CERCLA 108(b)

Review of Existing Financial Responsibility Laws Potentially Applicable to Facilities in the Electric Generation, Transmission, and Distribution Industry (NAICS 2211)

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I. Introduction.

On January 6, 2010, the U.S. Environmental Protection Agency (EPA) identified three industries –the Electric Power Generation, Transmission, and Distribution industry (NAICS 2211), the Petroleum and Coal Products Manufacturing industry (NAICS 324), and the Chemical Manufacturing industry (NAICS 325) – as including classes of facilities for which EPA planned to develop, as necessary, proposed regulations identifying appropriate financial responsibility (FR) requirements under CERCLA 108(b).[1]

To help inform potential CERCLA 108(b) rulemakings and the level of risk associated with these identified classes of facilities, EPA assessed existing State and Federal FR programs that cover a wide range of liabilities (e.g., closure, post-closure care, corrective action, third-party personal injury/property damage, natural resource damages). EPA focused on these types of FR programs for two reasons. First, these categories of damages, actions, and costs are similar to those that could be covered by any future CERCLA 108(b) rulemaking and thus may inform the need for CERCLA 108(b) FR for these industries. Secondly, the existence of FR requirements can help incentivize better environmental performance broadly speaking. For example, closure FR increases compliance with end-of-life facility closure and remediation requirements. FR, depending on the program design, can also encourage safer environmental practices because firms may have an incentive to lower required FR amounts or lower the risk their facilities pose in the eyes of financial institutions (e.g., insurers, sureties). Additionally, EPA is identifying State funds that are partially funded by industry, including the industries of interest in this report (e.g., through a tax on generated hazardous wastes), and that could cover future CERCLA liabilities that may arise at the facilities of interest in this report.

To support those efforts, EPA tasked ICF with preparing three reports reviewing and describing existing FR laws and certain State funds potentially applicable to each of the three CERCLA 108(b) additional classes in 25 States selected by EPA. The States reviewed were intended to be the same States reviewed in EPA's report regarding existing State regulatory and voluntary programs (excluding FR programs) that may be applicable to the additional classes. See Appendix B for the State selection methodology. The States in the review include the following: Alaska, California, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Missouri, New Jersey, New Mexico, North Carolina, Ohio, Oklahoma, Pennsylvania, Texas, Utah, Virginia, Washington, Wisconsin, and Wyoming.

This report provides ICF's findings in performing a broad review of FR laws applicable to facilities in the Electric Power Generation, Transmission, and Distribution industry (NAICS 2211), including laws that would cover CERCLA liabilities and those covering other environmental liabilities at regulated facilities. Findings of this research are presented as categories of different types of FR requirements found within the States included in ICF's review.

In addition to State programs, ICF also reviewed existing FR requirements in the following Federal programs: (1) EPA RCRA Subtitle C hazardous waste, (2) TSCA commercial PCB waste facilities, (3) EPA Safe Drinking Water Act Underground Injection Control wells, (4) U.S. Nuclear Regulatory Commission (NRC) requirements for decommissioning nuclear power reactors, and (5) NRC insurance requirements for nuclear incidents. ICF did not include State regulations that are counterparts to these programs because

[1] 75 Fed. Reg. 816 available at https://www.gpo.gov/fdsys/pkg/FR-2010-01-06/pdf/E9-31399.pdf. These three industries were identified by EPA after EPA identified the hardock mining industry as the class of facility to be the subject of the first CERCLA 108(b) rulemaking effort.

such State FR programs tend to mirror the Federal counterpart FR regulations, whereas the State programs described in this report often are very different in many respects and have not been designed in most cases by reference to a Federal model.

Additionally, the following FR programs were considered to be outside of the scope of this review:

- FR for solid waste management unless the program applied to coal combustion residuals (CCRs).
- FR programs solely covering releases at off-site facilities (e.g., off-site disposal facilities) other than the facilities where the hazardous substance was generated or initially utilized in a production process.
- Transportation FR, which often includes coverage for liabilities associated with releases occurring during the loading and unloading of hazardous materials at the additional classes of facilities. Such transport FR can apply to different types and capacities of vessels, trucks, pipelines, and railroads.
- FR programs related to releases solely of oil (crude and refined) applicable to facilities such as oil-fired power generation, oil refining, and petrochemical manufacturing as well as associated storage.[2]
- FR for aboveground or underground storage tanks of oil/petroleum.[3]
- Programs that impose FR requirements on non-power reactor nuclear materials licensees (i.e., FR for decommissioning of facilities that have used radioactive materials) or low-level radioactive waste.

[2] Petroleum is excluded from coverage under CERCLA, with certain exceptions:
"(14) The term ''hazardous substance'' means

(A) any substance designated pursuant to section 1321(b)(2)(A) of title 33 [Clean Water Act],

(B) any element, compound, mixture, solution, or substance designated pursuant to section 9602 of this title [CERCLA],

(C) any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (42 U.S.C. 6921) (but not including any waste the regulation of which under the Solid Waste Disposal Act (42 U.S.C. 6901 et seq.) has been suspended by Act of Congress),

(D) any toxic pollutant listed under section 1317(a) of title 33 [Clean Water Act],

(E) any hazardous air pollutant listed under section 112 of the Clean Air Act (42 U.S.C. 7412), and

(F) any imminently hazardous chemical substance or mixture with respect to which the Administrator has taken action pursuant to section 2606 of title 15 [Toxic Substances Control Act].

The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas)" (*emphasis added*). 42 U.S.C. § 9601(14).

[3] The Federal underground storage tank (UST) regulations apply to UST systems storing either petroleum or hazardous substances. The Federal UST program includes FR requirements to assure that, in the event of a leak or a spill of petroleum, an owner or operator will have the resources to pay for costs associated with cleaning up releases and compensating third parties. The Federal UST FR requirements apply to releases of petroleum, not hazardous substances. (40 CFR §§ 280.90 – 280.116, available at https://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr280_main_02.tpl&SID=2fa2adfcdfd0ddc5b78752e1b2b6083e&m=06&d=01&y=2016&pd=20150101&pitd=20150101&submit=GO.)The Federal regulations allow State UST program approval by EPA to operate in lieu of the federal program. States may have more stringent regulations than the Federal FR requirements. As of September 2017, 38 States, plus DC and Puerto Rico had approved UST programs.

In addition to this introduction, this report includes three sections:

- Section 2 provides background information on the Electric Power Generation, Transmission, and Distribution industry (NAICS 2211).
- Section 3 presents findings from the research performed, including identification of types of FR programs that have been identified to which facilities within NAICS 2211 codes could be subject.
- Appendix A provides a State-by-State listing of the FR programs identified in each State, including identification of the trigger for the FR requirement or the mechanism by which the facilities in the additional classes of industry would be required to contribute to a State clean-up fund, and the liabilities covered.
- Appendix B describes the methodology used to identify the sub-set of States that is covered by this report.

II. Background on the Electric Power Generation, Transmission, and Distribution Industry (NAICS 2211).

This section provides background on the Electric Power Generation, Transmission, and Distribution industry (NAICS 2211),[4] one of the industries for which EPA planned to develop, as necessary, proposed regulations identifying appropriate FR requirements under CERCLA 108(b). This section identifies NAICS code 2211 sub-categories. NAICS code sub-categories are identified to inform the reader of the classes of facilities covered by each NAICS code.

NAICS 6-Digit Classification	NAICS Code Industry Description
221111	Hydroelectric power generation
221112	Fossil fuel electric power generation
221113	Nuclear electric power generation
221114	Solar electric power generation
221115	Wind electric power generation
221116	Geothermal electric power generation
221117	Biomass electric power generation
221118	Other electric power generation
221121	Electric bulk power transmission and control
221122	Electric power distribution

[4] The North American Industry Classification System (NAICS) was developed under the direction and guidance of the Office of Management and Budget (OMB) as the standard for use by Federal statistical agencies in classifying business establishments for the collection, tabulation, presentation, and analysis of statistical data describing the U.S. economy. Use of the standard provides uniformity and comparability in the presentation of these statistical data. NAICS is based on a production-oriented concept, meaning that it groups establishments into industries according to similarity in the processes used to produce goods or services.

This review focused only on NAICS 221112 fossil fuel electric power generation and 221113 nuclear electric power generation.

III. Findings

This section describes the findings of the review performed to identify types of existing FR programs that may be applicable to the Electric Power Generation, Transmission, and Distribution industry (NAICS 2211). The initial findings described are the results of a review of the statutes and regulations of 25 States, as well as select Federal FR programs described in the introduction. The types of FR programs identified include the following:

(1) FR for coal-fired electric generating facilities
(2) FR for facilities that process or dispose of coal combustion residuals
(3) FR for decommissioning nuclear power plants
(4) FR for public liability resulting from incidents at nuclear power plants
(5) Onsite property insurance requirements for nuclear power plants
(6) FR for land use/siting permit conditions
(7) FR for hazardous waste management facilities
(8) FR for underground injection of hazardous wastes that might pollute drinking water or threaten human health and the environment
(9) FR for PCB storage or disposal facilities
(10) Corrective action FR for discharges/releases of hazardous substances or their constituents
(11) Facility remediation FR associated with transfer in ownership or facility closure
(12) FR for storage tanks containing hazardous substances
(13) Other broad authorities to require FR to assure compliance with orders

Each is discussed in more detail below.

In addition to identifying types of FR programs that may be applicable, this section provides example Federal and State FR programs that have been found. Additional research could be performed to review the FR programs in the remaining 25 States and could lead to the identification of additional examples and additional types of existing FR programs. See Appendix A for a State-by-State listing of the FR programs identified in each State, including identification of the trigger for the FR requirement or mechanism by which the facilities in NAICS Code 2211 would be required to contribute to a State clean-up fund, and the liabilities covered.

(1) FR for coal-fired electric generating facilities

States may have FR programs focused specifically on liabilities (e.g., closure, post-closure care, corrective action, and/or other liability) associated with coal-fired electric generating facilities.

Relevance to electric generation, transmission, and distribution industry (NAICS 2211) and CERCLA 108(b)

NAICS codes subject to requirement	Coal-fired electric generating facilities are a type of fossil fuel electric power generation facilities [NAICS 221112], which is a sub-category of the electric power generation, transmission, and distribution category of facilities.
Use or production of CERCLA hazardous substance at covered facilities/equipment	The processes involved in generating electricity from coal results in the production of residuals containing CERCLA hazardous substances or constituents (e.g., arsenic, selenium, mercury, and other toxic metals).
Likelihood that scope of FR program covers clean up of CERCLA hazardous substance	Program dependent.

State Example

Washington has several FR requirements applicable to coal-fired electric generating facilities, including a program related to closure and post-closure care [RCW 80.82.010-020].

(2) FR for facilities that process or dispose of coal combustion residuals

States may have FR requirements assuring closure, post-closure care, and/or corrective action at facilities that process or dispose of coal combustion residuals (CCRs). States may also have State clean-up funds that are partially funded by coal-fired electric generating facilities, that can be used to fund clean ups related to facilities that process or dispose of CCRs.

Relevance to electric generation, transmission, and distribution industry (NAICS 2211) and CERCLA 108(b)

NAICS codes subject to requirement	Coal-fired electric generating facilities are a type of fossil fuel electric power generation facilities [NAICS 221112], which is a sub-category of the electric power generation, transmission, and distribution category of facilities.
Use or production of CERCLA hazardous substance at covered facilities/equipment	Coal-fired electric generating facilities generate large quantities of solid waste, including CCRs containing hazardous substances. CCRs may contain hazardous substances such as: arsenic, selenium, mercury, and other toxic metals.
Likelihood that scope of FR program covers clean up of CERCLA hazardous substance	Likely.

State Examples

FR for facilities processing or disposing of coal combustion residuals

Alaska has an FR requirement for owners and operators of coal ash landfills that covers the closing of the facility and post-closure monitoring [18 AAC 60.265].

Florida has an FR program for closure, post-closure, and corrective action at facilities that dispose of CCRs [Fla. Stat. § 403.707 and Fla. Admin. Code Ann. r. 62-701.630].

Georgia has an FR program for corrective action, closure, and post-closure care at facilities disposing of CCRs in CCR landfills [GA ADC. §§ 391-3-4.10 – 391-3-4.13].

Indiana has FR requirements for closure and post-closure care at facilities disposing of CCRs at landfills [329 IAC 10-39-1].

Iowa has FR requirements for owning or operating a CCR landfill. The FR program covers closure, post-closure, and corrective action [IA ADC 567-103.3 and Iowa Code § 455B.304, § 455B.306].

Kentucky has FR requirements for owning and operating CCR units covering closure and post-closure care [401 KAR 46:120].

Louisiana has requirements for FR for processing and disposal facilities that may dispose of CCRs. The program covers closure and post-closure care [LAC 33:VII § 1303].

Michigan has an FR program for closure, post-closure, and corrective action at facilities and landfills that dispose of CCRs [MCL 324.11512(3) and MI ADC R.299.4922.4; MCL 324.11525(9)].

Minnesota has an FR requirement for closure, post-closure care, and corrective action for CCR land disposal facilities [MN ADC 7035.2695].

Missouri has an FR requirement for post-closure care plans and corrective action for disposal areas, which includes utility waste landfills that can be used for disposal of CCRs [Mo. Ann. Stat. § 260.205; 10 CSR 80-2.030(4)(B)(2)d].

New Jersey has an FR requirement for closure and post-closure care consistent with the plans approved by the department for constructing, operating, or closing a sanitary landfill containing solid waste. CCRs, when they do not qualify for a beneficial use exemption, are regulated as solid waste [N.J.A.C. 7:26-2B.6(c)(12); N.J.A.C. 7:26-2A.9(f)].

North Carolina has an FR requirement for public utilities that own a low-risk CCR surface impoundment. The FR covers closure, post-closure maintenance and monitoring, corrective action, satisfaction of any liability for sudden and nonsudden accidental occurrences arising from the impoundment, and subsequent costs incurred by the Department in response to an incident [N.C. Gen. Stat. § 130A-309.214]. North Carolina also has an FR requirement triggered by holding a permit to construct or operate a structural fill where the project involves placement of 8,000 or more tons of coal combustion products per acre or 80,000 or more tons of coal combustion products in total per project. The FR covers closure, post-closure maintenance and monitoring, corrective action, satisfaction of any liability for sudden and nonsudden accidental occurrences, and subsequent costs incurred by the Department in response to an incident at a structural fill project [N.C. Gen. Stat. § 130A-309.219; N.C. Gen. Stat § 130A-309.221].

Ohio has an FR requirement for facilities applying for a permit to operate a solid waste disposal facility that receives residual solid waste (including CCRs) or industrial solid waste from power generation. Facilities must demonstrate FR for closure, post-closure, and corrective action [OH ADC 3745-29-19].

Oklahoma has an FR requirement triggered by owning or operating a waste disposal site, which may receive CCRs, requiring a permit. The FR covers closure, post-closure care, and/or corrective action for known releases [27A Okl. St. § 2-10-701; OK ADC 252:515-27-3]. Oklahoma also has an FR requirement for owning or operating a CCR unit that handles or handled CCRs from an electric utility or independent power producer. The requirement covers closure, post-closure care, and/or corrective action for known releases [OK ADC 252:517].

Pennsylvania has an FR requirement which includes but is not limited to monitoring, post-closure care, remedial measures, and bodily injury and property damage to third parties resulting from the operation of the facility, for residual waste disposal facilities. Residual waste includes CCRs [35. P.S. § 6018.505 et subsq.; 25 PA. Code Chapter 287].

Utah has an FR requirement that covers post-closure care and corrective action for owners and operators of solid waste disposal facilities requiring permits, including CCR landfills [Utah Code Ann. § 19-6-108(9)(c); Utah Admin. Code R315-309-1].

Virginia has an FR requirement for operating a CCR landfill that covers closure, post-closure care, and corrective action [Va. Code Ann. § 10.1-1410; 9 VAC 20-81].

Washington has a program related to the establishment of retirement accounts to cover decommissioning and remediation costs of eligible coal units [Rev. Code Was. § 80.84.020].

Wisconsin has an FR requirement for owners and operators of landfills, including landfills where CCRs are disposed, that covers closure, long-term care, and remedial actions [Wis. Stat. § 289.41(2)(a); Wis. Admin. Code § NR 514.06(15); Wis. Admin. Code § NR 520.05(1)].

Wyoming has an FR requirement that is triggered by an agency decision following a violation by a facility that is owned or operated by an electric utility disposing of solid waste from an electric generation facility. The FR covers corrections of violations of rules, standards, or permits [WY Stat § 35-11-504; 020-0009-7 Wyo. Code R. §§ 1 - 3].

State clean-up funds

Georgia has a State solid waste trust fund that provides funding for emergency actions in response to releases or threatened releases and preventative or corrective action, including closure/post-closure care, at facilities that have experienced contamination or a release of a hazardous waste or substance. Funding for the State fund comes in part from disposal fees from CCR generating facilities [GA. Code Ann. 12-8-27.1].

(3) FR for decommissioning nuclear power plants

Federal FR requirements require nuclear power plants to provide reasonable assurance that funds will be available to decommission the facility.[5] Decommissioning funding requirements, which are overseen by the NRC, cover removing the facility or site safely from service and reducing the residual radioactivity to a level that permits: (1) release of the property for unrestricted use and termination of the license; or (2)

[5] 10 CFR 50.33(k), 50.75, and 50.82.

release of the property under restricted conditions and termination of the license. The costs of dismantling or demolishing non-radiological systems and structures are not covered by this FR requirement.

Relevance to electric generation, transmission, and distribution industry (NAICS 2211) and CERCLA 108(b)

NAICS codes subject to requirement	Nuclear electric power generation [NAICS 221113], is a sub-category of the electric power generation, transmission, and distribution category of facilities.
Use or production of CERCLA hazardous substance at covered facilities/equipment	The processes involved in generating electricity at a nuclear power plant results in the production of residuals containing CERCLA hazardous substances or constituents (e.g., arsenic, selenium, mercury, and other toxic metals).
Likelihood that scope of FR program covers clean up of CERCLA hazardous substance	Covers activities associated with reduction of radioactivity, but not clean-up related to non-radiological systems and structures.[6]

(4) FR for public liability resulting from incidents at nuclear power plants

Federal FR requirements were created by the Price-Anderson Act that cover liability claims of members of the public for personal injury and property damage caused by a commercial nuclear power plant accident.[7] Insurance under Price-Anderson covers bodily injury, sickness, disease or resulting death, property damage and loss, including reasonable living expenses for individuals evacuated.[8]

[6] For additional clarification on the responsibilities off EPA and NRC at decommissioning nuclear reactors see Memorandum of Understanding Between the Environmental Protection Agency and the Nuclear Regulatory Commission, available at https://www.nrc.gov/reading-rm/doc-collections/news/2002/mou2fin.pdf.
[7] 10 CFR Part 140.
[8] NRC Backgrounder: Nuclear Insurance and Disaster Relief, available at https://www.nrc.gov/reading-rm/doc-collections/fact-sheets/nuclear-insurance.html.

Relevance to electric generation, transmission, and distribution industry (NAICS 2211) and CERCLA 108(b)

NAICS codes subject to requirement	Nuclear electric power generation [NAICS 221113], which is a sub-category of the electric power generation, transmission, and distribution category of facilities.
Use or production of CERCLA hazardous substance at covered facilities/equipment	Releases of "source," "special nuclear," and "byproduct material" resulting from a "nuclear incident" subject to financial protection requirements established by the NRC under s. 170 of the Atomic Energy Act are excluded from coverage under CERCLA.[9]
Likelihood that scope of FR program covers clean up of CERCLA hazardous substance	Unlikely.

(5) Onsite property insurance requirements for nuclear power plants

The NRC requires insurance at each nuclear power reactor site to cover onsite cleanup costs resulting from a nuclear accident, including stabilization and decontamination of the reactor and site after an accident.[10]

Relevance to electric generation, transmission, and distribution industry (NAICS 2211) and CERCLA 108(b)

NAICS codes subject to requirement	Nuclear electric power generation [NAICS 221113], which is a sub-category of the electric power generation, transmission, and distribution category of facilities.
Use or production of CERCLA hazardous substance at covered facilities/equipment	An accident at a nuclear power plant is likely to result in the production of residuals containing CERCLA hazardous substances or constituents (e.g., arsenic, selenium, mercury, and other toxic metals).
Likelihood that scope of FR program covers clean up of CERCLA hazardous substance	Likely.

(6) FR for land use/siting permit conditions

States may have FR requirements applicable to electric power generating facilities that assure compliance with land use/siting permit conditions and environmental laws.

[9] 42 U.S.C. § 9601(22).
[10] 10 CFR 50.54(w).

Relevance to electric generation, transmission, and distribution industry (NAICS 2211) and CERCLA 108(b)

NAICS codes subject to requirement	NAICS 2211 facilities.
Use or production of CERCLA hazardous substance at covered facilities/equipment	Program dependent.
Likelihood that scope of FR program covers clean up of CERCLA hazardous substance	Program dependent.

State Example

Washington has FR requirements triggered by submitting a site restoration or preservation plan to identify, evaluate, and resolve all major environmental and public health and safety issues at an energy facility. The FR requirement assures restoration, preservation, site closure, and pollution liabilities. [WAC § 463-72-020]. Washington has another FR requirement that is applicable when submitting an application for site certification for energy facilities that covers damage or loss to the physical or human environment, caused by project construction, operation, abandonment, termination, or when operations cease at the completion of an energy facility project's life. [WAC § 463-60-010; WAC § 463-60-075].

(7) FR for hazardous waste management facilities

Federal FR requirements are triggered by the operation of a hazardous waste storage, treatment, or disposal facility.[11] All covered RCRA hazardous waste management facilities are subject to decontamination and closure FR as well as liability coverage for third-party personal injury or property damage outside of the property line. Covered RCRA disposal facilities also are subject to FR for post-closure maintenance and monitoring. RCRA itself requires FR for completing corrective action at permitted solid waste management units (SWMUs), including permitted hazardous waste treatment, storage, and disposal units.

Relevance to electric generation, transmission, and distribution industry (NAICS 2211) and CERCLA 108(b)

NAICS codes subject to requirement	All facilities in NAICS code 2211 would be subject to these requirements if they stored, treated, or disposed of hazardous wastes or were SWMUs covered by the program.
Use or production of CERCLA hazardous substance at covered facilities/equipment	RCRA hazardous wastes are defined by CERCLA as hazardous substances.
Likelihood that scope of FR program covers clean up of CERCLA hazardous substance	Likely.

[11] 40 CFR § 264, Subpart H; 40 CFR § 265, Subpart H.

(8) FR for underground injection of hazardous wastes that might pollute drinking water or threaten human health and the environment

Federal FR requirements are triggered by the allowable underground injection of a hazardous waste (Class I). All Class I wells for injecting hazardous wastes are subject to closure, plugging, or abandonment FR as well as FR for post-closure care.[12] RCRA also requires FR for completing corrective (i.e., remedial) actions at permitted SWMUs including hazardous waste injection wells. Class VI facilities for underground containment of captured carbon dioxide provide FR for well plugging, "corrective action" of wells in the area of review, site closure and post-injection site care, and emergency and remedial response.[13] However, captured carbon dioxide is conditionally not a RCRA hazardous waste[14] nor a CERCLA hazardous substance.

Relevance to electric generation, transmission, and distribution industry (NAICS 2211) and CERCLA 108(b)

NAICS codes subject to requirement	All facilities in NAICS codes 2211 would be subject to these requirements if they injected hazardous wastes.
Use or production of CERCLA hazardous substance at covered facilities/equipment	RCRA hazardous wastes are defined by CERCLA as hazardous substances.
Likelihood that scope of FR program covers clean up of CERCLA hazardous substance	Likely.

(9) FR for PCB storage or disposal facilities

Federal FR requirements are triggered by the operation of a commercial PCB storage facility.[15] Commercial PCB storage facilities are subject to closure FR. States may also have FR requirements for PCB storage facilities that are not exclusively applicable to commercial facilities and also for PCB disposal facilities.

Relevance to electric generation, transmission, and distribution industry (NAICS 2211) and CERCLA 108(b)

NAICS codes subject to requirement	All facilities in NAICS code 2211 would be subject to these requirements if they stored or disposed of PCBs.
Use or production of CERCLA hazardous substance at covered facilities/equipment	TSCA PCBs are defined by CERCLA as hazardous substances.
Likelihood that scope of FR program covers clean up of CERCLA hazardous substance	Likely.

[12] See 40 CFR Part 144 (Subpart F) and corresponding sections in 40 CFR Part 146.
[13] See 40 CFR § 146.85.
[14] See EPA, "Hazardous Waste Management System: Conditional Exclusion for Carbon Dioxide (CO2) Streams in Geologic Sequestration Activities (Final Rule)," 78 *Fed. Reg.* 350 (January 3, 2014).
[15] See 40 CFR § 761.65.

State Example

Indiana has FR requirements for closure and post-closure care costs for facilities owning or operating PCB landfills or alternative disposal areas. [329 IAC 4.1-12].

(10) Corrective action FR for discharges/releases of hazardous substances or their constituents

States may have FR requirements that are triggered by a release of hazardous substances that are intended to assure the proper clean up of the release. States may also have clean-up funds that are not industry-specific but that are partially funded by industry, including the industries within the additional classes of facilities of interest in the review, that can be used to fund the clean up of a release of hazardous substances.

Relevance to electric generation, transmission, and distribution industry (NAICS 2211) and CERCLA 108(b)

NAICS codes subject to requirement	All facilities in NAICS code 2211 could be subject to these requirements if they produced or released hazardous substances covered by the program that required remediation.
Use or production of CERCLA hazardous substance at covered facilities/equipment	This criterion would depend upon the extent to which the hazardous substances covered by the program were CERCLA hazardous substances.
Likelihood that scope of FR program covers clean up of CERCLA hazardous substance	Likely.

State Examples

Corrective action FR

Alaska may require FR that covers the costs of operation and maintenance, including compliance monitoring and corrective measures, of institutional controls for a discharge or release of a hazardous substance [18 AAC 75.375(e)].

As part of an order requiring corrective action for the release of hazardous substances, Georgia may require FR for corrective action [GA. Code Ann. § 12-8-95].

Georgia may require participants in a voluntary remediation program to demonstrate FR to cover clean up and remediation of hazardous and regulated substances at properties that are not listed on the NPL or currently undergoing remediation [GA. Code Ann. § 12-8-107].

As part of a court determination that contamination of usable ground water poses a threat to the public health and that evaluation or remediation is required to protect the usable ground water, Louisiana has FR requirements covering the implementation of a plan for evaluating and remediating the contamination and protecting usable ground water [La. R.S. § 30:2015.1].

Michigan has FR for an environmental remediation program for monitoring, operation and maintenance, oversight, and other costs determined necessary by the department to assure the effectiveness and integrity of a remedial action for a release of hazardous substances [MCL 324.20114d(4)(b)].

Minnesota also has FR requirements for corrective action and response costs if or when there is an order associated with a responsible party's response to a hazardous substance release [Minn. Stat. 115E.01 and Minn Stat. § 115E.05].

In New Jersey, a State agency or court can require a demonstration of FR to cover the cost of clean up and removal of hazardous substances or hazardous waste discharges [N.J. Stat. § 58:10B-1.3]. New Jersey also has FR requirements that are applicable at the discretion of the Department covering operation, maintenance, and inspection of engineering controls and related system installed as part of a remedial action of a contaminated site [N.J. Stat. § 58:10C-19].

North Carolina has FR requirements triggered by the remediation of a contaminated site, including those requiring remediation pursuant to CERCLA, RCRA, and the Oil Pollution and Hazardous Substance Control Act, among other laws. The FR covers implementation and maintenance of the actions or controls specified in an approved remedial action plan for the site [N.C. Gen. Stat. § 130A-310.69; N.C. Gen. Stat § 130A-309.72].

Texas has FR requirements that cover post-response action care for releases of chemicals of concern, as defined by a number of Texas environmental programs, that are addressed by Remedy Standard B [30 TAC § 350.33; 30 TAC § 37.4021].

In Washington the Department can require FR after a release of hazardous substance where the clean-up action includes engineering and/or institutional controls. The FR covers operation and maintenance of the clean-up action, including institutional control, compliance monitoring, and corrective actions [WAC § 173-340-440]. Washington also has corrective action FR requirements associated with owning or operating a facility with releases of dangerous wastes, which include hazardous substances and their constituents, including on-site activities at energy facilities [WAC § 173-303-64620; WAC § 173-303-645; WAC § 463-74-030].

Wisconsin has an FR requirement that covers remedial actions at sites with residual contamination after approving an interim action, a remedial action, or a case close letter if residual contamination remains on a site after conclusion of an interim action or a remedial action [Wis. Stat. § 292.12(2)(d)(2)]. Wisconsin also has an FR requirement triggered by an application for approval of a voluntary response based on natural attenuation or additional remediation needed for contaminated sediments. The FR covers response and restoration [Wis. Stat. § 292.15(2)(ae); Wis. Stat. § 292.15(2)(af); Wis. Admin. Code § NR 754.11(3)].

Wyoming has an FR requirement that covers the performance and maintenance of engineering controls and any monitoring activities required in remedy agreements, after entering a voluntary remedy agreement with the Wyoming Department of Environmental Quality [WY Stat § 35-11-1607(b)(i)].

State clean-up funds

Alaska has a State release prevention and response fund that can be used to contain, clean up, and take other necessary action, such as monitoring and assessing, to address a release or threatened release of a hazardous substance. Funding comes in part from a per barrel of oil production surcharge, as well as fines,

penalties, or damages recovered under AS 46.08.005-46.08.080 or other law for costs incurred by the state as a result of a release or threatened release of a hazardous substance. [AS § 46.08.020; AS § 46.08.025].

California has a State clean-up fund for the following liabilities at facilities contaminated with hazardous substances: removal or remedial action, site operation and maintenance, 10% State share of CERCLA costs, and certain third-party compensation of costs and losses. Funding comes in part from monies from State cost recoveries, fees, fines, or penalties incurred or received from responsible parties during enforcement actions. [Cal HS Code 6.8-20 § 25300-25395.45].

Georgia has a State hazardous waste trust fund for the investigation, detoxification, removal, and disposal of any hazardous wastes, hazardous constituents, or hazardous substances at sites where corrective action is necessary to mitigate a present or future danger to human health or the environment. The fund can also be used to cover emergency actions the director considers necessary to protect public health, safety, or the environment whenever there is a release of hazardous wastes, hazardous constituents, or hazardous substances. Funds can also be used for CERCLA response actions. Funding comes in part from hazardous waste management fees paid by hazardous waste generators. [GA. Code Ann. §§ 12-8-91 – 12-8-95].

Florida has a State water quality assurance trust fund that may be used for the assessment, clean up, restoration, monitoring, and maintenance of any site involving spills, discharges, or escapes of pollutants or hazardous substances which occur as a result of procedures taken by private and governmental entities involving the storage, transportation, and disposal of pollutants or hazardous substances. Funds can also be used for CERCLA response actions. Funding comes in part from a tax imposed on those engaged in the production of motor fuel, diesel fuel, aviation fuel, and/or other pollutants, as well as environmental enforcement actions. [Fla. Stat. § 376.307].

Illinois has a State hazardous waste fund for preventative and corrective action in response to the release of hazardous substances. Funding comes in part from a tax on the disposal of hazardous wastes. [415 ILCS 5/22.2].

Indiana has a State hazardous substances response trust fund that may be used for State responses to hazardous releases. Funding comes in part from fees on the disposal of hazardous waste by generators. [IN Code § 13-25-4].

Iowa has a State hazardous substance remedial fund that provides funds for corrective action and remediation of hazardous substance disposal sites, includes financing of clean up, remediation, and post-closure operation and maintenance costs. Funding comes in part from fees from hazardous waste generators and transporters in the State. [Iowa Code § 455B.423(6)].

Louisiana has a State hazardous waste site clean-up fund providing funds for the remediation of hazardous wastes, and the assessment, clean up, and other costs associated with nonhazardous waste sites determined to be priority sites by the Secretary. Funding is provided in part from a tax on the disposal of hazardous wastes. [La. R.S. § 30:2205].

Minnesota has a State fund that may be used for corrective action to address releases of hazardous substances and for environmental response actions at qualified landfill facilities. Funding comes in part from cost recoveries and natural resources damages. [Minn Stat. § 116.155].

Missouri has a State hazardous waste fund that may be used for clean up of hazardous substances, site

remediation activities, and post closure operation and maintenance costs. Funding comes in part from fees paid by the generators of hazardous wastes. [Mo. Ann. Stat. § 260.391].

New Jersey has a State fund that may be used for the removal and clean up of hazardous substances, natural resource damages restoration and replacement, compensation for damage and/or destruction of real or personal property and associated lost income, compensation for loss of tax revenue, and interest on loans. Funding comes in part from taxes on the owners or operators of major facilities receiving the transfer of petroleum and/or hazardous substances, assessed according to the volume of the substance transferred. [N.J. Stat. § 58:10-23.11g; N.J. Stat. § 58: 10-23.11h].

New Jersey has another State fund that may be used for remediation of hazardous substance or waste. Funding comes in part from a surcharge on parties required to remediate hazardous substance or waste, per N.J. Stat. § 58: 10B-11, and appropriations, subrogation recoveries, and investment earnings. [N.J. Stat. § 58:10B-3; N.J. Stat. § 58:10B-20].

New Mexico has a State hazardous waste emergency fund for clean up and corrective action of hazardous substance releases, disposal of hazardous substances, and necessary repairs of State property. Funding comes in part from penalties collected by the Division against responsible parties for hazardous substance incidents. [NM Stat. 74-4-7].

Texas has a State fund for removal and remediation of hazardous substances or solid waste. Funding comes in part from fees imposed on the owners and operators of hazardous waste facilities. [Texas Health And Safety Code § 361.133].

Utah has a State hazardous substances mitigation fund for emergency actions, remedial investigations, and the amounts required by the federal government as the State's portion of the cost of clean ups under CERCLA. It is funded in part by waste disposal fees [Utah Code Ann. § 19-6-307].

Washington has a State fund for hazardous waste clean up, spill response, hazardous waste planning, management, regulation, and enforcement. It is funded in part by a percentage pollution tax on the wholesale value of possessed hazardous substances by holders of hazardous substances [Rev. Code Was. § 70.105D.070].

(11) Facility remediation FR associated with transfer in ownership or facility closure

States may have FR requirements assuring the remediation of specified classes of facilities triggered by a prospective transfer in ownership or facility closure.

Relevance to electric generation, transmission, and distribution industry (NAICS 2211) and CERCLA 108(b)

NAICS codes subject to requirement	Program dependent.
Use or production of CERCLA hazardous substance at covered facilities/equipment	Program dependent.
Likelihood that scope of FR program covers clean up of CERCLA hazardous substance	Likely.

State Example

The New Jersey Industrial Site Recovery Act requires a demonstration of FR to cover facility remediation from owners or operators of "industrial establishments" planning to close or transfer ownership or operations. [NJAC 7:26B].

(12) FR for storage tanks containing hazardous substances

States may have programs requiring a demonstration of FR to cover liabilities associated with releases from aboveground or underground storage of hazardous substances in tanks. These FR requirements would be imposed upon owners/operators prior to a release.

Relevance to electric generation, transmission, and distribution industry (NAICS 2211) and CERCLA 108(b)

NAICS codes subject to requirement	Many facilities in NAICS code 2211 are likely to have storage tanks containing hazardous substances at their facilities and therefore be subject to these FR requirements.
Use or production of CERCLA hazardous substance at covered facilities/equipment	This criterion would depend upon the extent to which the hazardous substances covered by the program were CERCLA hazardous substances.
Likelihood that scope of FR program covers clean up of CERCLA hazardous substance	Likely.

State Examples

Florida has FR requirements covering liabilities associated with the pollution of surface and ground waters, discharge removal, and damage to natural resources from above or underground storage tanks containing hazardous substances. [Fla. Stat. § 376.309(1)].

Michigan has FR requirements for monitoring, operation, and maintenance of corrective action remediation plans for leaking underground storage tanks containing regulated substances, which includes a sub-set of CERCLA hazardous substances. [MCL 324.21309a(2)(f)].

New Jersey has FR requirements to which those servicing underground storage tanks containing CERCLA hazardous substances are subject covering remediation and compensating third parties for bodily injury and property damage. [N.J. Stat. § 58:10A-24.4; N.J. Stat. § 58:10A-25a(8)].

New Mexico has a State fund that may be used for corrective action at above and underground storage tanks to pay for the costs of a site assessment, the State's share of the federal leaking underground storage tank trust fund, and to make payments to or on behalf of owners or operators for corrective action. New Mexico has an FR requirement for corrective action and remediation if the owner or operator receives notification of incapacity of the corrective action fund to cover corrective action and remediation of contamination from above and below ground storage tanks [NM Stat. 74-6B-7].

Pennsylvania has FR requirements for corrective action and compensation for bodily injury and property damage caused by accidental releases of regulated substances from storage tanks. [Note: Although the authorizing Statute grants authority to impose FR requirements on both aboveground and underground storage tanks, implementing regulations apply only to underground storage tanks.] [35 P.S. § 6021.701 and 25 PA. Code Chapter 245]

Washington has FR requirements that are triggered by submitting a license application for a UST system that contains regulated substances, which include hazardous substances and mixtures of petroleum and hazardous substances. The FR requirement covers remediation and compensation of third parties for bodily injury and property damage due to sudden and non-sudden accidental releases [Rev. Code Was. § 90.76; WAC § 173-360A-0200; WAC § 173-360A-1000 et seq.].

(13) Other broad authorities to require FR to assure compliance with orders

States may have broad authority to require FR to assure compliance with an agency order.

Relevance to electric generation, transmission, and distribution industry (NAICS 2211) and CERCLA 108(b)

NAICS codes subject to requirement	Program dependent.
Use or production of CERCLA hazardous substance at covered facilities/equipment	Program dependent.
Likelihood that scope of FR program covers clean up of CERCLA hazardous substance	Program dependent.

State Example

In New Jersey, the Department of Environmental Protection (DEP) has the authority to require FR to assure good faith compliance with an order to correct a violation of DEP regulations [N.J. Stat. § 13:1D-9(u)].

Appendix A – State-by-State Listing of Identified FR Programs Potentially Applicable to NAICS Code 2211.

The following table provides an alphabetical State-by-State listing of the FR programs identified in each State, including identification of the trigger for the FR requirement and the liabilities covered. For each program, a hyperlink is provided for a publicly available version of the statute and/or regulation describing the program. Authorizing statutes and/or implementing regulations are included in the table. The trigger for the FR requirements is the activity or action that subjects an individual or company to an FR requirement. The trigger for the FR requirement may be (1) ownership or use of a specific piece of equipment or product (e.g., ownership of an underground storage tank that contains regulated substances) or (2) engagement in a specified activity (e.g., a release of a hazardous substance). Where State Funds are identified, the "Trigger for FR requirement" column identifies the mechanisms (e.g., fee on the generation of hazardous waste) by which the facilities in NAICS Code 2211 would be required to contribute to the fund. The covered liabilities described in the table are the full scope of liabilities that are discussed for the program, but are subject to various limitations and exclusions that are not discussed in detail in this report.

Program name (including hyperlink to publicly available version of statute and/or regulation)	**Trigger for FR requirement**	**Covered liabilities**
Alaska		
Release Prevention and Response Fund (State fund) AS § 46.08.020 AS § 46.08.025	Funding comes in part from a per barrel of oil production surcharge, as well as fines, penalties, or damages recovered under AS 46.08.005-46.08.080 or other law for costs incurred by the State as a result of a release or threatened release of a hazardous substance.	Contain, clean up, and take other necessary action, such as monitoring and assessing, to address a release or threatened release of a hazardous substance.
Solid Waste Management Regulations 18 AAC 60.265	Owning or operating a coal ash landfill.	Closing of facility and post-closure monitoring.
Discharge Reporting, Clean Up, and Disposal of Hazardous Substances 18 AAC 75.375(e)	Department determination associated with institutional controls for a discharge or release of a hazardous substance.	Costs of operation and maintenance, including compliance monitoring and corrective measures, for any institutional control.

Program name (including hyperlink to publicly available version of statute and/or regulation)	**Trigger for FR requirement**	**Covered liabilities**
California		
Hazardous Substances Account Act (State Fund) Cal HS Code 6.8-20 § 25300-25395.45	Funded in part by monies from State cost recoveries, fees, fines, or penalties incurred or received from responsible parties during enforcement actions.	Removal or remedial action, site operation and maintenance, 10% State share of CERCLA costs, certain third-party compensation of costs and losses.
Florida		
Pollutant Discharge Prevention - Water Quality Assurance Trust Fund (State Fund) Fla. Stat. § 376.307	Funding comes in part from (1) a tax imposed on those engaged in the production of motor fuel, diesel fuel, aviation fuel, or other pollutants and (2) moneys recovered by the State as a result of actions initiated against a person for a violation of Florida Statutes Chapter 403, Environmental Control, that result in injury to the air, waters, or property, including animal, plant, and aquatic life.	Assessment, clean up, restoration, monitoring, and maintenance of any site involving spills, discharges, or escapes of pollutants or hazardous substances which occur as a result of procedures taken by private and governmental entities involving the storage, transportation, and disposal of pollutants or hazardous substances. Funds can also be used for CERCLA response actions.
Facilities, Financial Responsibility Fla. Stat. § 376.309(1)	Owning an underground tank over 110 gallons that contains any hazardous substances or pollutants or owning an aboveground tank with storage capacity less than 550 gallons that contain any pollutants.	Liabilities incurred under the Statute, including liabilities associated with pollution of surface and ground waters, discharge removal, and damage to natural resources.
Florida Resource Recovery and Management Fla. Stat. § 403.707 Fla. Admin. Code Ann. r. 62-701.630	Owning or operating a solid waste facility and obtaining a valid permit to own or operate the solid waste facility. Solid wastes could include non-beneficial CCRs.	Closure, post-closure care, and corrective action.
Georgia		
Georgia Hazardous Waste Trust Fund (State Fund) GA. Code Ann. §§ 12-8-91 – 12-8-95	Funding comes in part from hazardous waste management fees paid by generators of hazardous waste, hazardous substance release reporting fees, and cost recovery from corrective actions and enforcement.	Investigation, detoxification, removal, and disposal of any hazardous wastes, hazardous constituents, or hazardous substances at sites where corrective action is necessary to mitigate a present or future

Program name (including hyperlink to publicly available version of statute and/or regulation)	**Trigger for FR requirement**	**Covered liabilities**
		danger to human health or the environment. Emergency actions the director considers necessary to protect public health, safety, or the environment whenever there is a release of hazardous wastes, hazardous constituents, or hazardous substances. Funds can also be used for CERCLA response actions.
Georgia Corrective Action Order Financial Assurance GA. Code Ann. § 12-8-95	An order requiring corrective action for the release of hazardous substances.	Corrective action.
Voluntary Remediation Program – Hazardous Wastes GA. Code Ann. § 12-8-107	Participating in voluntary remediation program for sites contaminated with hazardous and regulated substances.	Clean up and remediation of hazardous and regulated substances at properties that are not listed on the NPL or currently undergoing remediation. Includes soil and water remediation and reclamation.
Coal Combustion Residuals Management GA ADC. §§ 391-3-4.10 – 391-3-4.13	Disposing of CCRs in CCR units and landfills.	Corrective action, closure, and post-closure care in line with RCRA subtitle C requirements for hazardous waste disposal facilities.
Solid Waste Trust Fund (State Fund) GA. Code Ann. 12-8-27.1	Funding from disposal fees, including fees for the disposal of CCRs from electricity generating facilities.	Emergency actions in response to releases or threatened releases, preventative or corrective action, including closure and post-closure care.
Illinois		
Hazardous Waste Fund (State Fund) 415 ILCS 5/22.2	Funding comes in part from a tax on the disposal of waste, per unit of volume, at hazardous waste facilities. The tax is collected from the owners and operators of disposal facilities according to the amount of waste they process. The disposal of CCRs is expressly excluded from the State tax requirements.	Preventative and corrective action in response to the release of hazardous substances, State compliance with CERCLA, and groundwater protection activities.

Program name (including hyperlink to publicly available version of statute and/or regulation)	**Trigger for FR requirement**	**Covered liabilities**
Indiana		
Disposal of Wastes Containing PCBs 329 IAC 4.1-12	Owning or operating facilities that dispose of PCBs in landfills or alternative disposal areas.	Closure and post-closure care.
Solid Waste Land Disposal Facilities 329 IAC 10-39-1	Owning or operating facilities disposing of CCRs at a landfill.	Closure and post-closure care.
Hazardous Substances Response Trust Fund (State Fund) IN Code § 13-25-4	Funding comes in part from a fee on the disposal of hazardous waste by generators.	State responses to hazardous releases.
Iowa		
Coal Combustion Residue Sanitary Landfills IA ADC 567-103.3 Iowa Code § 455B.304, § 455B.306	Owning or operating a CCR landfill.	Closure, post-closure care, and corrective action.
Iowa Hazardous Substances Remedial Fund (State Fund) Iowa Code § 455B.423(6)	Funding comes from fees from hazardous waste generators and transporters, as well as enforcement penalties.	Corrective action and remediation of hazardous substance disposal sites. Includes financing of clean up, remediation, and post-closure operation and maintenance costs.
Kansas		
No relevant programs identified.		
Kentucky		
Coal Combustion Residuals Regulations 401 KAR 46:120	Owning or operating a CCR unit.	Closure and post-closure care.
Louisiana		
Solid Waste Regulations LAC 33:VII § 1303	Owning or operating a disposal facility requiring a permit. The regulations are silent as to affirmatively controlling	Closure and post-closure care.

Program name (including hyperlink to publicly available version of statute and/or regulation)	**Trigger for FR requirement**	**Covered liabilities**
	CCRs, but provide an exemption from permitting requirements for the beneficial use of CCRs.	
Remediation of Usable Ground Water La. R.S. § 30:2015.1	Court determination that contamination of usable ground water exists which poses a threat to the public health and that evaluation or remediation is required to protect usable ground water.	Implementation of a plan for evaluating and remediating the contamination and protecting the usable ground water consistent with the health, safety, and welfare of the people.
Hazardous Waste Site Clean-up Fund (State Fund) La. R.S. § 30:2205	Funding comes in part from a tax on the disposal of hazardous waste.	In addition to providing for the remediation of hazardous waste, the assessment, clean up, and associated costs of nonhazardous waste sites determined to be priority sites by the Secretary. No further guidance as to the determination of priority sites was identified in Louisiana hazardous and solid waste law.
Michigan		
Solid Waste Management - Financial Assurance MCL 324.11512(3) MI ADC R.299.4922.4	Applying for a license to operate a disposal area, including landfills used for the disposal of CCRs.	Closure, post-closure maintenance and monitoring, and corrective action.
Solid Waste Management Statute - Perpetual Care Fund MCL 324.11525(9)	Owning or operating a landfill, including type II landfills that can be used for the disposal of CCRs.	Closure, post-closure monitoring and maintenance, and corrective action.
Environmental Remediation Statute - No further action report MCL 324.20114d(4)(b)	Submission of a no further action report associated with a remedial action for a release of hazardous substances, which requires a proposed post-closure agreement.	Monitoring, operation and maintenance, oversight, and other costs determined necessary by the department to assure the effectiveness and integrity of the remedial action.
Leaking Underground Storage Tanks - Corrective Action Plan MCL 324.21309a(2)(f)	Creation of a corrective action plan for a release of regulated substances, which includes a sub-set of CERCLA hazardous substances, from an underground storage tank system, if	Monitoring, operation, and maintenance necessary to assure the effectiveness and integrity of the corrective action remediation system.

Program name (including hyperlink to publicly available version of statute and/or regulation)	**Trigger for FR requirement**	**Covered liabilities**
	the corrective action plan includes the operation of a mechanical soil or groundwater remediation system or both. [Note: No implementing regulations were identified pursuant to this statute.]	
Missouri		
Financial Assurance Requirements for Closure and Post Closure Care of Solid Waste Disposal Areas Mo. Ann. Stat. § 260.205 10 CSR 80-2.030(4)(B)(2)d	Applying for and obtaining a permit to own or operate a disposal area, which includes utility waste landfills that can be used for the disposal of CCRs.	Post-closure care plans and corrective action.
Hazardous Waste Fund (State Fund) Mo. Ann. Stat. § 260.391	Funding comes in part from fees paid by the generators of hazardous wastes.	Clean up of hazardous substances, site remediation activities, and post closure operation and maintenance costs.
Minnesota		
Hazardous Substance Discharge Preparedness Minn Stat. § 115E.01 Minn Stat. § 115E.05	An order associated with a responsible party's response to a hazardous substance release.	Corrective action and response costs.
Minnesota Remediation Fund (State Fund) Minn Stat. § 116.155	Funding comes in part from cost recoveries and natural resource damages.	Corrective action to address releases of hazardous substances and for environmental response actions at qualified landfill facilities.
Coal Ash Solid Waste Management Facilities MN ADC 7035.2695	Owning or operating a CCR land disposal facility permitted after January 1, 2011. CCR landfills are a class of industrial waste land disposal facilities.	Closure, post-closure care, and corrective action.
New Jersey		
Powers of the Department of Environmental Protection	An order of the NJ Department of Environmental Protection (DEP) to correct a violation of DEP regulations.	Good faith compliance with the order.

Program name (including hyperlink to publicly available version of statute and/or regulation)	**Trigger for FR requirement**	**Covered liabilities**
N.J. Stat. § 13:1D-9(u)		
Spill Compensation Fund (State Fund) N.J. Stat. § 58:10-23.11g N.J. Stat. § 58: 10-23.11h	Funding comes in part from taxes on the owners or operators of major facilities receiving the transfer of petroleum and/or hazardous substances, assessed according to the volume of the substance transferred.	Removal and clean up of hazardous substances, natural resource damages restoration and replacement, compensation for damage and/or destruction of real or personal property and associated lost income, compensation for loss of tax revenue, and interest on loans.
Underground Storage Tank Regulations N.J. Stat. § 58:10A-24.4 N.J. Stat. § 58:10A-25a(8)	Servicing an underground storage tank containing CERCLA hazardous substances.	Remediation and compensating third parties for bodily injury and property damage.
Hazardous Discharge Site Remediation N.J. Stat. § 58:10B-1.3	Directive or order by a State agency or court to clean up and remove a hazardous substance or hazardous waste discharge.	Remediation.
Remediation Guarantee Fund (State Fund) N.J. Stat. § 58:10B-3 N.J. Stat. § 58:10B-20	Funding comes in part from a surcharge on parties required to remediate hazardous substance or waste, per N.J. Stat. § 58: 10B-11, and appropriations, subrogation recoveries, and investment earnings.	Remediation.
Site Remediation Professional Licensing and Regulation N.J. Stat. § 58:10C-19	At the discretion of the department, the operation, maintenance, and inspection of engineering or institutional controls and related systems installed as part of a remedial action of a contaminated site.	Operation, maintenance, inspection of engineering controls as part of a remedial action of a contaminated site for the period that such controls are required.
Solid Waste Management Regulations N.J.A.C. 7:26-2B.6(c)(12); N.J.A.C. 7:26-2A.9(f)	Constructing, operating, or closing a sanitary landfill containing solid waste. CCRs, when they do not qualify for a beneficial use exemption, are regulated as solid waste.	Closure and post-closure care consistent with plans approved by the Department.
Industrial Site Recovery Act Rules	Proposing closure or transferring an industrial establishment in need of	Site remediation, meaning the investigation and/or clean up of any known or suspected

Program name (including hyperlink to publicly available version of statute and/or regulation)	**Trigger for FR requirement**	**Covered liabilities**
N.J.A.C. 7:26B et subsq.	remediation to a new owner or operator.	discharge of hazardous waste, substance, or pollutant into the lands or waters of the State.
New Mexico		
Corrective Action Fund – Storage Tanks (State Fund and FR requirement) NM Stat. 74-6B-7	Funding comes in part from yearly fees from owners and operators of above and below ground storage tanks containing regulated substances, which include a sub-set of CERCLA hazardous substances (State fund).	Corrective action at above and underground storage tanks to pay for the costs of a site assessment, the State's share of the federal leaking underground storage tank trust fund, and to make payments to or on behalf of owners or operators for corrective action.
	Receipt by the owner or operator of notification of incapacity of the corrective action fund to cover corrective action and remediation of contamination from above and below ground storage tanks (FR requirement).	Corrective action and remediation.
Hazardous Waste Emergency Fund (State Fund) NM Stat. 74-4-7	Funding comes in part from penalties collected by the Division against responsible parties for hazardous substance incidents.	Clean up and corrective action of hazardous substance releases, disposal of hazardous substances, and necessary repairs of State property.
North Carolina		
Coal Ash Management - Closure of Surface Impoundments N.C. Gen. Stat. § 130A-309.214	Being a public-utility and owning a low-risk CCR surface impoundment.	Closure, post-closure maintenance and monitoring, corrective action, and satisfaction of any liability for sudden and nonsudden accidental occurrences arising from the impoundment and subsequent costs incurred by the Department in response to an incident.
Coal Ash Management - Use of Coal Combustion Products for Structural Fill N.C. Gen. Stat. § 130A-309.219;	Holding a permit to construct or operate a structural fill where the project involves placement of 8,000 or more tons of coal combustion products per acre or 80,000 or more tons of coal combustion products in total per project.	Closure, post-closure maintenance and monitoring, corrective action, and satisfaction of any liability for sudden and nonsudden accidental occurrences, and subsequent costs incurred by the Department

Program name (including hyperlink to publicly available version of statute and/or regulation)	**Trigger for FR requirement**	**Covered liabilities**
N.C. Gen. Stat § 130A-309.221		in response to an incident at a structural fill project.
Risk Based Environmental Remediation of Sites N.C. Gen. Stat. § 130A-310.69; N.C. Gen. Stat § 130A-309.72	Conducting remediation of a contaminated site, including those requiring remediation pursuant to CERCLA, RCRA, and the Oil Pollution and Hazardous Substance Control Act, among other laws.	Implementation and maintenance of the actions or controls specified in an approved remedial action plan for the site.
Ohio		
Coal Ash Disposal at Sanitary Landfills, Including Residual Solid Waste Landfills OH ADC 3745-29-19 OH ADC 3745-30-14	Applying for a permit to operate a solid waste disposal facility that receives residual solid waste (including CCRs) or industrial solid waste from power generation.	Closure, post closure, and corrective action at sanitary landfills used for the disposal of CCRs and industrial solid waste from power generation.
Oklahoma		
Solid Waste Management 27A Okl. St. § 2-10-701 OK ADC 252:515-27-3	Owning or operating a waste disposal site, which may receive CCRs, requiring a permit.	Closure, post-closure care, and/or corrective action for known releases.
Disposal of Coal Combustion Residuals from Electric Utilities OK ADC 252:517	Owning or operating a CCR unit that handles or handled CCRs from an electric utility or independent power producer.	Closure, post-closure care, and/or corrective action for known releases.
Pennsylvania		
Residual Waste Management 35. P.S. § 6018.505 et subsq. 25 PA. Code Chapter 287	Operating a residual waste disposal facility requiring a permit. Non-hazardous waste from industrial operations (e.g., refineries) and non-beneficial CCRs are residual waste for the purposes of this law.	Completing final closure according to the permit granted to such facility and such measures as are necessary to prevent adverse effects upon the environment; such measures include but are not limited to satisfactory monitoring, post-closure care, and remedial measures. Bodily injury and

Program name (including hyperlink to publicly available version of statute and/or regulation)	**Trigger for FR requirement**	**Covered liabilities**
		property damage to third parties resultant from the operation of the facility.
Storage Tank and Spill Prevention 35. P.S. § 6021.701 25 PA. Code Chapter 245	Owning or operating a storage tank containing "regulated substances," which include a sub-set of CERCLA hazardous substances. [Note: Although the authorizing Statute grants authority to impose FR requirements on both aboveground and underground storage tanks, implementing regulations apply only to underground storage tanks.]	Corrective action and bodily injury and property damage caused by releases arising from operation of storage tank.
Texas		
Texas Hazardous and Solid Waste Remediation Fee Account (State Fund) Texas Health And Safety Code § 361.133	Funding comes in part from fees imposed on the owners and operators of hazardous waste facilities.	Removal and remediation of solid waste or hazardous substances.
Texas Risk Reduction Program, Remediation Standard B 30 TAC § 350.33 30 TAC § 37.4021	Releasing chemicals of concern, as defined by a number of Texas environmental programs, and developing a response action pursuant to Remedy Standard B.	Post-response action care.
Utah		
Financial Assurance - Solid Waste Utah Code Ann. § 19-6-108(9)(c) Utah Admin. Code R315-309-1	Owning or operating a solid waste disposal facility requiring permits, including CCR landfills.	Closure, post-closure care, and corrective action.
Hazardous Substances Mitigation Fund (State Fund) Utah Code Ann. § 19-6-307	Funded in part by waste disposal fees.	Emergency actions, remedial investigations, and the amounts required by the federal government as the State's portion of the cost of clean ups under CERCLA.
Virginia		

Program name (including hyperlink to publicly available version of statute and/or regulation)	**Trigger for FR requirement**	**Covered liabilities**
Solid Waste Management Va. Code Ann. § 10.1-1410 9 VAC 20-81	Operating a CCR landfill.	Closure, post-closure care, and corrective action.
Washington		
State Toxics Control Accounts (State Fund) Rev. Code Was. § 70.105D.070	Funded in part by a percentage pollution tax on the wholesale value of possessed hazardous substances by holders of hazardous substances.	Hazardous waste clean up, spill response, hazardous waste planning, management, regulation, and enforcement.
Closure of Coal-fired Electric Generation Facilities Rev. Code Was. § 80.82.010	Submitting a closure and post closure plan for a coal fired electric generating facility.	Closure and post-closure of the facility.
Retirement Account – Decommissioning and Remediation Liabilities Rev. Code Was. § 80.84.020	Establishing a retirement account to cover decommissioning and remediation costs of eligible coal units.	Decommissioning and remediation costs.
Releases from Regulated Units WAC § 173-303-64620 WAC § 173-303-645 WAC § 463-74-030	Owning or operating a facility with releases of dangerous wastes, which include hazardous substances and their constituents, including on-site activities at energy facilities.	Corrective action.
Model Toxics Control Act WAC § 173-340-440	Department order after release of hazardous substance where the clean-up action includes engineering and/or institutional controls.	Operation and maintenance of the clean-up action, including institutional control, compliance monitoring, and corrective actions.
Underground Storage Tanks – Storage of Regulated Substances Rev. Code Was. § 90.76 WAC § 173-360A-0200	Submitting a license application for a UST system that contains regulated substances, which include hazardous substances and mixtures of petroleum and hazardous substances.	Remediation and compensation of third parties for bodily injury and property damage due to sudden and non-sudden accidental releases.

Program name (including hyperlink to publicly available version of statute and/or regulation)	**Trigger for FR requirement**	**Covered liabilities**
WAC § 173-360A-1000 et seq.		
Energy Facility Applications for Site Certification WAC § 463-60-010 WAC § 463-60-075	Submitting an application for site certification for energy facilities.	Damage or loss to the physical or human environment, caused by project construction, operation, abandonment, termination, or when operations cease at the completion of an energy facility project's life.
Energy Facility Restoration and Preservation WAC § 463-72-020	Submitting a site restoration or preservation plan to identify, evaluate, and resolve all major environmental and public health and safety issues at an energy facility.	Restoration, preservation, site closure, and pollution liabilities.
Wisconsin		
Solid Waste Financial Responsibility Requirements Wis. Stat. § 289.41(2)(a) Wis. Admin. Code § NR 514.06(15); Wis. Admin. Code § NR 520.05(1)	Owning or operating any landfill. This may include landfills where CCRs are disposed.	Closure, long-term care, and remedial actions.
Sites with Residual Contamination from Hazardous Substances Wis. Stat. § 292.12(2)(d)(2)	Approving an interim action, a remedial action, or a case close letter if residual contamination remains on a site after conclusion of an interim action or a remedial action.	Remedial action at site with residual contamination.
Voluntary Remediation Wis. Stat. § 292.15(2)(ae); Wis. Stat. § 292.15(2)(af) Wis. Admin. Code § NR 754.11(3)	Application for approval of a voluntary response based on natural attenuation or additional remediation needed for contaminated sediments.	Response and restoration.
Wyoming		
Solid Waste Management Facilities - Financial Assurance Requirements WY Stat § 35-11-504	Agency decision following a violation by a facility that is owned or operated by an electric utility disposing of solid waste from an electric generation facility.	Corrections of violations of rules, standards, or permits.

Program name (including hyperlink to publicly available version of statute and/or regulation)	**Trigger for FR requirement**	**Covered liabilities**
020-0009-7 Wyo. Code R. §§ 1 - 3		
Voluntary Remediation of Contaminated Sites WY Stat § 35-11-1607(b)(i)	Entering a voluntary remedy agreement with the Wyoming Department of Environmental Quality.	Performance and maintenance of engineering controls and any monitoring activities required in remedy agreement.

Appendix B – Methodology for Selecting States Reviewed

The following sections summarize findings about the geographic distribution of facilities within the 50 States and the District of Columbia for each of the NAICS classes of interest. EPA relied upon EPA rulemakings, industry sources, and the U.S. Census Bureau's County Business Pattern data to generate the results. The Census Bureau collects data on the number of "establishments" within each geographic area; it defines an "establishment" as "a single physical location at which business is conducted or services or industrial operations are performed."[16]

The Census Bureau collects establishment information by the number of employees at each establishment (i.e., number of establishments in a given State with 1-4 employees, number of establishments in a given State with 5-9 employees, etc.). For the purposes of generating a representative sample of States for regulatory information collection, EPA included all of the establishments in a given State, regardless of employment, in its findings.

The sections below discuss in detail the method for identifying representative samples of States from which to collect FR regulatory information. In summary, the States identified that had significant number of facilities in each industry include:

- **NAICS 2211 (221112 – Coal-Fired Electric Utility Power Plants):** Pennsylvania, Michigan, Indiana, Illinois, Missouri, Texas, Kentucky, Iowa, Ohio, Wisconsin, Florida, Minnesota, and North Carolina.
- **NAICS 324 (324110 – Petroleum Refineries, and 324199 – All Other Petroleum and Coal Products Manufacturing):** Texas, Louisiana, California, Alaska, Oklahoma, Utah, Washington, Wyoming, Pennsylvania, Illinois, and Virginia.
- **NAICS 325 – Chemical Manufacturing:** California, Texas, Illinois, Florida, New Jersey, Pennsylvania, New York, and Georgia.

EPA included every State that appeared at least once in the above lists. This resulted in EPA reviewing the following States to identify existing FR programs:

Alaska, California, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Missouri, New Jersey, New Mexico, North Carolina, Ohio, Oklahoma, Pennsylvania, Texas, Utah, Virginia, Washington, Wisconsin, and Wyoming.

NAICS 221112: Fossil Fuel Powered Utility Plants

NAICS 221112 includes all fossil fuel powered electric power generation facilities. The data from EPA's coal combustion residuals rulemaking is specific to coal-fired plants, while the Census Bureau data on NAICS 221112 establishments reflects the geographic distribution of all fossil fuel powered plants.

Table 1, below, summarizes the geographic distribution of the affected universe of coal-fired utility plants from EPA's 2015 coal combustion residuals rulemaking and presented in EPA's 2018 RCRA disposal of coal combustion residuals rulemaking.

Table 1. Coal-Fired Electric Utility Plants Affected by the 2015 CCR Rule by State

[16] U.S. Census Bureau, County Business Patterns, Glossary, accessed July 27, 2018 at: https://www.census.gov/programs-surveys/cbp/about/glossary.html.

Row	State	Plants	% of Total Plants	Cumulative %
1	Pennsylvania	24	5.8%	5.8%
2	Michigan	23	5.6%	11.4%
3	Indiana	21	5.1%	16.5%
4	Illinois	19	4.6%	21.1%
5	Missouri	19	4.6%	25.7%
6	Texas	18	4.4%	30.0%
7	Kentucky	17	4.1%	34.1%
8	Iowa	16	3.9%	38.0%
9	Ohio	16	3.9%	41.9%
10	Wisconsin	16	3.9%	45.8%
11	Florida	14	3.4%	49.2%
12	Minnesota	14	3.4%	52.5%
13	North Carolina	14	3.4%	55.9%
14	Colorado	12	2.9%	58.8%
15	Virginia	12	2.9%	61.7%
16	Wyoming	11	2.7%	64.4%
17	Alabama	10	2.4%	66.8%
18	Georgia	10	2.4%	69.2%
19	West Virginia	10	2.4%	71.7%
20	California	8	1.9%	73.6%
21	New York	8	1.9%	75.5%
22	South Carolina	8	1.9%	77.5%
23	Kansas	7	1.7%	79.2%
24	Maryland	7	1.7%	80.9%
25	North Dakota	7	1.7%	82.6%
26	Nebraska	7	1.7%	84.3%
27	Tennessee	7	1.7%	86.0%
28	Arizona	6	1.5%	87.4%
29	Oklahoma	6	1.5%	88.9%
30	Arkansas	5	1.2%	90.1%
31	Mississippi	5	1.2%	91.3%
32	Montana	5	1.2%	92.5%
33	New Jersey	5	1.2%	93.7%
34	Utah	5	1.2%	94.9%
35	Louisiana	4	1.0%	95.9%
36	New Mexico	4	1.0%	96.9%
37	Hawaii	2	0.5%	97.3%
38	Massachusetts	2	0.5%	97.8%
39	New Hampshire	2	0.5%	98.3%
40	Nevada	2	0.5%	98.8%
41	South Dakota	2	0.5%	99.3%
42	Alaska	1	0.2%	99.5%
43	Connecticut	1	0.2%	99.8%
44	Maine	1	0.2%	100.0%

Row	State	Plants	% of Total Plants	Cumulative %
45	District of Columbia	0	0.0%	100.0%
46	Delaware	0	0.0%	100.0%
47	Idaho	0	0.0%	100.0%
48	Oregon	0	0.0%	100.0%
49	Rhode Island	0	0.0%	100.0%
50	Vermont	0	0.0%	100.0%
51	Washington	0	0.0%	100.0%
52	**Total**	**413**	**100%**	

Source: Regulatory Impact Analysis: EPA's 2018 RCRA Proposed Rule Disposal of Coal Combustion Residuals from Electric Utilities; Amendments to the National Minimum Criteria (Phase One), U.S. EPA, Office of Resource Conservation and Recovery, March 2018.

Table 2, below, summarizes the geographic distribution of NAICS 221112 establishments from the Census Bureau's 2016 County Business Patterns data, which include all fossil fuel powered electric power generation facilities.

Table 2. NAICS 221112 Establishments by State, 2016 U.S. Census County Business Patterns Data

Row	State	Establishments	% of Total Establishments	Cumulative %
1	Texas	155	10.4%	10.4%
2	Louisiana	79	5.3%	15.7%
3	California	72	4.8%	20.5%
4	Ohio	71	4.8%	25.3%
5	Pennsylvania	70	4.7%	30.0%
6	North Carolina	60	4.0%	34.0%
7	New York	56	3.8%	37.8%
8	Georgia	54	3.6%	41.4%
9	Florida	47	3.2%	44.6%
10	Colorado	46	3.1%	47.7%
11	Oklahoma	45	3.0%	50.7%
12	Kentucky	44	3.0%	53.6%
13	Missouri	41	2.8%	56.4%
14	Illinois	40	2.7%	59.1%
15	Indiana	38	2.6%	61.6%
16	New Jersey	38	2.6%	64.2%
17	Michigan	36	2.4%	66.6%
18	Minnesota	35	2.3%	68.9%
19	Wisconsin	33	2.2%	71.1%
20	Alabama	27	1.8%	73.0%
21	Utah	27	1.8%	74.8%
22	Massachusetts	26	1.7%	76.5%
23	Arkansas	23	1.5%	78.1%
24	Kansas	22	1.5%	79.5%
25	Maryland	22	1.5%	81.0%

Row	State	Establishments	% of Total Establishments	Cumulative %
26	Alaska	21	1.4%	82.4%
27	Virginia	21	1.4%	83.8%
28	Mississippi	20	1.3%	85.2%
29	Iowa	18	1.2%	86.4%
30	South Carolina	18	1.2%	87.6%
31	West Virginia	18	1.2%	88.8%
32	New Mexico	16	1.1%	89.9%
33	Nevada	13	0.9%	90.7%
34	North Dakota	13	0.9%	91.6%
35	Arizona	12	0.8%	92.4%
36	Connecticut	12	0.8%	93.2%
37	Delaware	12	0.8%	94.0%
38	Hawaii	12	0.8%	94.8%
39	Wyoming	11	0.7%	95.6%
40	Idaho	9	0.6%	96.2%
41	Nebraska	8	0.5%	96.7%
42	South Dakota	8	0.5%	97.2%
43	Washington	8	0.5%	97.8%
44	New Hampshire	7	0.5%	98.3%
45	Oregon	6	0.4%	98.7%
46	Montana	5	0.3%	99.0%
47	Rhode Island	5	0.3%	99.3%
48	Maine	4	0.3%	99.6%
49	District of Columbia	3	0.2%	99.8%
50	Vermont	2	0.1%	99.9%
51	Tennessee	1	0.1%	100.0%
52	**Total**	**1490**	**100%**	

Source: U.S. Census Bureau, 2016 County Business Patterns Data for NAICS 221112, accessed July 27, 2018 at: https://www.census.gov/programs-surveys/cbp/data/tables.html.

EPA collected State FR regulatory information from the 13 States with the most coal-fired plants that constitute over 50 percent of the affected universe (by facility count): Pennsylvania, Michigan, Indiana, Illinois, Missouri, Texas, Kentucky, Iowa, Ohio, Wisconsin, Florida, Minnesota, and North Carolina.

NAICS 324: Petroleum Refineries (NAICS 324110) and All Other Petroleum and Coal Manufacturing (NAICS 324199)

Table 3, below, summarizes the geographic distribution of petroleum refineries in the United States as of January 1, 2018 from the Energy Information Administration (EIA)'s 2018 Refinery Capacity Report.

Table 3. Petroleum Refineries by State, 2018 EIA Refinery Capacity Report

Row	State	Refineries	% of Total Refineries	Cumulative %
1	Texas	29	21.5%	21.5%
2	Louisiana	17	12.6%	34.1%

Row	State	Refineries	% of Total Refineries	Cumulative %
3	California	16	11.9%	45.9%
4	Alaska	5	3.7%	49.6%
5	Oklahoma	5	3.7%	53.3%
6	Utah	5	3.7%	57.0%
7	Washington	5	3.7%	60.7%
8	Wyoming	5	3.7%	64.4%
9	Illinois	4	3.0%	67.4%
10	Montana	4	3.0%	70.4%
11	Ohio	4	3.0%	73.3%
12	Pennsylvania	4	3.0%	76.3%
13	Alabama	3	2.2%	78.5%
14	Kansas	3	2.2%	80.7%
15	Mississippi	3	2.2%	83.0%
16	Arkansas	2	1.5%	84.4%
17	Hawaii	2	1.5%	85.9%
18	Indiana	2	1.5%	87.4%
19	Kentucky	2	1.5%	88.9%
20	Minnesota	2	1.5%	90.4%
21	New Jersey	2	1.5%	91.9%
22	New Mexico	2	1.5%	93.3%
23	North Dakota	2	1.5%	94.8%
24	Colorado	1	0.7%	95.6%
25	Delaware	1	0.7%	96.3%
26	Michigan	1	0.7%	97.0%
27	Nevada	1	0.7%	97.8%
28	Tennessee	1	0.7%	98.5%
29	West Virginia	1	0.7%	99.3%
30	Wisconsin	1	0.7%	100.0%
31	Arizona	0	0.0%	100.0%
32	Connecticut	0	0.0%	100.0%
33	District of Columbia	0	0.0%	100.0%
34	Florida	0	0.0%	100.0%
35	Georgia	0	0.0%	100.0%
36	Idaho	0	0.0%	100.0%
37	Iowa	0	0.0%	100.0%
38	Maine	0	0.0%	100.0%
39	Maryland	0	0.0%	100.0%
40	Massachusetts	0	0.0%	100.0%
41	Missouri	0	0.0%	100.0%
42	Nebraska	0	0.0%	100.0%
43	New Hampshire	0	0.0%	100.0%
44	New York	0	0.0%	100.0%
45	North Carolina	0	0.0%	100.0%
46	Oregon	0	0.0%	100.0%

Row	State	Refineries	% of Total Refineries	Cumulative %
47	Rhode Island	0	0.0%	100.0%
48	South Carolina	0	0.0%	100.0%
49	South Dakota	0	0.0%	100.0%
50	Vermont	0	0.0%	100.0%
51	Virginia	0	0.0%	100.0%
52	**Total**	**135**	**100%**	

Source: U.S. Energy Information Administration, Petroleum Refinery Capacity Report, as of January 1, 2018, accessed July 27, 2018 at: https://www.eia.gov/petroleum/refinerycapacity/.

Table 4, below, summarizes the geographic distribution of NAICS 324110 establishments in the United States from the Census Bureau's 2016 County Business Patterns data.

Table 4. NAICS 324110 Establishments by State, 2016 U.S. Census County Business Patterns Data

Row	State	Establishments	% of Total Establishments	Cumulative %
1	Texas	38	19.3%	19.3%
2	California	24	12.2%	31.5%
3	Louisiana	20	10.2%	41.6%
4	Oklahoma	9	4.6%	46.2%
5	Pennsylvania	9	4.6%	50.8%
6	Illinois	6	3.0%	53.8%
7	New Jersey	6	3.0%	56.9%
8	Ohio	6	3.0%	59.9%
9	Washington	6	3.0%	62.9%
10	Wyoming	6	3.0%	66.0%
11	Alaska	5	2.5%	68.5%
12	Utah	5	2.5%	71.1%
13	Indiana	4	2.0%	73.1%
14	Mississippi	4	2.0%	75.1%
15	Montana	4	2.0%	77.2%
16	Alabama	3	1.5%	78.7%
17	Arkansas	3	1.5%	80.2%
18	Kansas	3	1.5%	81.7%
19	Kentucky	3	1.5%	83.2%
20	Michigan	3	1.5%	84.8%
21	New York	3	1.5%	86.3%
22	Colorado	2	1.0%	87.3%
23	Florida	2	1.0%	88.3%
24	Hawaii	2	1.0%	89.3%
25	Iowa	2	1.0%	90.4%
26	Massachusetts	2	1.0%	91.4%
27	Minnesota	2	1.0%	92.4%
28	Missouri	2	1.0%	93.4%
29	Nevada	2	1.0%	94.4%

Row	State	Establishments	% of Total Establishments	Cumulative %
30	New Mexico	2	1.0%	95.4%
31	North Carolina	2	1.0%	96.4%
32	North Dakota	2	1.0%	97.5%
33	Delaware	1	0.5%	98.0%
34	Georgia	1	0.5%	98.5%
35	Tennessee	1	0.5%	99.0%
36	West Virginia	1	0.5%	99.5%
37	Wisconsin	1	0.5%	100.0%
38	Arizona	0	0.0%	100.0%
39	Connecticut	0	0.0%	100.0%
40	District of Columbia	0	0.0%	100.0%
41	Idaho	0	0.0%	100.0%
42	Maine	0	0.0%	100.0%
43	Maryland	0	0.0%	100.0%
44	Nebraska	0	0.0%	100.0%
45	New Hampshire	0	0.0%	100.0%
46	Oregon	0	0.0%	100.0%
47	Rhode Island	0	0.0%	100.0%
48	South Carolina	0	0.0%	100.0%
49	South Dakota	0	0.0%	100.0%
50	Vermont	0	0.0%	100.0%
51	Virginia	0	0.0%	100.0%
52	**Total**	**197**	**100%**	

Source: U.S. Census Bureau, 2016 County Business Patterns Data for NAICS 324110, accessed July 27, 2018 at: https://www.census.gov/programs-surveys/cbp/data/tables.html.

Table 5, below, summarizes the geographic distribution of NACIS 324199 establishments in the United States from the Census Bureau's 2016 County Business Patterns data.

Table 5. NAICS 324199 Establishments by State, 2016 U.S. Census County Business Patterns Data

Row	State	Establishments	% of Total Establishments	Cumulative %
1	Pennsylvania	15	15.0%	15.0%
2	Texas	11	11.0%	26.0%
3	Louisiana	10	10.0%	36.0%
4	California	6	6.0%	42.0%
5	Illinois	6	6.0%	48.0%
6	Virginia	5	5.0%	53.0%
7	Colorado	4	4.0%	57.0%
8	Missouri	4	4.0%	61.0%
9	Alabama	3	3.0%	64.0%
10	Massachusetts	3	3.0%	67.0%
11	Michigan	3	3.0%	70.0%
12	Ohio	3	3.0%	73.0%

Row	State	Establishments	% of Total Establishments	Cumulative %
13	Connecticut	2	2.0%	75.0%
14	Florida	2	2.0%	77.0%
15	Georgia	2	2.0%	79.0%
16	Indiana	2	2.0%	81.0%
17	Kansas	2	2.0%	83.0%
18	Kentucky	2	2.0%	85.0%
19	Mississippi	2	2.0%	87.0%
20	Nevada	2	2.0%	89.0%
21	Oklahoma	2	2.0%	91.0%
22	South Carolina	2	2.0%	93.0%
23	Wisconsin	2	2.0%	95.0%
24	Idaho	1	1.0%	96.0%
25	Maryland	1	1.0%	97.0%
26	North Carolina	1	1.0%	98.0%
27	Utah	1	1.0%	99.0%
28	Wyoming	1	1.0%	100.0%
29	Alaska	0	0.0%	100.0%
30	Arizona	0	0.0%	100.0%
31	Arkansas	0	0.0%	100.0%
32	Delaware	0	0.0%	100.0%
33	District of Columbia	0	0.0%	100.0%
34	Hawaii	0	0.0%	100.0%
35	Iowa	0	0.0%	100.0%
36	Maine	0	0.0%	100.0%
37	Minnesota	0	0.0%	100.0%
38	Montana	0	0.0%	100.0%
39	Nebraska	0	0.0%	100.0%
40	New Hampshire	0	0.0%	100.0%
41	New Jersey	0	0.0%	100.0%
42	New Mexico	0	0.0%	100.0%
43	New York	0	0.0%	100.0%
44	North Dakota	0	0.0%	100.0%
45	Oregon	0	0.0%	100.0%
46	Rhode Island	0	0.0%	100.0%
47	South Dakota	0	0.0%	100.0%
48	Tennessee	0	0.0%	100.0%
49	Vermont	0	0.0%	100.0%
50	Washington	0	0.0%	100.0%
51	West Virginia	0	0.0%	100.0%
52	**Total**	**100**	**100%**	

Source: U.S. Census Bureau, 2016 County Business Patterns Data for NAICS 324119, accessed July 27, 2018 at: https://www.census.gov/programs-surveys/cbp/data/tables.html.

From a NAICS 324 perspective, EPA decided to include in its review of existing FR programs, eight States with the most refineries that constitute greater than 50 percent of the refineries in the United States from the EIA's Refinery Capacity Report data, as well as the three additional States that have the most number of NAICS 324199 establishments that constitute greater than 50 percent of the NAICS 324199 establishments in the United States from the U.S. Census's County Business Patterns data. Together, those 11 States are: Texas, Louisiana, California, Alaska, Oklahoma, Utah, Washington, Wyoming, Pennsylvania, Illinois, and Virginia.

NAICS 325: Chemical Manufacturing

Table 6, below, summarizes the geographic distribution of NAICS 325 establishments from the Census Bureau's 2016 County Business Patterns data.

Table 6. NAICS 325 Establishments by State, 2016 U.S. Census County Business Patterns Data

Row	State	Establishments	% of Total Establishments	Cumulative %
1	California	1657	12.3%	12.3%
2	Texas	1119	8.3%	20.6%
3	Illinois	685	5.1%	25.7%
4	Ohio	678	5.0%	30.7%
5	Florida	606	4.5%	35.2%
6	New Jersey	594	4.4%	39.6%
7	Pennsylvania	576	4.3%	43.9%
8	New York	568	4.2%	48.1%
9	Georgia	483	3.6%	51.7%
10	North Carolina	448	3.3%	55.0%
11	Michigan	381	2.8%	57.8%
12	Wisconsin	345	2.6%	60.4%
13	Massachusetts	335	2.5%	62.9%
14	Indiana	324	2.4%	65.3%
15	Missouri	310	2.3%	67.6%
16	Minnesota	268	2.0%	69.6%
17	Tennessee	253	1.9%	71.4%
18	Washington	251	1.9%	73.3%
19	South Carolina	245	1.8%	75.1%
20	Louisiana	235	1.7%	76.9%
21	Oregon	224	1.7%	78.5%
22	Colorado	212	1.6%	80.1%
23	Kentucky	194	1.4%	81.5%
24	Iowa	191	1.4%	83.0%
25	Alabama	190	1.4%	84.4%
26	Utah	173	1.3%	85.6%
27	Arizona	171	1.3%	86.9%
28	Virginia	165	1.2%	88.1%
29	Connecticut	162	1.2%	89.3%
30	Maryland	153	1.1%	90.5%
31	Kansas	140	1.0%	91.5%

Row	State	Establishments	% of Total Establishments	Cumulative %
32	Oklahoma	136	1.0%	92.5%
33	Arkansas	101	0.7%	93.3%
34	Mississippi	99	0.7%	94.0%
35	Nebraska	89	0.7%	94.7%
36	Nevada	84	0.6%	95.3%
37	West Virginia	79	0.6%	95.9%
38	New Hampshire	73	0.5%	96.4%
39	Idaho	65	0.5%	96.9%
40	Maine	57	0.4%	97.3%
41	Delaware	54	0.4%	97.7%
42	Rhode Island	53	0.4%	98.1%
43	New Mexico	50	0.4%	98.5%
44	Montana	40	0.3%	98.8%
45	South Dakota	40	0.3%	99.1%
46	Vermont	36	0.3%	99.3%
47	Wyoming	35	0.3%	99.6%
48	Hawaii	25	0.2%	99.8%
49	North Dakota	13	0.1%	99.9%
50	Alaska	10	0.1%	100.0%
51	District of Columbia	5	0.0%	100.0%
52	**Total**	**13480**	**100%**	

Source: U.S. Census Bureau, 2016 County Business Patterns Data for NAICS 325, accessed July 27, 2018 at: https://www.census.gov/programs-surveys/cbp/data/tables.html.

From a NAICS 325 perspective, EPA wanted to ensure it collected FR regulatory information from the nine States with the most establishments that constitute over 50 percent of the total establishments in the United States: California, Texas, Illinois, Ohio, Florida, New Jersey, Pennsylvania, New York, and Georgia.

EPA created a comprehensive list representing every State that appeared in a least one of the additional classes industry lists. This list included 25 States and were the 25 States that were reviewed to identify existing FR programs potentially applicable to one or more of the CERCLA 108(b) additional classes. The list includes: Alaska, California, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Missouri, New Jersey, New Mexico, North Carolina, Ohio, Oklahoma, Pennsylvania, Texas, Utah, Virginia, Washington, Wisconsin, and Wyoming.