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EPA's Role in Emergency Planning and Notification at Chemical Facilities

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Summary

Chemicals and the facilities that manufacture, store, distribute, and use them are essential to the U.S. economy. However, incidents occasioned by natural disasters, unintentional events, or security threats show that the handling and storage of chemicals are not without risk. Federal agencies implement a number of programs to help prevent chemical facility accidents, reduce risks of terrorist attacks on chemical facilities, protect chemical facility workers, collect and share relevant information with the public and decisionmakers, and prepare communities and local, tribal, and state first-responders to respond to potential large-scale accidents.

This report reviews the U.S. Environmental Protection Agency's (EPA's) authorities regarding risk management, emergency planning, and release notification, among others, at chemical facilities. In doing so, it describes the statutory authorities—and makes note of some of the more prominent, subsequent regulations—as provided by the following:

- **Facility risk management planning requirements under Section 112(r)(7) of the Clean Air Act (CAA).** EPA's Risk Management Program (RMP) is aimed at reducing chemical risk at the local level. EPA regulations require owners and operators of a facility that manufactures, uses, stores, or otherwise handles certain listed flammable and toxic substances to develop a risk management program that includes hazard assessment (including an evaluation of worst-case and alternative accidental release scenarios), prevention mechanisms, and emergency response measures.
- **Emergency planning notification requirements under the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA).** The requirements are designed to promote emergency planning and preparedness at the state, local, and tribal levels. EPCRA helps ensure local communities and first responders have needed information on potential chemical hazards within their communities in order to develop community emergency response plans.
- **Emergency release notification requirements under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA).** CERCLA obligates a facility to report certain releases of hazardous substances to the National Response Center to inform decisions about federal involvement in responding to the incident to coordinate with state and local officials. The requirements also establish liability for response costs and natural resource damages.
- **Duties of the Chemical Safety and Hazard Investigation Board, known as the Chemical Safety Board (CSB), under Section 112(r)(6) of the CAA.** The purpose of the CSB is to investigate accidents to determine the conditions and circumstances that led up to the event and to identify the cause or causes so that similar events might be prevented.
- **Toxic release inventory reporting requirements.** EPCRA authorizes EPA to establish and maintain a Toxic Release Inventory (TRI) of facilities that manufacture, import, process, or use certain types of toxic chemicals by providing public disclosure of the locations of such facilities.

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Introduction

Chemicals and the facilities that manufacture, store, distribute, and use them are essential to the U.S. economy. However, incidents occasioned by natural disasters (e.g., hurricanes, earthquakes, floods), unintentional events (e.g., fire, accidents), or security threats (e.g., terrorism) show that the handling and storage of chemicals are not without risk. Incidents such as the 2017 fire at the Arkema chemical plant in Crosby, TX, the 2013 explosion at the West Fertilizer Company in West, TX, and the 1984 release of methyl isocyanate at the Union Carbide plant in Bhopal, India, have motivated many in federal, state, and local governments to back efforts to reduce the risk of chemical accidents in the United States.

Federal agencies implement a number of programs to help prevent chemical facility accidents, reduce risks of terrorist attacks on chemical facilities, protect chemical facility workers, collect and share relevant information with the public and decisionmakers, and prepare communities and local, tribal, and state first-responders to respond to potential large-scale accidents. State, local, and tribal authorities also have critical responsibilities in managing risks from chemical facility accidents through setting and enforcing requirements for zoning, siting, and emergency response and planning.¹

This report reviews the U.S. Environmental Protection Agency's (EPA's) authorities regarding risk management, emergency planning, and release notification, among others, at chemical facilities. In doing so, it describes the statutory authorities—and makes note of some of the more prominent, subsequent regulations—as provided by the following:

- facility risk management planning requirements under Section 112(r)(7) of the Clean Air Act (CAA);
- emergency planning notification requirements under the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA);
- emergency release notification requirements under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA);
- duties of the Chemical Safety and Hazard Investigation Board, known as the Chemical Safety Board (CSB), under Section 112(r)(6) of the CAA; and
- toxic release inventory reporting requirements under EPCRA.

This report does not address other federal agencies' authorities regarding safety, planning, and notification, such as the Department of Labor, Occupational Safety and Health Administration (OSHA) requirements covering occupational safety and health risks to workers, the Department of Homeland Security (DHS) requirements covering homeland security risks from security threats to facilities, or the Department of Transportation (DOT) requirements covering risks from the transportation of hazardous materials. Further, it does not address the federal response framework for releases of oil and chemicals into the environment.²

¹ As described in The White House, Office of the Press Secretary, "FACT SHEET: Executive Order on Improving Chemical Facility Safety and Security," August 1, 2013.

² For a discussion of the federal role in responding to releases of hazardous substances, see CRS Report R43251, *Oil and Chemical Spills: Federal Emergency Response Framework*, by David M. Bearden and Jonathan L. Ramseur. For additional reports on these topics, see CRS Report R43360, *Chemical, Hazardous Substances, and Petroleum Spills: CRS Experts*, coordinated by James D. Werner.

Facility Risk Management Planning Requirements

In the CAA Amendments of 1990, P.L. 101-549, Congress enacted Section 112(r)(1), also known as the General Duty Clause (GDC). It applies to any facility where extremely hazardous substances are present.³ GDC is a performance-based authority recognizing that owners and operators have a general duty and responsibility to prevent and mitigate the consequences of chemical accidents.

Further, Section 112(r)(7) authorizes EPA to require the establishment of approved risk management planning requirements for stationary sources that manage certain types of toxic or flammable substances, if the quantity of the substance exceeds a threshold established in regulation for that substance.⁴ Section 112(r)(7)(B) requires EPA to promulgate regulations and guidance for the development of facility Risk Management Plans (RMPs) to prevent and detect accidental releases into the ambient air from these stationary sources.⁵ Facility owners and operators also must incorporate measures into their plans to respond to an accidental release of such substances, if such release were to occur. For these purposes, Section 112(r)(2)(A) defines an “accidental release” to be an “unanticipated emission of a regulated substance or other extremely hazardous substance into the ambient air from a stationary source.”⁶

Pursuant to Section 112(r)(7)(B), the major elements of an RMP must include

- an assessment of the potential severity of the hazards if an accidental release into the ambient air were to occur (including off-site consequence analysis of worst-case scenarios);
- a facility-specific program to prevent accidental releases (including safety precautions and employee training); and
- a facility-specific response program to take actions that may be necessary to protect human health and the environment in the event of an accidental release (including procedures for notifying federal, state, and local agencies responsible for responding to an incident).

³ “Extremely hazardous substances” are defined as any chemicals listed in 40 C.F.R. §68, “or any other extremely hazardous substance.”

⁴ Both the U.S. Environmental Protection Agency’s (EPA’s) 40 C.F.R. §68 Risk Management Plan (RMP) regulations and the Department of Labor, Occupational Safety and Health Administration’s (OSHA’s) 29 C.F.R. §1910.119 Process Safety Management (PSM) standard were authorized in the CAA Amendments of 1990. This was in response to a number of catastrophic chemical accidents occurring worldwide that had resulted in public and worker fatalities and injuries, environmental damage, and other community impacts. Most notably, the sudden, accidental release in December 1984 of methyl isocyanate in an industrial incident at the Union Carbide plant in Bhopal, India, and the attendant loss of thousands of lives and widespread injuries motivated many in Congress to support legislation to reduce the risk of chemical accidents in the United States.

⁵ 42 U.S.C. §7412(r)(7)(B). EPA promulgated regulations to designate regulated substances and threshold quantities under CAA Section 112(r)(7) in 1994, and promulgated the regulations to establish RMP requirements for covered stationary sources in 1996. These regulations are codified together at 40 C.F.R. §68, including a list of 140 regulated substances (77 toxic and 63 flammable chemicals), and their threshold quantities (40 C.F.R. §68.130). CAA Section 112(r)(7)(D) requires EPA to coordinate the development of its regulations and guidance for RMPs with requirements for “comparable” purposes established by OSHA and DOT. Information on these regulations and accompanying agency guidance are available on the EPA website at <https://www.epa.gov/rmp>.

⁶ 42 U.S.C. §7412(r)(2)(A).

Section 112(r)(7)(E) makes the operation of a stationary source subject to RMP requirements unlawful if the facility owner or operator does not prepare and implement an RMP in accordance with applicable regulatory requirements.⁷

Facility owners or operators must submit their RMPs to EPA, the Chemical Safety Board (CSB) established pursuant to Section 112(r)(6), and state and local emergency response officials.⁸ Section 114(c) also requires RMPs to be made available to the public, with the exception of certain confidential business or trade information that an RMP may contain.⁹ For facility security purposes, Section 112(r)(7)(H) also limits the public availability of off-site consequence analysis of worst case scenarios presented in an RMP.¹⁰ These plans must be revised and resubmitted to EPA every five years. In overseeing regulated facilities, EPA may also require facilities to revise their RMPs if necessary to ensure compliance with federal requirements.

EPA has delegated RMP oversight responsibility to some states and localities. Where the RMP has been delegated to a state, the state may have additional requirements for the federally listed chemicals and/or additional listed chemicals.

Revisions under the Obama Administration

Under the Obama Administration, EPA revised the RMP requirements in response to Executive Order 13650, *Improving Chemical Facility Safety and Security*, issued by President Obama on August 1, 2013.¹¹ EPA promulgated the final rule revisions on January 13, 2017, highlighting the fertilizer facility incident in 2013 in West, TX, among “catastrophic chemical facility incidents” that were the primary impetuses for Executive Order 13650.¹²

The revisions include

- additional analysis of safer technology and alternatives as part of the process hazard analysis for some sources;
- third-party audits and incident investigation root cause analysis for some sources;
- enhancements to the emergency preparedness requirements; and
- increased public availability of chemical hazard information to assist local emergency authorities in planning for and responding to accidents and to improve public awareness of chemical hazards at regulated sources.

⁷ 42 U.S.C. §7412(r)(7)(E).

⁸ “Plans prepared pursuant to this subparagraph shall also be submitted to the Chemical Safety and Hazard Investigation Board, to the State in which the stationary source is located, and to any local agency or entity having responsibility for planning for or responding to accidental releases which may occur at such source, and shall be available to the public under section 7414(c) of this title.” 42 U.S.C. §7412(r)(7)(B)(iii).

⁹ 42 U.S.C. §7414(c).

¹⁰ 42 U.S.C. §7412(r)(7)(H).

¹¹ Executive Order 13650, “Improving Chemical Facility Safety and Security,” 78 *Federal Register* 48029-48033, August 7, 2013.

¹² EPA, “Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act,” 82 *Federal Register* 4594-4705, January 13, 2017.

Revisions under the Trump Administration

Under the Trump Administration, the EPA Administrator published a final rule on June 14, 2017, to delay the effective date of the RMP rule amendments for 20 months until February 19, 2019.¹³ The action was taken under CAA section 307(d)(7)(B).¹⁴ The rule states that the action “allows the Agency time to consider petitions for reconsideration of the Risk Management Program Amendments and take further regulatory action, as appropriate, which could include proposing and finalizing a rule to revise or rescind these amendments.” EPA summarized stakeholders’ submitted reasons to delay the effective date of the amendments as follows:¹⁵

- lack of sufficient notice for comments or the addition of new provisions to the final rule that were not in the 2016 RMP proposed amendments,
- safety and security concerns related to implementation of the final rule,
- cost burden to regulated facilities and emergency response organizations,
- insufficient coordination with OSHA by EPA, and
- insufficient coordination with stakeholders or consideration of stakeholder comments.

Emergency Planning Notification Requirements

EPCRA was enacted in 1986 as Title III of the Superfund Amendments and Reauthorization Act of 1986 (P.L. 99-499). EPCRA requires facilities to report the presence of hazardous chemicals or extremely hazardous substances to state and local emergency response officials, if the quantity present would exceed certain thresholds.¹⁶ This information is intended to assist state and local officials in developing their own emergency response plans in the event of an incident at a facility. The universe of facilities subject to reporting under EPCRA is larger than facilities subject to RMP requirements under the CAA, because EPCRA applies to a broader body of chemicals.

Section 311 of EPCRA¹⁷ specifies the applicability of reporting requirements under that statute to hazardous chemicals that require the preparation of a material safety data sheet (MSDS) pursuant to the Occupational Safety and Health Act of 1970 (OSH Act).¹⁸ These hazardous chemicals encompass a broad array of substances commonly found in industrial, commercial, or other workplace settings. Considering this breadth, there is not a singular consolidated list. They are defined by certain characteristics and properties specified in federal regulations promulgated

¹³ EPA, “Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act; Further Delay of Effective Date,” 82 *Federal Register* 27133-27144, June 14, 2017.

¹⁴ 42 U.S.C. §7607(d)(7)(B).

¹⁵ EPA, “Response to Comments on the 2017 Proposed Rule Further Delaying the Effective Date of EPA’s Risk Management Program Amendments (April 3, 2017; 82 FR 16146).” Office of Emergency Management, USEPA, Washington, DC. June 8, 2017, <https://www.regulations.gov/document?D=EPA-HQ-OEM-2015-0725-0881>.

¹⁶ 42 U.S.C. §§11001-11050. For a broader discussion of the authorities of EPCRA than presented in this memorandum, see CRS Report RL32683, *The Emergency Planning and Community Right-to-Know Act (EPCRA): A Summary*, by David M. Bearden.

¹⁷ 42 U.S.C. §11021.

¹⁸ 29 U.S.C. §§651-678.

under the OSH Act.¹⁹ Certain uses of hazardous chemicals are excluded from reporting requirements, as outlined in Section 311(e) of EPCRA.²⁰

Section 312 of EPCRA requires the owner or operator of a facility storing a hazardous chemical in a quantity equal to or exceeding 10,000 pounds to report the presence of the chemical to the State Emergency Response Commission (SERC), the appropriate Local Emergency Planning Committee (LEPC), and the local fire department with jurisdiction over the facility.²¹ States established SERCs and LEPCs pursuant to Section 301 of EPCRA.²²

The general threshold of 10,000 pounds for the reporting of hazardous chemicals applies to “Tier I” reporting under which the facility owner or operator is required to report this information at its own initiative to the SERC, the appropriate LEPC, and the local fire department. There is a “zero” threshold (i.e., no minimum quantity) for “Tier II” reporting for which a SERC, LEPC, or local fire department may require additional information from the facility owner or operator about the presence of a hazardous chemical present at the facility.

If a hazardous chemical also is designated under EPCRA as an extremely hazardous substance, the reporting threshold generally is 500 pounds, and may be less under separate reporting requirements. Section 302(a) of EPCRA directs EPA to determine which chemicals warrant designation as extremely hazardous substances and to establish separate reporting thresholds for them.²³ In making these determinations, EPA must take into account the “toxicity, reactivity, volatility, dispersability, combustability, or flammability” of a substance. Section 302(c) of EPCRA requires the owner or operator of a facility storing an extremely hazardous substance exceeding the applicable threshold to report the presence of the substance to the SERC and the LEPC (but not the local fire department).²⁴ Section 303(d) also requires facilities subject to the reporting of an extremely hazardous substance to designate a representative to serve on the LEPC.²⁵

Section 324 of EPCRA requires information reported by facilities to SERCs, LEPCs, and local fire departments to be made available to the public, with the exception of facility information that may be subject to protection as confidential business or trade information.²⁶ Section 322 of EPCRA specifies the types of confidential business or trade information that a facility owner or operator may choose to protect from public disclosure.²⁷ For security purposes, a facility owner or

¹⁹ 29 C.F.R. §1910.1200(c).

²⁰ 42 U.S.C. §11021(e). Exclusions include (1) any food, food additive, color additive, drug, or cosmetic regulated by the Food and Drug Administration; (2) any substance present as a solid in any manufactured item to the extent exposure to the substance does not occur under normal conditions of use; (3) any substance to the extent it is used for personal, family, or household purposes, or is present in the same form and concentration as a product packaged for distribution and use by the general public; (4) any substance to the extent it is used in a research laboratory or a hospital or other medical facility under the direct supervision of a technically qualified individual; and (5) any substance to the extent it is used in routine agricultural operations or is a fertilizer held for sale by a retailer to the ultimate customer.

²¹ 42 U.S.C. §11022.

²² 42 U.S.C. §11001.

²³ 42 U.S.C. §11002(a).

²⁴ 42 U.S.C. §11002(c).

²⁵ 42 U.S.C. §11003(d).

²⁶ 42 U.S.C. §11044.

²⁷ 42 U.S.C. §11042. For exclusions due to trade purposes, each of the following must be shown: (1) such person has not disclosed the information to any other person, other than a member of a local emergency planning committee, an officer or employee of the United States or a State or local government, an employee of such person, or a person who is bound by a confidentiality agreement, and such person has taken reasonable measures to protect the confidentiality of such information and intends to continue to take such measures; (2) the information is not required to be disclosed, or

operator also may opt not to publicly disclose the exact location of a specific chemical within a facility boundary.

Emergency Release Notification Requirements

Requirements to report releases of a hazardous substance into the environment are enumerated in both EPCRA and CERCLA.²⁸ EPCRA requires reporting of certain releases to the SERC and the appropriate LEPC to make state and local officials aware of the release so as to inform emergency response actions that may be appropriate within their respective jurisdictions. CERCLA requires a facility to report certain releases to the National Response Center to inform decisions about federal involvement in responding to the incident to coordinate with state and local officials.²⁹ Section 107 of CERCLA also establishes liability for response costs and natural resource damages.³⁰ Similar to emergency planning notification requirements discussed above, whether the owner or operator of a facility would be required under EPCRA or CERCLA to report an actual release into the environment would depend primarily on the quantity of the release.

Section 103 of CERCLA³¹ generally requires persons who release hazardous substances into the environment to notify the federal National Response Center of the incident as soon as the person has knowledge of the release, if the quantity of the release is equal to or exceeds the threshold for that substance. Section 102 directed EPA to designate specific chemicals as hazardous substances for the purpose of CERCLA and to establish thresholds for reporting releases into the environment.³² A list of designated hazardous substances and the reporting threshold (i.e., reportable quantity) for each substance is specified in federal regulation.³³

In certain circumstances, a release may not be subject to reporting under CERCLA, even if the release otherwise would exceed the reportable quantity. Section 103 excludes federally permitted releases of hazardous substances from reporting requirements under the statute. Section 101(10) defines the term “federally permitted release” to include releases of hazardous substances authorized in permits issued under certain other federal environmental laws cited in that definition.³⁴ Section 107(j) of CERCLA also exempts federally permitted releases from liability under the statute.³⁵ Federally permitted releases are exempt from reporting requirements and liability under CERCLA based on the premise that permit requirements would address potential risks, and that the exemption may avoid potential conflicts between one federal law allowing a release and another imposing liability for the same action.

otherwise made available, to the public under any other Federal or State law; (3) disclosure of the information is likely to cause substantial harm to the competitive position of such person; and (4) the chemical identity is not readily discoverable through reverse engineering.

²⁸ 42 U.S.C. §§9601-9675. For a broader discussion of the authorities of CERCLA than presented in this report, see CRS Report R41039, *Comprehensive Environmental Response, Compensation, and Liability Act: A Summary of Superfund Cleanup Authorities and Related Provisions of the Act*, by David M. Bearden.

²⁹ For a discussion of the federal role in responding to releases of hazardous substances, see CRS Report R43251, *Oil and Chemical Spills: Federal Emergency Response Framework*, by David M. Bearden and Jonathan L. Ramseur.

³⁰ 42 U.S.C. §9607.

³¹ 42 U.S.C. §9603.

³² 42 U.S.C. §9602.

³³ 40 C.F.R. Part 302.

³⁴ 42 U.S.C. §9601(10). Permits issued under the authorities of these federal environmental laws include permits issued by states with delegated federal authority.

³⁵ 42 U.S.C. §9607(j).

Section 304 of EPCRA generally requires the owner or operator of a facility from which an extremely hazardous substance is released into the environment to report the release to the SERC and the appropriate LEPC, if the volume of the release is a reportable quantity.³⁶ Parallel with CERCLA, Section 304 of EPCRA however federally permitted releases from these reporting requirements. Most extremely hazardous substances designated under EPCRA also are designated as hazardous substances under CERCLA, but some are not.

Chemical Safety Board

As amended in 1990, Section 112(r)(6) of the CAA authorized the establishment of the Chemical Safety and Hazard Investigation Board, often referred to as the Chemical Safety Board (CSB) for short.³⁷ The principal mission of the CSB is to

investigate (or cause to be investigated), determine and report to the public in writing the facts, conditions, and circumstances and the cause or probable cause of any accidental release resulting in a fatality, serious injury or substantial property damages.³⁸

Based on the findings of its investigations, the CSB is authorized to recommend measures that may reduce the likelihood or consequences of accidental releases in the future, and to propose “corrective steps” to mitigate the safety risks of chemical production, processing, handling, and storage. The CSB is not a regulatory agency, however, and is not authorized to enforce or compel compliance with such recommendations or corrective steps. Other agencies with regulatory authority may develop enforceable requirements based on CSB recommendations, such as EPA for accidental release prevention requirements under Section 112(r)(7) of the CAA, or OSHA for worker protection requirements under the OSH Act.³⁹

Toxic Release Inventory Reporting Requirements

In addition to emergency planning and release notification requirements, Section 313 of EPCRA authorized EPA to establish and maintain a Toxic Release Inventory (TRI) of facilities that manufacture, import, process, or use certain types of toxic chemicals.⁴⁰ These facilities are diverse in terms of their industrial and commercial operations. TRI does not necessarily identify actual releases into the environment that may present a particular level of risk to human health or the environment, nor does the TRI track facilities that have violated any particular environmental requirements under either federal or state law. The TRI only provides public disclosure of the locations of certain facilities at which toxic chemicals are present in various quantities, consistent with the “community right-to-know” objective of EPCRA.

Section 313 requires the owner or operator of a facility to submit an annual report to EPA, and a state official designated by the governor of the state in which the facility is located, identifying the quantities of toxic chemicals manufactured, imported, processed, or otherwise used at that facility the previous year, if the quantity would exceed the threshold required for reporting. The

³⁶ 42 U.S.C. §11004.

³⁷ 42 U.S.C. §7412.

³⁸ 42 U.S.C. §7412(6).

³⁹ The CSB website (<http://www.csb.gov/>) offers additional information on the mission, history, and current membership of the Board; and maintains a collection of completed and ongoing chemical accident investigations conducted by the Board.

⁴⁰ 42 U.S.C. §11023.

specific chemicals subject to these reporting requirements are designated in federal regulations promulgated by EPA, pursuant to Section 313.⁴¹ Section 313(d) outlines the designation criteria, including chemical toxicity, potential adverse impacts on human health if exposure were to occur, and certain types of illnesses or health conditions that may be associated with potential exposure to the chemical.⁴² Section 313(f) establishes a general reporting threshold of 10,000 pounds for toxic chemicals used at a facility during a calendar year, and 25,000 pounds for toxic chemicals manufactured, imported, or processed at a facility during a calendar year.⁴³

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⁴¹ 40 C.F.R. Part 372.

⁴² 42 U.S.C. §11023(d).

⁴³ 42 U.S.C. §11023(f).