Basic chemicals – ACC	Ethylene oxide	18.00	1,359,868
Clear Lake Plant	Celanese, Ltd.	TX	Harris County	Pasadena	Basic chemicals – ACC	Ethylene oxide	21.00	1,594,794
Kaneka Texas Corporation	Kaneka Corporation	TX	Harris County	Pasadena	Plastics manufacturing	Chlorine	25.00	2,322,731
Baker Petrolite Corporation – Bayport	Baker Hughes, Inc.	TX	Harris County	Pasadena	Specialty chemicals – SOCMA	Formaldehyde (solution)	25.00	2,671,813
Houston Ammonia Terminal, L.P.	Terra Mississippi Nitrogen, Inc. PCS Nitrogen Ammonia Terminal Corporation*	TX	Harris County	Pasadena	Chemical storage terminal	Ammonia (anhydrous)	25.00	3,236,486
Agrifos Fertilizer L.L.C.		TX	Harris County	Pasadena	Fertilizer manufacturing	Ammonia (anhydrous)	25.00	3,640,970
LBC Houston/Bayport Terminal	LBC Houston, LP	TX	Harris County	Seabrook	Chemical storage terminal	Ethylenediamine	8.70	246,405
South Houston Wastewater Treatment Plant		TX	Harris County	South Houston	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	153,626

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Treschwig Central Wastewater Treatment Plant		TX	Harris County	Spring	Wastewater treatment	Chlorine	1.30	11,231
Webster Central Wastewater Treatment Facility	City of Webster	TX	Harris County	Webster	Wastewater treatment	Chlorine	1.33	7,804
Eastman Chemical Company, Texas Operations	Eastman Chemical Company	TX	Harrison County	Longview	Basic chemicals – ACC	Ethylene oxide	5.30	28,978
City of Marshall Water Treatment Plant		TX	Harrison County	Marshall	Water treatment	Chlorine	3.00	11,499
Buda Wastewater Treatment Plant	City of Buda Guadalupe–Blanco River Authority*	TX	Hays County	Buda	Wastewater treatment	Chlorine	3.00	9,087
Athens 6.0 MGD Water Treatment Plant	Athens Municipal Water Authority	TX	Henderson County	Athens	Water treatment	Chlorine	1.30	290
West Wastewater Treatment Plant	City of Athens	TX	Henderson County	Athens	Wastewater treatment	Chlorine	1.30	2,196
North Wastewater Treatment Plant	City of Athens	TX	Henderson County	Athens	Wastewater treatment	Chlorine	1.30	2,264
McKay Water Treatment Plant	East Cedar Creek F.W.S.D.	TX	Henderson County	Enchanted Oaks	Water treatment	Chlorine	1.30	1,672
North Wastewater Treatment Plant	East Cedar Creek F.W.S.D.	TX	Henderson County	Gun Barrel	Wastewater treatment	Chlorine	1.30	2,856
City of Mabank – Water Treatment Plant		TX	Henderson County	Gun Barrel City	Water treatment	Chlorine	1.30	2,193
Brookshire Water Treatment Plant	East Cedar Creek F.W.S.D.	TX	Henderson County	Gun Barrel City	Water treatment	Chlorine	1.30	2,906
South Wastewater Treatment Plant	East Cedar Creek F.W.S.D.	TX	Henderson County	Mabank	Wastewater treatment	Chlorine	0.40	158
Malakoff Surface Water Treatment Plant	City of Malakoff	TX	Henderson County	Malakoff	Water treatment	Chlorine	1.30	727
Cedar Creek Pump Station		TX	Henderson County	Trinidad	Water treatment	Chlorine	4.40	9,351
North Alamo Water Supply Plant #5	North Alamo Water Supply Corporation	TX	Hidalgo County	Donna	Water treatment	Chlorine	1.30	5,375
City of Donna Wastewater Treatment Plant	City of Donna	TX	Hidalgo County	Donna	Wastewater treatment	Chlorine	1.30	6,056
City of Donna Water Filtration Plant	City of Donna	TX	Hidalgo County	Donna	Water treatment	Chlorine	1.90	15,765
North Alamo Water Supply Plant # 2	North Alamo Water Supply Corporation	TX	Hidalgo County	Edinburg	Water treatment	Chlorine	1.30	2,393
North Alamo Water Supply Plant #1	North Alamo Water Supply Corporation	TX	Hidalgo County	Edinburg	Water treatment	Chlorine	1.30	10,784
City of Edinburg Pump Station #1		TX	Hidalgo County	Edinburg	Water treatment	Chlorine	1.30	16,961
City of Edinburg Water Filtration Plant		TX	Hidalgo County	Edinburg	Water treatment	Chlorine	1.90	28,456
Magic Valley Generation	Calpine Construction Finance Company, LP	TX	Hidalgo County	Edinburg	Electric power generation	Ammonia (anhydrous)	3.10	34,959
City of Edinburg West Edinburg Water Plant		TX	Hidalgo County	Edinburg	Water treatment	Chlorine	4.40	127,878
City of McAllen South Wastewater Treatment Plant		TX	Hidalgo County	McAllen	Wastewater treatment	Chlorine	1.64	13,596

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
McAllen South West Water Treatment Plant	McAllen Public Utilities City of McAllen*	TX	Hidalgo County	McAllen	Water treatment	Chlorine	2.80	68,694
North Water Treatment Plant	McAllen Public Utilities	TX	Hidalgo County	McAllen	Water treatment	Chlorine	6.21	203,497
City of Mercedes Water Filtration Plant		TX	Hidalgo County	Mercedes	Water treatment	Chlorine	1.90	8,383
Havana Water Treatment Plant	Agua Special Utility District	TX	Hidalgo County	Mission	Water treatment	Chlorine	3.00	7,439
North Water Treatment Plant	City of Mission	TX	Hidalgo County	Mission	Water treatment	Chlorine	0.90	8,546
South Water Treatment Plant	City of Mission	TX	Hidalgo County	Mission	Water treatment	Chlorine	1.30	19,906
492 Water Treatment Plant	Agua Special Utility District	TX	Hidalgo County	Mission	Water treatment	Chlorine	3.00	34,438
Abram Water Treatment Plant	Agua Special Utility District	TX	Hidalgo County	Palmview	Water treatment	Chlorine	3.00	31,624
City of Pharr Water Treatment Plant		TX	Hidalgo County	Pharr	Water treatment	Chlorine	4.20	138,308
City of San Juan Water Plant	City of San Juan, Texas	TX	Hidalgo County	San Juan	Water treatment	Chlorine	0.90	6,177
North Alamo Water Supply Plant #4 & Owassa RO	North Alamo Water Supply Corporation	TX	Hidalgo County	San Juan	Water treatment	Chlorine	1.30	8,831
Swtp - Plant 1	City of San Juan, Texas	TX	Hidalgo County	San Juan	Water treatment	Chlorine	1.70	26,026
City of Weslaco Water Treatment Plant		TX	Hidalgo County	Weslaco	Water treatment	Chlorine	1.90	19,010
City of Weslaco Wastewater Treatment Plant		TX	Hidalgo County	Weslaco	Wastewater treatment	Chlorine	1.90	20,896
Aquilla Water Supply District		TX	Hill County	Hillsboro	Water treatment	Chlorine	3.00	484
Wolf Hollow I, LP		TX	Hood County	Granbury	Electric power generation	Ammonia (conc. ≥20%)	2.70	3,741
Sulphur Springs Water Plant	City of Sulphur Springs	TX	Hopkins County	Sulphur Springs	Water treatment	Chlorine	3.20	11,606
Sulphur Springs Waste Water Plant	City of Sulphur Springs	TX	Hopkins County	Sulphur Springs	Wastewater treatment	Sulfur dioxide (anhydrous)	4.40	15,194
Northside Wastewater Treatment Plant #1		TX	Houston County	Crockett	Wastewater treatment	Chlorine	1.30	1,954
P Chem, Inc.	P Chem, Inc.	TX	Houston County	Latexo	Specialty chemicals - SOCMA	Ammonia (anhydrous)	2.80	393
Houston County WCID #1		TX	Houston County	Latexo	Water treatment	Chlorine	3.00	453
Wastewater Treatment Plant		TX	Howard County	Big Spring	Wastewater treatment	Chlorine	0.90	1,767
Alon USA Big Spring Refinery	Alon USA LP Alon USA GP Inc*	TX	Howard County	Big Spring	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	25.00	39,084
City of Commerce-SWTP	City of Commerce	TX	Hunt County	Campbell	Water treatment	Chlorine	3.00	3,528
City of Commerce-WWTP		TX	Hunt County	Commerce	Wastewater treatment	Chlorine	1.30	1,437
City of Greenville Water Treatment Plant	City of Greenville, Texas	TX	Hunt County	Greenville	Water treatment	Chlorine	3.00	14,270
City of Borger Water Treatment Facility	City of Borger, Texas	TX	Hutchinson County	Borger	Water treatment	Chlorine	1.30	3,501

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
City of Borger Wastewater Treatment Facility	City of Borger	TX	Hutchinson County	Borger	Wastewater treatment	Chlorine	1.30	4,491
Blackhawk Station	Borger Energy Associates, L.P.	TX	Hutchinson County	Borger	Electric power generation	Ammonia (anhydrous)	2.80	4,547
Brenntag Southwest Borger 5-2011	Brenntag, Inc.	TX	Hutchinson County	Borger	Basic chemicals - ACC	Sulfur dioxide (anhydrous)	3.10	6,301
Borger Refinery	WRB Refining, LP	TX	Hutchinson County	Borger	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	25.00	41,482
Chevron Phillips Chemical Co. LP - Borger Plant	Chevron Phillips Chemical Co. LP	TX	Hutchinson County	Borger	Basic chemicals - ACC	Methyl mercaptan	25.00	42,649
Pumping Plant # 1	Canadian River Municipal Water Authority	TX	Hutchinson County	Sanford	Water treatment	Chlorine	0.90	38
Herring Water Station	WRB Refining, LP	TX	Hutchinson County	Stinnett	Water treatment	Chlorine	3.00	136
Kay Water Station	WRB Refining LP	TX	Hutchinson County	Stinnett	Water treatment	Chlorine	3.00	136
MeadWestvaco Texas L.P.	MeadWestvaco	TX	Jasper County	Evadale	Pulp and paper, ACC	Chlorine dioxide	25.00	275,337
City of Jasper Wastewater Treatment Plant	City of Jasper	TX	Jasper County	Jasper	Wastewater treatment	Chlorine	1.30	2,786
WJCMWD, Water Treatment Plant	West Jefferson County Municipal Water District	TX	Jefferson County	Beaumont	Water treatment	Chlorine	1.30	392
ExxonMobil Chemical Company - BPEP	Exxon Mobil Corporation	TX	Jefferson County	Beaumont	Basic chemicals - ACC	Chlorine	3.00	1,425
Cray Valley Beaumont TX	Total Holding USA	TX	Jefferson County	Beaumont	Basic chemicals - ACC	Boron trifluoride	2.70	1,609
ExxonMobil Beaumont Chemical Plant (BMCP)	Exxon Mobil Corporation ExxonMobil Oil Corporation*	TX	Jefferson County	Beaumont	Basic chemicals - ACC	Boron trifluoride	2.40	16,822
City of Beaumont Water Reclamation Plant	City of Beaumont	TX	Jefferson County	Beaumont	Wastewater treatment	Chlorine	3.00	29,521
City of Beaumont Water Production Plant	City of Beaumont	TX	Jefferson County	Beaumont	Water treatment	Chlorine	3.00	41,382
ExxonMobil Beaumont Refinery (BMRF)	Exxon Mobil Corporation ExxonMobil Oil Corporation*	TX	Jefferson County	Beaumont	Petroleum refinery	Hydrogen sulfide	5.60	87,628
BASF, Beaumont Plant	BASF Corporation	TX	Jefferson County	Beaumont	Basic chemicals - ACC	Chlorine	14.00	263,667
GE Betz Inc. Beaumont - Plant	General Electric Company	TX	Jefferson County	Beaumont	Chemical manufacturing	Formaldehyde (solution)	20.00	276,672
Neches Terminal	Martin Operating Partnership, LP	TX	Jefferson County	Beaumont	Refrigerated warehouse	Ammonia (anhydrous)	25.00	376,297
Arkema Inc. - Beaumont Plant	Arkema Inc.	TX	Jefferson County	Beaumont	Basic chemicals - ACC	Acrolein	25.00	378,380
City of Groves Wilson Water Treatment Plant		TX	Jefferson County	Groves	Water treatment	Chlorine	3.00	35,376
City of Port Neches Wastewater Treatment Plant		TX	Jefferson County	Groves	Wastewater treatment	Chlorine	3.00	49,973
City of Nederland Water Treatment Plant	City of Nederland	TX	Jefferson County	Nederland	Water treatment	Chlorine	3.00	33,130

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Lucite International, Inc	Lucite International, Inc.	TX	Jefferson County	Nederland	Basic chemicals – ACC	Oleum (Fuming Sulfuric acid)	25.00	366,743
Praxair 379 SMR HYCO Site (Port Arthur)	Praxair, Inc.	TX	Jefferson County	Port Arthur	Basic chemicals – ACC	Flammable Mixture	0.07	<10
Air Products LLC (Port Arthur I)	Air Products and Chemicals, Inc.	TX	Jefferson County	Port Arthur	Basic chemicals – ACC	Flammable Mixture	0.10	<10
Air Products LLC (Port Arthur II Hydrogen/Cogen)	Air Products and Chemicals, Inc.	TX	Jefferson County	Port Arthur	Basic chemicals – ACC	Ammonia (conc. ≥20%)	0.10	<10
Praxair – Port Arthur, TX	Praxair, Inc.	TX	Jefferson County	Port Arthur	Basic chemicals – ACC	Flammable Mixture	0.05	<10
Chevron Phillips Chemical Co. – PA Plant	Chevron Phillips Chemical Company LP Chevron Phillips Chemical Holding II, LLC*	TX	Jefferson County	Port Arthur	Basic chemicals – ACC	Chlorine	1.30	27
Chevron Phillips Chemical – PA Terminal	Chevron Phillips Chemical Company LP Chevron Phillips Chemical Holding II, LLC*	TX	Jefferson County	Port Arthur	Basic chemicals – ACC	Flammable Mixture	2.40	918
Main Wastewater Treatment Plant		TX	Jefferson County	Port Arthur	Wastewater treatment	Chlorine	1.30	4,116
Gulf Coast Water Reclamation Center	City of Groves	TX	Jefferson County	Port Arthur	Wastewater treatment	Chlorine	1.30	4,368
Port Arthur Refinery	Motiva Enterprises	TX	Jefferson County	Port Arthur	Petroleum refinery	Hydrogen sulfide	1.60	6,330
BASF Port Arthur Site	BASF TOTAL Petrochemicals LLC BASF TOTAL Petrochemicals LLC*	TX	Jefferson County	Port Arthur	Basic chemicals – ACC	1,3-Butadiene	2.10	13,047
KMCO Port Arthur inc. dba KMTEX		TX	Jefferson County	Port Arthur	Specialty chemicals – SOCMA	Vinyl acetate monomer	8.10	50,161
Port Acres Wastewater Plant		TX	Jefferson County	Port Arthur	Wastewater treatment	Chlorine	6.70	68,939
Total Petrochemicals & Refining U.S.A. Inc.	Total S.A.	TX	Jefferson County	Port Arthur	Petroleum refinery, ACC	Hydrogen sulfide	5.60	84,316
City Of Port Arthur (Water Purification Plant)		TX	Jefferson County	Port Arthur	Water treatment	Chlorine	6.70	99,370
Premcor Port Arthur Refinery	The Valero Energy Corporation	TX	Jefferson County	Port Arthur	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	25.00	328,817
ISP Synthetic Elastomers LP	ISP Synthetic GP LLC	TX	Jefferson County	Port Neches	Basic chemicals – ACC	1,3-Butadiene	0.01	<10
TPC Group– Port Neches Operations		TX	Jefferson County	Port Neches	Basic chemicals – ACC	Flammable Mixture	1.50	5,869
City of Port Neches Water Treatment Plant		TX	Jefferson County	Port Neches	Water treatment	Chlorine	3.00	25,906
Calabrian Corporation	Calabrian Corporation	TX	Jefferson County	Port Neches	Chemical manufacturing	Sulfur dioxide (anhydrous)	16.00	243,765
Huntsman LLC – Port Neches Performance Products	Huntsman LLC	TX	Jefferson County	Port Neches	Petrochemical manufacturing	Ethylene oxide	25.00	347,563
City of Alice (Northeast)		TX	Jim Wells County	Alice	Wastewater treatment	Chlorine	1.90	3,394
City of Alice		TX	Jim Wells County	Alice	Water treatment	Chlorine	3.30	16,266

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
City of Alice (South)		TX	Jim Wells County	Alice	Wastewater treatment	Chlorine	4.20	17,668
City of Cleburne Water Treatment Plant	City of Cleburne	TX	Johnson County	Cleburne	Water treatment	Chlorine	3.00	3,807
Johnson County Generation Facility	Brazos Electric Power Cooperative, Inc.	TX	Johnson County	Cleburne	Electric power generation	Ammonia (anhydrous)	2.80	11,043
City of Cleburne Water Reuse Facility	City of Cleburne	TX	Johnson County	Cleburne	Water treatment	Chlorine	3.00	13,121
City of Cleburne Wastewater Treatment Plant	City of Cleburne	TX	Johnson County	Cleburne	Wastewater treatment	Chlorine	3.00	14,800
SACHEM, Inc.		TX	Johnson County	Cleburne	Basic chemicals – ACC	Methyl chloride	3.20	21,154
DPC Industries, Inc.	DX Holding Company	TX	Johnson County	Cleburne	Bleach manufacturing	Sulfur dioxide (anhydrous)	16.00	192,565
Raw Water Disinfection Facility	City of Abilene	TX	Jones County	Abilene	Water treatment	Chlorine	3.00	1,111
Abilene Wastewater Treatment Plant	City of Abilene	TX	Jones County	Abilene	Wastewater treatment	Chlorine	3.00	4,972
Stamford Water Treatment Plant	City of Stamford	TX	Jones County	Stamford	Water treatment	Chlorine	3.00	453
Stamford Wastewater Treatment Plant	City of Stamford	TX	Jones County	Stamford	Wastewater treatment	Chlorine	3.00	458
Ashland Aqualon Functional In- Kenedy, Texas Plant	Ashland, Inc.	TX	Karnes County	Kenedy	Basic chemicals – ACC	Propylene oxide	0.30	11
Duck Creek Wastewater Treatment Plant		TX	Kaufman County	Sunnyvale	Wastewater treatment	Chlorine	2.10	4,575
City of Terrell – Wastewater Treatment Plant	City of Terrell	TX	Kaufman County	Terrell	Wastewater treatment	Chlorine	1.30	498
City of Kerrville – Wastewater Plant		TX	Kerr County	Kerrville	Wastewater treatment	Chlorine	3.00	11,263
City of Kerrville – Water Treatment Plant		TX	Kerr County	Kerrville	Water treatment	Chlorine	3.00	17,898
City of Paris Wastewater Treatment Plant	City of Paris, Texas	TX	Lamar County	Paris	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	3,071
City of Paris Water Treatment Plant	City of Paris, Texas	TX	Lamar County	Paris	Water treatment	Chlorine	3.00	5,944
Bayer CropScience		TX	Lamb County	Littlefield	Basic chemicals – ACC	Hydrogen chloride (anhydrous)	3.40	856
City of Liberty Wastewater Treatment Plant	City of Liberty	TX	Liberty County	Liberty	Wastewater treatment	Chlorine	3.00	2,380
Diamond Shamrock Refinery – Three Rivers	Valero Energy Corporation	TX	Live Oak County	Three Rivers	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	12.00	5,919
Bayer CropScience – Erskine Facility	Bayer CropScience	TX	Lubbock County	Lubbock	Basic chemicals – ACC	Hydrogen chloride (anhydrous)	2.40	23,913
Lubbock Water Treatment Plant	City of Lubbock, TX	TX	Lubbock County	Lubbock	Water treatment	Ammonia (anhydrous)	8.00	85,933
City of Midland Paul Davis Well Field	City of Midland	TX	Martin County	Tarzan	Water treatment	Chlorine	3.00	51

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Celanese – Bay City Plant	Celanese Ltd.	TX	Matagorda County	Bay City	Basic chemicals – ACC	Vinyl acetate monomer	6.20	3,456
City of Bay City Water Reclamation Facility		TX	Matagorda County	Bay City	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	10,182
Equistar Chemicals, LP Matagorda Plant	Equistar Chemicals, LP	TX	Matagorda County	Wadsworth	Basic chemicals – ACC	Titanium tetrachloride	2.90	243
Waco Metropolitan Area Regional Sewerage System	City of Waco Water Utilities Department	TX	McLennan County	Waco	Wastewater treatment	Chlorine	2.10	3,018
Mount Carmel Water Treatment Plant	City of Waco	TX	McLennan County	Waco	Water treatment	Chlorine	0.90	4,187
Riverside Water Treatment Plant	City of Waco	TX	McLennan County	Waco	Water treatment	Chlorine	0.90	5,870
Raw Water Station and DAF Plant	City of Waco	TX	McLennan County	Waco	Water treatment	Chlorine	1.40	8,961
Gholson water storage facility	City of Waco	TX	McLennan County	Waco	Water treatment	Chlorine	3.50	27,714
Old Mc Gregor Road Ground Storage	City of Waco Water Utilities Department	TX	McLennan County	Waco	Water treatment	Chlorine	3.00	30,755
City of Midland Water Purification Plant	City of Midland	TX	Midland County	Midland	Water treatment	Chlorine	1.30	13,875
Bob Derrington Water Reclamation Plant	City of Odessa	TX	Midland County	Odessa	Wastewater treatment	Chlorine	2.10	372
Sandow Steam Electric Station	Energy Future Holdings Luminant Generation Company LLC*	TX	Milam County	Rockdale	Electric power generation	Ammonia (anhydrous)	4.70	1,360
Bowie Water Treatment Plant	City of Bowie	TX	Montague County	Bowie	Water treatment	Chlorine	3.00	5,245
Southwest Wastewater Treatment Plant	City of Conroe, Texas	TX	Montgomery County	Conroe	Wastewater treatment	Chlorine	1.00	6,068
Huntsman Petrochemical LLC – Conroe Plant	Huntsman Petrochemical LLC	TX	Montgomery County	Conroe	Chemical manufacturing	Ethylene oxide	12.50	232,525
Drilling Specialties Company, Alamo Plant	Chevron Phillips Chemical Company LP	TX	Montgomery County	Conroe	Basic chemicals – ACC	Sulfur trioxide	25.00	1,009,030
San Jacinto River Authority – Water Plant 4		TX	Montgomery County	The Woodlands	Water treatment	Chlorine	3.00	29,097
San Jacinto River Authority – Water Plant 5		TX	Montgomery County	The Woodlands	Water treatment	Chlorine	3.00	38,763
San Jacinto River Authority – Water Plant 3	San Jacinto River Authority	TX	Montgomery County	The Woodlands	Water treatment	Chlorine	3.00	44,865
San Jacinto River Authority – Water Plant 1	San Jacinto River Authority	TX	Montgomery County	The Woodlands	Water treatment	Chlorine	3.00	54,469
San Jacinto River Authority WW Plant 1 – Cl2 & SO2	San Jacinto River Authority	TX	Montgomery County	The Woodlands	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	55,775
San Jacinto River Authority – Water Plant 2	San Jacinto River Authority	TX	Montgomery County	The Woodlands	Water treatment	Chlorine	3.00	58,221
Lewis Creek Plant	Entergy Texas, Inc.	TX	Montgomery County	Willis	Electric power generation	Ammonia (anhydrous)	4.40	18,681

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Diamond Shamrock Refining Company, L.P.	Valero Energy Corporation	TX	Moore County	Sunray	Petroleum refinery	Butane	1.00	32
Surface Water Treatment Plant	City of Nacogdoches	TX	Nacogdoches County	Nacogdoches	Water treatment	Ammonia (anhydrous)	1.50	275
City of Nacogdoches WWTP	City of Nacogdoches	TX	Nacogdoches County	Nacogdoches	Wastewater treatment	Chlorine	1.30	639
City of Nacogdoches Southside WTP	City of Nacogdoches	TX	Nacogdoches County	Nacogdoches	Water treatment	Chlorine	1.30	2,368
Lake Halbert Water Treatment Plant	City of Corsicana, Texas	TX	Navarro County	Corsicana	Water treatment	Chlorine	3.00	1,313
Overland Flow Wastewater Treatment Plant	City of Corsicana, Texas	TX	Navarro County	Corsicana	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	1,972
City of Corsicana Wastewater Treatment Plant No. 2	City of Corsicana, Texas	TX	Navarro County	Corsicana	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	2,272
Corsicana Technologies' Corsicana Plant	Permian Mud Services, Inc.	TX	Navarro County	Corsicana	Chemicals – ACC, SOCMA	Ammonia (anhydrous)	6.90	15,575
Richland Chambers Pump Station		TX	Navarro County	Kerns	Water treatment	Chlorine	4.40	1,351
Navarro Mills Water Treatment Plant	City of Corsicana, Texas	TX	Navarro County	Purdon	Water treatment	Chlorine	3.00	605
City of Sweetwater Water Treatment Plant	City of Sweetwater	TX	Nolan County	Sweetwater	Water treatment	Chlorine	3.00	7,585
DPC Industries, Inc.	DX Holding Company	TX	Nolan County	Sweetwater	Bleach manufacturing	Chlorine	14.00	13,866
OXEA Bishop LLC	OXEA Corporation	TX	Nueces County	Bishop	Chemical manufacturing	Formaldehyde (solution)	25.00	121,554
Ticona Polymers, Inc.	Celanese Chemicals, Inc.	TX	Nueces County	Bishop	Basic chemicals – ACC	Formaldehyde (solution)	25.00	134,327
Air Products LLC (Corpus Christi)	Air Products & Chemicals	TX	Nueces County	Corpus Christi	Basic chemicals – ACC	Flammable Mixture	0.10	54
Equistar Chemicals, L.P. – Corpus Christi Complex	Equistar Chemicals, L.P. LyondellBasell Industries*	TX	Nueces County	Corpus Christi	Basic chemicals – ACC	1,3-Butadiene	0.90	260
Equistar Chemicals, L.P. – Marine Loading Facility	Equistar Chemicals, L.P. LyondellBasell Industries*	TX	Nueces County	Corpus Christi	Basic chemicals – ACC	1,3-Butadiene	1.50	787
FHRCorpus Christi – East Refinery	Flint Hills Resources, LP	TX	Nueces County	Corpus Christi	Petroleum refinery	Butane	0.79	5,052
CITGO Corpus Christi Refinery, West Plant	CITGO Refining and Chemicals L.P.	TX	Nueces County	Corpus Christi	Petroleum refinery	Chlorine	5.20	38,146
Valero Refining Co – Texas, L.P. – East Plant	Valero Energy Corporation	TX	Nueces County	Corpus Christi	Petroleum refinery	Hydrogen sulfide	4.60	72,208
O.N. Stevens Water Treatment Plant	City of Corpus Christi	TX	Nueces County	Corpus Christi	Water treatment	Chlorine	14.00	109,531
CITGO Corpus Christi Refinery East Plant	CITGO Refining and Chemicals L.P.	TX	Nueces County	Corpus Christi	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	15.00	337,922
Valero Refining Co. – Texas, L.P. – West Plant	Valero Energy Corporation	TX	Nueces County	Corpus Christi	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	17.00	350,206
FHR Corpus Christi LLC A West Plant	Flint Hills Resources, LP	TX	Nueces County	Corpus Christi	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	22.00	372,341

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Robstown Wastewater Plant		TX	Nueces County	Robstown	Wastewater treatment	Chlorine	3.00	13,370
Solvay – Orange Facility		TX	Orange County	Orange	Basic chemicals – ACC	Trifluoro-chloroethylene	0.15	10
Chevron Phillips Chemical Company: Orange Plant	Chevron Phillips Chemical Company LP	TX	Orange County	Orange	Basic chemicals – ACC	Isopentane	0.40	69
Honeywell, Inc., formerly AlliedSignal	Honeywell International, Inc.	TX	Orange County	Orange	Basic chemicals – ACC	Vinyl acetate monomer	0.90	602
LANXESS Corporation, Orange, Texas	Lanxess AG	TX	Orange County	Orange	Chemicals – ACC, SOCMA	Chlorine	2.20	3,103
Link Avenue Water Production Plant	City of Orange	TX	Orange County	Orange	Water treatment	Chlorine	1.30	5,678
Meeks Drive Water Production Plant	City of Orange	TX	Orange County	Orange	Water treatment	Chlorine	3.00	12,930
DuPont Sabine River Works	E. I. DuPont De Nemours & Co., Inc	TX	Orange County	Orange	Basic chemicals – ACC	Vinyl acetate monomer	25.00	316,397
Hilltop Water Treatment Plant		TX	Palo Pinto County	Mineral Wells	Water treatment	Chlorine	3.00	1,442
Pollard Creek Wastewater Treatment Plant		TX	Palo Pinto County	Mineral Wells	Wastewater treatment	Chlorine	3.00	9,927
City of Carthage Water Plant	City of Carthage, Texas	TX	Panola County	Carthage	Water treatment	Chlorine	1.30	2,490
City of Carthage Wastewater Treatment Plant		TX	Panola County	Carthage	Wastewater treatment	Chlorine	3.00	3,882
Weatherford Water Treatment Plant		TX	Parker County	Weatherford	Water treatment	Chlorine	3.00	9,551
Livingston Regional Water Supply System	Trinity River Authority of Texas	TX	Polk County	Livingston	Water treatment	Chlorine	3.00	6,723
Potter County Pump Station	City of Amarillo Utilities Division*	TX	Potter County	Amarillo	Water treatment	Chlorine	2.20	101
River Road Water Reclamation Plant	City of Amarillo Utilities Division*	TX	Potter County	Amarillo	Wastewater treatment	Chlorine	3.00	2,108
Amarillo Chlorine Station	Canadian River Municipal Water Authority	TX	Potter County	Amarillo	Water treatment	Chlorine	0.90	2,329
Asarco LLC / Amarillo Copper Refinery	Americas Mining Corporation (AMC)	TX	Potter County	Amarillo	Copper refinery	Sulfur dioxide (anhydrous)	25.00	239,810
City of Emory Water Treatment Plant		TX	Rains County	Emory	Water treatment	Chlorine	3.00	1,308
Hollywood Road Wastewater Treatment Plant	City of Amarillo Utilities Division*	TX	Randall County	Amarillo	Wastewater treatment	Chlorine	3.00	1,899
Osage Water Treatment Plant	City of Amarillo Utilities Division*	TX	Randall County	Amarillo	Water treatment	Chlorine	3.00	45,921
Twin Oaks	Optim Energy Twin Oaks, LP	TX	Robertson County	Bremont	Electric power generation	Ammonia (anhydrous)	2.60	297
Oak Grove Steam Electric Generation	Energy Future Holdings Oak Grove Management Company LLC.*	TX	Robertson County	Franklin	Electric power generation	Ammonia (anhydrous)	6.90	2,015
GATX – Hearne, TX Tank Car Facility	GATX Corporation General American Transportation Corporation*	TX	Robertson County	Hearne	Railroad tank car service	Bromine	25.00	170,168

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
City of Ballinger Water Treatment Plant		TX	Runnels County	Ballinger	Water treatment	Chlorine	3.00	391
Surface Water Treatment Plant	City of Henderson	TX	Rusk County	Henderson	Water treatment	Chlorine	3.00	3,222
Henderson Wastewater Treatment Plant	City of Henderson	TX	Rusk County	Henderson	Wastewater treatment	Chlorine	3.00	6,248
Baker Petrolite Corporation – Kilgore Blend Plant	Baker Hughes Incorporated	TX	Rusk County	Kilgore	Specialty chemicals – SOCMA	Acrolein	24.00	297,331
Occidental Chemical Corporation Ingleside Plant	Occidental Petroleum Corporation	TX	San Patricio County	Gregory	Basic chemicals – ACC	Chlorine	25.00	382,512
San Patricio Municipal Water District		TX	San Patricio County	Ingleside	Water treatment	Chlorine	6.70	33,652
DuPont Company – Corpus Christi Plant	E. I. duPont de Nemours and Co., Inc.	TX	San Patricio County	Ingleside	Basic chemicals – ACC	Hydrofluoric acid (conc. ≥50%)	25.00	383,697
AOC Sinton Facility	Praxair Distribution Inc.	TX	San Patricio County	Sinton	Basic chemicals – ACC	Acetylene	0.30	171
W. H. Bigham Water Treatment Plant		TX	Scurry County	Snyder	Water treatment	Ammonia (anhydrous)	1.70	2,432
Albany Water Treatment Plant		TX	Shackelford County	Albany	Water treatment	Chlorine	3.00	105
Pinkston Water Treatment Plant	City of Center, Texas	TX	Shelby County	Center	Water treatment	Chlorine	0.90	47
Eastbank Wastewater Treatment Plant	City of Center, Texas	TX	Shelby County	Center	Wastewater treatment	Chlorine	0.90	841
City of Center – Mill Creek Water Treatment Plant	City of Center, Texas	TX	Shelby County	Center	Water treatment	Chlorine	2.20	1,090
Delek Refining Ltd	Delek US Refining GP, LLC	TX	Smith County	Tyler	Petroleum refinery	Flammable Mixture	0.23	183
Eastman Chemical Company, Tyler Terminal	Eastman Chemical Company	TX	Smith County	Tyler	Basic chemicals – ACC	Ethylene	0.65	681
City of Tyler – Southside Wastewater Treatment Plant		TX	Smith County	Tyler	Wastewater treatment	Chlorine	1.30	3,467
City of Tyler– Westside Wastewater Treatment Plant		TX	Smith County	Tyler	Wastewater treatment	Chlorine	3.00	4,430
Golden Road Water Treatment Plant		TX	Smith County	Tyler	Water treatment	Chlorine	0.90	6,673
Lake Palestine Water Treatment Plant	City of Tyler, Texas	TX	Smith County	Tyler	Water treatment	Chlorine	2.20	7,579
Rio Grande City Water Treatment Plant	City of Rio Grande City	TX	Starr County	Rio Grande City	Water treatment	Chlorine	1.30	4,480
Rio Grande City Wastewater Treatment Plant	City of Rio Grande City	TX	Starr County	Rio Grande City	Wastewater treatment	Chlorine	1.30	4,480
Rio Grande City Water Treatment Plant No. 2	City of Rio Grande City	TX	Starr County	Rio Grande City	Water treatment	Chlorine	1.30	6,457
Breckenridge, Texas Water Treatment Plant		TX	Stephens County	Breckenridge	Water treatment	Chlorine	1.30	1,219

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Kress Chlorine Station	Canadian River Municipal Water Authority	TX	Swisher County	Kress	Water treatment	Chlorine	0.90	10
John Kubala Water Treatment Plant		TX	Tarrant County	Arlington	Water treatment	Chlorine	7.00	348,498
Pierce–Burch Water Treatment Plant		TX	Tarrant County	Arlington	Water treatment	Chlorine	7.00	464,263
Village Creek Wastewater Treatment Plant	City of Fort Worth	TX	Tarrant County	Arlington	Wastewater treatment	Sulfur dioxide (anhydrous)	21.00	3,056,502
Azle Water Plant	City of Azle	TX	Tarrant County	Azle	Water treatment	Chlorine	1.30	5,427
Benbrook Water Authority Water Treatment Plant	Benbrook Water Authority	TX	Tarrant County	Benbrook	Water treatment	Chlorine	0.90	4,935
Tarrant County Water Supply Project	Trinity River Authority of Texas	TX	Tarrant County	Euess	Water treatment	Chlorine	13.50	1,511,730
Akzo Nobel Surface Chemistry LLC Ft Worth Plant	Akzo Nobel Chemicals Inc	TX	Tarrant County	Fort Worth	Basic chemicals – ACC	Formaldehyde (solution)	0.43	1,263
Miller Coors LLC (TX)		TX	Tarrant County	Fort Worth	Brewery	Ammonia (anhydrous)	4.40	172,030
Rolling Hills Water Treatment Plant	City of Fort Worth	TX	Tarrant County	Fort Worth	Water treatment	Chlorine	7.90	478,740
Eagle Mountain Water Treatment Plant	City of Fort Worth	TX	Tarrant County	Fort Worth	Water treatment	Chlorine	12.00	666,489
Grapevine Water Treatment Plant	City of Grapevine	TX	Tarrant County	Grapevine	Water treatment	Chlorine	1.66	6,307
City of Mansfield Water Treatment Plant		TX	Tarrant County	Mansfield	Water treatment	Chlorine	1.54	14,143
Honeywell Electronic Chemicals, LLC	Honeywell International, Inc.	TX	Tarrant County	Mansfield	Basic chemicals – ACC	Ammonia (anhydrous)	3.10	40,356
Northeast Treatment Plant	City of Abilene	TX	Taylor County	Abilene	Water treatment	Ammonia (anhydrous)	3.40	12,541
Grimes Treatment Plant	City of Abilene	TX	Taylor County	Abilene	Water treatment	Ammonia (anhydrous)	1.90	23,856
Hargesheimer Treatment Plant	City of Abilene	TX	Taylor County	Tuscola	Water treatment	Chlorine	3.00	1,040
City of Mount Pleasant Wastewater Plant		TX	Titus County	Mount Pleasant	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	6,652
City of Mount Pleasant Water Treatment Plant	City Of Mount Pleasant	TX	Titus County	Mount Pleasant	Water treatment	Chlorine	3.00	13,258
City of San Angelo Water Treatment Plant	City of San Angelo, Texas	TX	Tom Green County	San Angelo	Water treatment	Chlorine	3.00	46,933
Travis County WC&ID No. 17 – Eck Lane WTP		TX	Travis County	Austin	Water treatment	Chlorine	1.30	2,577
West Travis County PUA SWTP	West Travis County Public Utility Agency	TX	Travis County	Austin	Water treatment	Chlorine	1.30	2,721
Travis County MUD #4 Water Treatment Plant	Travis County MUD #4	TX	Travis County	Austin	Water treatment	Chlorine	1.30	3,733
Walnut Creek Wastewater Treatment Plant		TX	Travis County	Austin	Wastewater treatment	Chlorine	0.90	3,869
River Place MUD Water Treatment Plant	River Place MUD	TX	Travis County	Austin	Water treatment	Chlorine	1.30	4,513

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Albert R. Davis Water Treatment Plant		TX	Travis County	Austin	Water treatment	Chlorine	1.30	9,598
South Austin Regional Wastewater Treatment Plant		TX	Travis County	Austin	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	9,624
Albert H. Ullrich Water Treatment Plant		TX	Travis County	Austin	Water treatment	Chlorine	7.00	432,727
Lakeway MUD WTP W-3		TX	Travis County	Lakeway	Water treatment	Chlorine	1.30	3,025
Lakeway MUD – Reclaimed Water Storage Pond I-4		TX	Travis County	Lakeway	Water treatment	Chlorine	1.30	5,156
City of Cedar Park WTP		TX	Travis County	Leander	Water treatment	Chlorine	1.55	2,642
Brenntag Southwest – Manor	Brenntag, Inc.	TX	Travis County	Manor	Basic chemicals – ACC	Chlorine	3.00	11,563
City of Pflugerville–Central Wastewater Treatment	City of Pflugerville	TX	Travis County	Pflugerville	Wastewater treatment	Chlorine	2.20	23,422
Trinity County Regional Water Supply System	Trinity River Authority of Texas	TX	Trinity County	Trinity	Water treatment	Chlorine	3.00	2,309
City of Woodville Wastewater Treatment Plant		TX	Tyler County	Woodville	Wastewater treatment	Chlorine	0.90	650
Equistar Chemicals, LP	Lyondell Chemical Company LyondellBasell Industries*	TX	Victoria County	Victoria	Basic chemicals – ACC	Ethylene	0.07	<10
Victoria Regional Wastewater Treatment Plant		TX	Victoria County	Victoria	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	9,814
Victoria Willow Street Plant		TX	Victoria County	Victoria	Wastewater treatment	Chlorine	3.00	24,660
City of Victoria Water Plant 3	City of Victoria, Texas	TX	Victoria County	Victoria	Water treatment	Chlorine	3.00	47,321
City of Victoria Surface Water Treatment Plant	City of Victoria, Texas	TX	Victoria County	Victoria	Water treatment	Ammonia (anhydrous)	3.60	50,425
Du Pont Victoria Plant	E. I. Du Pont de Nemours & Co. Inc.	TX	Victoria County	Victoria	Basic chemicals – ACC	Vinyl acetate monomer	12.00	58,062
INVISTA Victoria Plant	INVISTA S.A A r.l.	TX	Victoria County	Victoria	Petrochemical manufacturing	Ammonia (anhydrous)	25.00	112,857
A. J. Brown Wastewater Treatment Plant	City of Huntsville	TX	Walker County	Huntsville	Wastewater treatment	Chlorine	1.30	470
N. B. Davidson Wastewater Treatment Plant	City of Huntsville	TX	Walker County	Huntsville	Wastewater treatment	Chlorine	2.70	1,050
Huntsville Regional Water Supply System	Trinity River Authority of Texas	TX	Walker County	Huntsville	Water treatment	Chlorine	3.00	1,634
Spring Creek Water Plant	City of Huntsville	TX	Walker County	Huntsville	Water treatment	Chlorine	1.30	1,980
Palm Street Water Plant	City of Huntsville	TX	Walker County	Huntsville	Water treatment	Chlorine	1.30	13,560
Brenham Lake Pump Station	City of Brenham	TX	Washington County	Brenham	Water treatment	Chlorine	3.00	801
Brenham Wastewater Treatment Plant	City of Brenham	TX	Washington County	Brenham	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	6,660
Brenham Main Water Treatment Plant	City of Brenham	TX	Washington County	Brenham	Water treatment	Chlorine	3.00	7,170

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Zacate WWTP	City of Laredo	TX	Webb County	Laredo	Wastewater treatment	Chlorine	1.30	7,502
North Laredo WWTP	City of Laredo	TX	Webb County	Laredo	Wastewater treatment	Chlorine	1.30	10,404
Jefferson Street Water Treatment Plant	City of Laredo Utilities	TX	Webb County	Laredo	Water treatment	Chlorine	0.90	10,696
Southside WWTP	City of Laredo	TX	Webb County	Laredo	Wastewater treatment	Chlorine	1.30	11,133
Northside Wastewater Treatment Plant	City of Wichita Falls	TX	Wichita County	Wichita Falls	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	15,215
River Road Wastewater Treatment Plant	City Of Wichita Falls	TX	Wichita County	Wichita Falls	Wastewater treatment	Sulfur dioxide (anhydrous)	3.10	20,302
Cypress Water Treatment Plant	City of Wichita Falls	TX	Wichita County	Wichita Falls	Water treatment	Chlorine	3.00	32,483
Secondary Reservoir	City of Wichita Falls	TX	Wichita County	Wichita Falls	Water treatment	Chlorine	3.00	37,028
Jasper Water Treatment Plant	City of Wichita Falls	TX	Wichita County	Wichita Falls	Water treatment	Chlorine	13.00	122,773
Solvay USA Inc. Vernon, Texas Facility	Solvay USA Inc.	TX	Wilbarger County	Vernon	Basic chemicals – ACC	Propylene oxide	0.70	340
Brushy Creek Regional Wastewater System – East	Lower Colorado River Authority Brazos River Authority*	TX	Williamson County	Round Rock	Wastewater treatment	Chlorine	0.90	4,292
City of Round Rock Water Treatment Plant		TX	Williamson County	Round Rock	Water treatment	Chlorine	1.30	4,340
East Williamson County Water Treatment Plant	Brazos River Authority	TX	Williamson County	Taylor	Water treatment	Chlorine	2.20	379
Royce W. Simpson Water Treatment Plant		TX	Wise County	Decatur	Water treatment	Chlorine	3.00	4,112
Zapata County Water Treatment Plant		TX	Zapata County	Zapata	Water treatment	Chlorine	3.00	8,185
U T A H								
Enel Cove Fort LLC	Enel Green Power North America Inc.	UT	Beaver County	Beaver	Electric power generation	Pentane	0.40	<10
PacifiCorp – Blundell Geothermal Plant	MidAmerican Energy Holdings Company	UT	Beaver County	Milford	Electric power generation	Isopentane	0.40	<10
Thermo No. 1 Facility		UT	Beaver County	Milford	Electric power generation	Isopentane	0.40	<10
Castlegate Culinary Water Treatment Plant	Price River Water Improvement District	UT	Carbon County	Helper	Water treatment	Chlorine	2.28	155
Price River Water Improvement District		UT	Carbon County	Wellington	Wastewater treatment	Chlorine	1.00	217
Central Davis Sewer District		UT	Davis County	Kaysville	Wastewater treatment	Chlorine	0.90	1,682
South Davis Sewer District South Plant		UT	Davis County	North Salt Lake	Wastewater treatment	Chlorine	0.90	2,609
Big West Oil LLC	FJ Management Inc.	UT	Davis County	North Salt Lake	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	11.00	391,689
Chevron Salt Lake Refinery	Chevron Corporation	UT	Davis County	Salt Lake City	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	22.00	1,251,908

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
North Davis Sewer District		UT	Davis County	Syracuse	Wastewater treatment	Chlorine	4.40	40,814
South Davis Sewer District North Plant		UT	Davis County	West Bountiful	Wastewater treatment	Chlorine	0.90	1,310
Woods Cross Refinery	Holly Refining & Marketing Company Holly Corporation*	UT	Davis County	Woods Cross	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	11.00	291,206
Duchesne Valley Water Treatment Plant	Central Utah Water Conservancy District	UT	Duchesne County	Duchesne	Water treatment	Chlorine	1.50	11
American Pacific Corporation, Utah Operations	American Pacific Corporation	UT	Iron County	Cedar City	Specialty chemicals – SOCMA	Ammonia (anhydrous)	6.90	314
Cedar City Regional Wastewater Treatment Facility	Cedar City Corporation	UT	Iron County	Cedar City	Wastewater treatment	Chlorine	3.00	497
Intermountain Generating Station	Intermountain Power Agency Los Angeles Department of Water & Power*	UT	Millard County	Delta	Electric power generation	Chlorine	2.20	139
Little Cottonwood Water Treatment Plant	Metropolitan Water District of Salt Lake and Sandy	UT	Salt Lake County	Cottonwood Heights	Water treatment	Chlorine	1.30	11,108
Jordan Valley Water Treatment Plant	Jordan Valley Water Conservancy District	UT	Salt Lake County	Herriman	Water treatment	Chlorine	1.50	3,219
Magna Water District WWTP	Magna Water District	UT	Salt Lake County	Magna	Wastewater treatment	Chlorine	3.00	32,448
Honeywell Electronic Materials – Salt Lake City	Honeywell International Inc.	UT	Salt Lake County	Salt Lake City	Basic chemicals – ACC	Titanium tetrachloride	1.40	2,928
Salt Lake City Water Reclamation Plant	Salt Lake City Corporation	UT	Salt Lake County	Salt Lake City	Wastewater treatment	Chlorine	0.90	3,644
Tesoro Refining and Marketing Company	Tesoro Petroleum Corporation	UT	Salt Lake County	Salt Lake City	Petroleum refinery	Butane	1.10	6,926
Thatcher Company		UT	Salt Lake County	Salt Lake City	Bleach manufacturing	Chlorine	14.00	970,863
Ashley Valley Water Treatment Plant	Central Utah Water Conservancy District	UT	Uintah County	Vernal	Water treatment	Chlorine	0.90	24
Utah Valley Water Treatment Plant	Central Utah Water Conservancy District	UT	Utah County	Orem	Water treatment	Chlorine	0.90	6,489
City of Orem Water Reclamation Facility	City of Orem	UT	Utah County	Orem	Wastewater treatment	Chlorine	1.60	9,951
Payson City WWTP		UT	Utah County	Payson	Wastewater treatment	Chlorine	3.50	21,967
Provo City Corporation – Water Reclamation Plant		UT	Utah County	Provo	Wastewater treatment	Chlorine	0.90	<10
Spanish Fork City WWTP		UT	Utah County	Spanish Fork	Wastewater treatment	Chlorine	1.30	2,715
Geneva Nitrogen LLC		UT	Utah County	Vineyard	Fertilizer manufacturing	Ammonia (anhydrous)	25.00	996,135
Central Weber Sewer Improvement District		UT	Weber County	Ogden	Wastewater treatment	Chlorine	4.40	40,373
Western Zirconium	Westinghouse Electric Company, LLC	UT	Weber County	Ogden	Chemical manufacturing	Chlorine	25.00	459,989

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
V I R G I N I A								
Covington Water Treatment Plant		VA	Alleghany County	Covington	Water treatment	Chlorine	0.90	839
MeadWestvaco Corporation Paperboard Operations	MeadWestvaco Corporation	VA	Alleghany County	Covington	Pulp and paper, ACC	Chlorine dioxide	4.84	8,119
Brenntag mid-South Inc.	Brenntag Inc.	VA	Bedford County	Bedford	Basic chemicals - ACC	Chlorine	0.80	430
City of Bedford WWTP		VA	Bedford County	Bedford	Wastewater treatment	Chlorine	0.90	2,053
Conaway Wastewater Treatment Plant	Buchanan County Public Service Authority	VA	Buchanan County	Bigrock	Wastewater treatment	Chlorine	0.90	91
Altavista Power Station	Virginia Electric and Power Company Dominion Resources, Inc.*	VA	Campbell County	Altavista	Electric power generation	Ammonia (anhydrous)	4.70	8,553
Otter River Water Treatment Plant	Campbell County Utilities and Service Authority	VA	Campbell County	Evington	Water treatment	Chlorine	2.20	1,860
JCI Jones Chemicals, Inc. Milford		VA	Caroline County	Milford	Bleach manufacturing, ACC	Chlorine	25.00	305,706
Galax Wastewater Treatment Facility	City of Galax	VA	Carroll County	Galax	Wastewater treatment	Chlorine	1.30	2,742
Galax Water Treatment Plant	City of Galax	VA	Carroll County	Galax	Water treatment	Chlorine	1.30	3,415
Chesapeake Energy Center	Dominion Resources, Inc.	VA	Chesapeake city	Chesapeake	Electric power generation	Ammonia (anhydrous)	1.40	9,926
Univar USA Inc	Univar USA Inc	VA	Chesterfield County	Chester	Basic chemicals - ACC	Chlorine	0.40	242
Chesterfield Power Station	Dominion Resources, Inc.	VA	Chesterfield County	Chester	Electric power generation	Ammonia (anhydrous)	2.12	4,456
DuPont James River Plant	E.I. DuPont de Nemours & Company	VA	Chesterfield County	Richmond	Basic chemicals - ACC	Oleum (Fuming Sulfuric acid)	0.19	24
DuPont - Spruance	E.I. du Pont de Nemours & Company, Inc.	VA	Chesterfield County	Richmond	Basic chemicals - ACC	Chloroform	1.40	7,511
City of Danville Water Treatment Facility		VA	Danville city	Danville	Water treatment	Chlorine	0.90	3,303
John Flannagan Water Authority		VA	Dickenson County	Haysi	Water treatment	Chlorine	0.90	174
Tenaska Virginia Generating Station	Tenaska Virginia Partners, LP	VA	Fluvanna County	Scottsville	Electric power generation	Ammonia (anhydrous)	3.30	1,859
James T. Anderson Water Filtration Plant	Frederick County Sanitation Authority	VA	Frederick County	Clearbrook	Water treatment	Chlorine	1.30	860
James H. Diehl Water Filtration Plant	Frederick County Sanitation Authority Plant	VA	Frederick County	Stephens City	Water treatment	Chlorine	1.30	1,336
James River Correction Ctr. Water Treatment Plant		VA	Goochland County	State Farm	Water treatment	Chlorine	3.00	3,501
Maple Avenue Waste Water Treatment Plant		VA	Halifax County	South Boston	Wastewater treatment	Chlorine	0.90	425
Leigh Street Water Treatment Facility		VA	Halifax County	South Boston	Water treatment	Chlorine	0.90	832
Doswell Energy Center	Doswell Limited Partnership	VA	Hanover County	Ashland	Electric power generation	Ammonia (anhydrous)	2.90	2,811

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Upper Smith River Water Filtration Plant	Henry County Public Service Authority	VA	Henry County	Bassett	Water treatment	Chlorine	1.30	869
Wastewater Treatment Plant	City of Martinsville	VA	Henry County	Ridgeway	Wastewater treatment	Chlorine	0.71	636
Linde – Hopewell	Linde, Inc.	VA	Hopewell city	Hopewell	Basic chemicals – ACC	Ammonia (anhydrous)	1.00	3,958
Hopewell Power Station	Virginia Electric and Power Company Dominion Resources, Inc.*	VA	Hopewell city	Hopewell	Electric power generation	Ammonia (anhydrous)	3.10	28,108
Hercules – Hopewell Plant	Ashland Inc.	VA	Hopewell city	Hopewell	Basic chemicals – ACC	Ethylene oxide	9.90	138,978
International Paper	International Paper	VA	Isle of Wight County	Franklin	Pulp and paper	Chlorine dioxide	6.10	14,914
Birchwood Power Facility	Birchwood Power Partners, L.P. (owner)	VA	King George County	King George	Electric power generation	Ammonia (anhydrous)	2.50	2,774
West Point Mill	RockTenn CP, LLC	VA	King William County	West Point	Pulp and paper	Chlorine dioxide	2.10	2,577
Goose Creek Water Treatment Plant	City of Fairfax, VA	VA	Loudoun County	Ashburn	Water treatment	Chlorine	3.00	57,008
Gordonsville Power Station	Virginia Electric and Power Company Dominion Resources, Inc.*	VA	Louisa County	Gordonsville	Electric power generation	Ammonia (conc. ≥20%)	1.10	248
NRV Regional Water Authority		VA	Montgomery County	Radford	Water treatment	Ammonia (conc. ≥20%)	0.90	284
Blackstone Water Utilites	Town of Blackstone	VA	Nottoway County	Fort Pickett	Water treatment	Chlorine	0.90	<10
Blackstone Water Polution Control Facility	Town of Blackstone	VA	Nottoway County	Fort Pickett	Wastewater treatment	Chlorine	0.90	<10
City of Danville Northside WWTP	City of Danville, VA	VA	Pittsylvania County	Danville	Wastewater treatment	Chlorine	1.30	1,484
DanChem Technologies, Inc.	DanChem Technologies, Inc.	VA	Pittsylvania County	Danville	Specialty chemicals – SOCMA	Vinyl acetate monomer	0.85	1,856
U. S. Amines – Portsmouth Plant	U. S. Amines Limited	VA	Portsmouth city	Portsmouth	Chemical manufacturing	Allylamine	12.00	756,714
Hopewell Water Treatment Plant	Virginia–American Water Company American Water Works Company*	VA	Prince George County	Hopewell	Water treatment	Chlorine	1.30	5,772
Evonik Goldschmidt Corporation	Evonik Industries	VA	Prince George County	Hopewell	Chemicals – ACC, SOCMA	Ethylene oxide	8.70	101,353
Honeywell Hopewell Plant	Honeywell International Inc	VA	Prince George County	Hopewell	Basic chemicals – ACC	Ammonia (anhydrous)	24.00	774,998
Town of Pulaski Water Filtration Plant		VA	Pulaski County	Pulaski	Water treatment	Chlorine	0.90	628
Radford Water Treatment Plant		VA	Radford City	Radford	Water treatment	Chlorine	1.30	3,121
Bellemeade Power Station	Dominion Resources Inc.	VA	Richmond City	Richmond	Electric power generation	Ammonia (anhydrous)	3.60	90,762
City of Richmond Wastewater Treatment Plant	City of Richmond	VA	Richmond City	Richmond	Wastewater treatment	Sulfur dioxide (anhydrous)	14.70	799,055
Carvins Cove Water Filter Plant	Western Virginia Water Authority	VA	Roanoke County	Roanoke	Water treatment	Chlorine	0.92	1,718
Spring Hollow Water Treatment Facility	Western Virginia Water Authority	VA	Roanoke County	Salem	Water treatment	Chlorine	2.30	2,863

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
KIK (Virginia) LLC	KIK International LLC	VA	Roanoke County	Salem	Bleach manufacturing	Chlorine	14.00	239,709
Buena Vista WWTP	City of Buena Vista, VA	VA	Rockbridge County	Buena Vista	Wastewater treatment	Chlorine	1.30	3,801
Stonewall Plant	Merck Sharp & Dohme Corporation	VA	Rockingham County	Elkton	Basic chemicals – ACC	Hydrogen chloride (anhydrous)	20.00	172,257
Salem Water Treatment Plant	City of Salem, Virginia	VA	Salem city	Salem	Water treatment	Chlorine	1.30	8,148
Hercules Incorporated – Franklin, Virginia	Ashland Inc.	VA	Southampton County	Courtland	Basic chemicals – ACC	Phosphorus trichloride	0.58	63
Motts Runt Water Treatment Plant	Spotsylvania County	VA	Spotsylvania County	Fredericksburg	Water treatment	Chlorine	1.30	1,804
BASF Corporation	BASFCorporation	VA	Suffolk City	Suffolk	Basic chemicals – ACC	Acrylonitrile	1.10	1,284
Westside Wastewater Treatment Plant	The Sanitary Board of Bluefield	VA	Tazewell County	Bluefield	Wastewater treatment	Chlorine	3.00	10,821
Front Royal Wastewater Treatment Plant		VA	Warren County	Front Royal	Wastewater treatment	Chlorine	0.90	2,332
WCSA Middle Fork Drinking Water Plant	Washington County Service Authority (WCSA)	VA	Washington County	Abingdon	Water treatment	Chlorine	3.04	4,280
C–N–W Regional Wastewater Treatment Authority	C–N–W Regional Wastewater Treatment Authority	VA	Wise County	Coeburn	Wastewater treatment	Chlorine	3.00	3,437
Harwood’s Mill Water Treatment Plant		VA	York County	Grafton	Water treatment	Chlorine	0.90	2,713
WASHINGTON								
Agrium KFO – Kennewick Area	Agrium US, Inc. Agrium Inc.*	WA	Benton County	Kennewick	Fertilizer manufacturing	Ammonia (anhydrous)	25.00	245,117
Agrium KFO – Finley Area	Agrium US, Inc. Agrium Inc.*	WA	Benton County	Kennewick	Fertilizer manufacturing	Ammonia (anhydrous)	25.00	245,965
City of Richland Water Treatment Plant	City of Richland	WA	Benton County	Richland	Water treatment	Chlorine	3.00	23,931
City of Richland Wastewater Treatment Facility	City of Richland	WA	Benton County	Richland	Wastewater treatment	Chlorine	3.00	41,489
Georgia–Pacific Consumer Products (Camas) LLC	Georgia–Pacific Consumer Products Holdings LLC	WA	Clark County	Camas	Pulp and paper	Chlorine dioxide	14.00	934,258
Operations Center Brookside Yard	City of Vancouver	WA	Clark County	Vancouver	Water treatment	Chlorine	0.40	1,985
Emerald Kalama Chemical, LLC	Emerald Performance Materials, LLC	WA	Cowlitz County	Kalama	Specialty chemicals – SOCMA	Acetaldehyde	0.40	72
Chemtrade Performance Chemicals LLC Kalama Plant	Chemtrade Logistics	WA	Cowlitz County	Kalama	Basic chemicals – ACC	Sulfur dioxide (anhydrous)	19.00	167,369
Longview Regional Water Treatment Plant		WA	Cowlitz County	Longview	Water treatment	Chlorine	1.30	8,647
Hasa Inc. – Longview		WA	Cowlitz County	Longview	Bleach manufacturing	Chlorine	14.00	91,695
Weyerhaeuser NR Company – Longview Washington	Weyerhaeuser NR Company Weyerhaeuser Company*	WA	Cowlitz County	Longview	Pulp and paper	Chlorine	14.00	92,013

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Eagle US 2 LLC	Axiall LLC	WA	Cowlitz County	Longview	Basic chemicals - ACC	Chlorine	20.00	122,826
Butterfield Water Treatment Plant	City of Pasco	WA	Franklin County	Pasco	Water treatment	Chlorine	1.90	30,238
Moses Lake / Electronics	Air Liquide Electronics U.S. LP	WA	Grant County	Moses Lake	Basic chemicals - ACC	Hydrogen	0.40	143
City Lake Chlorination Facility	City of Port Townsend	WA	Jefferson County	Port Townsend	Water treatment	Chlorine	0.40	52
Tolt Treatment Facility	American Water CDM	WA	King County	Duvall	Water treatment	Chlorine	0.90	159
Landsburg Water Treatment Plant	Seattle Public Utilities City of Seattle*	WA	King County	Maple Valley	Water treatment	Chlorine	1.30	52
South Treatment Plant	Wastewater Treatment Div., King County, DNRP	WA	King County	Renton	Wastewater treatment	Flammable Mixture	0.17	75
Cedar Water Treatment Facility	Seattle Public Utilities	WA	King County	Renton	Water treatment	Chlorine	0.90	4,827
West Point Treatment Plant	Wastewater Treatment Div., King County, DNRP	WA	King County	Seattle	Wastewater treatment	Chlorine	0.90	2,620
Ponderay Newsprint Company		WA	Pend Oreille County	Usk	Pulp and paper	Sulfur dioxide (anhydrous)	13.00	8,068
Fredrickson Power LP	EPCOR USA Puget Sound Energy*	WA	Pierce County	Tacoma	Electric power generation	Ammonia (conc. ≥20%)	0.30	272
U.S. Oil & Refining Co.	Astra West Coast Refining Inc.	WA	Pierce County	Tacoma	Petroleum refinery	Butane	0.60	453
Pioneer Americas LLC Tacoma Bleach Plant	Pioneer Companies, Inc.	WA	Pierce County	Tacoma	Bleach manufacturing, ACC	Chlorine	14.00	1,025,185
JCI Jones Chemicals Inc. Tacoma, WA		WA	Pierce County	Tacoma	Bleach manufacturing, ACC	Chlorine	14.00	1,082,492
Tesoro Anacortes Refinery	Tesoro Refining and Marketing Company	WA	Skagit County	Anacortes	Petroleum refinery	Flammable Mixture	1.50	498
Puget Sound Refinery	Shell Oil Products US	WA	Skagit County	Anacortes	Petroleum refinery, elec. power, ACC	Ammonia (anhydrous)	1.50	544
Anacortes Water Treatment Plant	City of Anacortes	WA	Skagit County	Mount Vernon	Water treatment	Chlorine	2.20	9,457
Skagit PUD #1 Water Treatment Plant	PUD #1 of Skagit County	WA	Skagit County	Sedro Woolley	Water treatment	Chlorine	0.90	189
Lynnwood Wastewater Treatment Facility	City of Lynnwood	WA	Snohomish County	Edmonds	Wastewater treatment	Chlorine	1.30	8,231
City of Spokane - Riverside Pk. Water Reclam. Facility		WA	Spokane County	Spokane	Wastewater treatment	Methane	0.20	367
Wilbur-Ellis Company - Waverly		WA	Spokane County	Waverly	Chemical distribution	Ammonia (anhydrous)	6.90	130,446
Mill Creek Water Treatment Plant	City of Walla Walla	WA	Walla Walla County	Walla Walla	Water treatment	Chlorine	0.80	333
Boise White Paper, LLC	Boise Inc	WA	Walla Walla County	Wallula	Pulp and paper	Chlorine dioxide	14.28	81,876
Bellingham Water Filtration Plant	City of Bellingham Public Works	WA	Whatcom County	Bellingham	Water treatment	Chlorine	1.30	12,926
Post Point Wastewater Facility	City of Bellingham Public Works	WA	Whatcom County	Bellingham	Wastewater treatment	Chlorine	3.00	29,146
BP Cherry Point Refinery	BP West Coast Products LLC	WA	Whatcom County	Blaine	Petroleum refinery	Flammable Mixture	1.70	2,204
Praxair - Ferndale, WA	Praxair, Inc.	WA	Whatcom County	Ferndale	Basic chemicals - ACC	Ammonia (anhydrous)	1.70	2,020

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Tenaska Washington Partners, LP	Tenaska Washington Partners, LP	WA	Whatcom County	Ferndale	Electric power generation	Ammonia (anhydrous)	4.00	7,454
Phillips 66 Ferndale Refinery	Phillips 66 Company	WA	Whatcom County	Ferndale	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	14.00	144,524
Belmont Rail Siding Storage Facility	Washington Idaho Railway Canexus U.S. Inc.*	WA	Whitman County	Belmont	Basic chemicals – ACC	Chlorine	25.00	53,826
City of Pullman Wastewater Treatment Plant	City of Pullman	WA	Whitman County	Pullman	Wastewater treatment	Chlorine	1.30	6,449
W I S C O N S I N								
OMNOVA Solutions Inc – Green Bay Facility	OMNOVA Solutions Inc.	WI	Brown County	Green Bay	Basic chemicals – ACC	Ammonia (conc. ≥20%)	2.20	11,373
3M Frenchtown Warehouse		WI	Crawford County	Prairie du Chien	Basic chemicals – ACC	Isobutane	0.01	<10
Prairie du Chien – 3M Company		WI	Crawford County	Prairie du Chien	Basic chemicals – ACC	Isobutane	0.01	<10
Hydrite Chemical Co. – Cottage Grove East	Hydrite Chemical Co.	WI	Dane County	Cottage Grove	Specialty chemicals – SOCMA	Epichlorohydrin	4.20	17,641
City of Superior Wastewater Div. of Public Works		WI	Douglas County	Superior	Wastewater treatment	Chlorine	1.90	13,570
Calumet Superior Refinery	Calumet Specialty Products Partners, L.P.	WI	Douglas County	Superior	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	22.00	172,365
Cascades Tissue Group – WI, Inc.	Cascades, Inc.	WI	Eau Claire County	Eau Claire	Pulp and paper	Ammonia (conc. ≥20%)	0.10	69
Kenosha Water Utility Wastewater Treatment Plant		WI	Kenosha County	Kenosha	Wastewater treatment	Chlorine	1.30	14,122
Kenosha Water Utility Water Production Plant		WI	Kenosha County	Kenosha	Water treatment	Chlorine	1.30	15,508
Pleasant Prairie Power Plant	Wisconsin Energy Corporation Wisconsin Electric Power Co. d/b/a We Energies*	WI	Kenosha County	Pleasant Prairie	Electric power generation	Ammonia (conc. ≥20%)	2.90	23,875
Green Bay Water Utility		WI	Kewaunee County	Town of Pierce	Water treatment	Chlorine	1.60	180
Manitowoc Public Utilities	City of Manitowoc	WI	Manitowoc County	Manitowoc	Water treatment	Chlorine	1.30	8,302
Manitowoc Wastewater Treatment Facility	City of Manitowoc, Wisconsin	WI	Manitowoc County	Manitowoc	Wastewater treatment	Chlorine	2.60	19,021
LignoTech USA, Inc.	Borregaard Industries Limited	WI	Marathon County	Rothschild	Specialty chemicals – SOCMA	Formaldehyde (solution)	0.10	40
ChemDesign Products, Inc.	Specialty Chem Acquisition Corp	WI	Marinette County	Marinette	Specialty chemicals – SOCMA	Methyl chloride	1.40	7,734
Ashland Hercules Water Technology–Milwaukee Plant	Ashland Inc	WI	Milwaukee County	Milwaukee	Basic chemicals – ACC	Epichlorohydrin	1.84	63,291
Palermo Villa, Inc., Milwaukee, WI		WI	Milwaukee County	Milwaukee	Ammonia refrigeration	Ammonia (anhydrous)	2.00	115,558
Elm Road Generating Station	Wisconsin Energy Corporation ERGS Supercritical, LLC*	WI	Milwaukee County	Oak Creek	Electric power generation	Ammonia (conc. ≥20%)	2.50	8,302

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
Brenntag Great Lakes, LLC – Wauwatosa Warehouse	Brenntag North America Inc.	WI	Milwaukee County	Wauwatosa	Basic chemicals – ACC	Toluene diisocyanate (unsp. isomer)	0.01	<10
Wausau Paper Specialty Products, LLC	Wausau Paper	WI	Oneida County	Rhineland	Pulp and paper	Chlorine	1.30	2,959
WPSC– Fox Energy Center	Wisconsin Public Service Corporation	WI	Outagamie County	Kaukauna	Electric power generation	Ammonia (conc. ≥20%)	0.40	81
OnLine Packaging, Inc. – Plover Plant		WI	Portage County	Plover	Bleach manufacturing	Chlorine	14.00	84,275
Flambeau River Papers		WI	Price County	Park Falls	Pulp and paper	Sulfur dioxide (anhydrous)	7.30	3,628
Oak Creek Power Plant	Wisconsin Energy Corporation Wisconsin Electric Power Co. d/b/a We Energies*	WI	Racine County	Oak Creek	Electric power generation	Ammonia (conc. ≥20%)	1.50	3,320
Racine Water Utility	Racine Water & Wastewater Utilities	WI	Racine County	Racine	Water treatment	Chlorine	1.30	17,741
WPL – Riverside Energy Center	Wisconsin Power and Light Company (WPL) Alliant Energy*	WI	Rock County	Beloit	Electric power generation	Ammonia (conc. ≥20%)	0.40	65
Evonik Goldschmidt Corporation, Janesville Plant	Evonik Industries AG	WI	Rock County	Janesville	Chemicals – ACC, SOCMA	Ethylene oxide	9.90	100,330
ABITEC Corporation	North America Holdings, Inc.	WI	Rock County	Janesville	Chemical manufacturing	Ethylene oxide	9.90	106,280
Air Products Performance Manufacturing	Air Products and Chemicals, Inc.	WI	Rock County	Milton	Basic chemicals – ACC	Ethylene oxide	11.00	93,769
Momentive Specialty Chemicals, Inc. – Sheboygan	Momentive Specialty Chemicals, Inc.	WI	Sheboygan County	Sheboygan	Basic chemicals – ACC	Formaldehyde (solution)	0.61	2,506
Fox River Water Pollution Control Center	City of Brookfield, Wisconsin	WI	Waukesha County	Brookfield	Wastewater treatment	Chlorine	1.30	6,248
Brenntag Great Lakes, LLC – Menomonee Falls	Brenntag North America Inc.	WI	Waukesha County	Menomonee Falls	Basic chemicals – ACC	Cyclohexylamine	0.10	28
Oshkosh Water Filtration Plant		WI	Winnebago County	Oshkosh	Water treatment	Chlorine	1.30	11,417
Oshkosh Wastewater Treatment Plant	City of Oshkosh	WI	Winnebago County	Oshkosh	Wastewater treatment	Chlorine	1.30	23,477
Hydrite Chemical Co. – Oshkosh	Hydrite Chemical Co.	WI	Winnebago County	Oshkosh	Bleach manufacturing	Chlorine	20.00	300,614
Nekoosa Mill – CIO2	Domtar A.W. LLC	WI	Wood County	Nekoosa	Pulp and paper	Chlorine dioxide	2.90	5,205
Effluent Treatment Plant – Anhydrous Ammonia	Domtar A.W. LLC	WI	Wood County	Nekoosa	Pulp and paper	Ammonia (anhydrous)	5.40	22,589
ERCO Worldwide (USA) Inc.	Superior Plus (US) Holdings, Inc.	WI	Wood County	Nekoosa	Basic chemicals – ACC	Chlorine	25.00	128,130
NewPage – Water Quality Center	NewPage Corporation	WI	Wood County	Wisconsin Rapids	Pulp and paper	Ammonia (conc. ≥20%)	0.08	<10
Wisconsin Rapids Mill – Fiber and Energy	NewPage Corporation	WI	Wood County	Wisconsin Rapids	Pulp and paper	Chlorine dioxide	3.80	17,479

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
WEST VIRGINIA								
Weirton Area Water Board		WV	Brooke County	Weirton	Water treatment	Chlorine	1.30	4,690
West Virginia American Water – Huntington, WV WTP	American Water	WV	Cabell County	Huntington	Water treatment	Chlorine	1.30	11,729
West Virginia American Water – New River	American Water Works Company	WV	Fayette County	Beckwith	Water treatment	Chlorine	0.90	275
Mt. Storm Power Station	Dominion Resources, Inc.	WV	Grant County	Mt. Storm	Electric power generation	Ammonia (anhydrous)	1.97	152
ERGON–West Virginia, Inc.	Ergon, Inc.	WV	Hancock County	Newell	Petroleum refinery	Propane	0.47	209
Clarksburg Wastewater Treatment Plant	Clarksburg Sanitary Board	WV	Harrison County	Clarksburg	Wastewater treatment	Chlorine	0.90	2,517
Clarksburg Water Board		WV	Harrison County	Clarksburg	Water treatment	Chlorine	1.30	6,938
DuPont Belle Plant	E. I. du Pont de Nemours and Company	WV	Kanawha County	Belle	Basic chemicals – ACC	Ammonia (anhydrous)	25.00	263,722
West Virginia–American Water Kanawha Valley WTP		WV	Kanawha County	Charleston	Water treatment	Chlorine	1.30	235
North Charleston Distribution Terminal, Union Carb	The Dow Chemical Company	WV	Kanawha County	Charleston	Basic chemicals – ACC	Vinyl acetate monomer	0.65	1,212
Lyondell North Charleston Distribution Terminal		WV	Kanawha County	Charleston	Basic chemicals – ACC	Propylene oxide	2.80	32,669
New Yard, Union Carbide Corporation	The Dow Chemical Company	WV	Kanawha County	Institute	Basic chemicals – ACC	Ethylene oxide	4.20	46,044
Union Carbide Institute Plant	The Dow Chemical Company	WV	Kanawha County	Institute	Basic chemicals – ACC	Ethylene oxide	5.40	67,653
Praxair – Marmet, WV	Praxair, Inc.	WV	Kanawha County	Marmet	Basic chemicals – ACC	Ammonia (anhydrous)	1.20	1,477
Technology Park, Union Carbide Corporation	The Dow Chemical Company	WV	Kanawha County	South Charleston	Basic chemicals – ACC	Propylene	0.20	174
Bayer South Charleston, WV Plant	Bayer Corporation	WV	Kanawha County	South Charleston	Basic chemicals – ACC	Acrylonitrile	1.70	12,457
South Charleston Plant, Union Carbide Corporation	The Dow Chemical Company	WV	Kanawha County	South Charleston	Basic chemicals – ACC	Ethylene oxide	3.80	56,948
Bayer ACN Railcar at Dow Massey Railyard	Bayer Corporation	WV	Kanawha County	South Charleston	Basic chemicals – ACC	Acrylonitrile	11.00	161,647
Clearon Corp.	Israel Chemicals Limited (ICL)	WV	Kanawha County	South Charleston	Basic chemicals – ACC	Chlorine	14.00	190,365
Brenntag Mid–South, Inc.	Brenntag U.S.A.	WV	Kanawha County	St. Albans	Bleach manufacturing, ACC	Chlorine	14.00	185,799
West Virginia–American Water Weston WTP		WV	Lewis County	Weston	Water treatment	Chlorine	0.90	144
Fairmont Wastewater Treatment Plant	City of Fairmont Sanitary Sewer Board	WV	Marion County	Fairmont	Wastewater treatment	Chlorine	1.30	4,728
Fairmont Water Treatment Plant		WV	Marion County	Fairmont	Water treatment	Chlorine	1.30	4,937
Bayer MaterialScience LLC –New Martinsville, WV Site	Bayer Corporation	WV	Marshall County	New Martinsville	Basic chemicals – ACC	Ethylene oxide	1.80	656

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
PPG Industries, Inc., Natrium	PPG Industries, Inc.	WV	Marshall County	New Martinsville	Basic chemicals – ACC	Chlorine	21.65	100,556
ICL-IP America Inc. – Gallipolis Ferry Site	ICL Performance Products Finance Inc. Israel Chemicals Limited*	WV	Mason County	Gallipolis Ferry	Basic chemicals – ACC	Chlorine	14.00	41,983
Mountaineer Plant	American Electric Power	WV	Mason County	New Haven	Electric power generation	Chlorine	3.80	3,446
Princeton Wastewater Treatment Plant	Princeton Sanitary Board	WV	Mercer County	Princeton	Wastewater treatment	Chlorine	1.00	3,596
Addivant USA, LLC – South Plant	Addivant USA, LLC	WV	Monongalia County	Morgantown	Basic chemicals – ACC	Phosphorus trichloride	0.40	357
Addivant USA, LLC. – North Plant	Addivant USA, LLC.	WV	Monongalia County	Morgantown	Basic chemicals – ACC	Phosphorus trichloride	0.40	357
Morgantown Utility Board Water Treatment Plant	City of Morgantown	WV	Monongalia County	Morgantown	Water treatment	Chlorine	1.60	8,573
City of Wheeling – Water Treatment Plant		WV	Ohio County	Wheeling	Water treatment	Chlorine	2.10	11,252
City of Wheeling Water Pollution Control Facility		WV	Ohio County	Wheeling	Wastewater treatment	Chlorine	1.80	11,924
Brenntag Mid-South, Inc.	Brenntag U.S.A.	WV	Putnam County	Nitro	Basic chemicals – ACC	Sulfur dioxide (anhydrous)	16.00	210,021
Beckley Water Company (Sweeneysburg Plant)		WV	Raleigh County	Beckley	Water treatment	Chlorine	2.20	4,735
Beckley Water Company (Glade Creek Plant)		WV	Raleigh County	Shady Spring	Water treatment	Chlorine	3.00	4,557
Elkins Water Works	City of Elkins	WV	Randolph County	Elkins	Water treatment	Chlorine	5.40	757
West Virginia–American Water Mercer/Summers WTP		WV	Summers County	True	Water treatment	Chlorine	3.00	859
MPM Silicones, LLC, Sistersville WV	Momentive Performance Materials, USA Inc.	WV	Tyler County	Friendly	Basic chemicals – ACC	Methyl-trichlorosilane	8.01	7,929
Water Filtration Plant	City of Buckhannon	WV	Upshur County	Buckhannon	Water treatment	Chlorine	5.40	13,916
Huntington Sanitary Board Wastewater Treatment Plt		WV	Wayne County	Huntington	Wastewater treatment	Chlorine	2.80	16,594
Braskem Americas Neal Plant	Braskem Americas Neal Plant	WV	Wayne County	Kenova	Basic chemicals – ACC	Propylene	0.49	153
Ashland Performance Materials Neal Plant	Ashland Incorporated	WV	Wayne County	Neal	Basic chemicals – ACC	Butane	0.49	148
SABIC Innovative Plastics – Washington	SABIC Innovative Plastics Holding US LP	WV	Wood County	Washington	Basic chemicals – ACC	Acrylonitrile	3.00	5,428
DuPont Washington Works	E. I. du Pont de Nemours and Company	WV	Wood County	Washington	Basic chemicals – ACC	Hydrogen chloride (anhydrous)	14.00	103,899

Facility Name	Parent Companies	State	County	City	Facility Type	Chemical	Vulnerability Zone Miles	Vulnerability Zone Census Population
W Y O M I N G								
Dry Fork Station		WY	Campbell County	Gillette	Electric power generation	Ammonia (anhydrous)	4.40	237
Pump Station #1	City of Gillette	WY	Campbell County	Gillette	Water treatment	Chlorine	1.30	4,990
Neil Simpson Complex WyGen 1, WyGen 2, Wygen 3	Black Hills Power, Inc	WY	Campbell County	Gillette	Electric power generation	Ammonia (anhydrous)	4.30	8,379
Sinclair Wyoming Refining Company	Sinclair Oil Corporation	WY	Carbon County	Sinclair	Petroleum refinery	Butane	1.40	<10
Madison Pump Station	City of Gillette	WY	Crook County	Moorcroft	Water treatment	Chlorine	1.30	12
Chemtrade Refinery Services Inc. – Riverton	Chemtrade Logistics (US) Inc.	WY	Fremont County	Riverton	Basic chemicals – ACC	Oleum (Fuming Sulfuric acid)	4.20	8,790
Sherard Water Treatment Plant	Cheyenne Board of Public Utilities City of Cheyenne*	WY	Laramie County	Cheyenne	Water treatment	Chlorine	2.20	64
Frontier Refining LLC	HollyFrontier Corporation	WY	Laramie County	Cheyenne	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	14.00	78,639
Sinclair Casper Refining Company	Sinclair Oil Corporation	WY	Natrona County	Evansville	Petroleum refinery	Butane	1.09	<10
Big Goose Water Treatment Plant	Sheridan Area Water Supply Joint Powers Board City of Sheridan, Wyoming*	WY	Sheridan County	Sheridan	Water treatment	Chlorine	1.20	20
GR/RS/Sw Co. J.P.W.B. Water Treatment Facility	GR/RS/Sw Co. Joint Powers Water Board	WY	Sweetwater County	Green River	Water treatment	Chlorine	0.90	12
Silver Eagle Refining, Inc.	Silver Eagle Refining Inc.	WY	Uinta County	Evanston	Petroleum refinery	Flammable Mixture	0.50	<10
Wyoming Refining Company	Hermes Consolidated, Inc.	WY	Weston County	Newcastle	Petroleum refinery	Hydrofluoric acid (conc. ≥50%)	7.50	4,080

WHO'S IN DANGER?

Race, Poverty, and Chemical Disasters



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A DEMOGRAPHIC ANALYSIS OF CHEMICAL DISASTER VULNERABILITY ZONES

More than 134 million Americans live in the danger zones around 3,433 facilities in several common industries that store or use highly hazardous chemicals. But who are the people that live daily with the ever-present danger of a chemical disaster?

This report presents new research showing that residents of chemical facility “vulnerability zones” are disproportionately Black (African American) or Latino, have higher rates of poverty than the U.S. as a whole, and have lower housing values, incomes, and education levels than the national average. The disproportionate or unequal danger is sharply magnified in the “fenceline” areas nearest the facilities.

Action to prevent chemical disasters is needed now—workers, communities, businesses, and governments face severe potential costs to life, health, and finances from chemical hazards that are often unnecessary. Despite the fact that the U.S. experiences several serious toxic chemical releases every week, federal policies do not require companies to fully assess whether the chemicals they use or store could be replaced with safer alternatives. This report recommends policy solutions that can remove millions of Americans from potential harm in and around hazardous chemical facilities.