The federal Superfund law\(^1\) addresses the release or threat of release of hazardous substances as a result of past waste disposal. Under CERCLA, the government may order responsible parties to clean up contaminated sites. The government may also undertake the necessary remediation using federal funds and then sue liable parties for recovery of the response costs.

A basic understanding of the reach of CERCLA is important for lawyers who are handling insurance claims arising from CERCLA matters. This chapter reviews the key features of Superfund liability, including general elements of liability, contribution and indemnification, defenses, and recoverable costs. It also discusses selection of remedial action, settlement with the government, and the role of the states and private citizens under CERCLA.

I. Overview

CERCLA was enacted in 1980 amid concerns that hundreds of Love Canal-type\(^2\) sites might exist, like hidden time bombs yet to be discovered, across the country.\(^3\) The bill was passed in a lame-duck session of Congress with little legislative history. CERCLA was amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA).\(^4\) The SARA amendments added detailed provisions concerning cleanup deadlines and standards, settlement, state and public participation, and administrative procedure and judicial review. The amendments increased the size of

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2. The Love Canal is a neighborhood in Niagara Falls, New York, that became the subject of national and international attention after it was revealed that Hooker Chemical had formerly used the site to bury 21,000 tons of toxic waste.
the cleanup fund and created increased expectations with respect to the scope and pace of remedial action.

CERCLA gives the government two basic enforcement tools. The Environmental Protection Agency (EPA) may seek to have responsible parties perform remedial action voluntarily or order them to do so under § 106 of the Act. Alternatively, the EPA may arrange to have the necessary remedial action performed and then seek reimbursement from responsible parties.

Before undertaking long-term remedial actions, the EPA must enter into a cooperative agreement with the state in which the action will be taken. The state must assure the availability of a hazardous waste disposal facility for any necessary off-site disposal of hazardous substances. The state must also agree to pay 10 percent of the response costs and 50 percent in the case of sites operated by a state. If the state does not do so, the EPA may seek to negotiate an agreement with the responsible parties or may issue an order requiring cleanup under § 106 of the Act, 42 U.S.C. § 9606.

Section 107(a) of CERCLA sets forth the basic elements of liability. The statute provides that where there is a release or threatened release of a hazardous substance from a facility that causes the incurrence of response costs, responsible parties are liable to the government for "(A) all costs of removal or remedial action incurred by the United States Government or a State . . . not inconsistent with the national contingency plan; (C) damages for injury to, destruction of, or loss of natural resources." Section 107(a) of the Act establishes four categories of responsible parties:

1. the owner and operator of a vessel or a facility;
2. any person who at the time of disposal of any hazardous substance owned or operated the facility;
3. any person who by contract, agreement of otherwise arranged for disposal . . . or arranged with a transporter for . . . disposal . . . of hazardous substances owned or possessed by such person . . . ; and
4. any person who accepts . . . hazardous substances for transport to disposal . . . facilities or sites selected by such person.

7. 42 U.S.C. § 9604(c)(3).
8. Id.
10. Id.
The above four categories of parties are commonly referred to as present and past owners and operators, generators, and transporters. These parties are liable subject to the defenses in § 107(b) of CERCLA, which are discussed below.

The statute as enacted in 1980 was silent on the issue of whether liability was joint and several, or whether a defendant was liable only for costs and damages caused by that defendant’s conduct. In the first case to address the issue, the court held, based on general tort law principles, that if two or more defendants cause an indivisible harm, “each is subject to liability for the entire harm.”11 The court suggested, however, that costs might be apportioned among the defendants. Subsequent judicial decisions have adopted the approach in Chem-Dyne and have held that the statute imposes strict, joint and several liability to the government, over objections that such a regime is retroactive, *ex post facto*, and violates due process.12 The practical result is that the government can select a relatively small number of companies as defendants from which to recover all of its costs. These defendants are then left with the burden of bringing actions for contribution against parties not named in the original action.

However joint and several liability will not be imposed in every case. In *Burlington Northern and Santa Fe Railway Company v. United States*, 129 S.Ct. 1870, 1882-83 (2009), the Supreme Court upheld a trial court ruling that the railroads were responsible for only 9 percent of the cleanup costs. The *Burlington Northern* decision states that apportionment is proper when “there is a reasonable basis for determining the contribution of each cause to a single harm.”13 Under the circumstances of that case, the Supreme Court found that it was reasonable for the district court to use the size of the leased parcel and the duration of the lease as the starting point for its analysis. The *Burlington Northern* decision may change the dynamics of settlement discussions as well as litigation concerning liability where there is an orphan share.

II. Identification of Sites and Parties

Since the passage of CERCLA in 1980, the EPA has identified thousands of inactive hazardous waste disposal sites as potential sites for CERCLA remediation. These sites are screened, and priority sites for action are listed on the National Priorities List (NPL).14 Once the EPA determines that remedial measures may be necessary,
the agency undertakes various steps to study the site further, to select a remedy, and to design and implement the remedy.

Section 105 of CERCLA provides for the establishment of a national contingency plan (NCP). The plan sets forth the organizational structure, procedures, and standards for responding to releases of hazardous substances under CERCLA. It includes provisions for the responsibility and governmental organization for response, planning and preparedness, hazardous substance response, state involvement in hazardous substance response, and the administrative record for the selection of response actions. The NCP is set forth in 40 C.F.R. pt. 300, and contains numerous provisions that will be discussed below.

The CERCLA remedial process begins with the identification of inactive waste disposal sites. The EPA ranks the sites using a standardized computer model known as the Hazard Ranking System (HRS). The HRS site score is the result of an evaluation of four pathways of contamination: groundwater migration, surface water migration, soil exposure, and air migration. Sites with a score above the EPA’s cut-off (a score of 28.5) are placed on the NPL and become the focus of subsequent removal and remedial action. There are more than one thousand sites listed on the NPL. The listing of sites is subject to notice in the Federal Register, public comment, and judicial review.

With respect to potentially responsible parties (PRPs), the EPA may obtain information in several ways. The agency generally will acquire records and information from the site operator and waste haulers known to have transported wastes to the site. This information will frequently identify companies that may have generated wastes taken to a disposal site. Section 104 of CERCLA provides broad authority for the government to request information and to obtain access and entry to property.

The EPA typically sends so-called “notice” letters to parties it believes are potentially responsible for response actions at a site. The notice letters explain that the EPA has determined that response actions are necessary at the site and that the recipient may be responsible under CERCLA. The notice letter may request detailed information as to the recipient’s involvement at the site. If the EPA has decided that

§ 9603(c). The statute also requires the owner or person in charge of the facility promptly to notify the National Response Center of a release of a hazardous substance in excess of reportable quantities.

17. In addition, a site may be placed on the NPL if specially designated by a state. 42 U.S.C. § 9605(a)(8) (B). See appendix B to 40 C.F.R. pt. 300.
removal or remedial action must be taken, the agency will generally offer the parties
involved an opportunity to undertake the action under governmental supervision.20

III. General Elements of Liability

The elements of liability under § 107(a) are the release or threatened release of a
hazardous substance from a facility, which causes the incurrence of response costs
not inconsistent with the national contingency plan.

A. RELEASE

The requirement of a “release” or a “threatened release” has not proved to be dif-
ficult for the government to establish. Section 101(22) of CERCLA defines the term
“release” to mean “any spilling, leaking, pumping, pouring, emitting, emptying,
discharging, injecting, escaping, leaching, dumping, or disposing into the environ-
ment,” including the abandonment or discarding of barrels or containers of haz-
ardous substances.21 “This definition has been construed broadly. A ‘release’ occurs,
for example, when asbestos fibers are blown from a site by the wind . . . , or when
hazardous substances leach into soil and groundwater.”22

   The statute exempts several categories of releases:23

   (A) any release that results in exposure to persons solely within a workplace,
   (B) emissions from the engine exhaust of motor vehicles, rolling stock, air-
craft, vessels, or pipeline pumping stations,
   (C) release of source, by-product, or special nuclear material from a nuclear
   incident or from any processing site pursuant to the Atomic Energy Act,
   and
   (D) the normal application of fertilizer.

   CERCLA also provides that response costs or damages resulting from “federally
permitted releases” may be sought under existing law but not pursuant to CERCLA.24
The term “federally permitted release” is defined to include releases regulated under
a number of federal programs, including discharges pursuant to permits and regu-
lations under the Clean Water Act, the Resource Conservation and Recovery Act
(the RCRA), and the Clean Air Act.25

20. Such notice letters may trigger the insurer’s duty to defend.
Shore Realty Corp., 759 F.2d 1032, 1045 (2d Cir. 1985).
B. FACILITY

The statute requires that the release be from a “facility.” The term facility is defined in § 101(9) of CERCLA as “any building, structure, installation, equipment, pipe . . . well, pit, pond, lagoon, . . . landfill, storage container, or any site or area where a hazardous substance has been deposited, stored, disposed of, or placed or otherwise come to be located.”26 This provision has been interpreted to “deal with every conceivable area where hazardous substances come to be located.”27 The courts have held, however, that CERCLA does not authorize the cleanup of contamination confined to the interior of a building with no prospect of a release to the environment.28 It should be noted, moreover, that § 101(9) of the statute specifically exempts “any consumer product in consumer use” (such as asbestos in buildings) and any vessel or watercraft.

C. HAZARDOUS SUBSTANCE

CERCLA requires that there be a release of a “hazardous substance.” Section 101(14) of CERCLA defines a hazardous substance as a substance falling within six categories of substances regulated under other environmental statutes. These include substances regulated under § 307(a) or 311 of the Clean Water Act, hazardous wastes listed or having characteristics identified under § 3001 of RCRA, hazardous pollutants under § 112 of the Clean Air Act, chemicals for which the EPA has taken action under § 7 of the Toxic Substance Control Act (TSCA), and other substances listed by the EPA under § 102 of CERCLA. The EPA has codified the list of CERCLA hazardous substances in 40 C.F.R. pt. 302. It should be noted that § 104(a)(3) of CERCLA provides that the government may not take response action with respect to the release of a “naturally occurring substance” in its natural form from a location where it is naturally found, absent emergency conditions.29

D. CAUSATION

Section 107(a) of CERCLA imposes liability for a release “which causes the incurrence of response costs.” This would appear to require that some showing be made of common law causation or some connection between the alleged disposal and the response costs claimed by the government or a private party.30 Decisions under the statute have not clearly defined the scope of the causal requirement, however.

In the case of generators, courts have held that it is sufficient that the defendant deposited hazardous substances at the site and that the hazardous substances are found at the site. Under this approach, there must be only a “minimal causal nexus” between defendant’s waste and the resulting damage. Other decisions have emphasized the need for a causal connection between a release or threatened release and the incurrence of costs by a § 107 plaintiff. In Artesian Water Company v. New Castle County, the court held that where two or more causes contribute to the harm at a site, “defendant’s conduct is a cause of the event if it was a material element and a substantial factor in bringing it about.” In Amoco Oil Company v. Borden, the court held that because the level of hazardous substance contamination was low, response would be unnecessary. Similarly, in United States v. Ottati & Goss, the court denied relief based on a finding that the levels of metals in defendant’s waste were not higher than those in natural metal deposits.

E. CONSISTENCY WITH THE NCP

Where the government seeks costs, the standard is whether they are “not inconsistent” with the NCP. Where a private party seeks recovery of response costs, it must show that the costs are “consistent with” the NCP. The EPA has expressed the view that the proper standard for evaluating consistency is substantial, not strict, compliance. These provisions are discussed further below.

IV. Liability of Parties

As noted above, § 107(a) makes four classes of persons liable, namely present and former owners, operators, generators, and transporters. Persons who fall into one of these four categories may be held jointly and severally liable.

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necessity for these costs and the precise connection that they bear to the cleanup”).

33. Courts have held that a defendant is not liable for the disposal of material that becomes a hazardous substance “only on the intervention of another force.” B.F. Goodrich Co. v. Murtha, 840 F. Supp. 180, 188 (D. Conn. 1993); Serafini v. Lackawanna Refuse Removal, Inc., 750 F. Supp. 168, 171 (M.D. Pa 1990). Issues also have been raised as to whether parties should be liable for the disposal of substances that are naturally occurring or that are present in only trace amounts. These issues remain unsettled.
35. Amoco Oil Co. v. Borden, 889 F.2d. 664 (5th Cir. 1989).
36. 900 F.2d 429 (1st Cir. 1990).
37. Id. at 438. See also Dedham Water Co. v. Cumberland Farms Dairy, Inc., 770 F. Supp. 41 (D. Mass. 1991) (pollution of well field not shown to be caused by defendant).
40. Id.
A. CURRENT OWNERS AND OPERATORS

The first category of persons under § 107(a)(1) face harsh liability. As interpreted by the court in New York v. Shore Realty Corporation, a current owner is liable even if he did not own the site at the time of disposal. Section 107(b) of CERCLA provides an affirmative defense if the release and the damages were wholly caused by an act or omission of a third party other than one whose act or omission occurred in connection with a contractual relation with the defendant. Because the term “contractual relationship” arguably includes transfers of land, Congress amended CERCLA in 1986 to exclude innocent landowners from the definition. In 2002, Congress promulgated the Brownfield Amendments to CERCLA to provide new liability limitations for bona fide prospective purchasers and contiguous property owners. The 2002 amendments also clarified the innocent landowner affirmative defense. These landowner liability protections have common elements that require compliance with certain threshold criteria and compliance with continuing obligations. Landowners who purchase property after January 11, 2002, may purchase property with limits on EPA’s recourse for unrecovered cleanup costs provided that they meet the criteria in the statute. The contiguous property owner provision protects property owners from claims based on their neighbor’s actions. Under the Brownfields Amendments, to qualify for the innocent landowner defense a party must meet the criteria in the statute, which distinguishes between three types of innocent landowners, e.g., purchasers without knowledge of contamination, governmental acquisition by involuntary transfers, and inheritors.

B. PAST OWNERS AND OPERATORS

Defendants can be liable under § 107(a)(2) if they owned or operated the facility “at the time of disposal.” Courts have accordingly held past owners not liable for property that was contaminated before purchase by defendants.

41. 759 F.2d 1032 (2d Cir. 1985).
42. Shore Realty Corp., 759 F.2d at 1043–44.
44. To qualify under these landowner provisions, a person must perform “all appropriate inquiry” before acquiring the property. Bona fide prospective purchasers and contiguous property owners must also demonstrate that they are not potentially liable or affiliated with any other person that is potentially liable for response costs. A person claiming innocent landowner status must show that the release or threat of release was caused by a third party with whom the person does not have an employment, agency, or contractual relationship. Continuing obligations include complying with any land use and institutional control restrictions and reasonable steps to stop continuing releases and prevent or limit exposure to prior releases. See CERCLA §§ 9601 (35)(A) and (B), 9601 (40)(C), (D), (F), and (G), and 9607(q)(1)(A) and (V).
45. 42 U.S.C. 9601(40) and 9607(r).
46. 42 U.S.C. 9607(q).
47. 42 U.S.C. 9601(35).
C. OPERATORS

The courts have focused on the degree of control exercised by a party for the purpose of operator liability. For example in *Edwards Hines Lumber Company v. Vulcan Materials Company*, the court held a company that designed a manufacturing facility and trained its workers not liable, concluding that the company did not exercise sufficient control over its operations.50 However, other decisions have indicated a willingness to impose liability on persons with authority to control waste disposal, even if they did not actually operate the facility.

D. GENERATORS

Section 107(a)(3) of CERCLA imposes liability on “persons who by contract, agreement or otherwise arranged for disposal” of hazardous substances owned or possessed by them at a facility. This “generator” liability has been most frequently applied to manufacturing companies. Under the government’s theory, a generator is liable if (1) it disposed or arranged for the disposal of hazardous substances, (2) hazardous substances were disposed of at a facility, and (3) the facility contains wastes of the kind the generator disposed of.51

The courts have held that the defendant must own or possess a waste and that the waste must be shown to have been shipped to the site in question.52 On the other hand, courts have held that a generator of waste need not have affirmatively selected the disposal site where the hazardous wastes were disposed.53 Courts have further stated that a generator may be liable at a site even if it intended to have its wastes deposited elsewhere.54

Courts have held that § 107(a)(3) does not impose liability on a party that sold finished primary product or raw material.55

In *New York v. General Electric Company*, the court found liable a company that sold used oil to a dragstrip, which sprayed it on the ground for dust control.56 The court focused on the fact that the defendant simply wanted to get rid of the used

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oil and arranged for its removal with the knowledge that it would be dumped on the ground.\textsuperscript{57}

The Supreme Court issued an important opinion concerning arranger liability in \textit{Burlington Northern and Santa Fe Railway Company v. United States}.\textsuperscript{58} The court held that a company, Shell, that sold chemicals to a site where spills occurred during unloading was not liable.\textsuperscript{59} The court stated that an entity may qualify as an arranger under § 9607(a)(3) only when it takes “intentional steps to dispose of a hazardous substance.”\textsuperscript{60} The fact that Shell had knowledge that its product would be spilled was insufficient to prove that it “planned for” the disposal, particularly when the disposal occurs as a peripheral result of the legitimate sale of an unused, useful product.”\textsuperscript{61} In that case, to the contrary, the evidence revealed that Shell took steps to encourage its distributors to reduce the likelihood of such spills, such as providing them with safety manuals and providing discounts for those that took safety precautions.\textsuperscript{62} The Supreme Court thus concluded that Shell was not liable as an arranger. The Supreme Court’s approach to “arranger” liability should be reassuring to entities that sell chemicals or other products in the ordinary course of business. The decision makes it clear that not every sale and delivery of a useful product subjects the supplier to CERCLA liability if leakage or spills occur.\textsuperscript{63}

\textbf{E. TRANSPORTERS}

The fourth category under § 107 covers persons who accept hazardous substances for transport to a site. The courts have held that a transporter must have selected the disposal site to be liable.\textsuperscript{64}

\textbf{V. Defenses to Liability}

The liability established by § 107 is subject to limited defenses set forth in § 107(b) of the Act: (1) an act of God, (2) an act of war, and (3) an act or omission of a third party.\textsuperscript{65} Defendants have rarely relied upon the first two defenses. In one reported decision, the court held that heavy rainfall was not an act of God.\textsuperscript{66}
The third defense is more complex. It applies to damages caused solely by an act or omission of a third party “other than an employee or agent of the defendant, or than one whose act or omission occurs in connection with a contractual relationship, existing directly or indirectly with the defendant.” In order to qualify for the defense, the defendant must show that he (1) exercised due care with respect to the hazardous substance concerned and (2) took precautions against foreseeable acts or omissions of third persons.

Judicial decisions have tended to construe this provision narrowly. In United States v. Monsanto, the court rejected a § 107(b) defense asserted by a site owner who claimed that the contamination was caused by its lessee. The court emphasized that the defense must be based on the “complete absence of causation” and that the owners “presented no evidence that they took precautionary action against the foreseeable conduct” of their lessees. Similarly, generators have been rebuffed in their efforts to argue that the third-party defense applies where a transporter removed its wastes and selected the site.

As noted above, the 1986 amendments to CERCLA further define the term contractual relationship to create a so-called “innocent purchaser” defense. This provision requires the purchaser to establish that he did not know or have reason to know that the hazardous substances had been disposed at the time he acquired the property. One court has held that these provisions also establish an “innocent seller” defense available to an intervening owner who transfers property without having knowledge of a release or, having learned of a release, discloses such knowledge to his buyer. Also, as discussed above, in 2002, Congress promulgated the Brownfield Amendments to CERCLA, which provide new liability limitations for bona fide prospective purchasers and contiguous property owners.

VI. Contribution and Indemnification

CERCLA § 107(a)(4)(A) as enacted in 1980 provides that covered parties are liable for costs and damages “incurred by any other person.” The courts have held that such persons include private parties who are liable for response costs. To eliminate

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70. 42 U.S.C. § 9601(35).
any doubt on that score, § 113(f) of the Act, added in 1986, expressly provides that “[a]ny person may seek contribution from any other person who is liable or potentially liable under section 9607(a).”

In United States v. Atlantic Research Corporation, the Supreme Court unanimously held that Atlantic Research, which voluntarily cleaned up a site in accordance with CERCLA—without any state or federal cleanup action—could recover a portion of its cleanup costs from other responsible parties under § 107 of CERCLA. This decision ended the uncertainty caused by the Court’s earlier decision in Cooper Industries, Inc. v. Aviall Services, Inc., which held that § 113(f)(1) only applied to contribution claims during or following an enforcement action. The Court in Atlantic Research rejected the government’s argument that § 107(a) allows a suit only by a person that was not a liable party, saying that the interpretation “makes little textual sense.” The Court also denied that its ruling would create tension with § 113(f), distinguishing the right to cost recovery from the right to contribution.

Section 113(f)(2) provides contribution protection for parties who have settled their CERCLA liability with the United States or a state. A settlement with the government does not let other responsible parties off the hook, but rather “reduces the potential liability of the others by the amount of the settlement.” Parties who settle with the United States or a state are expressly authorized to seek contribution from nonsettling parties under § 113(f)(3)(B) of CERCLA.

The factors to be considered in allocating liability are not specified in the statute. Section 113(f)(1) of CERCLA states that in resolving contribution claims, the courts may “allocate response costs among liable parties using such equitable factors as the court determines are appropriate.” The rationale for allocation is discussed in the next section.

As noted above, § 113(f) of CERCLA provides that “[i]n resolving contribution claims, the court may allocate response costs among liable parties using such equitable factors as the court determines are appropriate.” Many judicial decisions and commentators have focused on six so-called “Gore” factors derived from the legislative history of CERCLA. These factors include:

1. the ability to distinguish a party's contribution to a discharge, release, or disposal;
2. the amount of hazardous waste involved;

79. Id.
(3) the degree of toxicity of the waste;
(4) the degree of involvement by the parties in the generation, transportation, treatment, storage, or disposal of the waste;
(5) the degree of care exercised by the parties with respect to the hazardous waste, taking into account the characteristics of the waste; and
(6) the degree of cooperation by the parties with federal, state, or local officials to prevent harm to the public health or the environment.80

A number of decisions have indicated that the Gore factors should be considered in allocating liability under CERCLA.81 In United States v. Cannons Engineering, the court stated in dictum that comparative fault should be used to apportion liability among the parties “according to rational (if necessarily imprecise) estimates of how much harm each PRP has done.”82

Most courts have made clear, however, that the Gore factors do not provide an exclusive basis for allocating liability and have focused on other equitable factors as well, including relative “fault” and the terms on which land is transferred from one party to another.83 It has been emphasized that “Congress intended the court[s] to deal with these situations by creative means, considering all the equities, and balancing them in the interests of justice.”84 In R.W. Meyer, the court also stated that parties seeking contribution should not be required to meet an unduly stringent burden of proof: “The parties actually performing the cleanup can look for reimbursement from other potentially responsible parties without fear that their contribution actions will be bogged down by the impossibility of making meticulous factual determinations as to the causal contributions of each party.”85

VII. Recoverable Costs

Section 107(a) of CERCLA provides that the government may recover “all costs of removal or remedial action . . . not inconsistent with the national contingency plan.” The defendant typically has the burden of presenting evidence of inconsis-
tency. 86 Private parties responding to a government suit or request for reimbursement of response costs are entitled to inquire whether the costs claimed by the government are response costs for action consistent with the NCP, which the government can document.

The NCP is required to include "means of assuring that remedial action measures are cost-effective." 87 The courts have held that the remedial action selected must be the "lowest cost alternative that is technologically feasible" and otherwise meets the requirements of CERCLA. 88

Whether particular costs are not consistent with the NCP must be evaluated on a case-by-case basis. Issues to be reviewed include the appropriateness of removal action, selection of the remedy, and documentation of the remedial decision. 89 The NCP states that "inmaterial or insubstantial deviations" from the NCP will not defeat claims by the government and private parties, however. 90

A number of categories of costs are not recoverable. Courts have held that claims for lost property values and loss of income or profits are not recoverable response costs under CERCLA. 91 Similarly, courts have held that CERCLA does not authorize parties to bring suits for recovery of personal injuries. 92

The government must be able to document the costs it claims. The NCP states that the lead agency must complete and maintain documentation as to the basis for cost recovery, including "accurate accounting" of response costs. 93 It is obviously necessary for the government to be able to substantiate the amount of money demanded and what activities were performed for each amount claimed. In addition, the EPA's contracts are subject to the Federal Acquisition Regulations (FAR). 94

The EPA's remedial actions and accounting procedures have been the subject of numerous critiques, both by the private sector and within the government. A 1988 General Accounting Office (GAO) Report concluded that "EPA monitoring and control efforts focus on the timeliness and quality of the contractor's work rather than on cost." 95 The GAO also found that the "EPA was emphasizing the accomplishment of program goals and objectives at the expense of sound contract

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86. See United States v. Hardage, 982 F.2d 1436, 1442 (10th Cir. 1992).
89. See 40 C.F.R. § 300.400(b), (e), and (f).
90. 40 C.F.R. § 300.700(c)(4).
management." PRPs as well as members of the public recognize that the government should be held responsible for controlling and documenting costs.

**VIII. Natural Resource Damages**

CERCLA also authorizes the government to recover damages to natural resources of up to $50 million for each release, absent willful negligence. Section 107(f) of CERCLA bars the recovery where the damages and the release causing the damages occurred wholly before December 11, 1980, the date CERCLA was enacted. This provision also bars damages specifically identified as irreversible and irretrievable in an environmental impact statement or similar analysis.

Section 101(16) of CERCLA defines natural resources to mean “land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources” belonging to the United States or a state. This definition thus does not include private property, but only includes resources belonging to, managed by, or held in trust by the United States, any state or local government, or an Indian tribe. CERCLA does not provide guidance on how damages are to be claimed in situations where both federal and state governments own or manage resources. However the statute provides that there shall be “no double recovery” for the same release and natural resource.

A claim for damages to natural resources must be brought by the designated trustees for natural resources acting on behalf of the public. The designated federal trustees are the Secretaries of Interior, Commerce, Defense, Agriculture, and Energy.

The statute provides that natural resources damages be retained by the trustee “for use only to restore, replace or acquire the equivalent of such natural resources.” Thus the government may not simply seek to recover damages to be placed in the fund. The statute provides that the measure of damages “shall not be limited by the sums which can be used to restore or replace such resources.”

The statute does not explicate how to measure natural resource damages. In an early decision, the court in *Idaho v. Bunker Hill Company* held that damages should

96. Id. at 15.
97. 42 U.S.C. § 9607(c).
99. Id.
100. 42 U.S.C. § 9601(16).
101. Id. § 9601(22).
106. Id.
be measured using the traditional tort rule that damages are the lesser of diminution of value or restoration costs.\textsuperscript{107} In 1986 and 1987, the Department of the Interior promulgated regulations pursuant to 42 U.S.C. § 9651(c) for the assessment of natural resource damages, which are codified at 43 C.F.R. 11.10 et seq. These regulations were challenged in \textit{Ohio v. United States Department of the Interior}.\textsuperscript{108} Among the issues addressed was the provision in the rules that damages be assessed at the lesser of restoration or use value. The D.C. Circuit concluded that Congress expressed a preference for restoration value and remanded the rules to the Department.\textsuperscript{109} However, the court indicated that restoration might not be the measure of damages where restoration is technologically infeasible or where the costs are “grossly disproportionate” to the value of the resources.\textsuperscript{110}

The Department of the Interior issued proposed rules in response to the court’s decision.\textsuperscript{111} The Interior Department’s regulations define “restoration” as actions that “restore or replace the resource services to no more than their base line.”\textsuperscript{112} The rules also require that the restoration alternative selected be cost-effective.\textsuperscript{113} The final Type B regulations for use in complex cases were promulgated in final form in March 1994.\textsuperscript{114} The final Type A regulations, the procedure for simplified assessments, were promulgated in final form in May 1996.\textsuperscript{115}

The trustees are not bound to use the Interior Department’s damage assessment regulations. If a trustee performs a natural resource damage assessment in accordance with the Interior Department regulations, however, the assessment has the effect of a “rebuttable presumption” on behalf of the trustee in any administrative or judicial proceeding.\textsuperscript{116}

Federal trustees are increasingly using the habitat equivalency analysis (HEA) to scale restoration alternatives as a basis for determining compensatory restoration. In simplified terms, the HEA approach provides a quantity of discounted replacement services equal to the quantity of discounted services lost due to the injury.\textsuperscript{117} The use of the HEA method has been upheld by the courts.\textsuperscript{118} HEA focuses on proj-

\textsuperscript{108} Ohio v. U.S. Dep’t of the Interior, 880 F.2d 432 (D.C. Cir. 1989).
\textsuperscript{109} Id. at 444.
\textsuperscript{110} Id. at 443.
\textsuperscript{112} 43 C.F.R. § 11.81(c)(1).
\textsuperscript{113} Id. § 11.82(d)(2).
\textsuperscript{118} See \textit{United States v. Great Lakes Dredge & Dock Co.}, 259 F.3d 1300, 1305 (11th Cir. 2001).
ect costs and is considered better suited to a cooperative approach and more likely to lead to settlement.119

IX. Removal Action and Remedial Investigation

There are two types of EPA response actions: removals and remedial actions. Removal actions generally are interim, short-term measures, frequently performed on an emergency basis.120 In addition to short-term measures to minimize damage, removal action includes measures such as security fencing to limit access, providing alternate water supplies, and temporary evacuation and housing. Absent special circumstances, removal actions are required to end after $2 million has been spent or twelve months has elapsed from the date of initial response.121

Remedial actions generally are measures that involve a permanent remedy to prevent or minimize the release of hazardous substances.122 This may include removal and off-site transport of hazardous substances, confinement of hazardous substances using trenches or a clay cover, on-site treatment or incineration, collection of leachate and runoff, and monitoring to determine the effectiveness of the remedy.123 In order to conduct a remedial action, the state in which the site is located must enter into an agreement with the EPA and commit to paying 10 percent of the remedial costs and all future operation and maintenance costs.124 If the facility was operated by the state or a political subdivision of a state, the state’s share increases to 50 percent.125 In order to select and implement a remedial action, the EPA must go through several steps, including a remedial investigation and feasibility study, as discussed below.

A. REMEDIAL INVESTIGATION

The remedial investigation (RI) is a process to determine the nature and extent of the problem at a site. It involves data collection, is generally coordinated with the feasibility study, and is performed by an EPA contractor. The RI is frequently an expensive proposition that may take several years.

120. See 42 U.S.C. § 9601(23).
121. 42 U.S.C. § 9604(c)(1).
123. Id.
125. Id.
The purpose of the remedial investigation is to collect data necessary to characterize the site for the purpose of developing and evaluating effective remedial alternatives. To characterize a site, field investigations are conducted to assess the following factors: physical characteristics, including soils, geology, hydrogeology, and ecology; the characteristics of the waste on the site, including quantities, concentration, persistence, and mobility; actual and potential exposure pathways through environmental media; actual and potential exposure routes such as inhalation and ingestion; characteristics and classification of air, surface water, and groundwater; and other factors. The remedial investigation also involves identifying potential applicable or relevant and appropriate requirements (ARARs) related to the site.

X. Feasibility Study

The purpose of the feasibility study (FS) is to develop and evaluate appropriate remedial alternatives. The FS presents remedial alternative options to the decision maker and is the basis for the selection of the remedy. In developing and screening alternatives, the EPA establishes remedial action objectives and identifies and evaluates potentially suitable technologies.

After alternatives are developed from an initial screening, a detailed analysis is performed on a more limited number of alternatives that represent viable approaches. The detailed analysis evaluates the alternatives using nine criteria:

(A) overall protection of human health and the environment (this evaluation draws on compliance with ARARs and long- and short-term effectiveness and permanence);
(B) compliance with ARARs under federal and state environmental laws;
(C) long-term effectiveness and permanence (this includes factors such as the adequacy and reliability of controls necessary to manage untreated waste and the potential need to replace components of an alternative, such as a cap);
(D) reduction of toxicity, mobility, or volume through treatment (this includes factors such as the type and quantity of residuals that will remain following treatment and the extent to which treatment reduces the principal hazards at the site);
(E) short-term effectiveness (this includes short-term risks to the community or to workers during implementation of an alternative);

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126. 40 C.F.R. § 300.430(d).
127. 40 C.F.R. § 300.430(d)(2).
128. 40 C.F.R. § 300.430(e).
129. 40 C.F.R. § 300.430(e)(9).
(F) implementability (factors include technical feasibility, the reliability of the technology, administrative feasibility, and availability of services and materials);

(G) cost (capital, annual operation and maintenance costs, and net present value of capital and O&M costs are considered);

(H) state acceptance (this includes comments on ARARs or waivers and concerns relating to the alternatives, to the extent known at that time); and

(I) community acceptance (this assessment includes determining which alternatives or components the community supports, opposes, or has reservations about, to the extent known at that time).130

An FS will typically consider a number of technologies available to remediate soil and groundwater. Soil remediation options include excavation and disposal, bioremediation, soil vapor extraction or soil venting, soil washing or flushing, stabilization and solidification, thermal desorption, infrared pyrolysis, and incineration. Groundwater remediation technologies include groundwater pumping, which may be coupled with water treatment such as chemical precipitation, air stripping, steam stripping, and carbon adsorption. Techniques to contain or restore groundwater include slurry walls, grout curtains, permeable treatment beds, and leachate control such as subsurface drains and liners.

The EPA generally offers responsible parties an opportunity to perform the RI and FS (RI/FS). Provided that the parties can organize themselves and allocate the costs of performing the RI/FS, many parties prefer to take advantage of this opportunity. Parties may believe that performing the RI/FS places them in a good position to negotiate a settlement with the government to perform the remedy at the site. Parties often conclude that they can perform the necessary technical work better, faster, and more cheaply than the government.

If responsible parties do not volunteer to perform the RI/FS, the EPA generally performs the RI using an outside contractor and provides interested parties an opportunity to comment on a draft RI.

XI. Record of Decision and Remedial Action

Once the RI/FS is completed, the EPA reviews the proposed remedial alternatives and selects a remedy. The agency’s proposed remedy is embodied in a document called a Record of Decision (ROD). The ROD must document all of the facts, analyses, and policy determinations considered in the selection of the remedy.131

130. See appendix D to 40 C.F.R. pt. 300.
131. 40 C.F.R. § 300.430(f)(5).
CERCLA and the NCP provide specific criteria for the EPA to consider in selecting a remedy. The “threshold” criteria for selecting the remedy are overall protection of human health and the environment and compliance with ARARs. The five “balancing” criteria are long-term effectiveness and permanence; reduction of toxicity, mobility, or volume through treatment; short-term effectiveness; implementability; and cost. State and community acceptance are “modifying” criteria that will be considered. Each remedy selected shall be cost-effective, providing that it satisfies the threshold criteria. The remedial action must use permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable.

An alternative that does not attain an ARAR may be selected by invoking the waiver provisions of the NCP. A waiver is available under several circumstances.

Once the EPA has prepared a draft ROD, the agency is required to present its proposed remedy to the public for comments for a period of not less than thirty days. The EPA must also provide an opportunity for a public meeting during the comment period. The EPA is required to reevaluate its proposed choice of a remedy in light of comments and data received during the comment period. The EPA must prepare a written summary of significant comments and information and prepare a response to each issue. Finally, the agency must include a discussion in the ROD of any significant changes to the remedy selected and the reasons for the changes. If the changes could not reasonably have been anticipated, the EPA must seek additional public comments.

CERCLA provides that judicial review of any issues concerning the adequacy of any response action taken by the EPA shall be limited to the administrative record. The statute further provides that the response action shall be upheld unless a party can demonstrate, based on the administrative record, that the decision was arbitrary and capricious or otherwise not in accordance with law. The EPA’s remedy selection decision is arbitrary and capricious if “the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it would not be ascribed to a difference in view or the product of agency expertise.”

132. 42 U.S.C. § 9621(a), (b), (d).
133. 40 C.F.R. § 300.430 (f)(1)(ii)(D) and (E).
134. 40 C.F.R. § 300.430(f)(1)(ii)(C).
135. 40 C.F.R. § 300.430(f)(3).
137. Id.
Under this limited scope of review, a party may be permitted to conduct discovery regarding alleged deficiencies in the administrative record, but might not be permitted to conduct discovery concerning the adequacy of the EPA’s remedy selection decisions. As a result, it is important for PRPs to participate in the administrative process for selecting a remedy. The EPA has established regulations governing the creation and contents of administrative records for the selection of response action.

Once the remedy is selected, the next stage is the remedial design (RD) and remedial action (RA). The RD consists of the development of the actual design of the selected remedy. The RA consists of implementation of the remedy through construction.

The EPA generally provides interested parties with an opportunity to perform the RD/RA. If the parties agree to perform the RD/RA, their obligation will typically be memorialized in an administrative order or a judicial consent decree.

Parties have several incentives to perform the RD/RA. The details of the final remedy, and thus its cost, can be influenced significantly by the remedial design. The ROD is generally a conceptual remedy. It must be fleshed out by an engineering design of sufficient detail that construction companies can bid on the remedial action. There are numerous choices made in the engineering design that affect the cost of the remedy, such as the selection of materials, the sizing of components, and other factors. Where soil is excavated, the remedial design may specify the procedures to be followed in the field to decide when excavation is no longer necessary in particular areas.

Frequently, additional field investigation is performed during the remedial design to learn more about the nature and extent of contamination. Such investigation may sufficiently alter the EPA’s understanding of the nature of the problem as to justify a modification to the remedy.

XII. Section 106 Orders

Section 106(a) of CERCLA authorizes the government to go directly to court to seek relief upon finding that there may be an imminent and substantial endangerment. The district courts have authority to grant such relief as the “public interest and the equities of the case may require.”

140. 40 C.F.R. § 300.800.
142. The government has experienced delays and difficulties in trying to use § 106 to litigate cleanup remedies de novo in court. See United States v. Ottati & Goss, Inc., 900 F.2d 429, 434 (1st Cir. 1990); United
The EPA may also issue orders requiring parties to undertake specified remedial action under § 106(a) of CERCLA. This provision can be invoked whenever the EPA determines that “there may be an imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of a hazardous substance from a facility.” Any person who, without sufficient cause, fails or refuses to comply with such an order may be fined up to $25,000 for each day of violation. Moreover, § 107(c)(3) of CERCLA provides that such a person may be liable to the government for punitive damages of three times the amount of costs incurred by the fund as a result of failure to take action.

Section 106 orders are not subject to pre-enforcement review. Under § 113(h) of CERCLA, such orders are subject to review only in an action under § 107 to recover response costs or damages or for contribution, or in an action to enforce a § 106 order to compel remedial action.

The penalty and treble damage provisions present difficult decisions for parties faced with a § 106 order that they believe to be unfounded. The legislative history of the 1986 amendments, which added the “sufficient cause” defense, states that the provision should be applied when a party has a “reasonable belief” that it was not liable or that the required action was inconsistent with the NCP, with such evaluation to be based on the “reasonableness and good faith of [defendant’s] belief.”

As discussed below, CERCLA limits the scope of judicial review of the EPA’s decision in selecting the remedy to an “arbitrary and capricious” standard based on the administrative record. However this provision does not apply to government orders under § 106 or suits to compel remedial action. In United States v. Ottati & Goss, the court held that in such a case, the court was free to order whatever relief the equities and the public interest required.

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143. 42 U.S.C. § 9606(a).
144. Id. § 9606(b)(1).
145. The Ninth Circuit has held that CERCLA’s bar on pre-enforcement review is “inapplicable” where the remedial action is conducted pursuant to CERCLA § 120, 42 U.S.C. § 9620, which grants EPA authority to conduct remedial actions at federal facilities. See Fort Ord Toxics Project, Inc. v. California Envtl. Prot. Agency, 189 F.3d 828, 834 (9th Cir. 1999); 42 U.S.C. § 9613(h). Parties to date have not been successful in lower federal courts in challenges to the constitutionality of EPA’s use of unilateral administrative orders issued under § 106 of CERCLA. However, in June 2011, the Supreme Court granted certiorari in Sackett v. EPA (No. 10-162) to review the due process implications of a Ninth Circuit decision holding that pre-enforcement review is not available to challenge EPA administrative orders under § 319 of the Clean Water Act.
148. Ottati & Goss, 900 F.2d at 429; See also Hardage, 663 F. Supp. at 1280.
Parties who perform the remedy under a unilateral § 106 order do not waive any rights to challenge the order at a later stage, for example, if evidence gathered during the remedial action shows that the remedy is infeasible or based on faulty assumptions.

A party that proceeds under a § 106 order retains the right to make a claim against the fund for expenditures in excess of its liability. Section 106(b)(2)(A) of CERCLA provides that “[a]ny person who receives and complies with the terms of any order . . . may, within 60 days after completion of the required action, petition the President for reimbursement from the fund for the reasonable costs of such action, plus interest.” If the government denies a request for reimbursement, the party may within thirty days file suit in federal district court.

XIII. Settlement Agreements

Responsible parties may settle with the government by paying appropriate response costs or by agreeing to perform the remedy. Under the 1986 amendments to CERCLA, agreements to perform the remedy must be embodied in a consent decree. After a settlement is reached, the government will provide notice in the Federal Register and afford interested persons thirty days to submit comments. The government must consider and file any such comments with the court. If the comments do not raise any issues warranting a change in the settlement, the government will request that the court approve and enter the decree. The courts have generally approved consent decrees reflecting settlements, applying a standard of fairness, reasonableness, and adherence to the statute.

Settlements that arise after the EPA has selected the remedy can be one of two kinds. Parties can agree to perform the remedy the EPA has selected at their expense, subject to government oversight. Alternatively, parties can agree to pay the government for its expected costs of implementing the remedy, sometimes called a “cash out.”

In the case of a multi-party site, various organizational efforts must precede settlement discussions. The organizational efforts will frequently involve development of a sharing agreement for payment of administrative costs; formation of steering,  

150. In such a suit, the petitioner must establish that it is not liable for response costs under § 107 of CERCLA. Alternatively, a petitioner may recover response costs to the extent that it can demonstrate, on the administrative record, that the government’s decision in selecting the response action was arbitrary and capricious or otherwise not in accordance with law.
legal, and technical committees; and the hiring of outside legal and technical consultants. The group will also usually develop information as to the involvement of various parties at the site and allocate the costs of the expected settlement.

CERCLA contains unique provisions designed to encourage settlements. Section 122 of CERCLA authorizes the government to enter into settlements and urges action “to facilitate agreements . . . in order to expedite effective remedial action and minimize litigation.”154 The statute also authorizes “mixed funding,” in which the parties are reimbursed by the government for some of the costs of undertaking remedial action.155 This authority is particularly useful in cases where there are “orphan shares” (from insolvent or unknown parties) or when certain parties decline to settle. CERCLA’s settlement procedures are set forth in § 122.

The government has made efforts to standardize the provisions included in consent decrees. These provisions have in the past varied from region to region and even within the EPA regions. The government’s most recent model decree is the 2009 EPA Model CERCLA RD/RA Consent Decree.156

Parties who have contributed only a minor amount of waste to a site generally wish to settle with the government on an expeditious basis to avoid the transaction costs associated with lengthy CERCLA proceedings. Section 122(g) of CERCLA addresses this concern by providing that de minimis parties can obtain a covenant not to sue “as promptly as possible” after the government obtains the necessary information. Such de minimis settlements may be embodied in an administrative order as well as in a consent decree.157

XIV. Cost Recovery Actions

The government may bring an action under § 107(a) of CERCLA seeking to recover its response costs at a site. As discussed above, CERCLA liability is often joint and several, and hundreds of suits have been filed by the government seeking to recover costs.

The courts have held that the government may bring an action for declaratory judgment and response costs as long as some recoverable costs have been incurred.158 However, private parties have not fared as well. In a number of cases under the 1980 statute, parties sought to challenge the remedy early, before the EPA had implemented the remedy and possibly wasted public funds. However, the courts upheld the government’s position that there should be no pre-enforcement review.

155. Id. § 9622(b).
158. See Wickland Oil Terminals v. ASARCO, Inc., 792 F.2d 887, 892 (9th Cir. 1986).
of the EPA’s remedy selection. The 1986 amendments to CERCLA expressly provide that the courts shall not entertain actions seeking pre-enforcement judicial review.

Because of the ban on pre-enforcement judicial review, the timing of review is dependent on government action seeking injunctive or declaratory relief. Section 113(b) of CERCLA authorizes suits for the recovery of response costs in any district where the release or damages occurred or in which the defendant resides, may be found, or has its principal office. An initial action for recovery of costs must be commenced within three years after completion of a removal action. For a remedial action, an initial action must be commenced within six years after initiation of physical on-site construction. If remedial action is initiated within three years after the completion of the removal action, then removal costs may also be recovered in a timely suit for recovery of remedial costs.

Courts have differed in their approach to the standard of review of recoverable costs. In United States v. Bell Petroleum Services, Inc., the court indicated that only misconduct on the part of the government would prevent it from recovering its costs. Other courts have recognized that a cost recovery trial under § 107 “will not be a pro forma proceeding but will permit presentation of adequate evidence for careful and exacting study by the court.”

A. JUDICIAL REVIEW OF REMEDY SELECTION

The courts have not fully determined the proper measure of relief in cases where the EPA’s remedy is found wanting. CERCLA states simply that if the court finds that the selection of the remedy was arbitrary and capricious or not in accordance with law, the court shall award the government “only the response costs or damages that are not inconsistent with the national contingency plan,” and such other relief consistent with the NCP. In one case, the court indicated that if the defendant proposed an appropriate remedy, the EPA could recover only the cost that the defendant would have otherwise incurred in implementing its plan. The legislative history states that Congress intended courts to “undertake a searching and

159. See Lone Pine Steering Comm. v. EPA, 777 F.2d 882 (3d Cir. 1985); Dickerson v. EPA, 834 F.2d 974 (11th Cir. 1987).
162. 42 U.S.C. § 9613(g).
careful review of government response actions in accordance with existing administrative law principles.”

XV. Role of the States

The 1986 amendments to Superfund highlight the role of the states and private citizens under the Act. Section 121 of the Act requires that the EPA regulations provide for “substantial and meaningful involvement by each State in initiation, development, and selection of remedial actions to be undertaken in that State.” The EPA must give states notice and an opportunity to comment on the RI/FS, the planned remedial action, the engineering design, and negotiations with potentially responsible parties.

States may also undertake CERCLA response actions under a cooperative agreement or contract with the EPA. States that satisfy the EPA’s terms and conditions may be reimbursed for their costs at specific sites on the NPL. In addition, states are encouraged to enter into memoranda of agreement that establish the respective roles and coordination between the EPA and the state during the remedial process.

XVI. Conclusion

Superfund involves complex legal, policy, and scientific issues that cannot be fully discussed here. Many aspects of the law are still the subject of debate and litigation. Although the broad contours of CERCLA liability are set forth in the statute, issues not specifically addressed in the Act are being decided by the courts. Adding to the complexity of the issues are the interrelation of federal and state statutory and common law liability, the large number of parties that may be involved in CERCLA sites, and the high costs of remediating these sites. Lawyers for parties defending the underlying claims and handling insurance claims need to understand the CERCLA process and evolving case law.

170. See 40 C.P.R. pt. 35.
171. 40 C.P.R. § 300.500.