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**LEGAL STATUS**

# Financial Responsibility Requirements Under CERCLA Section 108(b) for Facilities in the Chemical Manufacturing Industry

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A Proposed Rule by the [Environmental Protection Agency](#) on 02/21/2020

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 This document has a comment period that ends in 57 days. (04/21/2020)

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**Supporting/Related Materials:**

Petri Paint POLREP #3 5.15.2018 (<https://www.regulations.gov/document?D=EPA-HQ-OLEM-2019-0086-1011>)  
Sullivan and Mullen Environmental Obligations in Bankruptcy... (<https://www.regulations.gov/document?D=EPA-HQ-OLEM-2019-0086-1010>)  
StRose QASP 11.6.2014 (<https://www.regulations.gov/document?D=EPA-HQ-OLEM-2019-0086-1009>)  
Rat Memo gss 3.15.2007 (<https://www.regulations.gov/document?D=EPA-HQ-OLEM-2019-0086-1008>)  
Office of Efficiency and Renewable Energy, N.d. Chemical... (<https://www.regulations.gov/document?D=EPA-HQ-OLEM-2019-0086-1007>)  
NAIDU - 1 (<https://www.regulations.gov/document?D=EPA-HQ-OLEM-2019-0086-1006>)  
Lynn M. LoPucki UCLA 2018 Bankruptcy Research Database (<https://www.regulations.gov/document?D=EPA-HQ-OLEM-2019-0086-1005>)  
Justia N.d. The Discharge (<https://www.regulations.gov/document?D=EPA-HQ-OLEM-2019-0086-1004>)  
Gssxesum 061307 (<https://www.regulations.gov/document?D=EPA-HQ-OLEM-2019-0086-1003>)  
GG Arars Letter - 05/31/2007 (<https://www.regulations.gov/document?D=EPA-HQ-OLEM-2019-0086-1002>)  
**See all 1010 supporting documents (<https://www.regulations.gov/docketBrowser?rpp=50&po=0&dct=SR&D=EPA-HQ-OLEM-2019-0086>)**

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**ENHANCED CONTENT**

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**PUBLISHED DOCUMENT****AGENCY:**

Environmental Protection Agency (EPA).

**ACTION:**

Proposed rule.

**SUMMARY:**

The Environmental Protection Agency (EPA or the Agency) is proposing to not impose financial responsibility requirements for facilities in the Chemical Manufacturing industry under Section 108(b) of the

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**PUBLISHED DOCUMENT**

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Section 108(b) addresses the promulgation of regulations that require classes of facilities to establish and maintain evidence of financial responsibility consistent with the degree and duration of risk associated with the production, transportation, treatment, storage, or disposal of hazardous substances.

## **DATES:**

Comments must be received on or before April 21, 2020.

## **ADDRESSES:**

Submit your comments, identified by Docket ID No. EPA-HQ- SFUND-2019-0086, at <http://www.regulations.gov> (<http://www.regulations.gov>). Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from *Regulations.gov*. EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. EPA will generally not consider comments or comment contents located outside of the primary submission (*i.e.*, on the Web, cloud, or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <http://www2.epa.gov/dockets/commenting-epa-dockets> (<http://www2.epa.gov/dockets/commenting-epa-dockets>).

## **FOR FURTHER INFORMATION CONTACT:**

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## **SUPPLEMENTARY INFORMATION:**

### **How can I get copies of this document and other related information?**

This **Federal Register** proposed rule and supporting documentation are available in a docket EPA has established for this action under Docket ID No. EPA-HQ-OLEM-2019-0086. All documents in the docket are listed in the <http://www.regulations.gov> (<http://www.regulations.gov>) index. Although listed in the index, some information is not publicly available, *e.g.*, Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically at <http://www.regulations.gov> (<http://www.regulations.gov>) or in hard copy at EPA/DC, WJC West, Room 3334, 1301 Constitution Ave. NW, Washington, DC 20460. This Docket Facility is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The Docket Facility telephone number is (202) 566-0276. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744.

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## I. Executive Summary

### A. Overview

Section 108(b) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) directs EPA to develop regulations that require classes of □ facilities to establish and maintain evidence of financial responsibility consistent with the degree and duration of risk associated with the production, transportation, treatment, storage, or disposal of hazardous substances. The statute further requires that the level of financial responsibility be established to protect against the level of risk that the President, in his discretion, believes is appropriate, based on factors including the payment experience of the Hazardous Substance Superfund (Fund). The President's authority under this section for non-transportation-related facilities has been delegated to the EPA Administrator.

This proposal is based on EPA's interpretation of the statute and analysis of its record developed for this rulemaking.<sup>[1]</sup> EPA has analyzed the need for financial responsibility based on risk of taxpayer funded cleanups at facilities in the Chemical Manufacturing Industry operating under modern management practices and modern environmental regulations, *i.e.*, the type of facilities to which financial responsibility regulations would apply.

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That risk is identified by examining the management of hazardous substances at such facilities, as well as by examining Federal and state regulatory controls on that management and Federal and state financial responsibility requirements.

Based on that examination, EPA is proposing that, in the context of CERCLA section 108(b), the degree and duration of risk associated with the modern production, transportation, treatment, storage or disposal of hazardous substances by the Chemical Manufacturing Industry does not present a level of risk of taxpayer funded response actions that warrant imposition of financial responsibility requirements for this sector.

In August 2014, the Idaho Conservation League, Earthworks, Sierra Club, Amigos Bravos, Great Basin Resource Watch, and Communities for a Better Environment filed a lawsuit in the U.S. Court of Appeals for the District of Columbia Circuit, seeking a writ of mandamus requiring issuance of CERCLA Section 108(b) financial responsibility rules for the hardrock mining industry, and for the three additional industries identified by EPA in the 2010 Advance Notice of Proposed Rulemaking (ANPRM),<sup>[2]</sup> that is, Chemical Manufacturing; Petroleum and Coal Products Manufacturing; and Electric Power Generation, Transmission, and Distribution. Following oral arguments, EPA and the petitioners submitted a Joint Motion for an order on Consent, filed on August 31, 2015, which included a schedule for further administrative proceedings under CERCLA Section 108(b). The court order granting the motion was issued on January 29, 2016. A copy of the order can be found in the docket for this rulemaking.

In addition to requiring EPA to publish a proposed rule on hardrock mining financial requirements by December 1, 2016, the January 2016 order required EPA to sign for publication in the **Federal Register** a determination whether EPA will issue a notice of proposed rulemaking on financial assurance requirements under Section 108(b) in the (a) chemical manufacturing industry; (b) petroleum and coal products manufacturing industry; and (c) electric power generation, transmission, and distribution industry by December 1, 2016. EPA signed the required determination on December 1, 2016; the notice was published on January 11, 2017<sup>[3]</sup> and announced EPA's intent to proceed with rulemakings for all three of the classes.

## **B. Purpose of This Action**

The purpose of this action is to propose that financial responsibility requirements under CERCLA Section 108(b) at facilities in the Chemical Manufacturing industry are not necessary and to solicit comments on this proposal. EPA has reached this conclusion based on the analyses described in Parts VI and VII of this proposal. The evidence provided in these analyses contributed to EPA's proposed finding that the degree and duration of risk posed by the Chemical Manufacturing industry does not warrant financial responsibility requirements under CERCLA Section 108(b).

The analysis and proposed finding in this proposal are not applicable to and do not affect, limit, or restrict EPA's authority (1) to take a response action or enforcement action under CERCLA with respect to any facility in the Chemical Manufacturing industry, including any currently operating facilities or those described in this proposal and in the background documents for this proposal, and (2) to include requirements for financial responsibility as part of such response action. The set of facts in the rulemaking record related to the individual facilities discussed in this proposed rulemaking support the Agency's proposal not to issue financial responsibility requirements under Section 108(b) for this class. At the same time, a different set of facts could demonstrate a need for a CERCLA response action at an individual site. This proposed rulemaking also does not affect the Agency's authority under other authorities that may apply to individual facilities, such as the Clean Air Act (CAA), the Clean Water Act (CWA), the Resource Conservation and Recovery Act (RCRA), and the Toxic Substances Control Act (TSCA).

### C. Summary of the Major Provisions of the Regulatory Action

EPA is proposing to not require evidence of financial responsibility under CERCLA Section 108(b) at facilities in the Chemical Manufacturing industry. Thus, there are no proposed regulatory provisions associated with this action.

### D. Costs and Benefits of the Regulatory Action

EPA is proposing to not require evidence of financial responsibility under CERCLA Section 108(b) at facilities in the Chemical Manufacturing industry. EPA, therefore, has not conducted a Regulatory Impact Analysis for this action.

## II. Authority

This proposed rule is issued under the authority of Sections 101, 104, 108 and 115 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C 9601 (<https://www.govinfo.gov/link/uscode/42/9601?type=usc&year=mostrecent&link-type=html>), 9604, 9608 and 9615, and Executive Order 12580 (52 FR 2923 (/citation/52-FR-2923), January 29, 1987).

## III. Background Information

### A. Overview of Section 108(b) and Other CERCLA Provisions

CERCLA, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), establishes a comprehensive environmental response and cleanup program. Generally, CERCLA authorizes EPA <sup>[4]</sup> to undertake removal or remedial actions in response to any release or threatened release into the environment of “hazardous substances” or, in some circumstances, any other “pollutant or □ contaminant.” As defined in CERCLA Section 101, removal actions include actions to “prevent, minimize, or mitigate damage to the public health or welfare or to the environment,” and remedial actions are “actions consistent with [a] permanent remedy[.]” Remedial and removal actions are jointly referred to as “response actions.” CERCLA Section 111 authorizes the use of the Hazardous Substance Superfund established under title 26, United States Code, to finance response actions undertaken by EPA. In addition, CERCLA Section 106 gives EPA <sup>[5]</sup> authority to compel action by liable parties in response to a release or threatened release of a hazardous substance that may pose an “imminent and substantial endangerment” to public health or welfare or the environment.

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CERCLA Section 107 imposes liability for response costs on a variety of parties, including certain past owners and operators, current owners and operators, and certain generators, arrangers, and transporters of hazardous substances. Such parties are liable for certain costs and damages, including all costs of removal or remedial action incurred by the Federal Government, so long as the costs incurred are “not inconsistent with the national contingency plan” (the National Oil and Hazardous Substances Pollution Contingency Plan or NCP).<sup>[6]</sup> Section 107 also imposes liability for natural resource damages and health assessment costs.<sup>[7]</sup>

Section 108(b) establishes authority to require owners and operators of classes of facilities to establish and maintain evidence of financial responsibility. Section 108(b)(1) directs EPA to develop regulations requiring owners and operators of facilities to establish evidence of financial responsibility “consistent with the degree and duration of risk associated with the production, transportation, treatment, storage, or disposal of hazardous substances.” In turn, Section 108(b)(2) directs that the level of financial responsibility shall be initially established, and, when necessary, adjusted to protect against the level of risk that EPA in its discretion believes is appropriate based on the payment experience of the Fund, commercial insurers, court settlements and judgments, and voluntary claims satisfaction. Section 108(b)(2) does not, however, preclude

EPA from considering other factors in addition to those specifically listed. The statute prohibited promulgation of such regulations before December 1985.

In addition, Section 108(b)(1) provides for publication within three years of the date of enactment of CERCLA of a “priority notice” identifying the classes of facilities for which EPA would first develop financial responsibility requirements. It also directs that priority in the development of requirements shall be accorded to those classes of facilities, owners, and operators that present the highest level of risk of injury.

## **B. History of Section 108(b) Rulemakings**

### **1. 2009 IDENTIFICATION OF PRIORITY CLASSES OF FACILITIES FOR DEVELOPMENT OF CERCLA SECTION 108(B) FINANCIAL RESPONSIBILITY REQUIREMENTS**

On March 11, 2008, Sierra Club, Great Basin Resource Watch, Amigos Bravos, and Idaho Conservation League filed suit in the U.S. District Court for the Northern District of California against then EPA Administrator Stephen Johnson and then Secretary of the U.S. Department of Transportation Mary E. Peters. *Sierra Club, et al. v. Johnson*, No. 08-01409 (N. D. Cal.). On February 25, 2009, that court ordered EPA to publish the Priority Notice required by CERCLA Section 108(b)(1) later that year. The 2009 Priority Notice and supporting documentation presented the Agency's conclusion that hardrock mining facilities would be the first class of facilities for which EPA would issue CERCLA Section 108(b) requirements.<sup>[8]</sup> Additionally, the 2009 Priority Notice stated EPA's view that classes of facilities outside of the hardrock mining industry may warrant the development of financial responsibility requirements.<sup>[9]</sup> The Agency committed to gather and analyze data on additional classes of facilities and to consider them for possible regulation. The court later dismissed the remaining claims.

### **2. ADDITIONAL CLASSES 2010 ADVANCE NOTICE OF PROPOSED RULEMAKING**

On January 6, 2010, EPA published an Advance Notice of Proposed Rulemaking (ANPRM),<sup>[10]</sup> in which the Agency identified three additional industrial sectors for the development, as necessary, of proposed Section 108(b) regulation. To develop the list of additional classes for the 2010 ANPRM, EPA used information from the CERCLA National Priorities List (NPL) and analyzed data from the RCRA Biennial Report (BR) and the Toxics Release Inventory (TRI).

EPA specifically requested public comment in the 2010 ANPRM on whether to propose a regulation under CERCLA Section 108(b) for each of the three industries, or any class or classes within those industries, including information demonstrating why such financial responsibility requirements would or would not be appropriate for those particular classes. In addition, the Agency requested information related to the industry categories discussed in the ANPRM, including data on facility operations, information on past and expected future environmental response actions, use of financial responsibility mechanisms by the industry categories, existing financial responsibility requirements, and other information the Agency might consider in setting financial responsibility levels. Finally, EPA requested information from the insurance and financial sectors related to instrument availability and implementation, and to potential instrument conditions.<sup>[11]</sup> Comments received on the ANPRM are summarized in the Additional Classes 2017 Notice of Intent to Proceed with Rulemakings, section III.B.4 below.

### **3. 2014 PETITION FOR WRIT OF MANDAMUS**

In August 2014, the Idaho Conservation League, Earthworks, Sierra Club, Amigos Bravos, Great Basin Resource Watch, and Communities for a Better Environment filed a new lawsuit in the U.S. Court of Appeals for the District of Columbia Circuit, seeking a writ of mandamus requiring issuance of CERCLA Section 108(b) financial assurance rules for the hardrock mining industry and for three other industries: Chemical



manufacturing; petroleum and coal products manufacturing; and electric power generation, transmission, and distribution. Thirteen companies and organizations representing business interests in the hardrock mining and other sectors sought to intervene in the case.

Following oral argument, the court issued an order in May 2015 requiring the parties to submit, among other things, supplemental submissions addressing a schedule for further administrative proceedings under CERCLA Section 108(b). Petitioners and EPA requested an order from the court with a schedule calling for the Agency to sign a proposed rule for the hardrock mining industry by December 1, 2016, and a final rule by December 1, 2017. The joint motion also included a  requested schedule for the additional industry classes, which called for EPA to sign by December 1, 2016, a determination on whether EPA would issue a notice of proposed rulemaking for classes of facilities in any or all of the other industries, and a schedule for proposed and final rules for the additional industry classes as follows:

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EPA will sign for publication in the **Federal Register** a notice of proposed rulemaking in the first additional industry by July 2, 2019, and sign for publication in the **Federal Register** a notice of its final action by December 2, 2020.

EPA will sign for publication in the **Federal Register** a notice of proposed rulemaking in the second additional industry by December 4, 2019, and sign for publication in the **Federal Register** a notice of its final action by December 1, 2021.

EPA will sign for publication in the **Federal Register** a notice of proposed rulemaking in the third additional industry by December 1, 2022, and sign for publication in the **Federal Register** a notice of its final action by December 4, 2024.<sup>[12]</sup>

While the joint motion identified the three additional industries as the Chemical Manufacturing industry, the Petroleum and Coal Products Manufacturing industry, and the Electric Power Generation, Transmission and Distribution industry, and set a rulemaking schedule, the motion did not indicate which industry would be the first, second or third. The Joint Motion specified that it did not alter the Agency's discretion as provided by CERCLA and administrative law.<sup>[13]</sup>

On January 29, 2016, the court granted the joint motion and issued an order that mirrored the submitted schedule in substance. The order did not mandate any specific outcome of the rulemakings.<sup>[14]</sup> The court order can be found in the docket for this rulemaking. The signing of this proposed rule by December 1, 2022, will satisfy one component of the court order.

#### 4. ADDITIONAL CLASSES 2017 NOTICE OF INTENT TO PROCEED WITH RULEMAKINGS

Consistent with the January 2016 court order, EPA signed on December 1, 2016, a determination regarding rulemakings for the additional classes—a Notice of Intent to Proceed with Rulemakings for all three of the classes. The notice was published in the **Federal Register** on January 11, 2017.<sup>[15]</sup>

The notice formally announced EPA's intention to move forward with the regulatory process and to publish a notice of proposed rulemaking for classes of facilities within the three industries identified in the 2010 ANPRM. The announcement in the notice was not a determination that requirements were necessary for any or all of the classes of facilities within the three industries, or that EPA would propose such requirements. In addition, the notice gave an overview of some of the comments received on the 2010 ANPRM and initial responses to those comments. The comments on the ANPRM which specifically addressed the need for CERCLA Section 108(b) regulation for the three additional classes fell into four categories: (1) Other laws

with which the industry complies that obviate the need for CERCLA Section 108(b) regulation; (2) the sources of data that EPA used to select the industries; (3) past versus current practices within each industry; and (4) the overall need for financial responsibility for each industry. In discussing the ANPRM comments in the 2017 notice, the Agency stated its intent to use other, more industry-specific and more current sources of data to identify risk; to consider site factors that reduce risks, including those that result from compliance with other regulatory requirements; and to develop a regulatory proposal for each rulemaking.

At the time of the 2017 notice, EPA had not identified sufficient evidence to determine that the rulemaking process was not warranted, nor had EPA identified sufficient evidence to establish CERCLA Section 108(b) requirements. The notice described a process to gather and analyze additional information to support the Agency's ultimate decision, including further evaluation of the classes of facilities within the three industry sectors. The notice stated that EPA would decide whether proposing requirements was necessary and, accordingly, that EPA would propose appropriate requirements or would propose not to impose requirements.

#### **5. CERCLA SECTION 108(B) PROPOSAL FOR FACILITIES IN THE ELECTRIC POWER GENERATION, TRANSMISSION, AND DISTRIBUTION INDUSTRY**

On July 29, 2019, EPA published a notice of proposed rulemaking on the first of the three additional industries. In that notice, the Agency proposed to not impose financial responsibility requirements for the Electric Power Generation, Transmission, and Distribution industry and described the analyses and results that were used to reach that decision. The court's January 2016 order requires that a final action on the first additional industry be signed by December 2, 2020.<sup>[16]</sup>

### **IV. Statutory Interpretation**

CERCLA Section 108(b) provides general instructions on how to determine what financial responsibility requirements to impose for a particular class of facility. Section 108(b)(1) directs EPA to develop regulations requiring owners and operators of facilities to establish evidence of financial responsibility "consistent with the degree and duration of risk associated with the production, transportation, treatment, storage, or disposal of hazardous substances." Section 108(b)(2) directs that the "level of financial responsibility shall be initially established and, when necessary, adjusted to protect against the level of risk" that EPA "believes is appropriate based on the payment experience of the Fund, commercial insurers, courts settlements and judgments, and voluntary claims satisfaction." EPA interprets the risk to be addressed by financial assurance under Section 108(b) to be the risk of the need for taxpayer financed response actions. Read together, the statutory language on determining the degree and duration of risk and on setting the level of financial responsibility confers a significant amount of discretion on EPA.

Section 108(b)(1) directs EPA to evaluate risk from a selected class of facilities, but it does not suggest that a precise calculation of risk is either necessary or feasible. Although the cost of response associated with a particular site can be ascertained only once a response action is required, any financial responsibility requirements imposed under Section 108(b) would be imposed before any such response action was identified. The statute thus necessarily confers on EPA wide latitude to determine, in a Section 108(b) rulemaking proceeding, what degree and duration of risk are presented by the identified class.

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Section 108(b)(2) in turn directs that EPA establish the level of financial responsibility that EPA in its discretion believes is appropriate to protect against the risk. This statutory direction does not specify a methodology for the evaluation. Rather, this decision is committed to the discretion of the EPA Administrator. While the statute provides a list of information sources on which EPA is to base its decision—

the payment experience of the Superfund, commercial insurers, courts settlements and judgments, and voluntary claims satisfaction—the statute does not indicate that this list of factors is exclusive, nor does it specify how the information from these sources is to be used, such as by indicating how these categories are to be weighted relative to one another.

EPA believes that sections 108(b)(1) and (b)(2) are sufficiently interrelated that it is appropriate to evaluate the degree and duration of risk under subsection (b)(1) by considering the factors enumerated in subsection (b)(2). EPA therefore concludes that Congress intended the risk associated with a particular class of facilities to mean the risk of future Fund-financed cleanup actions in that industry. This reading is supported by the structure of the statute, as Section 108(b) appears between two provisions related to cost recovery. Section 108(a), concerning financial assurance requirements for certain vessels, refers specifically to cleanup costs. And Section 108(c), concerning recovery of costs from guarantors who provide the financial responsibility instruments, refers specifically to liability for cleanup costs. EPA thus reads “risk” in Section 108(b) consistent with its meaning in sections 108(a) and (c); that is, the risk of Fund-financed cleanup. EPA adopted this interpretation in assessing the need for financial responsibility requirements under CERCLA Section 108(b) for facilities in the first class of facilities it evaluated: The Hardrock Mining industry.<sup>[17]</sup> In its opinion deciding the challenge to the Final Action for the Hardrock Mining industry, the U.S. Court of Appeals for the District of Columbia Circuit held that EPA’s interpretation that the provisions of Section 108(b) “relate only to ensuring against financial risks associated with cleanup costs,” is reasonable and entitled to deference.<sup>[18]</sup>

For the Chemical Manufacturing industry, EPA has investigated the payment history of the Fund, and enforcement settlements and judgments, to evaluate, in the context of this CERCLA Section 108(b) rulemaking, the risk of a Fund-financed response action at facilities that would be subject to CERCLA financial responsibility requirements. The statute also authorizes EPA to consider the existence of Federal and state regulatory requirements, including any financial responsibility requirements. Section 108(b)(1) directs EPA to promulgate financial responsibility requirements “in addition to those under subtitle C of the Solid Waste Disposal Act and other Federal law.” According to the 1980 Senate Report on legislation that was later enacted as CERCLA, Congress considered it appropriate for EPA to examine those additional requirements when evaluating the degree and duration of risk under what was later enacted as CERCLA Section 108(b):

The bill requires also that facilities maintain evidence of financial responsibility consistent with the degree and duration of risks associated with the production, transportation, treatment, storage, and disposal of hazardous substances. These requirements are in addition to the financial responsibility requirements promulgated under the authority of Section 3004(6) of the Solid Waste Disposal Act. It is not the intention of the Committee that operators of facilities covered by Section 3004(6) of that Act be subject to two financial responsibility requirements for the same dangers.<sup>[19]</sup>

While the Senate Report mentions RCRA Section 3004(6) specifically, it is consistent with congressional intent for EPA to consider other potentially duplicative Federal financial responsibility requirements when examining the “degree and duration of risk” in the context of CERCLA Section 108(b) to determine whether and what financial responsibility requirements are appropriate. It is also consistent with congressional intent for EPA to consider state laws before imposing additional Federal financial responsibility requirements.

Consideration of state laws *before* developing financial responsibility regulations is consistent with CERCLA Section 114(d), which prevents states from imposing financial responsibility requirements for liability for

releases of the same hazardous substances *after* a facility is regulated under Section 108 of CERCLA. Just as Congress intended to prevent states from imposing duplicative financial assurance requirements after EPA had acted to impose such requirements under Section 108, it is reasonable to also conclude that Congress did not mean for EPA to disrupt existing state programs that are successfully regulating industrial operations to minimize risk, including the risk of taxpayer liability for response actions under CERCLA, and that specifically include appropriate financial assurance requirements under state law. Reviews of both state programs and other Federal programs help to identify whether and at what level there is current risk that is appropriate to address under CERCLA Section 108.

EPA also believes that, when evaluating whether and at what level it is appropriate to require evidence of financial responsibility, EPA should examine information on Chemical Manufacturing facilities operating under modern conditions. In other words, EPA should assess the types of facilities to which any new financial responsibility regulations would apply. Financial responsibility requirements under Section 108(b) would not apply to legacy operations that are no longer operating. Rather, any requirements would apply to facilities that follow current industry practices and are subject to the modern regulatory framework (*i.e.*, the regulations currently in place that apply to this industry). These modern conditions include state and Federal regulatory requirements and financial responsibility requirements that currently apply to operating facilities. This reading of Section 108(b) is consistent with statements in the legislative history of the statute. The 1980 Senate Report states that the legislative language that became Section 108(b) “requires those engaged in businesses involving hazardous substances to maintain evidence of financial responsibility commensurate with the risk which they present.”<sup>[20]</sup> This approach is also consistent with the analysis that EPA undertook, in developing its Final Action on Financial Responsibility Requirements Under CERCLA Section 108(b) for Classes of Facilities in the Hardrock Mining Industry.<sup>[21]</sup> EPA’s approach was recently upheld by the U.S. Court of Appeals for the District of Columbia Circuit.<sup>[22]</sup>

This statutory interpretation is reflected in today’s proposal. Any financial responsibility requirements imposed under Section 108(b) would apply to currently operating facilities. □ EPA thus sought to examine the extent to which hazardous substance management at currently operating Chemical Manufacturing facilities as a class continues to present risk. Moreover, the statutory direction to identify requirements consistent with identified risks guides EPA’s interpretation that imposition of financial responsibility requirements under Section 108(b) would not be necessary for currently operating facilities that present minimal current risk of a Fund-financed response action. The interpretation in this proposal does not extend to any site-specific determinations of risk made in the context of individual CERCLA site responses. Those decisions will continue to be made in accordance with preexisting procedures.

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EPA thus examined records of releases of hazardous substances from facilities operating under a current regulatory framework and data on the actions taken and expenditures incurred in response to such releases. The data collected do not reflect historical practices, many of which would be illegal under current environmental laws and regulations. Instead, EPA has considered current Federal and state regulation of hazardous substance production, transportation, treatment, storage, or disposal applicable to facilities in the Chemical Manufacturing industry.

## V. Approach To Developing This Proposed Rule

Based on the statutory interpretation described above, EPA developed an analytical approach to determine whether the current risk under the modern regulatory framework within the Chemical Manufacturing industry rises to the level that warrants imposition of financial responsibility requirements under CERCLA Section 108(b). Specifically, EPA designed the analytical approach to determine the need for financial

responsibility for this industry based on the degree and duration of risk of a Fund-financed response action associated with the industry's production, transportation, treatment, storage, or disposal of hazardous substances.

The approach, described in detail below, looks at risks by examining records of releases of hazardous substances from facilities in the industry in combination with the payment history of the Fund and enforcement settlements and judgments. To enable EPA to base its decision on risk posed by facilities operating under modern conditions, *i.e.*, the types of facilities to which financial responsibility requirements would apply, EPA developed an approach to identify and consider relevant state and Federal regulatory requirements and financial responsibility requirements that currently apply to operating facilities, as well as voluntary protective practices.

EPA sought to determine the level of risk of a Fund-financed response action at current Chemical Manufacturing operations. Relevant to this decision are requirements of existing regulatory programs and voluntary practices, including existing financial responsibility requirements, which can reduce costs to the taxpayer; EPA's experience with cleanups in the Chemical Manufacturing industry; and enforcement actions, which may reduce the need for Federally-financed response action at facilities in the Chemical Manufacturing industry.

As part of scoping the Chemical Manufacturing industry for this proposal, EPA sought to understand general characteristics of the industry that may be relevant to financial responsibility under Section 108(b). To do this, EPA compiled industry features, including the types of activities undertaken and wastes handled or produced. Additionally, EPA looked at the financial condition of the industry to assess the ability of facilities in this class to pay for any environmental obligations they may incur. Discussion of these aspects of the industry is included in section VI of this proposal.

Section VII.A describes EPA's evaluation of cleanup cases at facilities in the Chemical Manufacturing industry. So-called "cleanup cases" are sites in the Chemical Manufacturing industry where releases and cleanup actions occurred. To perform this evaluation EPA developed an analytic approach that considered cleanup cases to identify risk at currently operating facilities and where taxpayer funds were expended for response action. EPA first examined each site to determine the nature and timing of release. EPA used this information to determine if releases occurred under current regulations. As an initial screen, releases that occurred prior to 1980 were deemed to be legacy releases that occurred before the advent of the modern environmental regulatory framework and were therefore screened out of our analysis. Once EPA identified those sites with more recent releases occurring under a modern regulatory framework, EPA then focused on those response actions that were paid for by the taxpayer by looking at those sites with Fund-financed cleanup activity.

As described in section VII.B, to understand the modern regulatory framework applicable to currently operating facilities within the Chemical Manufacturing industry, EPA compiled applicable Federal and state regulations. Specifically, EPA looked to regulations that address the types of releases identified in the cleanup cases. This review also considered industry voluntary programs that could reduce risk of releases. EPA also identified financial responsibility regulations that apply to facilities in the Chemical Manufacturing industry in section VII.C, and compliance and enforcement history for the relevant regulations in section VII.D.

EPA considered payments from commercial insurers as well but determined that it was not necessary to

conduct a detailed analysis of this potential information source in light of the analyses of cleanup cases and enforcement data. The cleanup cases and enforcement data, in addition to addressing the payment experience of the Fund, court settlements and judgments, and voluntary claims satisfaction, also encompasses amounts from commercial insurance payments. For example, at three of the Chemicals Manufacturing NPL sites identified and reviewed, EPA recovered funds from a commercial insurer that had issued a policy to a potentially responsible party (PRP) that was a liable party at all three sites. Furthermore, payments from commercial insurers may have helped finance the work conducted by PRPs in the cleanup cases identified or may have been included in settlements, judgments, or enforcement cases identified by EPA. However, in the event there were significant payments from commercial insurers associated with facilities in the Chemical Manufacturing industry that were not already indirectly captured, this information would neither indicate greater risk to the Fund nor suggest a need for financial responsibility requirements under CERCLA Section 108(b).

In considering how to structure its analysis and what data sources to examine, EPA reviewed prior analysis done for selection of industry classes in the 2010 ANPRM and public comments responding to EPA's approach. In the public comment period for the ANPRM, EPA received a total of 67 comments from 30 commenters on the Chemical Manufacturing industry, Petroleum and Coal Products Manufacturing industry, and the Electric Power Generation, Transmission, and Distribution industry. In addition, EPA received five comments to the Hardrock Mining Proposed Rule that were related to the additional classes of facilities.□

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EPA received comments from the American Chemistry Council and the Society of Chemical Manufacturers and Affiliates, among others. Commenters indicated that EPA should concentrate on current practices and not legacy contamination. Commenters also said that EPA should not impose financial responsibility requirements on facilities that are already subject to other Federal laws. Lastly, many commenters believe that EPA placed too much emphasis on TRI data and RCRA BR data and expressed their opinions that these data sources are not designed or intended to provide risk-based information.

In its 2017 Notice of Intent to Proceed with Rulemakings<sup>[23]</sup> EPA acknowledged limitations on information that can be gained from TRI and BR data and announced its intention to use industry-specific and current sources of data to identify risk for the purposes of the rulemakings. EPA also analyzed those limitations in the final action for the Hardrock Mining rule.<sup>[24]</sup> Accordingly, in the analysis conducted to assess risk in the Chemical Manufacturing industry for this action, EPA chose not to rely on TRI and BR data. While, at the time of the 2010 ANPRM, the Agency found those data sources appropriate for identifying classes of facilities to examine further, the Agency does not find the data sources valuable for assessing current risk of a Fund-financed response action in the industry.

## **VI. Chemical Manufacturing Industry Overview**

### **A. Identification of Chemical Manufacturing Industry**

For this proposal and the associated analyses, EPA reviewed facilities classified under the North American Industry Classification System (NAICS) code 325. The most recent available census data lists the size of the industry at 13,480 establishments nationally.<sup>[25]</sup> Chemical Manufacturing facilities transform raw materials (*e.g.*, oil, natural gas, water, minerals, metals) into tens of thousands of different products, including pigments, synthetic fibers, bulk chemicals, plastics, pharmaceuticals, and consumer goods, as well as produce inputs to agriculture, manufacturing, and construction industries.

### **B. Overview of Current Industry Operation**

As discussed in the approach section, to provide a backdrop for its analyses, EPA reviewed, and characterizes here, the operation of the chemical manufacturing industry from a broad perspective. Operational and decommissioning practices in industrial sectors and their associated firms can ultimately affect the ability of individual firms to responsibly minimize their impact on human health and the environment. Commodity chemical manufacturers create products in large quantities under continuous processing conditions, generally in large volumes in response to homogenous specifications. Specialty-batch chemical manufacturers develop products for focused markets, making complex products in small quantities that are then processed into higher value-added products. These manufacturers change their process lines several times a year, providing more opportunities for environmental improvements but also making environmental compliance more complicated. To consider the potential for releases as part of its decision making, EPA prepared a high-level review of industry practices and the environmental profile of the Chemical Manufacturing industry, which includes a summary of relevant operational and decommissioning materials and wastes in a background document, which is available in the docket for this rulemaking.<sup>[26]</sup>

Potentially hazardous materials are frequently used in this industry. These materials can include a large variety of chemicals and compounds. The many different processes used in the Chemical Manufacturing industry result in many different wastes. Typical wastes from Chemical Manufacturing facilities can include, for example, spent solvents, distillation bottoms and side-cuts, off-specification and unused chemicals, wastewater, wastewater treatment sludge, emission control sludges, filter cake, spent catalysts, byproducts, reactor cleanout wastes, and container residues. Chemical Manufacturing facilities typically handle large volumes of chemicals using above and below ground bulk storage tanks, transfer equipment, process piping, and raw material/final product storage areas. Due to the nature of this industry, it is not surprising that it generates high volumes of hazardous waste.<sup>[27]</sup>

Some wastes may be found on site in surface impoundments, bulk storage tanks, waste piles, and disposal pits. All these areas may contribute to soil and groundwater contamination. Decommissioning wastes can include all the chemicals and substances listed above, as well as contaminated soil and building materials, sludges, neutralization liquids, and cleaning solvents. If such wastes are hazardous, then they must be managed in accordance with RCRA regulations.

Industry practices in certain subsectors of the Chemical Manufacturing industry, including All Other Basic Organic Chemical Manufacturing (325199), Other Basic Inorganic Chemical Manufacturing (325180), Cyclic Crude, Intermediate, and Gum and Wood Chemical Manufacturing (325194), and Synthetic Dye and Pigment Manufacturing (325130), use more hazardous substances and generate larger volumes of hazardous waste. Several sectors use fewer hazardous substances and generate lower amounts of hazardous waste, including Custom Compounding of Purchased Resins (325991), Printing Ink Manufacturing (325910), Polish and other Sanitation Good Manufacturing (325612), Phosphatic Fertilizer Manufacturing (325312), and Ethyl Alcohol Manufacturing (325193). Further information on industry practices is provided in the background document for this section, which is available in the docket for this rulemaking.<sup>[28]</sup>

Sites contaminated by the industry contain a wide variety of contaminants, including but not limited to toxic organics, such as benzene, polychlorinated biphenyls (PCBs), phenol, and volatile organic hydrocarbons (VOCs); chemical substances, such as benzo(b)fluoranthene, carbon tetrachloride, methyl methacrylate, methylene chloride, nitroglycerin, phosphoric acid, and sodium hypochlorite; and metals, such as arsenic, barium, cadmium, chromium, iron, lead, manganese, mercury, thorium, and zinc.

Facilities in the Chemical Manufacturing industry are subject to a wide range of environmental regulation

and enforcement oversight as discussed in Sections VII.B and VII.D below, and have adopted voluntary practices that can be effective at reducing pollution, as discussed in Section VII C.□

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### C. Industry Economic Profile

Economic trends and financial health in industrial sectors and their associated firms can ultimately affect the ability of individual firms to responsibly address their environmental liabilities. Circumstances in which firms face financial stress can potentially contribute to the abandonment of facilities and the creation of orphan waste sites requiring cleanup. To consider the potential for firms to default on their financial obligations, EPA prepared a high-level economic profile of the Chemical Manufacturing industry, which includes a summary of relevant financial metrics, industry default statistics and trends, and a broad discussion outlining environmental liabilities under Chapter 11 of the Bankruptcy Code. This analysis, summarized in this section, looked at the industry as a whole and additionally focused on four subsectors individually, providing an industry profile, evaluation of the potential universe of regulated entities, and discussion of the subsectors' financial health and relative volatility. The full analysis is found in the background document for this section, and is available in the docket for this rulemaking.<sup>[29]</sup>

Generally, this analysis found the sector to be financially stable and able to pay off short-term obligations, though some subsectors experienced declining profitability and increased risk in recent years. Overall, financial ratios indicate healthy financial performance, despite an overall decrease in the total value of shipments and receipts for services in the sector. The report also notes that firms generally remain liable for environmental compliance obligations under Chapter 11 debt restructuring. Sections 101(5) and 1141(d) of the Bankruptcy Code only provide for a discharge of monetary rights to payment and not for compliance obligations where the Federal government has not sought the payment of money.

## VII. Discussion of Cleanup Sites Analysis

### A. Cleanup Site Evaluations

As described in the Approach to Developing the Proposed Rule, Section V above, to evaluate the need for financial responsibility regulations in the Chemical Manufacturing industry, EPA sought examples of pollution that occurred under a modern regulatory framework, and that required a taxpayer-funded CERCLA cleanup. In its evaluation, EPA focused first on identifying response actions at Superfund National Priorities List (NPL) sites and sites using the Superfund Alternative Approach (SAA),<sup>[30]</sup> as those are generally larger cleanups both in terms of amounts of contaminants removed and in terms of costs to carry out these cleanups. EPA also looked at Superfund removals at non-NPL sites.

To identify the relevant cleanup cases in the Chemical Manufacturing industry, EPA included the NPL sites already identified in the 2010 ANPRM,<sup>[31]</sup> and supplemented the dataset with additional NPL sites that had been identified since the ANPRM, sites using the SAA, and non-NPL sites identified in EPA's Superfund Enterprise Management System (SEMS) database. EPA collected information on the timing and nature of releases or threatened releases at these sites. Specifically, EPA sought to identify, as applicable, facility operation end dates, release dates, sources of contamination, NPL proposal dates, contaminated media, type of contaminant, cleanup lead, and information on Superfund expenditures at the site, as well as other information. For this collection, EPA relied on information previously collected as part of the ANPRM, information available in Superfund site documents (*e.g.*, NPL listing narratives, Records of Decision, Action Memos, Five-Year Reviews), and information in EPA's SEMS as of March 2018. The cleanup case identification and site information collection processes are described in greater detail in the relevant background documents, which are available in the docket for this rulemaking.<sup>[32]</sup>



After compiling information about the risks and history of each site, EPA sought to identify instances in which releases occurred under the modern regulatory framework that resulted in Fund-financed response actions. To do so, EPA's methodology applied sequenced screens to the identified sites. EPA first screened out any NPL sites or sites using the SAA where the contaminant release or cleanup activity occurred before 1980. EPA chose 1980 as the cutoff point to initially screen out legacy contamination because it was the year when CERCLA was enacted, as well as the date of the initial regulations under RCRA Subtitle C governing the generation, treatment, storage, and disposal of hazardous waste. EPA chose to give these significant RCRA and CERCLA milestones greatest consideration due to the large number of issues of waste management, land disposal, and soil contamination identified in the review of the NPL and SAA cases. EPA believes the 1980 cutoff date is a conservative screen (*i.e.*, retains more sites in the analysis) in that only the initial RCRA regulations were in place in 1980 and they were refined, expanded and enhanced several times over the next decades. Moreover, the Agency's enforcement authorities expanded in the 1980s as the RCRA program matured. Notably, the passage of the Hazardous and Solid Waste Amendments (HSWA) in 1984 resulted in many regulatory changes and enhanced enforcement mechanisms. More specifically, HSWA created the Land Disposal Restrictions (LDR) program, codified in 40 CFR part 268 (/select-citation /2020/02/21/40-CFR-268), which prohibits the land disposal of untreated hazardous wastes. HSWA also substantially expanded corrective action authorities for both permitted RCRA treatment, storage and disposal (TSD) facilities and facilities operating under interim status,<sup>[33]</sup> requiring facilities to address the release of hazardous wastes and demonstrate financial responsibility for completing the required corrective actions, further reducing the risks that sites would have to be addressed under CERCLA. For further detail on these requirements, see section VII. B below.

Next, EPA sought to remove from the analysis sites where significant Fund expenditures had not occurred, because response actions that were paid for by private parties do not support the need for CERCLA Section 108(b) financial responsibility regulations. Using the "Action Lead" field in SEMS associated with each site, EPA screened out the potentially responsible party (PRP) lead sites. This left only the Mixed Lead Construction or Government Performed Construction sites in the analysis, under the assumption that PRP Performed  Construction <sup>[34]</sup> sites did not present significant expenses to the Fund.

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EPA then reviewed the remaining sites (*i.e.*, those with both pollution dates of 1980 or later and Mixed Lead Construction or Government Performed Construction designation in SEMS) individually in greater detail. Specifically, EPA considered the site history and each of the contamination sources at the site in the context of the regulations that would be applicable to that facility today. More information on the regulations EPA considered is available in Section VII.B.

Findings from EPA's analysis of the cleanup cases are discussed below, with more detailed information available in background documents available in the docket for this rulemaking.<sup>[35]</sup> These background documents provide the list of sites identified and remaining at each stage of the analysis, as well as the information considered in the screening and review process.

Using the data sources described above for the Chemical Manufacturing industry, EPA identified 199 NPL sites and eight sites using the SAA, as well as 290 non-NPL CERCLA removal action sites,<sup>[36]</sup> to evaluate according to the methodology described above. As explained further below, the majority of the contamination at NPL sites and sites using the SAA were ultimately considered to involve releases that occurred before the modern regulatory framework or they were cases where no taxpayer funds were used. Similarly, for the removal sites, the majority of cases, albeit to a lesser extent as compared to NPLs, showed no releases of hazardous substances under the modern regulatory framework or required minimal or no

taxpayer-funded cleanups, as described below.

The 199 NPL sites and eight sites using the SAA that were evaluated include different industry groups within the Chemical Manufacturing sector. While multiple manufacturing activities can occur at a site, facilities that were engaged in manufacturing pesticides, fertilizers, and agricultural chemicals show up more prevalently on the Chemical Manufacturing NPL list (about 42%), closely followed by facilities engaged in basic Chemical Manufacturing (about 39%). Other manufacturing activities observed to a lesser extent include resin, synthetic rubber, and artificial synthetic fibers and filaments manufacturing, paint, coating, and adhesive manufacturing, and “other” types of Chemical Manufacturing activities.

A review of the history of environmental contamination at these NPL and NPL-like sites revealed that the most common types of environmental damage were contamination of soil and ground water (approximately 90%), while impacts to surface water bodies were also relatively common (nearly 60%). To a lesser extent, impact to air and sediments were also observed. The primary source of the contamination was contaminated soils (approximately 62% of sites) that resulted from inappropriate waste and material handling, leaks and spills, fires and explosions, lack of stormwater management, and poor housekeeping practices. Other significant sources include disposal into unlined ponds and wastewater lagoons (approximately 40%)<sup>[37]</sup> and the abandonment of hazardous waste and materials in drums and other containers (approximately 32%).<sup>[38]</sup> Detailed discussions of the impacted media and sources of contamination identified at these NPL and NPL-like sites are presented in supporting technical background documents, which are available in the docket for this rulemaking.<sup>[39]</sup>

After characterizing the industrial activities and contamination history at these sites, EPA applied the screens described above to remove PRP-Performed Construction sites and sites where the environmental releases occurred pre-1980 to the 199 NPL sites and the eight sites using the SAA approach. Based on these criteria, EPA screened out 127 sites. Additionally, EPA also excluded 46 sites from the analysis where, upon further review, the industrial activities were found to fall outside of the relevant class of facilities under consideration in this rulemaking. Thirty-four NPL sites remained after those screens that were either Government Performed Construction or Mixed Lead Construction (*i.e.*, a combination of Government and PRP) sites and had releases that arose in 1980 or later. None of the sites using SAA remained after those screens.

To assess the remaining 34 sites, EPA first conducted a detailed review to compare the environmental issues (*e.g.* contamination) at the sites against the regulations applicable today. Based on the detailed review, EPA concluded that notwithstanding the screens applied at earlier stages of the analysis, the releases at 30 of the 34 NPL sites resulted largely from legacy practices and contamination. An example of such a case is Baird & McGuire Inc., a 20-acre facility in Holbrook, Massachusetts, that operated as a chemicals manufacturing and batching company from 1912 to 1983. EPA did not initially screen out the site because case files on this site showed documented discharges of black oily substances into a nearby wetland between 1981 and 1982. Despite these releases, EPA concluded that the most significant contamination at the site occurred largely from legacy waste disposal practices (included direct discharge into the soil, lagoons, and wetlands) and improper storage of chemicals during the 70 years of operation that began in 1912. Because of these practices, on-site soil, ground water, surface water, and municipal water supplies were contaminated, which prompted EPA to list the site on the NPL in 1983. When these disposal practices were assessed against today's modern regulatory framework, the releases were all found to have occurred before the promulgation of RCRA Subtitle C regulations. Moreover, enforcement records further corroborate the presence of significant compliance issues at this site before 1980, as the owner and operator had been fined at least 35

times between 1954 and 1977 by various state and Federal agencies for numerous violations.<sup>[40]</sup> For discharges of oily substances into wetlands identified post-1980s, EPA's case file also showed Baird & McGuire had voluntarily taken actions, including removing the discharge pipes and applying absorbent pads to the wetland to soak up the oil. Appendix 4 of the background document provides more detailed discussions on this site and the 29 other NPL sites that EPA deemed as legacy issues after the detailed reviews.<sup>[41]</sup>

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Regarding the four out of the 34 NPL sites that remained after the screens, EPA's detailed review indicated that these sites appeared to have significant releases or threatened releases of hazardous substances under the modern regulatory framework and required significant taxpayer-funded cleanups. The four sites are Diaz Chemical Corporation in Holley, New York (which operated from 1974 through 2002), Eldorado Chemical Company in Live Oak, Texas (which operated from 1978 through 2007), Mississippi Phosphates Corporation in Pascagoula, Mississippi (which operated from the 1950s through 2014), and White Chemical Corporation in Newark, New Jersey (which operated from 1983 through 1990).

In all four cases, the facilities had a long history of compliance issues and were cited numerous times for violations under various statutes, including CAA, CWA, and RCRA. At three of the four sites (Diaz Chemical, Mississippi Phosphates, and White Chemical Corp.), companies filed for bankruptcy before ceasing operations and abandoning their sites. EPA listed three of the four sites (Diaz Chemical, Eldorado Chemical, and Mississippi Phosphates) on the NPL post-2000.

In the cases of Diaz Chemical, Eldorado Chemical Company, and White Chemical Corp., poor housekeeping practices, spills, and improper handling of drums resulted in the release of a range of chemical substances to the air, water, soil, and ground water. In addition, when Diaz and White Chemical Corp. filed for bankruptcy and abandoned their facilities, the owner and operators left behind hundreds of hazardous drums and tanks containing hazardous chemicals and waste. These releases or threatened releases occurred at these sites despite the promulgation and implementation of applicable RCRA Subtitle C regulations in 1980 and HSWA in 1984. Evaluation of EPA's Fund expenditure data for these sites showed the Fund incurred over \$28 million to address site contamination at Diaz Chemical and \$47 million at White Chemical Company. Fund expenditures at Eldorado Chemical were relatively small at \$568,000; however, the site was just listed on the NPL in 2016, and Fund expenditures at the site will likely continue.

Regarding Mississippi Phosphates, the plant ceased its operations in December 2014 following a bankruptcy. When the company abandoned the site, more than 700 million gallons of low-pH, contaminated wastewater was left behind in on-site ponds. Enforcement records also showed that during its years of operation, the facility received numerous Administrative Orders and Notices of Violation related to noncompliance with its National Pollutant Discharge Elimination System (NPDES) permit. The most severe violation occurred in August 2013, when the facility released 38 Mgal of acidic water to Bayou Casotte, killing an estimated 47,000 fish, and resulting in the company's entering a guilty plea to a criminal violation of the Clean Water Act. More information on this case is in the enforcement background document, which is available in the docket.<sup>[42]</sup>

EPA's review of Fund expenditures showed significant Fund expenditures at Mississippi Phosphates. Based on the limited expenditure data obtained from Superfund's Integrated Financial Management System (IFMS) database, EPA has spent \$8.3 million as of Fall 2018. However, in an April 2018 Action Memorandum,<sup>[43]</sup> EPA indicated the total cost of the removal action at this site would be \$132.6 million

through December 2020. The memo also mentioned that EPA continued to treat 2 to 4 million gallons of contaminated water each day, which was estimated to cost \$1 million a month. More detailed information can be found in the background document and supporting spreadsheets, which are available in the docket for this rulemaking.<sup>[44]</sup> The background document includes the list of sites identified for analysis, as well as the data and information considered in the screening and review process. The summary results of the analysis are presented in Table 1 below.

Table 1—Evaluation Results for NPL and SAA Sites in the Chemical Manufacturing Industry

<b>Total NAICS 325 NPL &amp; SAA sites evaluated</b>	<b>Number of NAICS 325 NPL &amp; SAA sites screened out based on pre-1980, or PRP lead status</b>	<b>Detailed review concluded release occurred prior to the modern regulatory framework</b>	<b>Detailed review identified a possible modern regulation release but no significant taxpayer expenditures</b>	<b>Cases with release(s) under modern regulation that required taxpayer-funded response</b>
207 <sup>45</sup>	127(46) <sup>46</sup>	30		4

Additionally, EPA looked at the major removal cases found in the SEMS database to supplement this analysis. For this sector, EPA identified 290 non-NPL removal sites. Applying the methodology, EPA screened out 148 sites because the environmental releases occurred before 1980 or PRPs led the response action. EPA also excluded an additional 81 sites deemed as out of the scope because EPA determined that the industrial activities that resulted in the release of hazardous substances were not Chemical Manufacturing. Twenty-seven other sites were also left out of the analysis because of insufficient documentation (*i.e.*, not enough to verify whether the sites included pollution attributable to a NAICS 325 facility, or the nature/date of the releases at the site).

To assess the 34 sites that remained after those screens, EPA first conducted a detailed review of case files to compare the environmental issues at the sites to the regulations applicable today. Based on this assessment, EPA concluded that the releases at four removal sites were one-time incidents (*e.g.*, drum spill, chemical plant fire, accidental releases to air). While these releases were all found to have occurred after contemporary regulations, according to site documents reviewed, the PRPs had responded to the emergencies, and none of these sites □ required significant Fund expenditure; at one of the four sites, EPA spent \$19,500 in Fund money to conduct an air assessment.

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For the remaining 30 removal sites, the releases or threatened releases were associated mainly with the abandonment or improper storage of drums, tanks, and other containers that contained various chemicals, including hazardous substances and waste. In seven of these cases, chemical explosions or fires resulted from storing incompatible chemicals near one another. Most of these cases involved releases that occurred since the year 2000, which EPA determined to be releases that occurred under the modern regulatory framework that required taxpayer-funded cleanup.

As described in more detail in the Role of Federal and State Programs section below, the primary regulations governing the storage and handling of hazardous chemicals have been in place since the 1980s including: Occupational Safety and Health Act (OSHA) standards for storage and handling of flammable liquids (29 CFR 1910.106 (/select-citation/2020/02/21/29-CFR-1910.106)) and compressed gas (29 CFR 1910 (/select-citation/2020/02/21/29-CFR-1910)); Section 311 and 312 of the Emergency Planning and Community Right-to-Know Act (EPCRA) requirements concerning reporting of hazardous chemical inventory to local

and state emergency responders; and EPCRA Section 304 requirements for emergency release notification for “reportable quantity.” In addition, drums and tank systems used to store hazardous waste for more than 90 days, or stored at locations that are not the site of generation, have been regulated under RCRA (requirements found in 40 CFR parts 264 (/select-citation/2020/02/21/40-CFR-264) and 265) since 1981 for drums and other containers<sup>[47]</sup> and since 1986 for tank systems.<sup>[48]</sup>

Review of Fund expenditure data associated with these 30 sites indicates that the Fund incurred estimated costs ranging from \$30,000 to \$3 million for response and enforcement activities. For 19 of the 30 sites, the Fund incurred costs under \$500,000 with an average cost of \$218,000 per site. For the remaining 11 sites where the response actions resulted in Fund expenditures above \$500,000 per site, the average cost was \$1.4 million.

More detailed information can be found in the background document and supporting spreadsheets, which are available in the docket for this rulemaking.<sup>[49]</sup> The background document includes the list of sites identified for analysis, as well as the data and information considered in the screening and review process. Table 2 presents the summarized results of the analysis.

Table 2—Evaluation Results for Superfund Removal Sites in the Chemical Manufacturing Industry

<b>Total NAICS 325 superfund removal cases evaluated</b>	<b>Number of NAICS 325 superfund removal cases screened out based on pre-1980, or PRP lead status</b>	<b>Detailed review concluded release occurred prior to the modern regulatory framework</b>	<b>Detailed review identified a possible modern regulation release, but no significant taxpayer expenditures</b>	<b>Cases with release(s) under modern regulation that required taxpayer-funded response</b>
290	148(108) <sup>50</sup>		4	30

## PREVALENT SOURCES OF RELEASES

EPA’s analysis of cleanup cases compiled information, where discernable, on the root cause of releases. Across the industry overall, the most prevalent issue was contaminated soils that resulted from inappropriate waste and material handling, leaks and spills, fires and explosions, lack of stormwater management, and poor housekeeping practices. Other significant sources include disposal into unlined ponds and wastewater lagoons and the abandonment of hazardous waste and materials in drums and other containers. Beyond these, a common issue observed at removal sites but not as commonly at NPL sites, was abandonment and improper storage of drums, tanks, and other containers that contained various chemicals, including hazardous substances and waste. As discussed in the next section, there are regulations in place that address these types of releases.

## B. Role of Federal and State Programs and Voluntary Protective Industry Practices at Facilities in the Chemical Manufacturing Industry

In the 2010 ANPRM, EPA recognized that the NPL data reflects releases arising from activity that, in some cases, predates CERCLA, RCRA, and other modern environmental requirements. The Agency welcomed information about current releases of hazardous substances to the environment to help inform EPA’s future actions. As discussed in the Approach section of this proposal, to enable EPA to base its decision on risk posed by facilities operating under modern conditions, *i.e.*, the types of facilities to which financial

responsibility requirements would apply, EPA developed an approach to identify and consider relevant state and Federal regulatory requirements and financial responsibility requirements that currently apply to operating facilities, as well as voluntary protective practices. EPA thus undertook an effort to gather information about Federal and state environmental programs and industry voluntary programs that have been implemented and are applicable to currently operating facilities within the Chemical Manufacturing industry today. EPA evaluated the extent to which activities that contributed to the risk associated with the production, transportation, treatment, storage, or disposal of hazardous substances are now regulated. EPA recognizes that substantial advances have been made in the development of manufacturing, pollution control, and waste management practices, as well as the implementation of Federal and state regulatory programs to prevent and address releases at these facilities. In part, EPA's proposed decision to not issue financial responsibility requirements for this industry is based on EPA's review and analysis of Federal regulations and complemented by state program regulations. EPA's proposed findings and conclusions about the impact of Federal and state environmental programs, along with industry voluntary programs, are discussed in the following section.□

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#### **OVERVIEW OF FEDERAL AND STATE REGULATORY PROGRAMS AND INDUSTRY VOLUNTARY PRACTICES APPLICABLE TO FACILITIES IN THE CHEMICAL MANUFACTURING INDUSTRY**

EPA evaluated Federal and state regulations that address the potential for release of hazardous substances to the range of environmental media that may be affected by a release from a facility in the Chemical Manufacturing industry. EPA found that a comprehensive regulatory framework has developed since the enactment of CERCLA. Federal statutes such as the CAA, CWA, TSCA, RCRA, and EPCRA are applicable across the entire industry and lay the foundation for this regulatory framework. Specific regulations are discussed in the background document according to the affected media that the regulations address: Air pollution, water pollution, emergency planning and response, hazardous substances management, and hazardous and non-hazardous waste management and disposal. This background document is available in the docket for this rulemaking.<sup>[51]</sup>

#### **REGULATIONS ADDRESSING PREVALENT SOURCES OF RELEASES IDENTIFIED IN ANALYSIS OF CLEANUP CASES**

EPA's analysis of the cleanup cases found that the most prevalent releases involved:

- Soil contamination from inappropriate handling of wastes and materials,
- Releases from leaks, spills, fires, and explosions,
- Lack of stormwater management,
- Disposal into unlined ponds and lagoons,
- Abandonment of hazardous substances and waste in drums, tanks or other containers,

The comprehensive regulations for the management and disposal of hazardous waste, promulgated under the authority of RCRA, were designed to prevent these types of releases and assure that past spills are cleaned up by facility owners and operators. Specifically, Subtitle C of RCRA required EPA to establish a hazardous waste management program, and EPA developed a "cradle to grave" approach to control the generation, transportation, treatment, storage, and disposal of hazardous waste.<sup>[52]</sup> EPA's regulatory approach under RCRA includes standards specific to types of hazardous wastes, types of hazardous waste disposal facilities, and types of hazardous waste disposal activities; EPA enforces these standards through permitting, reporting and inspection programs.<sup>[53]</sup>

In 1980, under the authority of RCRA Subtitle C, EPA promulgated the initial hazardous waste management

and permitting regulations. These regulations included the identification of hazardous wastes that would be regulated under RCRA Subtitle C. Under Subtitle C, generators of hazardous waste are required to ensure and fully document that the hazardous waste they produce is properly identified, managed, tracked, and treated prior to recycling or disposal. The degree of regulation to which each generator is subject depends to a large extent on how much waste each generator produces every calendar month. Early in the development of the RCRA program, EPA recognized that a relatively small number of industrial facilities generated the majority of the nation's hazardous waste. EPA initially focused on these large quantity generators, *i.e.*, those that generate 1,000 kilograms or more of non-acute hazardous waste per month (or more than 1 kilogram of acute hazardous waste per month). These facilities must obtain an EPA identification number and report the quantities and types of hazardous waste they generate, as well as the intended receiving facility for treatment and disposal, unless the waste will be managed onsite. Large quantity generators who send their waste offsite are responsible for the proper packaging and labeling of the waste before transport and the tracking of the waste to the destination facility using the uniform hazardous waste manifest. Large quantity generators may store their waste on site for less than 90 days before transport to a treatment and disposal facility; that storage is subject to the same unit-specific standards (described below) applicable to treatment, storage, and disposal facilities.

RCRA Subtitle C also established standards for hazardous waste treatment, storage, and disposal facilities (TSDFs). Operators that handle or manifest hazardous waste at any point in its lifecycle, including generators and transporters, are required to notify EPA of these activities. To keep track, TSDF owners and operators must keep records and make reports to EPA. TSDFs are required to track hazardous waste they receive through EPA's hazardous waste manifest system, among other recordkeeping and reporting standards.

RCRA Subtitle C regulations created a permitting program for hazardous waste TSDFs. The TSDF permitting regulations include application procedures, permit approval conditions, and monitoring and reporting requirements. TSDFs must have permits for the entirety of the active life of the permitted units, including during closure of waste management units. New and existing hazardous waste TSDFs must submit a RCRA permit application at least 180 days before the commencement of construction and/or hazardous waste management activities.<sup>[54]</sup> Both permitted and interim status TSDFs must comply with general facility operating standards, preparedness and prevention, contingency plans and emergency procedures, as well as specific technical standards designed to insure that hazardous waste management units such as storage tanks and containers, landfill, surface impoundments, waste piles, land treatment of hazardous waste, and solid waste management units are operated in a manner that prevents releases. To minimize the potential for leachate to threaten human health and the environment, EPA developed design and operating standards that use a combination of different technologies and good operating practices to detect, contain, and clean up any leaks that might occur. To prevent releases of hazardous waste into the environment, containers holding liquid hazardous wastes at a permitted TSDF must have a secondary containment system. Secondary containment is emergency short-term storage designed to hold leaks from hazardous waste management units.

Slightly later in the 1980s, EPA promulgated regulations that set financial assurance requirements for TSDFs.<sup>[55]</sup> The TSDF standards eventually included air emission standards for process vents, equipment leaks, tank systems, surface impoundments, and containers. The regulations covering proper management of surface impoundments, found in 40 CFR parts 264 (/select-citation/2020/02/21/40-CFR-264)/265, Subpart K, require facilities that store hazardous waste in surface impoundments to meet specific design requirements, which include a double liner system, leachate collection, and removal systems and a leak

detection system. The regulations for containers, found in 40 CFR parts 264 (/select-citation/2020/02/21/40-CFR-264)/265, Subpart I, include provisions regarding design and operating requirements, and inspections. Certain 40 CFR part 265 (/select-citation/2020/02/21/40-CFR-265) standards also apply to hazardous waste containers at generator sites.

HSWA was enacted in 1984, largely in response to citizen concerns that existing methods of hazardous waste disposal, particularly land disposal, were not safe. With HSWA, Congress sought to minimize waste generation and phase out land disposal of hazardous waste. Accordingly, in 1986, EPA promulgated a suite of regulations that established standards and restrictions for land disposal of hazardous waste. While the regulations set stringent guidelines for the land disposal of hazardous waste, some hazardous wastes and some types of land disposal are prohibited altogether. Although there are exceptions, operators are generally prohibited from diluting hazardous waste as a substitute for treatment. In addition, operators can land dispose hazardous waste only following treatment and only in appropriate land treatment units, landfills and surface impoundments. Further, operators must meet testing, removal, recordkeeping, and design requirements. Additional standards, restrictions, and prohibitions are in place for hazardous waste that exhibit ignitability, corrosivity, reactivity, or toxicity.<sup>[56]</sup>

HSWA required that all landfills and surface impoundments install groundwater monitoring, comply with technical requirements, such as double liners and leachate collection, and obtain financial assurance. The HSWA amendments also added to RCRA's regulations for small quantity generators, facilities that generated between 100 to 1,000 kilograms per month of hazardous waste, which were previously exempt from RCRA rules. These small quantity generator rules took effect in 1986. Generators of less than 100 kilograms per month of hazardous waste (*i.e.*, conditionally-exempt small quantity generators) remained subject to significantly reduced requirements.<sup>[57]</sup> EPA amended the hazardous waste generator provisions in 2016, largely to clarify the requirements.<sup>[58]</sup>

HSWA also established closure and post-closure requirements for hazardous waste TSDF facilities. The regulations require facilities to develop closure plans for all hazardous waste management units. All TSDFs are required to prepare and submit written closure plans. A permitted facility submits this plan as part of its permit application. Once the plan is approved by the permitting agency, it becomes part of the facility's operating permit. Interim status facilities<sup>[59]</sup> must have written closure plans within six months of becoming subject to the closure regulations. Upon the completion of closure of a hazardous waste disposal unit, owners and operators must submit a certification of closure to the relevant state or EPA regional office. Following closure, facilities must implement a post-closure plan that abides by post-closure property use and care guidelines. The standard post-closure care period is 30 years, but this can be shortened or extended on a case-by-case basis by the permitting authority (*i.e.*, the EPA Region or the authorized state regulatory agency). Post-closure notification and security requirements remain in place so long as hazardous waste is present at the facility, even after the 30-year post-closure period.<sup>[60]</sup>

HSWA provided EPA with authority to develop a broader corrective action program. Under this program, EPA requires owners and operators of facilities that treat, store or dispose of hazardous waste to investigate and clean up hazardous releases into soil, groundwater, surface water and air, thus reducing the likelihood that these facilities would require cleanup under Superfund. RCRA permits issued to TSDFs must include provisions for both corrective action and financial assurance to cover the costs of implementing those cleanup measures. EPA also possesses additional authorities to order corrective action through enforcement orders, which are not contingent upon a facility's permit. In addition, facilities may voluntarily choose to clean up their contamination.



In addition to Subtitle C requirements, RCRA Subtitle D established a program for management and disposal of non-hazardous industrial and municipal solid waste through state solid waste management plans that conform with Federal guidelines. RCRA Subtitle I requires EPA to promulgate technical standards and corrective action requirements for owners and operators of underground storage tanks (USTs), including underground storage tanks that contain hazardous substances or petroleum products. The UST regulations include requirements for design, installation, notification, operational procedures, release reporting, release response, and corrective action procedures for underground storage tank systems that contain hazardous substances. The regulations also include financial responsibility requirements for underground storage tank owners and operators. In addition, EPA has established guidelines for the approval of state underground storage tank programs.<sup>[61]</sup>

In addition to the regulatory scheme that RCRA imposes on the management of hazardous waste in underground storage tanks that store chemicals, Chemical Manufacturing plants are subject to a number of additional regulatory provisions that reduce the potential for the plants to pose a risk for a Federally-financed response action. Catastrophic releases of hazardous substances and the use of toxic chemicals and other hazardous substances are additional environmental and safety concerns for Chemical Manufacturing facilities. Several environmental laws authorize regulations requiring the development of response plans for various emergencies in order to reduce the effects of a release, and to notify local emergency response personnel and facilitate cooperation. For example, EPA implements the Chemical Accident Prevention Provisions of Section 112(r) of the Clean Air Act Amendments, which require certain facilities to generate Risk Management Plans (RMPs) to mitigate the effects of a chemical accident and to coordinate with local response personnel. Emergency Action Plan (EAP) regulations under OSHA require that employers prepare a written EAP to create practices to follow during workplace emergencies. EPA implements regulations under the EPCRA that impose emergency planning, reporting, and notification requirements for hazardous and toxic chemicals.

The U.S. Chemical Safety Board (CSB), authorized by the CAA Amendments of 1990, is involved in investigating accidental releases at Chemical Manufacturing facilities. Specifically, the principal role of the CSB is to investigate accidents to determine the conditions and circumstances which led up to the event □ and to identify the cause or causes so that similar events might be prevented. Implementation of recommendations resulting from investigations can prevent future releases of hazardous substances to the environment. The CSB's investigative function is completely independent of the rulemaking, inspection, and enforcement authorities of both EPA and OSHA.<sup>[62]</sup>

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Hazardous substances management regulations address the storage and transportation of hazardous substances. These regulations are implemented by EPA, OSHA, and the Pipeline and Hazardous Materials Safety Administration (PHMSA). The regulations address the registration and reporting of hazardous substances that are manufactured or produced through industrial processes; hazardous substance release prevention; mitigation of harm caused by hazardous substance releases; safety and catastrophe prevention for facilities that handle hazardous substances; and standards for the transportation of hazardous substances. EPA implements hazardous substances management regulations largely under the authority of the TSCA and the Pollution Prevention Act (PPA), while the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) applies to the manufacture and distribution of pesticides.

TSCA provides EPA with authority to issue rules requiring reporting, record-keeping, and testing of specific chemicals and to establish regulations that restrict the manufacturing (including import), processing, distribution in commerce, use, and disposal of chemicals and mixtures. TSCA authorizes EPA to prevent

unreasonable risks by regulating chemicals and mixtures, ranging from requiring hazard warning labels to the outright ban on the manufacture, processing, distribution in commerce or use of certain chemicals and mixtures. TSCA and its amendments have also established specific programs for the management of certain chemicals—namely, PCBs, asbestos, radon, lead, mercury, and formaldehyde.

The PPA, passed in 1990, created a national policy framework to focus industry, government, and public attention on pollution and to prevent or reduce pollution at the source through technology modifications, modifications of production processes, product redesign, and improvements in maintenance, training, and inventory control. PPA regulations require, among other things, that facility owners and operators include toxic chemical source reduction and recycling reports with their annual toxic chemical release filing.

Pesticides are outside the scope of TSCA's regulatory authority; EPA explicitly regulates pesticides under the authority of FIFRA. The modern pesticide regulatory framework came into being with the 1972 Federal Environmental Pesticide Control Act, which further amended FIFRA. The amendments created registration procedures for pesticides, including data requirements, Agency review protocols, and classification procedures. In order to obtain registration, manufacturers and distributors must submit the pesticide's ingredients, its target crop, use practices, and storage and disposal practices. The review includes a determination regarding the pesticide's potential to cause unreasonable adverse effects on the environment. Classification procedures involve the categorization of pesticide components as active or inert. Manufacturers must renew their registration for each pesticide every 15 years. Following registration, EPA has the authority to initiate special review procedures if information comes to light indicating that the use of a pesticide may cause unreasonable adverse effects on the environment. Regulations under FIFRA also cover the management and disposal of pesticides through standards and requirements for containers, repackaging procedure, and the use of containment structures.<sup>[63]</sup> The amendments granted EPA authority to stop the distribution of, and to remove from use, any pesticide the Agency finds to be in violation of FIFRA.

In addition to registration and reporting requirements for pesticide products, FIFRA regulations also establish registration and reporting requirements for pesticide manufacturing facilities. Any establishment that produces pesticide products or substances used as active ingredients in pesticides must provide facility and company information to EPA upon registration. Relevant facilities must also submit annual reports to EPA that detail the amount of pesticide product produced and distributed each year, as well as production estimates for the following year. In connection with the compilation of annual reports, facilities must keep production, distribution and sale, shipment, inventory, and testing records.<sup>[64]</sup>

With respect to workplace management of hazardous substances, OSHA promulgated Process Safety Management (PSM) standards in 1992. The PSM standards address the potential for unexpected releases of toxic, reactive, or flammable liquids and gases in processes involving highly hazardous chemicals. Under PSM, processes include the use, storage, manufacture, handling, or transportation of hazardous chemicals. The standards identify approximately 130 toxic and reactive chemicals; they apply to facilities that manage quantities of those chemicals above a specific chemical's established threshold. PSM standards also apply to facilities that manage flammable liquids and gases in quantities of 10,000 pounds or greater. Facilities must compile information on the hazards of highly hazardous chemicals, including toxicity, reactivity data, corrosivity data, stability data, and permissible exposure limits. Facilities must also collect information on the technology used by each relevant industrial process. With this information, facilities must complete a process hazardous analysis (PHA) for each relevant process. The PHA for a facility is a review of possible releases of hazardous chemicals that may result from the process and safeguards that the facility will implement to prevent releases.<sup>[65]</sup>

In 2011, OSHA initiated the Chemical Plant National Emphasis Program (NEP) under its PSM regulations. Through the NEP, OSHA conducts inspections of randomly selected facilities that handle, manage, or store highly hazardous chemicals in quantities that meet the PSM threshold. The inspections include fact gathering related to PSM requirements and verification that employers have met PSM standards.<sup>[66]</sup>

Contamination of surface water is largely addressed by the CWA. Under CWA, EPA has implemented pollution control measures, including Federal water quality standards and industry wastewater and Effluent Limitation Guidelines (ELGs). These regulations set standards for industrial wastewater discharge to surface water on an industry-specific basis, identifying key processes and materials to regulate within each industry. The standards require industrial discharges to meet technological specifications in their treatment and discharge systems, rather than pollutant specific quality standards for discharges. ELGs may set one, all, or a combination of the following types of technological standards, which facilities within each industry must meet: Best practicable control technology currently available, best conventional pollutant control technology, best available technology economically achievable, new source performance standards, pretreatment standards for new sources, pretreatment standards for existing sources, and best management practices.<sup>[67]</sup>

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EPA published industry-specific effluent guidelines for pesticides in 1978, for inorganic chemicals manufacturing in 1982, and for organic chemicals, plastics, and synthetic fibers in 1987.<sup>[68]</sup> The pesticide guidelines include even more specific standards for organic pesticide chemicals manufacturing and metallo-organic pesticide chemicals manufacturing.<sup>[69]</sup> With respect to organic chemicals manufacturing, EPA promulgated specific standards for facilities that manufacture benzene, polypropylene, polyvinyl chloride, rubber precursors, chlorinated solvents, toluene, rayon, nylon, and polyester.<sup>[70]</sup>

Additionally, the CWA established the NPDES permit program, which controls point source discharges to surface water, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), which sets a blueprint for responding to oil spills and hazardous substance releases. At its inception in 1968, the NCP provided a comprehensive Federal system of accident reporting, spill containment, and cleanup of oil spills. In 1972, the CWA expanded it to include hazardous substance releases.<sup>[71]</sup>

## STATE REGULATORY PROGRAMS

Some states impose requirements on the Chemical Manufacturing industry in addition to requirements related to Federal programs. These stricter or additional standards for emissions, spill prevention, emergency preparedness, and hazardous substance management on facilities that handle toxic or hazardous chemicals can reduce risk at facilities that manage hazardous substances. EPA researched state environmental regulations relevant to the Chemical Manufacturing industry for a representative sample of states. The states with the highest number of Chemical Manufacturing facilities include California, Texas, Illinois, Ohio, Florida, New Jersey, Pennsylvania, New York, and Georgia. A discussion of these state regulations, as well as the methodology EPA used in selecting the 11 states that it researched in a background document, is available in the docket for this rulemaking.<sup>[72]</sup>

One example of a state with standards for Chemical Manufacturing facilities that are stricter than Federal requirements is Illinois, which has separate standards for sewage discharges from Chemical Manufacturing facilities, and additional standards for solid waste landfills with chemical constituents. Another example is California, which requires a land covenant upon facility closure, corrective action, remedial or response action, or any other response action when hazardous materials, hazardous wastes or constituents, or hazardous substances remain at a property in levels exceeding suitable use standards.<sup>[73]</sup> California also requires financial responsibility for owners and operators of underground storage tanks, which includes an

Underground Storage Tank Cleanup Fund that funds eligible corrective actions.<sup>[74]</sup> For producers of extremely hazardous waste, California also operates an Extremely Hazardous Waste Permit system.<sup>[75]</sup>

### **INDUSTRY VOLUNTARY PRACTICES**

EPA reviewed facility RMPs, industry materials, governmental literature, and academic literature to locate voluntary programs that: (1) Attempt to address CERCLA hazardous substance management or disposal, and release prevention, mitigation, and response; (2) are relevant to Chemical Manufacturing facilities; and (3) in which Chemical Manufacturing facilities participate. Industry voluntary programs fall into three categories: Those sponsored by Federal, state or local governmental agencies; those fostered within industry associations or non-governmental organizations; and those implemented by individual firms. These programs set or publish environmental management and safety standards that facilities may follow to supplement Federal and state requirements with additional standards and may come with a certification from the government agency or industry group that establishes the standards. Voluntary programs may also serve as forums for coordination and collaboration among companies, facilities, and government agencies to develop best practice standards and improve emergency preparedness. EPA's review of available studies found that the industry voluntary programs can be effective at reducing both pollution and the frequency of government enforcement actions.

At the federal level, OSHA and FEMA sponsor or collect information about industry voluntary programs. National and international nonprofit organizations and industry associations, such as the International Organization for Standardization (ISO), International Electrotechnical Commission (IEC) and Global Environmental Management Initiative (GEMI), also provide environmental management and safety standards and procedures that facilities may follow, in addition to regulatory requirements, and certify facilities that meet these specifications.

The American Chemistry Council, an industry trade association for chemical companies, adopted the Responsible Care program, which is a global initiative to further the chemical manufacturing industry's environmental, health, safety, and security performance efforts, with a focus on safe chemicals management throughout chemical lifecycles. To obtain membership in the American Chemistry Council, a company must participate in the Responsible Care program. Responsible Care requires that companies commit to and are compliant with the program's guiding principles and requirements. Participants are subject to reporting requirements and mandatory facility audits under the program.<sup>[76]</sup> A discussion of industry voluntary practices, as well as the □ methodology used by EPA, is available in the docket for this rulemaking.<sup>[77]</sup>

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### **C. Existing State and Federal Financial Responsibility Programs**

To help inform the level of risk of a Fund-financed response action associated with classes of facilities in the Chemical Manufacturing industry, EPA reviewed existing state and Federal financial responsibility programs that may be applicable to the industry and that cover a wide range of liabilities, including liabilities for closure, post-closure care, corrective action, third-party personal injury/property damage, and natural resource damages. EPA focused on these types of financial responsibility programs for two reasons. First, these categories of damages, actions and costs are like those that could be covered by CERCLA Section 108(b) rulemaking, and thus they help inform the need for CERCLA Section 108(b) financial responsibility for this industry. Secondly, the existence of financial responsibility requirements can help create incentives for sound practices, reducing the risk of releases requiring CERCLA response action. EPA also sought to identify state cleanup funds that are at least partially funded by industry (*e.g.*, through a tax on hazardous wastes generated), and that could cover future CERCLA liabilities that may arise at Chemical Manufacturing facilities. EPA's report focused on the 25 states reviewed in EPA's reports on existing state regulatory and

voluntary programs (excluding financial responsibility programs) that may be applicable to Chemical Manufacturing facilities.

Finally, EPA reviewed existing financial responsibility requirements in the following Federal programs: (1) RCRA Subtitle C TSDFs; (2) TSCA commercial PCB waste facilities; and (3) EPA Safe Drinking Water Act Underground Injection Control wells. The RCRA Subtitle C regulations require all TSDFs to demonstrate that they will have the financial resources to properly close the facility or unit when its operational life is over, perform post-closure care (if necessary) and provide the appropriate corrective action in the case of a release. Additionally, the RCRA liability coverage regulations require all owners and operators of hazardous waste TSDFs to maintain accident liability insurance during the active life of their hazardous waste management units or facilities. These requirements would apply to facilities in the Chemical Manufacturing industry that treat store or dispose of a hazardous waste.

The TSCA regulations for PCB commercial storage facilities require all commercial storage facilities to demonstrate financial assurance for closure of the facility. Under the Safe Drinking Water Act regulations designed to protect underground sources of drinking water, owners or operators of underground injection control operations are required to maintain financial responsibility for plugging and abandonment of wells. These requirements apply to owners and operators of permit-authorized class I, II, III and geologic sequestration class VI wells. The report is available in the docket for this rulemaking.<sup>[78]</sup>

EPA identified a range of existing financial responsibility programs that may be applicable to facilities in the Chemicals Manufacturing industry. The programs include the Federal programs mentioned above as well as state programs related to:

- Financial Responsibility for petrochemical manufacturing facilities,
- Financial Responsibility for phosphate fertilizer manufacturing facilities,
- Financial Responsibility for hazardous waste TSDFs,
- Financial Responsibility for underground injection of hazardous wastes,
- Financial Responsibility for PCB storage or disposal facilities,
- Corrective action financial responsibility to address hazardous waste or hazardous constituents,
- Facility remediation financial responsibility associated with transfer in ownership or facility closure,
- Financial Responsibility for storage tanks containing hazardous substances, and
- Other authorities to require financial responsibility to assure compliance with orders.

The applicability of these programs will depend on a variety of facility-specific factors, for example, use of a specific piece of equipment (*e.g.*, an underground storage tank that contains regulated substances) or engaging in a specified activity (*e.g.*, a release of a hazardous substance). Furthermore, state financial responsibility programs vary by state and some types of financial responsibility programs exist only in limited subsets of the states reviewed. EPA believes that state and Federal financial responsibility programs help reduce risk of a Fund-financed response action at facilities where they are applicable. While financial responsibility programs vary in structure and function, they may reduce such risk in a myriad of ways. For example, they may help ensure undercapitalized firms do not engage in environmentally risky enterprises, reduce the incentive to abandon properties with extensive contamination, ensure compliance with protective requirements, and incentivize better environmental practices.

#### **D. Compliance and Enforcement History**

To understand the experience of court settlements and judgments, EPA looked at compliance and enforcement in the Chemical Manufacturing industry. EPA believes that compliance assistance, compliance monitoring, and enforcement are important components of the regulatory framework discussed above. Through inspections, compliance monitoring can identify noncompliance at regulated facilities. Enforcement actions may result in legal instruments that ensure correction of deficiencies to achieve compliance with environmental requirements. Some functions of compliance and enforcement actions are particularly pertinent to the risk determination for rulemaking under CERCLA Section 108(b). First, if noncompliance causes release of a hazardous substance, then EPA can ensure through negotiated agreements that the responsible party carries out or pays for the cleanup. Second, enforcement actions can result in orders and settlements that compel a responsible party to return to compliance. Third, the prospect of financial penalties that can accompany these enforcement instruments can encourage compliance. All of these functions support the regulatory structure in reducing risk of Fund expenditures.

EPA looked at enforcement activities as well as historical enforcement and compliance data in the development of this proposal. EPA obtained data from the EPA Enforcement and Compliance History Online (ECHO) system and provides a review of the Federal environmental enforcement settlements and judgments data from FY 1972 through FY 2017.<sup>[79]</sup> Facilities whose primary NAICS codes indicate Chemical Manufacturing sector activities (NAICS 325) were included in EPA's review. □ ECHO data show that initiatives and normal review or inspection of facilities resulted in over 7700 civil enforcement cases in the Chemical Manufacturing industry from FY 1972 through FY 2017. CAA (32%) and FIFRA (17%) cases were the most common. There are a smaller number of cases in RCRA (12%), CERCLA (12%), CWA (11%), EPCRA (11%), and TSCA (6%). Further description of this review is in the background document, which is available in the docket for this rulemaking.<sup>[80]</sup>

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As noted above, the Risk Management Program under Chemical Accident Prevention Provisions of Section 112(r) of the Clean Air Act Amendments requires certain facilities to generate Risk Management Plans (RMPs) to mitigate the effects of a chemical accident and coordinate with local response personnel. Assuring compliance with this program has been a priority of EPA's Office of Enforcement and Compliance Assurance since 2017.

Enforcement cases can include instances in which removal action, release reduction, or return to compliance include the removal of contaminated media by the responsible party. Measures to remove contamination may be required in enforcement orders under the range of environmental statutes and are negotiated to require activities aligned with return to compliance.<sup>[81]</sup> In this situation, enforcement action directly reduces risks to human health and the environment. During the period FY 2012 through FY 2017, 32 settled Chemical Manufacturing industry enforcement cases have been indicated as those where removal of contaminated media occurred. They are primarily CERCLA (50%) and RCRA (34%) cases. Two CWA, two TSCA and one Safe Drinking Water cases are also included.

The substances removed are generally categorized as hydrocarbons, hazardous chemicals, and metals. These cleanups resulting from Federal enforcement actions mitigated risks to human health and the environment by removing soils, groundwater, and sediments contaminated by a variety of substances, and reduced likelihood of impact to the Fund.

Settlements and judgments in enforcement cases can result in financial penalties, supplemental environmental projects (SEPs), and activities required to return to compliance.<sup>[82]</sup> Enforcement settlements and judgments can ensure that the responsible party conducts or pays for cleanup, can drive a return to

compliance, and more generally can incentivize compliance.

As stated in the cleanup site evaluations in Section VII.A, particular consideration was given to CERCLA and RCRA regulations as relevant components of the modern regulatory framework that applies to the Chemical Manufacturing industry. There have been over 1800 CERCLA and RCRA civil cases in this industry, beginning in 1981. For context, there are approximately 13,480 establishments currently operating in the industry. The ten largest CERCLA or RCRA enforcement settlements and judgments for the Chemical Manufacturing industry each have 2017 inflation-adjusted total values ranging from over \$51 million to \$1.1 billion.

Further discussion of the details on the Federal actions for these and additional criminal cases can be found in the background document, which is available in the docket for this rulemaking.<sup>[83]</sup> This document identifies facilities where noncompliance was identified and was addressed by means of formal Federal enforcement. The background document does not include either facilities where noncompliance was addressed through informal enforcement or facilities where noncompliance was addressed by a state. In addition, it does not include facilities where noncompliance was not identified, either because those facilities were not inspected or because they were inspected and found in compliance.

The compliance and enforcement actions documented here and in the background document show that where noncompliance is identified, many industry responsible parties are conducting or paying for cleanups, returning to compliance, and improving public health and the environment. In this industry, the largest CERCLA and RCRA civil and judicial Federal cases are recently concluded and represent significant operational compliance requirements and/or financial penalties. Several major enforcement cases highlighted in the EPA chemical sector notebooks<sup>[84]</sup> evolved into decades of litigation, multiple Federal enforcement cases, risks to human health and the environment, and NPL sites. Enforcement actions alone do not completely supplant the need for Fund-financed response actions either at these highlighted sites or generally in the Chemical Manufacturing industry (as discussed in section VIII below). Active enforcement serves as an important component of the regulatory framework.

### **VIII. Decision To Not Propose Requirements**

Based on consideration of the analyses described in the previous sections, as summarized below, EPA has reached a conclusion that the degree and duration of risk posed by the Chemical Manufacturing industry does not warrant financial responsibility requirements under CERCLA Section 108(b) and thus is proposing to not issue such requirements. The analysis and proposed finding in this proposal are not applicable to and do not affect, limit, or restrict EPA's authority (1) to take a response action or enforcement action under CERCLA at any facility in the Chemical Manufacturing industry, including any currently operating facilities or those described in this proposal and in the background documents for this proposal, and (2) to include requirements for financial responsibility as part of such response action. The set of facts in the rulemaking record related to the individual facilities discussed in this proposed rulemaking supports the Agency's proposal not to issue financial responsibility requirements under Section 108(b) for this class, but a different set of facts could demonstrate a need for a CERCLA response action at an individual site. This proposed rulemaking also does not affect the Agency's authority under other authorities that may apply to individual facilities, such as the CAA, the CWA, RCRA, and TSCA.

EPA believes the evaluation of the Chemical Manufacturing industry demonstrates significantly reduced risk of a Fund-financed response action at current operations. The reduction in risks due to the requirements of existing regulatory programs and voluntary practices combined with reduced costs to the taxpayer

—demonstrated by EPA's □ cleanup case analysis, existing financial responsibility requirements, and enforcement actions—has reduced the need for Federally-financed response action at facilities in the Chemical Manufacturing industry. EPA looked at current industry practices, market structure and economic performance of the industry; analyzed cleanup cases for facilities in the industry; and evaluated the extent to which the industry and sources of releases are covered by the modern regulatory framework, the degree to which taxpayers have been called upon to pay for cleanup, and EPA enforcement history in the industry.

As discussed in section VII.A, EPA identified the cleanup cases that occurred under the modern regulatory framework and also entailed some Fund expenditure. There were 34 sites that indicated the potential for a significant impact to the Fund while operating under the modern regulatory framework. For context, there are approximately 13,480 establishments currently operating in the industry. Thus, this is a relatively small number of cases in comparison to the size of the industry. Moreover, EPA estimates the total fund expenditure amount at the 34 sites (including 30 removal sites and 4 NPL sites) is approximately \$104 million (through 2017).<sup>[85]</sup> This amount of expenditures is only a fraction of just one year's Superfund budgetary authority. For example, the FY 2018 Superfund budget authority was \$1.057B.<sup>[86]</sup>

The language in Section 108(b) on determining the degree and duration of risk and on setting the level of financial responsibility confers a significant amount of discretion on EPA. In the past, some of the risks associated with spills resulted from, or were exacerbated by cleanups not being undertaken in a timely fashion. However, under the modern regulatory framework, requirements such as the Risk Management Plan under the CAA, the Emergency Action Plan under OSHA, and RCRA requirements for TSDFs to detect, contain, and clean up any leaks, including facility-wide corrective action—all help to ensure timely responses to releases. In addition to the requirements for facilities to respond to spills in a timely fashion, the public can alert the Federal government to releases by calling the National Response Center (NRC), which is a part of the Federally established National Response System and staffed 24 hours a day by the U.S. Coast Guard. The NRC is the designated Federal point of contact for reporting all oil, chemical, radiological, biological and etiological discharges into the environment, anywhere in the United States and its territories.

Only 34 sites (discussed in detail in Section VII.A) had significant releases or threatened releases of hazardous substances under the modern regulatory framework and required more than minimal taxpayer-funded cleanups. It is EPA's assessment that the small set of Federally-funded cleanup cases due to recent contamination, in view of the size of the industry, does not warrant the imposition of costly financial responsibility requirements on the entire Chemical Manufacturing industry under CERCLA Section 108(b).

EPA acknowledges that regulations do not always prevent releases, and the risk of a release is lessened but never eliminated by existing Federal and state environmental regulations. However, EPA believes that the network of Federal and state regulations applicable to the Chemical Manufacturing industry creates a comprehensive framework that applies to prevent releases that could result in a need for future cleanup. This is reflected in the relatively small Fund burden associated with a relatively small number of Fund financed cleanups at Chemical Manufacturing industry sites where pollution occurred under the modern regulatory framework. Numerous Federal programs have been established under several environmental statutes since CERCLA was enacted on December 11, 1980. These include programs under RCRA, which require proper management and disposal of hazardous wastes; under TSCA, which regulates the manufacture and sale of chemicals; under FIFRA, which require the proper handling and use of pesticides; and under both the CWA and the CAA, which address releases to water and air. In addition to these Federal programs, some states have stricter or additional standards beyond Federal requirements.



In addition to these Federal programs, some states with significant chemical manufacturing industries have stricter or additional standards beyond Federal requirements. These Federal and state programs are discussed in detail in Section VII.B and in the background document, which is available in the docket for this rulemaking.<sup>[87]</sup>

In addition, enforcement settlements and judgments that force return to compliance are important components of the applicable regulatory structure. EPA's analysis of enforcement history shows that enforcement of the applicable regulations provides a lever to monitor compliance, obtain responsible party cleanups, and recover financial penalties. Federal and state regulatory programs, backed up by enforcement and complemented by industry voluntary practices, have improved public health and the environment significantly since CERCLA's initial adoption nearly 40 years ago. EPA believes that within the Chemical Manufacturing industry, this framework provides effective controls which protect public health, welfare, and the environment.

Examination of market structures for the Chemical Manufacturing industry further indicates comparatively low likelihood of default on environmental obligations at the expense of taxpayers and the government by companies in this industry. This economic performance, combined with the low impact to the Fund by facilities with releases that happened under the modern regulatory framework, suggests that the degree of risk to the Fund by this industry does not rise to a level that warrants imposing CERCLA Section 108(b) financial responsibility requirements.

In summary, EPA has analyzed the need for financial responsibility based on risk of taxpayer funded cleanups at facilities in the Chemical Manufacturing Industry operating under modern management practices and modern environmental regulations, *i.e.*, the type of facilities to which financial responsibility regulations would apply. That risk is identified by examining Superfund cleanup cases associated with the industry, the management of hazardous substances at facilities in the industry, as well as by examining Federal and state regulatory controls on that management and Federal and state financial responsibility requirements.

Based on that examination, EPA is proposing that, in the context of CERCLA section 108(b), the degree and duration of risk associated with the modern production, transportation, treatment, storage or disposal of hazardous substances by the Chemical Manufacturing Industry does not present a level of risk of taxpayer funded response actions that warrant imposition of financial responsibility requirements for this sector. For these reasons, EPA is proposing today to not issue financial responsibility requirements under CERCLA Section 108(b) for this industry.

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#### **A. Solicitation of Public Comment on This Proposal**

EPA solicits comments on all aspects of today's proposal. EPA is specifically interested in receiving comments on several issues and requests the following information:

- Examples of Chemical Manufacturing industry related response actions for releases which took place under the modern regulatory framework, for which potentially responsible parties (PRPs) did not lead the response at the facility.
- Examples of Chemical Manufacturing industry related response actions for releases which took place under the modern regulatory framework, for which PRPs have not taken financial responsibility for their environmental liabilities.
- Information on state-lead or other Federal agency cleanups or instances of natural resource damages associated with this industry that may supplement the information on cleanups gathered and analyzed for this proposal.

- Information about existing Federal, state, tribal, and local environmental requirements applicable to the Chemical Manufacturing industry relevant to the prevention of releases of hazardous substances that were not evaluated as part of this proposal.
- Information about financial responsibility requirements applicable to Chemical Manufacturing industry that were not evaluated as part of this proposal.

## **IX. Statutory and Executive Order Reviews**

### **A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563 (/executive-order/13563): Improving Regulation and Regulatory Review**

This action is a significant regulatory action that was submitted to the Office of Management and Budget (OMB) for review, because it may raise novel legal or policy issues [3(f)(4)]. Any changes made in response to OMB recommendations have been documented in the docket for this rulemaking. EPA did not prepare an economic analysis for the proposed rule, since this action proposes no regulatory requirements.

### **B. Executive Order 13771 (/executive-order/13771): Reducing Regulation and Controlling Regulatory Costs**

This proposed rule is not subject to the requirements of Executive Order 13771 (/executive-order/13771) (82 FR 9339 (/citation/82-FR-9339), February 3, 2017) because this proposed rule would not result in additional cost.

### **C. Paperwork Reduction Act (PRA)**

This action does not propose an information collection burden under the PRA, because this action does not propose any regulatory requirements.

### **D. Regulatory Flexibility Act (RFA)**

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. This action does not propose any new requirements for small entities.

### **E. Unfunded Mandates Reform Act (UMRA)**

This action does not contain any unfunded mandate as described in UMRA, 2 U.S.C. 1531 (<https://www.govinfo.gov/link/uscode/2/1531?type=usc&year=mostrecent&link-type=html>)-1538, and does not significantly or uniquely affect small governments, because this action does not propose any regulatory requirements.

### **F. Executive Order 13132 (/executive-order/13132): Federalism**

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the Federal Government and the states, or on the distribution of power and responsibilities among the various levels of government, since this action proposes no new regulatory requirements.

### **G. Executive Order 13175 (/executive-order/13175): Consultation and Coordination With Indian Tribal Governments**

This action does not have tribal implications as specified in Executive Order 13175, (/executive-order/13175) because this action proposes no regulatory requirements. Thus, Executive Order 13175 (/executive-order/13175) does not apply to this action.

### **H. Executive Order 13045 (/executive-order/13045): Protection of Children From**

## Environmental Health and Safety Risks

This action is not subject to Executive Order 13045 ([/executive-order/13045](#)) because it is not economically significant as defined in Executive Order 12866, and because EPA does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children, since this action proposes no regulatory requirements.

## I. Executive Order 13211 ([/executive-order/13211](#)): Actions That Significantly Affect Energy Supply, Distribution, or Use

This action is not a “significant energy action” because it is not likely to have a significant adverse effect on the supply, distribution or use of energy, since this action proposes no regulatory requirements.

## J. National Technology Transfer and Advancement Act

This rulemaking does not involve technical standards.

## K. Executive Order 12898 ([/executive-order/12898](#)): Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

EPA believes that this action is not subject to Executive Order 12898 ([/executive-order/12898](#)) because it does not establish an environmental health or safety standard, since this action proposes no regulatory requirements.

## List of Subjects in 40 CFR Part 320 ([/select-citation/2020/02/21/40-CFR-320](#))

- Environmental protection
- Financial responsibility
- Hazardous substances
- Chemicals

Dated: February 10, 2020.

Andrew R. Wheeler,

Administrator.

## Footnotes

1. EPA's interpretation of the statute was upheld by the D.C. Circuit in *Idaho Conservation League v. Wheeler*, No. 18-1141, slip op. at 9-12 (D.C. Cir. July 19, 2019).

[Back to Citation](#)

2. 75 FR 816 ([/citation/75-FR-816](#)) (Jan. 6, 2010).

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3. 82 FR 3512 ([/citation/82-FR-3512](#)) (Jan. 11, 2017).

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4. Although Congress conferred the authority for administering CERCLA on the President, most of that authority has since been delegated to EPA. See Exec. Order No. 12580, 52 FR 2923 ([/citation/52-FR-2923](#))

*(Jan. 23, 1987). The executive order also delegates to other Federal agencies specified CERCLA response authorities at certain facilities under those agencies' "jurisdiction, custody or control."*

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5. *CERCLA Sections 106 authority is also delegated to other Federal agencies in certain circumstances. See Exec. Order No. 13016, 61 FR 45871 (/citation/61-FR-45871) (Aug. 28, 1996).*

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6. *CERCLA Section 107 (a)(4)(A).*

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7. *CERCLA Section 107 (a)(4)(C)-(D).*

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8. *74 FR 37214 (/citation/74-FR-37214) (July 28, 2009).*

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9. *Id. at 37218.*

[Back to Citation](#)

10. *75 FR 816 (/citation/75-FR-816) (Jan. 6, 2010).*

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11. *75 FR 816 (/citation/75-FR-816), 830-831 (Jan. 6, 2010).*

[Back to Citation](#)

12. *In Re: Idaho Conservation League, No. 14-1149 (D.C. Cir. Jan. 29, 2016) (order granting joint motion).*

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13. *See Joint Motion at 6 ("Nothing in this Joint Motion should be construed to limit or modify the discretion accorded EPA by CERCLA or the general principles of administrative law.")*

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14. *In granting the Joint Motion, the court expressly stated that its order "merely requires that EPA conduct a rulemaking and then decide whether to promulgate a new rule—the content of which is not in any way dictated by the [order]." In re Idaho Conservation League, at 17 (quoting *Defenders of Wildlife v. Perciasepe*, 714 F.3d 1317, 1324 (D.C. Cir. 2013)).*

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15. *82 FR 3512 (/citation/82-FR-3512) (Jan. 11, 2017).*

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16. *84 FR 36535 (/citation/84-FR-36535) (Jul. 29, 2019).*

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17. *83 FR 7556 (/citation/83-FR-7556), 7561-62 (Feb. 21, 2018).*

[Back to Citation](#)

18. *Idaho Conservation League v. Wheeler, No. 18-1141, slip op. at 12 (D.C. Cir. July 19, 2019).*

[Back to Citation](#)

19. *S. Rept. 96-848 (2d Sess, 96th Cong.), at 92.*

[Back to Citation](#)

20. *S. Rept. 96-848 (2d Sess, 96th Cong.), at 92.*

[Back to Citation](#)

21. *83 FR 7556 (/citation/83-FR-7556) (Feb. 21, 2018).*

[Back to Citation](#)

22. *Idaho Conservation League v. Wheeler, No. 18-1141 (D.C. Cir. July 19, 2019).*

[Back to Citation](#)

23. *82 FR 3512 (/citation/82-FR-3512) (Jan. 11, 2017).*

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24. *83 FR 7570 (/citation/83-FR-7570) (Feb. 21, 2018).*

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25. *2016 Economic Census of the United States, NAICS 325.*

[Back to Citation](#)

26. *Chemical Manufacturing Industry Practices and Environmental Characterization.*

[Back to Citation](#)

27. *According to the 2017 Hazardous Waste Report, facilities in this sector reported the generation of 21.7 million tons of hazardous waste. <https://rcrapublic.epa.gov/rcrainfoweb/action/modules/br/naics> (<https://rcrapublic.epa.gov/rcrainfoweb/action/modules/br/naics>).*

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28. *Chemical Manufacturing Industry Practices and Environmental Characterization.*

[Back to Citation](#)

29. *CERCLA 108(b) Economic Sector Profile: Chemical Manufacturing Industry.*

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30. *The Superfund Alternative Approach (SAA) uses the same CERCLA authority and investigation and cleanup process and standards that are used for NPL sites. The threshold criteria for using the SAA are: (1) The site must have contamination significant enough to make it eligible for listing on the NPL; (2) the site is anticipated to need remedial action; and, (3) there must be a cooperative, viable, capable PRP that will sign a CERCLA agreement with EPA to perform the necessary cleanup.*

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31. *75 FR 816 (/citation/75-FR-816) (Jan. 6, 2010).*

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32. *Identification and Evaluation of National Priorities List (NPL) Sites and Sites using the Superfund Alternative Approach (SAA) Cleanup Cases in the Chemical Manufacturing Industry and Identification and Evaluation of CERCLA 108(b) Chemical Manufacturing Industry non-National Priorities List (NPL) Removal Sites.*

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33. *Interim status facilities are facilities that were in existence on the effective date of the regulations and subject to the requirement to have a RCRA permit.*

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34. *These terms are used in the SEMS database to identify the party that had primary responsibility for construction at the sites.*

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35. *Identification and Evaluation of National Priorities List (NPL) Sites and sites using the Superfund Alternative Approach (SAA) Cleanup Cases in the Chemical Manufacturing Industry and Identification and Evaluation of CERCLA 108(b) Chemical Manufacturing non-National Priorities List (NPL) Removal Sites.*

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36. *None of these 290 removal sites are associated with an NPL site. Removal actions that have taken place at NPL sites or sites using the SAA, either before or after listing or designation, are tracked in SEMS as NPL or SAA level actions and not as separate removal records.*

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37. *The regulations covering management of hazardous waste in surface impoundments are in 40 CFR part 264 (</select-citation/2020/02/21/40-CFR-264/>)/265 Subpart K. Also see discussion in Section VII.B of this notice.*

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38. *The regulations covering management of hazardous waste in containers are in 40 CFR part 264 (</select-citation/2020/02/21/40-CFR-264/>)/265 Subpart I. Also see discussion in Section VII.B of this notice.*

[Back to Citation](#)

39. *Identification and Evaluation of National Priorities List (NPL) Sites and Sites using the Superfund Alternative Approach (SAA) in the Chemical Manufacturing Industry.*

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40. *The NPL Site Narrative for Baird & McGuire, <https://cumulis.epa.gov/supercpad/SiteProfiles/index.cfm?fuseaction=second.Cleanup&id=0100392#bkground> (<https://cumulis.epa.gov/supercpad/SiteProfiles/index.cfm?fuseaction=second.Cleanup&id=0100392#bkground>).*

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41. *Identification and Evaluation of National Priorities List (NPL) Sites and Sites using the Superfund Alternative Approach (SAA) in the Chemical Manufacturing Industry.*

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42. *Enforcement, Court Settlements and Judgments in the Chemical Manufacturing Industry.*

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43. *2018 Action Memorandum for a Non-Time Critical Removal Action, Consistency Exemption Request and Ceiling Increase at Mississippi Phosphates Corporation National Priorities List Site, Pascagoula, Jackson County, Mississippi.*

[Back to Citation](#)

44. *Identification and Evaluation of National Priorities List (NPL) Sites and Sites using the Superfund Alternative Approach (SAA) in the Chemical Manufacturing Industry.*

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45. *Includes 8 sites addressed through Superfund Alternative Approach (SAA).*

46. *The number in the parentheses indicates the sites that were also removed at this stage of the analysis because EPA determined the industrial activities did not involve chemical manufacturing.*

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47. *46 FR 2866 (</citation/46-FR-2866/>) (Jan. 2, 1981).*

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48. *51 FR 25472 (</citation/51-FR-25472/>) (Jul. 14, 1986).*

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49. *Identification and Evaluation of CERCLA 108(b) Chemical Manufacturing non-National Priorities List (NPL) Removal Sites.*

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50. *The number in parentheses indicates the sites that were also removed at this stage in the analysis: 81 Sites for which EPA determined the industrial activities did not involve chemical manufacturing, and 27*

*sites for which there was not enough documentation to be included in the analysis.*

[Back to Citation](#)

51. *Summary Report: Federal and State Environmental Regulations and Industry Voluntary Programs in Place to Address CERCLA Hazardous Substances at Chemical Manufacturing Facilities.*

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52. *“EPA History: Resource Conservation and Recovery Act,” EPA, at: <https://www.epa.gov/history/epa-history-resource-conservation-and-recovery-act> (<https://www.epa.gov/history/epa-history-resource-conservation-and-recovery-act>).*

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53. *“EPA History: Resource Conservation and Recovery Act,” EPA, at: <https://www.epa.gov/history/epa-history-resource-conservation-and-recovery-act> (<https://www.epa.gov/history/epa-history-resource-conservation-and-recovery-act>); “Summary of the Resource Conservation and Recovery Act,” EPA, at: <https://www.epa.gov/laws-regulations/summary-resource-conservation-and-recovery-act> (<https://www.epa.gov/laws-regulations/summary-resource-conservation-and-recovery-act>).*

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54. *45 FR 33063 (/citation/45-FR-33063) (May 19, 1980).*

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55. *45 FR 33063 (/citation/45-FR-33063) (May 19, 1980); 47 FR 15047 (/citation/47-FR-15047) (Apr. 7, 1982).*

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56. *51 FR 40572 (/citation/51-FR-40572) (Nov. 7, 1986).*

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57. *Id.*

[Back to Citation](#)

58. *81 FR 85732 (/citation/81-FR-85732) (Nov. 28, 2016).*

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59. *Interim status facilities are facilities that were already in existence at the time of the enactment of the permitting regulations. Interim status facilities must comply with the requirements in 40 CFR part 265 (/select-citation/2020/02/21/40-CFR-265) until they receive their permit.*

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60. *51 FR 16444 (/citation/51-FR-16444) (May 2, 1986).*

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61. *53 FR 37082 (/citation/53-FR-37082) and 43322 (Nov. 27, 2018).*

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62. *[www.csb.org](http://www.csb.org) (<http://www.csb.org>).*

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63. *53 FR 15975 (/citation/53-FR-15975); 50 FR 49001 (/citation/50-FR-49001); 40 FR 28268 (/citation/40-FR-28268); 71 FR 47422 (/citation/71-FR-47422); “Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and Federal Facilities,” EPA, accessed October 17, 2018 at: <https://www.epa.gov/enforcement/federal-insecticide-fungicide-and-rodenticide-act-fifra-and-federal-facilities> (<https://www.epa.gov/enforcement/federal-insecticide-fungicide-and-rodenticide-act-fifra-and-federal-facilities>); “About Pesticide Registration,” EPA, accessed November 26, 2018 at: <https://www.epa.gov/pesticide-registration/about-pesticide-registration> (<https://www.epa.gov/pesticide-registration/about-pesticide-registration>).*

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64. *53 FR 35058* (/citation/53-FR-35058); *45 FR 54338* (/citation/45-FR-54338); “Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and Federal Facilities,” EPA, accessed October 17, 2018 at: <https://www.epa.gov/enforcement/federal-insecticide-fungicide-and-rodenticide-act-fifra-and-federal-facilities> (<https://www.epa.gov/enforcement/federal-insecticide-fungicide-and-rodenticide-act-fifra-and-federal-facilities>).

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65. “Process Safety Management,” OSHA, accessed September 19, 2018 at: <https://www.osha.gov/Publications/osha3132.html> (<https://www.osha.gov/Publications/osha3132.html>); *57 FR 6403* (/citation/57-FR-6403).

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66. “OSHA Issues New National Emphasis Program for Chemical Facilities,” OSHA, November 30, 2011, accessed November 29, 2018 at: <https://www.osha.gov/news/newsreleases/trade/11302011-0> (<https://www.osha.gov/news/newsreleases/trade/11302011-0>).

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67. “Industrial Effluent Guidelines,” EPA at: <https://www.epa.gov/eg/industrial-effluent-guidelines> (<https://www.epa.gov/eg/industrial-effluent-guidelines>); “Learn About Effluent Guidelines,” EPA at: <https://www.epa.gov/eg/learn-about-effluent-guidelines> (<https://www.epa.gov/eg/learn-about-effluent-guidelines>); *39 FR 4532* (/citation/39-FR-4532) (Feb. 1, 1974).

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68. *43 FR 17776* (/citation/43-FR-17776) (Apr. 25, 1978); *47 FR 28278* (/citation/47-FR-28278) (Jun. 29, 1982); *52 FR 42522* (/citation/52-FR-42522) (Nov. 5, 1987).

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69. *43 FR 17776* (/citation/43-FR-17776) (Apr. 25, 1978).

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70. *52 FR 42522* (/citation/52-FR-42522) (Nov. 5, 1987).

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71. “National Oil and Hazardous Substances Pollution Contingency Plan (NCP) Overview,” EPA at: <https://www.epa.gov/emergency-response/national-oil-and-hazardous-substances-pollution-contingency-plan-ncp-overview> (<https://www.epa.gov/emergency-response/national-oil-and-hazardous-substances-pollution-contingency-plan-ncp-overview>).

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72. *Summary Report: Federal and State Environmental Regulations and Industry Voluntary Programs in Place to Address CERCLA Hazardous Substances at Chemical Manufacturing Facilities.*

[Back to Citation](#)

73. *22 California Code of Regulation (CCR) 67391.*

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74. *23 CCR 2803.*

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75. *22 CCR 67430.*

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76. “Responsible Care,” American Chemistry Council, accessed October 16, 2018 at: <https://responsiblecare.americanchemistry.com/> (<https://responsiblecare.americanchemistry.com/>).

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77. *Summary Report: Federal and State Environmental Regulations and Industry Voluntary Programs in Place to Address CERCLA Hazardous Substances at Chemical Manufacturing Facilities.*

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78. *Review of Existing Financial Responsibility Laws Potentially Applicable to Classes of Facilities in the Chemical Manufacturing Industry.*

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79. *ECHO does not include all of EPA's compliance and enforcement activity because regions are not required to report "informal actions," and it does not consistently capture all state actions.*

Back to Citation

80. *Enforcement, Court Settlements and Judgments in the Chemical Manufacturing Industry.*

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81. *These ECHO enforcement removals are separate from the Superfund removals analyzed elsewhere. ECHO system data includes the combined value of total enforcement financial penalties, Supplemental Environmental Projects (SEPs), and associated compliance activity.*

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82. *Compliance actions ordered can include the removal of contaminated media, installation of new equipment, or implementation of compliant processes.*

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83. *Enforcement, Court Settlements and Judgments in the Chemical Manufacturing Industry.*

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84. *Profile of the Agricultural Chemical, Pesticide, and Fertilizer Industry, Sep 2000, EPA 310-R-00-003; Profile of the Organic Chemical Industry, 2nd Edition, Nov 2002, EPA 310-R-02-001; Profile of the Plastic Resin and Manmade Fiber Industries, Sep 1997, EPA 310-R-97-006; and Profile of the Pharmaceutical Manufacturing Industry, Sep 1997, EPA 310-R-97-005.*

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85. *This expenditure figure reflects only expenditures from the Hazardous Substances Response Trust Fund (aka Superfund) designated as non-special account expenditures through 2017. For example, the projected costs through 2020 for Mississippi Phosphate is \$133 million (according to the April 2018 Action Memorandum), compared to the \$8 million expended through 2017. It is anticipated that significant additional expenditures will occur at some of these sites. As such, the ultimate taxpayer burden may be significantly higher.*

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86. *See U.S. EPA. May 2017. Fiscal Year 2018 Budget in Brief. Accessed April 2019. Available: <https://www.epa.gov/sites/production/files/2017-05/documents/fy-2018-budget-in-brief.pdf> (<https://www.epa.gov/sites/production/files/2017-05/documents/fy-2018-budget-in-brief.pdf>).*

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87. *Summary Report: Federal and State Environmental Regulations and Industry Voluntary Programs in Place to Address CERCLA Hazardous Substances at Chemical Manufacturing Facilities.*

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