April 2012

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SUPERFUND'S NPL: THE LISTING PROCESS

RAGNA HENRICHs*

INTRODUCTION

The National Priorities List ("NPL") provides an expeditious means of identifying former hazardous waste disposal sites which may warrant remedial action under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"). Such remedial action takes into consideration the limited resources which exist to combat the problem of hazardous waste sites, and the public health goal of addressing first those sites which pose the greatest threat to human health or the environment. The original NPL, promulgated on September 8, 1983, consisted of only six sites more than the congressionally-mandated minimum list of 400. The minimum requirement has since been deleted. Currently, 1,010 sites are listed on the NPL, and 209 sites are proposed for listing.

To put these figures in perspective, of the more than 30,000 known or suspected sites identified nationwide, over 1,200 are "pri-

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2 The priority list serves primarily informational purposes, identifying for the states and the public those facilities and sites or other releases which appear to warrant remedial action. Inclusion of a facility or site on the list does not in itself reflect a judgment regarding the activities of its owner or operator, nor does it require those persons to undertake any action or assign liability to any person. Subsequent remedial or enforcement actions by the government will be necessary to take any of the aforesaid actions. Such actions will be attended by all appropriate procedural safeguards. See 48 Fed. Reg. 40,658-60 (1983).

3 Id. at 40,658.


The task of the Environmental Protection Agency ("EPA" or "Agency") at these priority sites is colossal, and, because of the magnitude of the clean-up costs, the implications for this nation's industries and economy are profound.

This Article describes the process by which sites come to be placed on the NPL; the consequences of being so listed; the opportunities and procedures for challenging a listing; mechanisms for delisting sites; and the relatively sparse case law to date.

I. HISTORICAL CONTEXT

In 1980, at the close of the Carter Administration, Congress hastily enacted CERCLA in response to the dangers of past and present uncontrolled releases of hazardous substances into the environment. CERCLA defines "release" as:

any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing any hazardous substance or pollutant or contaminant), but excludes (A) any release which results in exposure to persons solely within a workplace, with respect to a claim which such persons may assert against the employer of such persons, (B) emissions from the engine exhaust of a motor vehicle, rolling stock, aircraft, vessel, or pipeline pumping station engine, (C) release of source, byproduct, or special nuclear material from a nuclear incident, as those terms are defined in the Atomic Energy Act of 1954 [42 U.S.C. § 2011 et seq.], if such release is subject to requirements with respect to financial protection established by the Nuclear Regulatory Commission under section 170 of such Act [42 U.S.C. § 2210], or, for the purposes of section 9604 of this title or any other response action, any release of source byproduct, or special nuclear material from any processing site designated under section 7912(a)(1) or 7942(a) of this title, and (D) the normal application of fertilizer.


Hazardous substances are defined as:

(A) any substance designated pursuant to section 1321(b)(2)(A) of Title 33, (B) any element, compound, mixture, solution, or substance designated pursuant to section 9602 of this title, (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, (E) any hazardous air pollutant listed under section 113 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. 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
CERCLA was Congress’ response to the national attention focused upon inactive hazardous waste sites following Love Canal. Congress’ objective was to plug the gaps in the then-existing environmental regulations by creating a mechanism for identifying and investigating old waste sites, and by strengthening the federal government’s authority to respond to sites that were identified.

Through CERCLA, Congress expanded the universe of substances within the reach of authorized federal response, imposed

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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).

Id. § 9601(14).

10 “Environment” is broadly defined under CERCLA, and includes:
(A) the navigable waters, the waters of the contiguous zone, and the ocean waters of which the natural resources are under the exclusive management authority of the United States under the Magnuson Fishery Conservation and Management Act [16 U.S.C. § 1801 et seq.], and (B) any other surface water, ground water, drinking water supply, land surface or subsurface strata, or ambient air within the United States or under the jurisdiction of the United States.

Id. § 9601(8).


Love Canal itself involved a hazardous waste disposal site previously owned by Hooker Chemical. Hooker Chemical sold the site to the city of Niagara Falls, with a deed restriction to prevent the site’s use for subsurface construction. The city then sold the property to the school district, which used part of the property as a school playground. Additionally, city officials allowed residences to be built on adjacent property. The residents, who experienced a high incidence of disease which they believed was caused by chemicals from the Love Canal, ultimately succeeded in forcing the evacuation of several blocks of homes and clean-up of the site. For a discussion of the problems at Love Canal, see generally A. Levine, Love Canal: Science, Politics and People (1982).


14 See supra note 9 and accompanying text (setting forth definition of the hazardous substances within reach of CERCLA). 40 C.F.R. part 302 contains the actual list of hazardous substances, together with their “reportable quantities.” See infra note 15, and accompanying text (explanation of reporting requirements under CERCLA). The Clean Water Act, 33 U.S.C. §§ 1251-1387 (1982), created the National Response Center. Under 42 U.S.C. § 9603(a), any releases of hazardous substances into the environment in excess of the amount established by the EPA in 40 C.F.R. § 302.4 and Table 302.4 must be reported to the Na-
reporting requirements concerning sites historically used for disposal of hazardous substances, and provided broad new federal powers for collecting information concerning the nation's hazardous waste disposal sites and for ranking the information generated according to both the urgency of required action and the danger to public health. Congress also expanded the federal government's authority to respond to hazardous environmental releases, or to order others to respond, and it imposed new liabilities on a broad group of potentially responsible parties ("PRPs").

There are, in actuality, two reporting requirements regarding hazardous substances under CERCLA. 42 U.S.C. § 9603(a) provides for the reporting of releases of hazardous substances during a 24-hour period which exceed the quantity specified in 40 C.F.R. § 302.4. 42 U.S.C. § 9603(c) requires the existence of former hazardous waste disposal areas to be reported to the EPA within 180 days of the enactment of CERCLA. CERCLA was enacted on December 11, 1980. See Pub. L. No. 96-510, 94 Stat. 2747 (1980).

Section 9605(a)(8)(A) requires that criteria be promulgated to determine priorities; § 9605(a)(8)(B) provides that based upon these criteria, a list which ranks the sites should be prepared annually. Id. This list has become known as the National Priorities List, or NPL.

This section authorizes the federal government to respond to an immediate or substantial danger to public health or welfare by removing hazardous substances from a site, and to take other remedial action. Id. Once the federal government has taken such response action, § 9607 authorizes the federal government to commence a suit against potentially responsible parties to recover response costs expended to clean up the site. Id. § 9607 (1982 & Supp. V 1987).

The EPA and the states have secured $2.021 billion from PRPs through 702 actions. The EPA has issued approximately 660 administrative orders requiring PRPs to take action at sites. See 10 Hazardous Waste Report, supra note 7, at 4. CERCLA imposes liability on the following 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 any facility at which such hazardous substances were disposed of, (3) any person who by contract, agreement, or otherwise arranged for disposal or treatment, or arranged with a transporter for transport, for disposal or treatment, of hazardous substances owned or possessed by such person, by any other party or entity, at any facility or incineration vessel owned or operated by another party or entity and containing such hazardous substances, and (4) any person who accepts or accepted any hazardous substances for transport to disposal or treatment facilities, incineration vessels or sites selected by such person, from which there is a release, or a threatened release which causes the incurrence of response costs, of a hazardous substance . . . .

ated a fund ("Superfund"), paid for by taxes, including taxes on chemical use, to finance federal enforcement and cleanups. Congress also established guidelines for use of the Superfund.

CERCLA specifies two broad standards which the President must consider in selecting response actions: response actions must be cost effective, and they must be consistent with the national contingency plan ("NCP"). CERCLA directs the President to select appropriate remedial actions determined to be necessary to be carried out under section 9604 or secured under section 9606 of this title which are in accordance with this section and, to the extent practicable, the national contingency plan, and which provide for cost-effective response. In evaluating the cost effectiveness of proposed alternative remedial actions, the President shall take into account the total short- and long-term costs of such actions, including the costs of operation and maintenance for the entire period during which such activities will be required.

Id. § 9621(a).

Id. § 9604(c)(4) (1982 & Supp. V 1987). A "cost effective response . . . provide[s] a balance between the need for protection of public health and welfare and the environment . . . and the availability of [Superfund]." Id.; see id. §§ 9605(a)(7), 9621(b)(1).

Id. § 9604(a)(1). This section authorizes the President to respond to the release or
to incorporate provisions dealing with hazardous substances into the NCP, which was originally promulgated to clean up oil spills. The NCP instituted procedures and standards for, among other things, investigating sites, and also established criteria for determining priorities for responding to sites at which there have been releases or threatened releases of hazardous substances. Because of the finite amount of response funds, the President was also directed to prepare a list of national priorities among the known release sites called the "National Priorities List." The President delegated both responsibilities to the EPA.

Congress enumerated a number of specific factors to be considered in setting priorities for response action to releases or threatened releases identified under CERCLA. These factors include: "the population at risk, the hazard potential of the hazardous substances at such facilities, the potential for contamination of drinking water supplies, the potential for direct human contact, the potential for destruction of sensitive ecosystems, the damage to

threat of a release of a hazardous substance by removing such substances and providing for remedial action or any other response measure consistent with the NCP. Id. Section 9605 authorizes the President to revise and republish the NCP that originates from the Clean Water Act ("CWA"), 33 U.S.C. § 1321(a)(2) (1982). The implementing regulations of the NCP are promulgated at 40 C.F.R. §§ 300.1-56 (1988). "The Plan provides for efficient, coordinated, and effective responses to discharges of oil and releases of hazardous substances, pollutants, and contaminants in accordance with the authorities of CERCLA and the CWA." Id. § 300.3. Proposed revisions to the NCP were published in 53 Fed. Reg. 51,394 (1988). Revisions to the National Contingency Plan were published in the Federal Register on March 8, 1990. Due to press date deadlines, the revisions could not be incorporated into this Article. Please refer to the Federal Register Notice as necessary to supplement the information contained herein.

28 42 U.S.C. § 9605 (1982) directs the President, after notice and opportunity for public comment, to revise and republish the NCP, and to include a section to be known as the national hazardous substance response plan establishing "procedures and standards for responding to releases of hazardous substances." 42 U.S.C. § 9605 (1982).

29 See id. For regulations implementing this section, see 40 C.F.R. pt. 300 (1988).

30 See 42 U.S.C. § 3605(a)(8)(B) (Supp. V 1987); 40 C.F.R. § 300.56(c) (1988). The NPL is only one component of the NCP. The listing provides a means of identifying and prioritizing hazardous sites. Id.; see also S. Rep. No. 848, 96th Cong., 2d Sess. 17-19, 59 (1980). This report discusses the fund and its inadequacy to provide response funds to sites which require remedies. The report also notes that the NPL's purpose is to identify sites which need remedial action as quickly as possible after enactment of CERCLA and to rank them according to urgency. The report states: "[a] fund providing $534 million annually will permit government response only to the most significant releases." Id. at 17.


natural resources . . ., contamination of the ambient air . . ., and other appropriate factors.” Hazards identified at a site are ranked using the Hazard Ranking System, (“HRS”), a numeric system which ensures a uniform technical judgment of the potential hazards presented by that site relative to other sites.

In November 1986, CERCLA was substantially amended by the Superfund Amendment and Reauthorization Act (“SARA”). SARA established cleanup requirements, replenished the Superfund, formalized the EPA’s settlement policies, and enhanced

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31 Id.
32 See 40 C.F.R. pt. 300 app. A 2.0. HRS is discussed in detail infra notes 73-129 and accompanying text.
34 See 42 U.S.C. § 9621 (Supp. V 1987). Before SARA, CERCLA did not contain detailed statutory cleanup standards. See id. § 9604(c)(4) (1982). The relevant CERCLA provision required only that the President “select appropriate remedial actions . . . which are to the extent practicable in accordance with the national contingency plan and which provide for that cost-effective response which provides a balance between the need for protection of public health and welfare and the environment . . . and the availability of amounts from the fund.” Id. Section 9621 establishes detailed new cleanup standards with a strong preference for remedial actions which “permanently and significantly” reduce the presence of hazardous substances at a release site. Id. § 9621(b)(1) (Supp. V 1987). At a minimum, the EPA is required to select remedial actions that “assure protection of human health and the environment.” Id. § 9621(d)(1). Remedial actions must be cost effective, employ permanent solutions and alternative treatment or resource recovery technologies, and, to the extent practicable, be consistent with the NCP. See id. § 9621(a)-(b)(1). Section 9621 also creates nationwide cleanup standards by applying more stringent standards from other federal or state environmental laws to on-site response actions when “relevant and appropriate” to a release or threatened release. See id. § 9621(d)(2). Congress declared that the least preferable cleanup method is off-site transport and disposal, see id. § 9621(b)(1) (Supp. V 1987), and that hazardous substances may be transferred only to facilities operating in compliance with the Resource Conservation and Recovery Act (“RCRA”) and other federal and state laws. Id. § 9621(d)(3) (Supp. V 1987).
35 See id. § 9611(a). SARA authorized an $8.5 billion five-year replenishment of the Superfund. Id. The replenished fund is to be obtained from taxes imposed on imported petroleum, chemical feedstock and imported chemical derivatives, a new corporate environmental tax, and any shortfall from general revenues. See 26 U.S.C. § 9507(b) (Supp. V 1987); id. §§ 59A, 4611, 4661, 4671 (1982 & Supp. V 1987).
state° and public participation in the Superfund process,° created the Agency for Toxic Substances and Disease Registry and other health-related authorities; and made federal facilities subject to CERCLA requirements.°

° Prior to SARA, CERCLA did not allow states to review EPA-conducted cleanups. SARA, however, requires the EPA to promulgate regulations providing for “substantial and meaningful involvement” by a state in initiating, developing and selecting remedial actions to be performed within its borders. 42 U.S.C. § 9621(f)(1) (Supp. V 1987). Section 9621(f) requires at a minimum that states be involved in decisions to perform preliminary assessments and site inspections; they are also to concur in deletions from the NPL, participate in long-term planning for remedial sites, and review and comment on any remedial investigation and feasibility study, any planned remedial action identified therein and any engineering design following a remedy selection. See id. § 9621(f)(1)(A),(C)-(E). SARA increased the input of states in determining the NPL by providing that states submit priorities for remedial action. SARA also required the EPA to consider these priorities when assembling the NPL. See id. § 9605(a)(8)(B). Additionally, state standards must be applied in cleanup actions if they are more stringent than federal standards. See id. § 9617(a) (Supp. V 1987). States may enforce any federal or state standard to which a remedial action is required to conform, as well as sue for violations of any settlement consent decree. See id. § 9621(e)(3).

° See id. § 9617 (1986). Section 9617(a) requires that notice of proposed remedial plans be published and reasonable opportunity be provided for the submission of written and oral comments. Id. § 9617(a) (Supp. V 1987). Prior to the enactment of SARA, the EPA had amended the NCP to require public comment on any proposed response action at NPL sites. See 40 C.F.R. § 300.67 (1988). SARA codified the EPA's administrative policy. Section 9617 also created a new technical assistance grant of up to $50,000 to aid in interpretation of data which is available to any group of individuals which may be affected by a release at a NPL site. See 42 U.S.C. § 9617(e) (1986). However, the $50,000 limitation may be waived by the President where necessary to carry out the purposes of this section. Id.

SARA also introduced a provision authorizing citizen suits against persons allegedly in violation of any standard, regulation, or order imposed under CERCLA, and against any government agency, including the EPA, for failure to perform a non-discretionary CERCLA-imposed duty. See id. § 9659(a) (Supp. V 1987). Private citizens affected by a release or threatened release may also petition the EPA to conduct a preliminary risk assessment on the release. See id. § 9605(d). The EPA must conduct the assessment, if it has not already done so, or explain why an assessment is not appropriate. If the risk assessment indicates a health or environmental threat, the EPA must evaluate the release using the HRS. Id.

Individuals may also petition the Agency for Toxic Substances and Disease Registry ("ATSDR") to perform health assessments on releases from facilities where individuals have allegedly been exposed to a hazardous substance release. See id. § 9604(i)(6)(B). The ATSDR must either perform a requested assessment or provide written explanation why an assessment is inappropriate. Id. A health assessment includes a preliminary risk assessment. See id. § 9604(i)(6)(F). If the health assessment indicates a threat to health or the environment, the ATSDR must notify the EPA which is then required to rank the release using the HRS. See id. § 9604(i)(6)(H).


°°° See 42 U.S.C. § 9620 (Supp. V 1987). SARA created a comprehensive scheme intended to make federal facilities as equally responsive as private facilities in recognizing the
SARA required the EPA to revise the NCP and HRS by the spring of 1988, to assess more accurately the degree of risk to public health and the welfare of the environment, and to assure that priority is given to facilities posing the most significant threat. SARA also created two new criteria to be considered in establishing priorities for responding to releases. The EPA Administrator may now take into account the damage to natural resources which may affect the human food chain and the potential contamination of the ambient air.

SARA mandated an ambitious schedule for implementation of the Superfund program using the NPL as a road map. Section 116 of SARA required that, to the maximum extent practicable, the EPA shall have conducted preliminary assessments of the risks at all sites (presently some 29,000) on the Comprehensive En...

presence of hazardous substance releases and taking adequate corrective measures. See id. All CERCLA guidelines, rules, and regulations concerning preliminary assessments, NCP evaluations, NPL listings and remedial actions were made applicable to federal facilities. See id. § 9620(a)(2). SARA mandated the creation of a public Hazardous Waste Compliance Docket for federal facilities, consisting of all information submitted by federal facilities pursuant to RCRA and CERCLA, to assist in assuring that federal facilities comply with federal hazardous waste requirements. See id. § 9620(c).

The EPA is required to conduct preliminary assessments on docketed facilities, and, where appropriate, evaluate the facilities according to the NCP and include them on the NPL. See id. § 9620(d). Facilities included on the NPL are given a timetable in which to commence remedial investigations and feasibility studies ("RI/FS"), and remedial actions by interagency agreements. See id. § 9620(e)(1)(2). The EPA is required to afford affected states the opportunity to participate in remedial action planning and selection at federal facilities. See id. § 9620(f). When a federal facility is not listed on the NPL, state laws governing removal and remedial actions apply to federal facilities within its borders. See id. § 9620(a)(4). SARA also requires that the public be given notice and an opportunity to comment on any proposed remedial action at a federal facility. See id. § 9617(a). Additionally, private citizens may also bring suit against a federal facility to enforce any CERCLA standard, regulation, condition or requirement. See id. § 9659(c).

43 Id. § 9605(b). Revision of the HRS is also addressed in 42 U.S.C. § 9625, which applies to facilities releasing certain wastes targeted for study. See id. § 9625. Section 125 of SARA provides that prior to the revision of the HRS, the EPA may not add facilities containing such wastes to the NPL merely upon an evaluation of the volume of waste; rather, any addition should be based on the actual concentration of the hazardous constituents of such wastes. Proposed revisions for the NCP and HRS have been published. See 53 Fed. Reg. 51,394, 51,962 (1988); see also infra notes 73-148 and accompanying text (discussion of HRS).


45 See id.

46 Id. § 9616.

47 Preliminary assessments have been completed at 28,101 sites. See EPA Superfund Status Report (May 22, 1989); 10 Hazardous Waste Report, supra note 7, at 3; see also infra notes 82-91 and accompanying text (discussion of preliminary assessments).
vironmental Response Compensation and Liability Information System ("CERCLIS") by January 1, 1988. By January 1, 1989, site inspections were to have been performed at all sites where the preliminary assessment indicated that one was necessary.

By 1990, all sites on CERCLIS requiring evaluation for inclusion on the NPL should have received such evaluation. Sites added to CERCLIS after enactment of SARA shall receive an evaluation, if one is necessary, within four years of their addition. If the schedules imposed by SARA for preliminary assessments, site inspections and evaluations are not complied with, the EPA must publish an explanation.

The EPA must commence 275 remedial investigations and feasibility studies ("RI/FS") on NPL sites within three years of the enactment of SARA. If the EPA cannot meet this schedule, not less than 175 RI/FS's must be commenced by October 1990 with an additional 200 by October 1991; a total of 650 RI/FS studies must be commenced within five years of SARA's enactment. Additionally, the EPA must begin remedial action at NPL sites at a rate of not less than 175 sites in the first three-year period and 200 additional sites during the subsequent two-year period. The EPA has made substantial progress toward meeting these goals.

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48 42 U.S.C. § 9616(a)(1) (Supp. V 1987). CERCLIS is a computerized inventory system that the EPA utilizes to track the total number of hazardous waste sites that may be eligible for some sort of remedial action.

49 Id. § 9616(a)(2). Site investigations have been completed at 9,902 sites. See 10 Hazardous Waste Report, supra note 7, at 3.


51 Id.

52 Id. § 9616(c).

53 Id. § 9616(d)(1). An RI/FS is a detailed site investigation to assess the horizontal and lateral extent of contamination and to evaluate the potential risk to health and to the environment, followed by an examination of the feasibility and cost-effectiveness of all the remedial options available for the site. Based upon a review of this document, and comments which become a part of the administrative record, the EPA determines the appropriate remedy for the site ("remedial action") which it identifies in a document known as the Record of Decision ("ROD"). By the end of fiscal year 1988, the EPA had commenced 231 RI/FSs. See Office of Solid Waste and Emergency Response, EPA Annual Report Fiscal Year 1988 13-14 (1988) [hereinafter 1988 Report].


55 Id. § 9616(e). By the end of February 1988, the EPA had commenced 127 remedial actions. See 1988 Report, supra note 53, at 12, Exhibit 4.

II. Process for Listing Sites

Sites are placed on the NPL only after there has been notice and opportunity for public comment. The EPA proposes new sites by publishing a proposal in the Federal Register containing the name of the site, comment and document review procedures, a description of the purposes and update process of the NPL, and general factual information regarding the basis for the listing. The EPA solicits comments from the public and any interested persons for sixty days. The comments are placed in the EPA headquarters public docket along with HRS score sheets, a Documentation Record describing the information used to compute the HRS, a list of documents referenced in the Documentation Record, and pertinent information for any site affected by statutory requirements and listing policies. A regional docket is maintained in the EPA regional office for the area in which the site is located. The regional docket contains much of the same material found in the EPA headquarters public docket, but also includes the actual reference documents used for calculating or evaluating the HRS scores for sites in the region. After the comment period, all comments and documentation are available for public review at the EPA headquarters. Approximately one week after the close of the comment period, a complete set of comments is also available to the public at the EPA regional office for the region in which the site is located.

The decision to list a site on the NPL is made by the EPA Administrator, who must review the complete record, including all

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8 See id. § 9617; see, e.g., 51 Fed. Reg. 21,099 (1986). General data supporting proposed listings may include a brief statement that the site received an HRS of 28.5 or above. See, e.g., id. at 21,102. The final Notice of Listing must include comprehensive data. See, e.g., 53 Fed. Reg. 23,979 (1988).
technical data and comments prior to rendering a decision. The final Notice of Listing, published in the Federal Register, must adequately explain the facts and data relied upon by the Agency in issuing its decision. The Notice of Listing is the only official notification of the Agency's decision to the owner or the public. In addition to the individual site listings, the EPA annually publishes a complete, updated list of all sites on the NPL.

The EPA has promulgated regulations which outline the process and criteria for placing sites on the NPL. In general, the NCP requires that a site satisfy one of three tests to be eligible for inclusion on the NPL: (1) the release scores above a threshold level using the HRS; (2) the release is designated by the state as its highest priority; or (3) the EPA determines that a site poses a significant threat to public health.

Each listing on the NPL includes the name and location of the site, the EPA region responsible for administering the site, the response category, and a cleanup status code. The sites are ar-

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63 See Eagle-Picher Indus. v. EPA, 822 F.2d 132, 137 (D.C. Cir. 1987). The court upheld the EPA Administrator's authority to list sites on the NPL, provided that he observed the procedures and substantive requirements imposed by the relevant statutes and regulations. Id.

64 A typical Notice of Listing contains the final NPL, background information about the NPL, and responses to comments. See, e.g., 53 Fed. Reg. 23,979 (1988); 51 Fed. Reg. 21,054 (1986). Responses to site-specific HRS comments may be provided in the "Support Document for the Revised National Priorities List." Id.

66 See id. § 300.66(a)-(c).
67 See id. § 300.66(b)(2).
68 See id. § 300.66(b)(3).
69 See id. § 300.66(b)(4).
70 See id. § 300 app. B. Response categories are labeled (R, F, S, V, D) to designate the type of response underway at a site. One or more categories may apply to each site. The following provides a brief description of each category:

"R": Federal and/or State Response. This category includes sites where the EPA and/or a state agency has begun or completed response actions, i.e. removal actions, nonenforcement remedial planning and/or remedial actions under CERCLA.

"F": Federal Enforcement. This category includes sites where the federal government has either filed a civil complaint or issued an administrative order under CERCLA or RCRA, and sites where a federal court has mandated some form of response action. This category also includes sites for which the EPA has obligated funds for enforcement-lead or remedial investigations and feasibility studies.

"S": State Enforcement. This category includes sites where the state has filed a civil complaint or issued an administrative order, and where a state court has mandated a response action. This category also includes sites where a state has designated funds for enforcement-lead or remedial investigations and feasibility studies.

"V": Voluntary or Negotiated Response. This category includes sites where private parties are conducting response actions under settlement agreements, consent decrees or con-
ranged in groups of fifty and are ranked sequentially according to their HRS scores. The range of HRS scores within most groups is one to four points. The specifics of the three listing mechanisms are detailed below.

A. Hazard Ranking System

The HRS, which was adopted in 1982, is the principal mechanism by which sites are placed on the NPL. The HRS consists of factual criteria which are evaluated for each site by the assignment of numerical values. The final score is calculated in accordance with a formula which assigns weights to all numerical values and then totals all the relevant figures. The HRS screening device represents orders.

"D": Category to be Determined. This category includes sites not listed in any other category, including sites subject to pending federal action and sites where responsible parties are undertaking cleanup actions that are not covered by a consent decree or administrative order.

See id. Cleanup status codes (I, O, C) identify sites where either Superfund-financed or private party response activities are underway or completed. The EPA describes the system as follows:

Fund-financed response activities which are coded include: significant removal actions, source control remedial actions, and off-site remedial actions. Many sites on the NPL are cleaned up in stages or "operable units". For purposes of cleanup status coding, an operable unit is a discrete action taken as part of the entire site cleanup that significantly decreases or eliminates a release, threat of release, or pathway of exposure. One or more operable units may be necessary to complete the cleanup of the hazardous waste site. Operable units may include significant removal actions taken to stabilize deteriorating site conditions or provide alternative water supplies, and remedial actions.

Only one cleanup code is used to denote the status of each site. The following provides a brief review of each category:

"T": Implementation activity is underway, and one or more units are operable (field work has been completed for one or more operable units).

"O": One or more operable units is completed, and work on others may be under way (field work has been completed for one or more units, but additional cleanup actions are necessary).

"C": Implementation activity completed for all operable units.

Id. at 21,103.

See 40 C.F.R. § 300 app. B (1988). Sites, except those that a state has designated as its top priority, are arranged in numerical order. State designated sites are listed within the first 100 sites either in numerical order or at the bottom of the first 100 sites. See id.


See 40 C.F.R. § 300 app. A (1988). The following mathematical formula is utilized by
estimates the potential hazard or risk presented by releases or threatened releases to the environment of hazardous substances, pollutants or contaminants.\textsuperscript{75} HRS scores range from 0 to 100, and sites that score 28.5 or greater are eligible for listing on the NPL.\textsuperscript{76}

The HRS requires substantial information regarding the facility, its surroundings, the hazardous substances at the site, and the geological character of the surrounding area.\textsuperscript{77} In the HRS process, an initial site inspection is performed to describe and characterize the site according to the nature of the substances at the site, the medium or media in which those substances exist, the nature of the hazards presented, and the pathways by which exposure could occur.\textsuperscript{78} The EPA utilizes a five-step procedure for collecting the information necessary to determine whether a facility should be proposed for listing on the NPL based on its HRS score.

The first step, "site discovery," occurs when the EPA is notified by any source\textsuperscript{79} that a possible hazardous site exists.\textsuperscript{80} The EPA can receive notification of a possible environmental concern or hazardous site from any source.\textsuperscript{81} The initial trigger may come from an employee or citizen whistle-blower tip, community attention, or a report of a hazardous release or spill.

Once the EPA is aware of a potentially hazardous site, a "Preliminary Assessment" ("PA") is conducted.\textsuperscript{82} A PA is an initial analysis of existing information to determine whether a release is

the EPA in calculating the HRS: The category scores are multiplied together within each of the migration pathways (ground water, surface water and air) and normalized to obtain a pathway score. The scores for the three pathways (gw, sw and a) are combined using a root-mean-square approach. The final HRS score is the square root of the sum of the squares of the pathway scores divided by a factor, 1.73:

$$\text{HRS score} = \frac{\sqrt{a^2 + b^2 + c^2}}{1.73}$$

See EPA GUIDANCE DOCUMENT HW-10.5 (November 1988).


\textsuperscript{78} See id.

\textsuperscript{79} See id. § 300.63.

\textsuperscript{80} Id.

\textsuperscript{81} Id. Notification can also come from citizen groups, the state, news articles brought to the EPA's attention, periodic monitoring for other purposes, and other sources. Such initial indications may result in a site being placed on CERCLIS. See id.

\textsuperscript{82} Id. § 300.63(d)(1); see also id. § 300.64 (preliminary assessment of releases or threats of releases identified for possible CERCLA response shall be undertaken as promptly as possible).
serious enough to warrant additional investigation. The PA may be performed by the Agency, the state, private consulting firms, or by PRPs. Preliminary assessment/site investigation grants are monetary awards that are available to states to conduct these assessments. The EPA, the state, or the successful private consultant bidder puts together a “Field Investigation Team” ("FIT") which will conduct the PA. The predominant number of PA’s are done by FIT’s according to Agency contract specifications.

A Preliminary Assessment involves a review of federal, state, and local documents, an evaluation of potential threats, and an identification of the source and nature of a release or threatened release. The PA may include a review of site management practices, literature searches, and personal interviews. After the PA is completed, a brief report, including recommendations, is submitted to the Agency’s regional office for the region in which the site is located.

The PA enables the Agency either to eliminate those sites where data indicate no threat or potential threat to public health or the environment, or to determine the need for removal action.

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Contract specifications are prepared by the EPA technical staff.

See 40 C.F.R. § 300.64(b) (1988).

Id.

See EPA, Preliminary Assessment Fiscal Year 1988, 18-19. The Preliminary Assessment Form (EPA Form 2070-12) is one which, at the discretion of the EPA region, may be used for the report. This form requires the contractor or person conducting the assessment to answer specific questions concerning both descriptions of substances possibly present on-site and the potential hazard to the environment, and to identify the potentially affected population. Id.


See id. § 300.66(a)(3)(ii). Removal actions should be distinguished from remedial actions. Removal means:

the cleanup or removal of released hazardous substances from the environment, such actions as may be necessary [sic] taken in the event of the threat of release of hazardous substances into the environment, such actions as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances, the disposal of removed material, or the taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment, which may otherwise result from a release or threat of release. . . .

42 U.S.C. § 9601(23) (1982 & Supp. V 1987). There have been 1,837 removal actions undertaken, 585 of which were performed at NPL sites. See 10 Hazardous Waste Report, supra note 7, at 3.

A remedial action, on the other hand, means:
and establish priorities for site inspection. After the PA report is submitted, the EPA's regional office determines either that no further action is necessary or that it is appropriate to proceed with the third step—the Site Investigation ("SI").

The person or entity that conducted the PA may also conduct the SI. The purpose of the SI is to assess whether a site poses a threat or potential threat to public health or the environment, as well as the immediacy of any such threat, to conduct a visual inspection of a site, and to collect data to determine whether a site should be listed on the NPL.

There are two degrees of SI's which may be conducted depending upon preliminary information (developed in the PA or otherwise) concerning the likelihood that a site will score above the 28.5 HRS threshold. The greater the likelihood that a site will score above 28.5 on the HRS, the more rigorous will be the SI, particularly with respect to its data quality objectives. Although the EPA's terminology for SI's is in a state of flux, one can generally expect that a "standard" or "traditional" SI or screening site inspection ("SSI") will be conducted for a medium priority site—those with some, but not high, likelihood of scoring above the HRS cut-off of 28.5. Where there is a high probability that a site will be placed on the NPL, a listing site investigation ("LSI") may be conducted directly after the PA. Such cases are rare because most sites are subjected to a two-tiered SI process, the SSI and then the LSI.

The SI is the most expensive part of the HRS process because it involves field work and compilation of extensive analytical and quantitative data, including soil samples, water supply usage data, those actions consistent with permanent remedy taken instead of or in addition to removal actions in the event of a release or threatened release of a hazardous substance into the environment, to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public health or welfare or the environment.


92 Id. § 300.66 (a)(2). Where a private party voluntarily does the PA, it may not necessarily commit to do the SI. Alternatively, where the EPA or state does a PA, the private party may conduct the SI. Id.
93 See id. § 300.66(a)(4)(i).
94 See id. § 300.66(a)(4)(ii).
95 See id. § 300.66(a)(4)(iii).
96 Id. § 300.66(a)(1)-(3).
ecological imbalance information, and toxicological evaluations. The SI is not intended to determine the exact amount or extent of contamination, but rather to provide an estimate as to the degree of contamination for purposes of HRS scoring.

The SI is submitted to the EPA's regional office, where the staff decides whether the exposures at the site are severe enough to warrant calculation of the HRS score. The Agency's regional staff generally has substantial authority over the first three steps of the listing process.

The fourth step in the NPL listing process is the preparation of the final HRS score. The EPA applies the HRS to data obtained from an observed or potential release, the PA, and the SI to obtain a score or estimate of the risk posed by the release. A facility is assigned HRS scores in three categories: (1) potential for harm to humans or the environment from migration of a hazardous substance through ground water, surface water or air; (2) potential for harm from substances that can explode or cause fires; and (3) potential for harm from direct contact with hazardous substances. Within each hazard mode—migration, fire and explosion, and direct contact—the HRS considers a set of factors to characterize the potential of the facility to cause harm. Each of the separate factors receives numerical values according to a predetermined scale. The factors are then grouped into three categories—observed release/route characteristics, waste characteristics, and targets—and are combined to obtain category scores. The EPA then applies a mathematical formula to arrive at a final score. The EPA relies on the HRS scores to determine which sites to propose for listing on the NPL. Sites that score 28.5 or greater may be proposed for listing.
The actual listing proposal is the fifth step in the process. Sites are proposed for listing solely by publication in the *Federal Register*, which is immediately followed by a sixty-day comment period. The regulations do not require that site owners or operators receive personal notification.

This five-step process need not always be followed strictly. For example, the HRS can be calculated without the PA and SI steps where there is otherwise sufficient information. In New York, an HRS score is commonly calculated as part of a field investigation conducted under that state’s Inactive Hazardous Waste Disposal Site Program.

Numerous criticisms have been leveled at the HRS, including its failure to assess accurately the degree of hazard posed by various sites, as well as charges of bias. According to the Senate Environment Committee Report, the bias inherent in the HRS score stems from the fact that the EPA identifies the most hazardous constituent at a site and, in calculating the total amount of wastes at the site, assumes that this hazardous constituent comprises all of the waste. Thus, the HRS calculations may overstate the risk posed by mixed waste sites or ignore the synergistic effects of wastes.

Another criticism of the HRS is that the “impacted population,” a criterion used to calculate the HRS, does not take into account topographic features which could inhibit the impact of hazardous waste. For example, if the EPA determines that a given site has an impact extending for three miles, every individual within a three mile radius would be considered part of the impacted population, even if a topographic feature protected individuals from being affected. For example, if a feature such as a river or mountain bisects the three mile radius, the site may not affect the ground water used by individuals on the other side of the feature or those upgradient of the feature in terms of the direction in which ground water flows. Thus, the site may not in fact have an

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105 See supra note 59 and accompanying text.
109 Id.
110 Id.
impact on some individuals within the three mile radius.

Another concern is that the HRS, as applied, does not consider containment or any other remedial action already taken at the time the score is calculated. That is, the determination of impacted population is made without consideration of remedial barriers which may prevent contamination from reaching it.\textsuperscript{111}

In response to these criticisms, Congress required the EPA to revise the HRS by the spring of 1988 in order both to assess more accurately the degree of risk to human health and the environment and to assure that the facilities posing the greatest threat be prioritized accurately.\textsuperscript{112} The EPA published proposed revisions in December 1988.\textsuperscript{113} These proposed revisions would refine considerably the HRS scoring by giving greater recognition to a number of factors, including: actual rather than potential risk; variance of risk in accordance with distance from the site and contaminant mobility; chronic and acute exposures; amounts of hazardous wastes as compared to the entire waste quantity estimate; a broader definition of sensitive area receptors; the different populations which may be affected on-site; food chain impacts; flood plains and potential for release; and potential air releases.\textsuperscript{114}

The EPA tested the proposed HRS by conducting inspections at twenty-nine sites.\textsuperscript{115} Scores were proposed under the current and proposed HRS. Although groundwater pathway scores were lower under the proposed HRS, overall scores for the test sites were higher under the proposed HRS than the current.\textsuperscript{116}

Until the proposed revisions become final, sites will continue to be evaluated under the present HRS.\textsuperscript{117} However, any new site listed after the effective date of the revised HRS will be evaluated

\textsuperscript{111} See 48 Fed. Reg. 40,654 (1983). The EPA explained that it does not factor remedial barriers into consideration out of a fear that public agencies will not take action at a site so as not to lower the HRS score and to ensure inclusion on the NPL. Id. The EPA also feared that private parties responsible for the contamination or release would attempt to manipulate the HRS scores by responding just enough to lower the HRS value below the threshold, thereby preventing inclusion on the NPL without adequately reducing the threat posed by the site. Id; 48 Fed. Reg. 40,654 (1983).


\textsuperscript{116} Id. at 37,952

under the new standard which reportedly will take completed remedial action into account.118

Another criticism of the HRS is the lack of consistency in the application or interpretation of the HRS criteria by the Agency's regional offices. This concern is at least partially addressed by a quality assurance ("QA") review designed to insure accuracy and consistency among the various EPA regional offices and headquarters, and by guidance documents published by the EPA that encourage consistency in information, data quality and data type developed and reported by PA's and SI's.119

The legality of the HRS was challenged on two grounds in Eagle-Picher Industries v. Environmental Protection Agency.120 The petitioners claimed that the HRS was inconsistent with the purposes of CERCLA, and that the HRS was arbitrary, capricious, and an abuse of discretion.121 The District of Columbia Circuit Court of Appeals discussed the purposes of CERCLA, the NPL, and the HRS, and concluded that the HRS is an informational aid which is an inexpensive, expeditious means of identifying potential hazardous sites.122 Therefore, the court ruled that the HRS was consistent with CERCLA.123

In so ruling, the court rejected the petitioners' argument that CERCLA requires a site to be one of "the most hazardous sites in the country, at which EPA action may immediately be taken" before it can be placed on the NPL.124 The petitioners sought to exclude from the NPL those sites which may warrant further investigation before a determination is made that response action is necessary.125

120 759 F.2d 905 (D.C. Cir. 1985).
121 Id. at 919-22. The court recognized that petitioners' challenge to HRS was time barred because petitioners sought to invalidate the HRS methodology which the EPA had promulgated in a notice and comment rulemaking from which petitioners failed to appeal within the statutory 60 day period. Id. at 908-09. Instead, petitioners sought to raise this issue in an appeal of specific NPL site listings. Nevertheless, the court considered the merits of the petitioners' claim. Id. at 919.
122 Id. at 919-21.
123 Id. at 920-22.
124 Id. at 919.
125 Id.
The court accepted the EPA's expansive position that Congress intended the NPL to be "an informational tool for use by [the] EPA in identifying sites that appear to present a significant risk to public health or the environment."—not a definitive, narrow statement of those sites currently eligible for such action. Thus, the EPA's use of "different threshold criteria for action and for listing [was deemed] reasonable and fully in accord with congressional intent."

While briefly discussing the "arbitrary and capricious" challenge raised by petitioners, the court noted that the HRS itself, like the EPA's actions in creating and using it, is supported by relevant data. Moreover, the court found that the EPA articulated a rational explanation for its action and, therefore, ruled that the HRS is not arbitrary and capricious.

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126 Id.
127 Id. at 921.
128 Id. at 921-22. In the second prong of their argument, the petitioners alleged that the HRS was arbitrary and capricious in that it was designed to evaluate chemical dumps rather than mining sites. Id. at 921. In particular, they alleged:

1. the basis for scoring "observed releases" is unreasonable, basically because that score reflects only the fact of release and not the severity of release;
2. the basis for scoring waste characteristics is unreasonable because it fails to consider the relatively low concentration of harmful substances present in high-volume mining wastes;
3. the basis for scoring the "target" population threatened by a release is unreasonable because it is rooted in a formula for estimating the population within a certain radius of the release and does not utilize actual population figures; and
4. the HRS should take into account ongoing or completed remedial measures.

129 Id.
130 Id. at 921.
131 Id. at 921. In a second case involving substantially the same parties, the petitioners argued that they should not have been placed on the NPL because Congress did not intend for their releases to be regulated under CERCLA. See Eagle-Picher Indus. v. EPA, 759 F.2d 922, 926 (D.C. Cir. 1985). The petitioners relied on arguments that their particular releases were not hazardous substances, nor were they pollutants or contaminants that presented an imminent and substantial danger, nor were they already being regulated by the states under an agreement with the Nuclear Regulatory Commission. Id. at 926, 932. The court rejected all of these arguments and found that the EPA had the authority to place the releases on the NPL. Id. at 935.

A third case was decided more than two years after the first two, despite being argued on the same date. See Eagle-Picher Indus., Inc. v. EPA, 822 F.2d 132 (D.C. Cir. 1987). The petitioners contested the application of the HRS to five specific sites. Id. at 136. The court held that the EPA's application of the HRS was "reasonable and lawful" and denied the petitioners' request for review. Id. at 151.
B. State Designation

The second mechanism for placing sites on the NPL allows each state to designate a single site as its top priority, regardless of the site's HRS score.132 This enables a state with a site which scores well below those located in neighboring states to have at least one regarded as priority. SARA amended CERCLA by providing that a state may designate its highest priority facility only once.133

In order to designate its highest priority site, a state must certify in writing that the actual or threatened release at the site presents the greatest danger to public health, welfare, or the environment in that state.134 The regulations require the states to identify their priorities at least once a year,135 and the NPL, to the extent practicable, shall include one top priority facility from each state within the first 100 sites.136 States are not required to rely on HRS scores in designating their top-priority sites.137 While thirty-two states have designated such sites,138 only ten are included in the first 100 sites on the NPL because of their HRS scores.139 The remaining twenty-two are listed below the first 100 sites because their HRS scores alone would not entitle them to a higher listing.140

A state also may identify sites other than its top priority site for listing on the NPL.141 To do this, a state must use the HRS and furnish the EPA with appropriate documentation.142 The EPA notifies states at least thirty days prior to the deadline for submitting candidate sites to the Agency.143 The EPA then conducts a quality control review of the state's candidate sites and reviews the

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133 See 42 U.S.C. § 9605(a)(8)(B) (Supp. V 1987). Prior to SARA, § 9504(a)(8)(B) provided that states were permitted to designate "at least" one site for inclusion on the NPL's top 100 sites. Id.
135 Id. § 300.66(c)(1).
136 Id.
137 See id. § 300.66(b)(2)-(3) (1988).
138 See id. § 300 app. B.
139 Id.
140 Id.
141 See id. § 300.66(c)(3),(5).
142 See id. § 300.66(c)(3).
143 See id. § 300.66(c)(4).
state’s HRS scoring documents. The Agency may revise the application of the hazard ranking criteria when appropriate. After consulting with the state, the EPA may add additional priority sites that meet listing criteria.

C. EPA Determination

In October 1985, the EPA amended the NCP to provide a third basis for including sites on the NPL. This mechanism allows the EPA to propose certain sites for listing if it determines that those sites pose a significant threat to public health or welfare, even though they have HRS scores below 28.5 and are not otherwise eligible for placement on the NPL. The EPA may include such sites on the NPL only if certain criteria are satisfied. Sites added to the NPL in this way are proposed for listing through the usual rulemaking process, including giving the public an opportunity to comment.

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144 See id. § 300.66(c)(5).
145 Id.
146 Id.
147 See id. § 300.66(b)(4). This revision of the NCP appears to have come about as a result of EPA evaluations of program operations under the NCP, and settlement agreements from a lawsuit brought by the Environmental Defense Fund and the State of New Jersey. New Jersey v. EPA, No. 82-2238, slip op. (D.C. Cir. Feb 1, 1984); Environmental Defense Fund v. EPA, No. 82-2234, slip op. (D.C. Cir. Feb 1, 1984); see 50 Fed. Reg. 5,862 (1985). No information is provided in the preambles of either the proposed or final rules that conclusively explains why the Agency promulgated § 300.66(b)(4).
148 See 40 C.F.R. § 300.66(b)(4) (1988). For example, a site where a small number of people are or will be exposed to a hazardous substance may be eligible for a listing and remedial action, even though its HRS score does not exceed the 28.5 threshold. Id.
149 Id. The code reads in pertinent part:

[The] EPA may include on the NPL any other release if:

(i) The Agency for Toxic Substances and Disease Registry of the Department of Health and Human Services has issued a public health advisory which recommends dissociation of individuals from the release;

(ii) EPA determines that the release poses a significant threat to public health; and

(iii) EPA anticipates that it will be more cost-effective to use its remedial authority than to use removal authority to respond to the release.

Id.

150 See supra notes 57-59 and accompanying text.
D. Coordination with the Resource Conservation and Recovery Act

A number of sites eligible for listing on the NPL are already regulated by the Resource Conservation and Recovery Act ("RCRA"). As a matter of policy, the EPA has chosen not to list certain categories of these sites on the NPL. The EPA may, however, consider placing these RCRA sites on the NPL if it determines later that there has not been a proper response.

The EPA's general policy is to defer placing on the NPL sites which can be addressed under RCRA. RCRA subtitle C ("Subtitle C") corrective action sites will be listed only if they fall within one of the seven categories listed below, which were established by EPA policy. The EPA uses these categories to identify those "facilities at which necessary corrective actions under RCRA are unlikely to be performed."

1. Bankruptcy

Facilities owned by persons who are bankrupt are eligible for listing because the Agency is concerned that funds will not be available in a timely manner for corrective action. The EPA views the bankruptcy criterion as "unduly restrictive" and has solicited comments on a policy that would transform it into an "inability to pay" criterion. Under the EPA proposal, a site could be placed on the NPL if "the estimated cost of the EPA-proposed remedy is greater than the tangible net worth of the owner/operator."

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153 Id. at 21,057.
154 See id.
157 Id.
159 Id.
proposed remedy as the cost of cleanup, it could use "the least expensive remedy considered in the CMS [Corrective Measures Study], or . . . the remedy ultimately selected after any appeals" and compare it with the owner's net worth. The EPA would defer placing the site on the NPL if "[t]he owner/operator posts a surety bond or letter of credit" sufficient to cover the cost of the remedy.

2. Loss of RCRA Authority to Operate

The EPA may place a facility on the NPL if the owner/operator is unwilling to carry out corrective action because it has lost RCRA interim status. To determine if an owner/operator is "likely to be willing to carry out corrective action, the Agency will consider the compliance history of the facility, including particularly the existence of multiple or significant violations and the numbers and types of final enforcement actions taken against the facility."

3. Unwillingness

Facilities "whose owners or operators have shown unwillingness to undertake corrective action" may be listed on the NPL. The EPA has published objective criteria to be used on a case-by-case basis in determining whether an owner/operator is unwilling to carry out corrective action adequately. A site, proposed after August 9, 1988, will be listed on the NPL if the owners/operators are unwilling to comply with any of five types of federal or state orders requiring corrective action.

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160 Id. at 30,002, 30,004.
161 Id.
163 Id.
164 Id.
166 Id.; see 54 Fed. Reg. 41,000, 41,005 (1989) (to be codified at 40 C.F.R. pt. 300) (proposed Oct. 4, 1989). A RCRA facility will be placed on the NPL based on unwillingness when the owner/operator is not in compliance with one of the following:

- [a] unilateral administrative order . . . after the facility owner/operator has exhausted administrative due process rights
- [a] unilateral administrative order . . . if the facility owner/operator did not pursue administrative due process rights within the specified time period
- [an] initial preliminary injunction or other judicial order
- [a] RCRA permit condition requiring corrective action after the facility owner/operator has exhausted administrative due process rights
4. Late or Non-filers

The EPA will list Subtitle C sites that it refers to as late or non-filers.167 These are "[f]acilities that were treating, storing or disposing of Subtitle C hazardous waste after November 19, 1980, and did not file a Part A permit application by that date."168 However, if such facilities have evinced a history of compliance with RCRA regulations, the EPA may choose to defer listing of these facilities and instead allow RCRA to continue to address problems at that site.169

5. Pre-HSWA Permittees

The EPA will list Subtitle C facilities that it refers to as pre-HSWA (Hazardous and Solid Waste Amendments of 1984)170 permittees.171 These are facilities with permits issued prior to the enactment of the HSWA.172 Generally, these permits were issued for a term of ten years.173 Thus, when such an owner/operator will not voluntarily modify the permit to incorporate corrective action requirements, the EPA will consider listing the facility on the NPL.174

6. Protective Filers

Protective filers are those which have filed an RCRA Part A permit application as a precaution only.175 These facilities may be generators, recyclers or transporters not subject to Subtitle C corrective action requirements.176

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167 See id. at 23,978, 23,981.
168 Id.
169 Id.
172 Id.
173 Id.
174 See id.
175 Id.
176 Id.
7. Converters

The final category of Subtitle C facilities that the EPA considers eligible for listing are referred to as converters. These include a number of facilities that were formerly required to have interim status "but have since converted to generator-only status." This category also includes those engaged in any other hazardous waste activity which does not require RCRA interim status.

The purpose of the RCRA deferral policy is to conserve the Superfund where the RCRA corrective action authority authorizes the EPA to compel a necessary response to protect human health and the environment. If RCRA corrective action is authorized, a Subtitle C permittee can be required to carry out a response action as a condition to continued operations under the permit.

III. CHALLENGES TO LISTING

A. Challenge Procedures

The federal government adopted a notice and comment procedure for listing sites on the NPL which represents an opportunity for an interested party to challenge the proposed listing. A proposed listing is published in the Federal Register, and a sixty-day comment period immediately follows the published notice, during which an interested person—including the site owner—may submit comments, documentation, data, analysis or any other evidence in

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177 Id.
178 Id.
179 Id.
182 See 42 U.S.C. § 9605(a) (Supp. V 1987). This procedure complies with the rulemaking requirements of the Administrative Procedure Act ("APA"). See 5 U.S.C. § 553 (1982). The APA provides that notice shall include:
   (1) a statement of the time, place, and nature of public rule making proceedings;
   (2) reference to the legal authority under which the rule is proposed; and
   (3) either the terms or substance of the proposed rule or a description of the subjects and issues involved.

   Except when notice or hearing is required by statute, this subsection does not apply—
   (A) to interpretative rules, general statements of policy, or rules of agency organization, procedure, or practice; or
   (B) when the agency for good cause finds (and incorporates the finding and a brief statement of reasons therefor in the rules issued) that notice and public procedure thereon are impracticable, unnecessary, or contrary to the public interest.

Id.
opposition to or in support of a proposed listing. The Federal Register provides the name and address of the individual at the EPA to whom comments may be submitted. The party submitting the documentation bears the burden of clarifying its position and its reasons for opposing the listing. The EPA is required to consider all comments and address them in its final decision on whether to list a site. Comments have included generic HRS issues which reflect disagreement with the HRS itself.

Categorized below are five of the typical comments to proposals for designation of specific sites on the NPL, along with the typical EPA response to each:

1. Requests that the Site Name be Changed

Quite often a company or town resents the use of its name in connection with an NPL site. The typical comments argue that the company did not own the site at the time of the discharge; the company was not involved in the activities that caused the discharge; the company was just one of a number of polluters in the location and should not be singled out; or the company is willing to negotiate the complaint privately, but objects to the NPL listing. The EPA's response is that mere listing does not presume liability. The site name is chosen because it is easily and readily associated with it by the general public; this is not merely reflective of the latest ownership change.

See supra notes 57-62 and accompanying text.

See Northside Sanitary Landfill, Inc. v. Thomas, 849 F.2d 1516, 1519-20 (D.C. Cir. 1988), cert. denied, 109 S. Ct. 1528 (1989). In Northside, the owner of a hazardous waste site petitioned on three grounds for review of an EPA order that had placed the site on the NPL. Id. at 1519. The petitioner included a contention that the record did not support the HRS score. Id. The petitioner did not comment on any relationship between the documents and Northside's objections to the EPA's application of the HRS. Id. The EPA reviewed the comments, prepared a response and confirmed its conclusion to list the site. Id. at 1518-19. The court concluded that Northside was responsible for identifying relevant issues and specifying why and how its comments were relevant to the HRS scoring. Id. at 1519. The court noted that data without further evaluation of its relevance to the listing proposal is inadequate. Id. at 1520.

See supra note 64 and accompanying text.

See 51 Fed. Reg. 21,054, 21,064 (1986). Generic HRS issues include whether the EPA should consider hydrogeologic information on the direction of groundwater flow when assigning an HRS, and whether waste quantity values are too high because the EPA included the non-hazardous constituents of the hazardous substances in calculating the quantity of waste. See id.

Representative cases are listed under Support Documents for the Revised National Priorities List NPL-U2-10-56 (Released May, 1989), including: § 2.3, Hooker Chemical/
2. The Site does not Pose a "Substantial Risk"

For a site to be listed on the NPL, it must pose a substantial risk and hazard to the public health and welfare. Site owners claim that the risk was overstated or improperly calculated based on distance to wells, population, etc. Often, the site owner complains that the supposed risk does not account for mitigating factors such as alternative water supplies that are available and which should lower the risk factor. The EPA's response is that the NPL uses standard measures for determining risk. Naturally, interested parties will differ on their assessment of the risk; the mere fact that alternative water supplies and the like are available does not mean that the problems which exist at the site should be ignored.188

3. Inaccurate Data Inflated the HRS Score

Comments often disagree with the data used to compile the site's HRS score. Typical complaints claim that the data are wrongly compiled, outdated, or included improper factors. The site owner claims that it is incorrect to list the facility without taking new and more accurate data into consideration. The EPA response is that in cases where the original data substantiating a release are valid, the EPA assigns values based on those data. This is true even if subsequent sampling fails to detect the same contaminants. It recognizes that many releases vary in concentration over time or occur sporadically. Once a valid finding is made, later samplings do not supplant it.189

188 See the cases listed under Support Documents for the Revised National Priorities List NPL U2-10-56 (Released May, 1986): § 2.3, Hooker Chemical/RVCO Polymer Corp. (Hicksville, N.Y.); § 3.3, MW Manufacturing (formerly Domino Salvage) (Valley Township, Pa.); § 4.1, Davidson Lumber Co. (South Miami, Fla.); and § 9.4, T.H. Agriculture and Nutrition Co. (formerly Thompson-Hayward Chemical Company (Fresno, Cal.). Similar cases are listed in NPL-FR-US-10-1 (March 1989): § 4.3, North Penn - Area 1 (formerly Spra Fin, Gentle Cleaners/Granite Knitting) (Souderton, Pa.); § 4.4, North Penn - Area 5 (formerly Spra-Fin, American Electronics Laboratories, Inc.) (Montgomeryville, Pa.); § 4.5, North Penn - Area 6 (formerly either J.W. Rex/Allied, Paint/Keystone or Keystone Hydraulics) (Lansdale, Pa.); and § 4.6, North Penn - Area 7 (formerly Spra-Fin, Inc.) (North Wales, Pa.).

189 See the cases listed in Support Document for the Revised National Priorities List NPL-U2-10-56 (Released May, 1988): § 2.3, Hooker Chemical/RVCO Polymer Corp. (Hick-
4. Inadequate Testing Under HRS led to Improper NPL Listing

Site owners complain that the HRS does not properly reflect site conditions. This is an oft-mentioned reason as to why sites were improperly listed on the NPL. The commenter believes that if further testing of the site were conducted, an NPL listing could not be justified. The EPA maintains that the HRS was designed by Congress as a screening tool so that EPA funds would be directed toward cleanup of the most hazardous sites rather than the investigation of many sites. In order to ensure that sites may be compared to each other on a national basis with regard to the relative risk presented by them, evaluations are based on HRS scores and on the information required for the documentation of these scores. HRS scores are used to indicate significant risk; individual case details are not the focus of HRS testing.\textsuperscript{190}

5. NPL Listing is Unwarranted in Light of Past Remedial Actions

Commentators point to prior cooperation, voluntary cleanup, or remedial actions taken, and contend that, based on their past record or past efforts, the EPA should cooperate and negotiate without placing the site on the NPL.

The EPA believes that the HRS is intended to be an objective reflection of certain characteristics of the site prior to any remedial action. Current conditions are not used for scoring because doing so could: (1) encourage a partial response designed to lower the score below the 28.5 threshold; (2) cause public agencies to be reluctant to perform removals if such actions could lower the score and thereby prevent a site's listing; and (3) result in risks posed by a site not being accurately evaluated if the site is scored after a partial response action. Instead of changing site scores, the EPA considers such cooperative action as remedial response activity.

\textsuperscript{190} See the cases listed under Support Documents for the Revised National Priorities List NPL-U2-10-56 (Released May, 1986): § 2.1, Jame Fine Chemicals, Inc. (Bound Brook, N.J.); and § 8.1, Eagle Mine Minturn/Redcliff (Minturn/Redcliff, Colo.). Similar cases are listed in NPL-FR-U5-10-1 (Released March, 1989): § 4.2, Hellertown Manufacturing Co. (Hellertown, Pa.); § 9.6, Intel Corp. (Santa Clara, Cal.); and § 10.2, Toftdahl Drums (Okanogan, Wash.).
Placement on the NPL is a useful tool which often spurs desired action. Cooperation by site owners is always encouraged, but will not exempt a site from inclusion on the NPL. The site will be removed from the NPL only if the EPA decides that the cleanup has effectively removed the danger and risk from the site.\textsuperscript{191}

Once the final Notice of Listing is published, the EPA's decision can be challenged by filing a petition for judicial review in the United States Court of Appeals for the District of Columbia Circuit, which has exclusive jurisdiction over any regulations promulgated under CERCLA.\textsuperscript{192} Since review of such regulations is limited, the question is whether the NPL is a regulation, and as such, whether any challenge to listing falls within the jurisdictional restriction of CERCLA.\textsuperscript{193} One court determined that because the NPL is a component of the NCP and because the NCP is a regulation, the NPL must be considered a regulation, challenges to which are subject to the exclusive jurisdiction of the District of Columbia Circuit Court.\textsuperscript{194}

There are additional indicia that support the conclusion that listing on the NPL is a regulatory process. For instance, the NCP is codified in the \textit{Code of Federal Regulations} and describes methods of responding to hazardous waste problems.\textsuperscript{195} Additionally, a


\begin{quote}
Review of any regulation promulgated under this chapter may be had upon application by any interested person only in the Circuit Court of Appeals of the United States for the District of Columbia. Any such application shall be made within ninety days from the date of promulgation of such regulations.
\end{quote}

\textit{Id.} However, in \textit{Eagle-Picher Indus., Inc. v. EPA}, 759 F.2d 905 (D.C. Cir. 1985) ("Eagle-Picher I"), the court heard the case even though the 90-day filing period had expired, because the court gave the court an opportunity to engage in a "retrospective ripeness analysis." \textit{Id.} at 909.


\textsuperscript{195} \textit{National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. §§
proposed listing involves rulemaking, notice, and comment procedures.\textsuperscript{196}

CERCLA does not specify any standard of review; therefore, the applicable standard is defined in the Administrative Procedure Act ("APA").\textsuperscript{197} The judiciary may set aside or compel agency action where the agency decision is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law."\textsuperscript{198} "Under the arbitrary and capricious standard [the court] look[s] to see if the agency has examined relevant data and has articulated a rational explanation for its action."\textsuperscript{199} This standard accords great deference to the EPA's technical judgments.

In addition to judicial review under CERCLA section 9613, the Administrative Procedure Act provides an administrative review mechanism. \textit{Northside Sanitary Landfill v. Thomas},\textsuperscript{200} involved a petitioner who sought review of an EPA order which placed a site on the NPL. The District of Columbia Circuit Court acknowledged its jurisdiction under CERCLA section 9613(a), and noted that the petitioner failed to exercise its rights under section 553 of the APA,\textsuperscript{201} which provides an administrative mechanism whereby an interested person may petition an agency for the amendment or appeal of a rule.\textsuperscript{202} Neither the APA nor CERCLA provides detailed procedures governing such an administrative petition process and presently there appears to be no case law in which the courts utilized such a process when considering a challenge to a final listing on the NPL.

\textbf{B. Bases of Challenges}

One of the primary challenges to the listing of a site on the NPL is a challenge of the EPA's technical data supporting the HRS score.\textsuperscript{203} Although the EPA utilizes quality assurance reviews to insure consistency in review of technical data and HRS calculations, discrepancies may persist. Independent data collected and

\textsuperscript{198} Id.
\textsuperscript{199} Eagle-Picher Indus., Inc. v. United States, 759 F.2d 905, 921 (D.C. Cir. 1985).
\textsuperscript{201} See 5 U.S.C. § 553(e) (1982).
\textsuperscript{202} See Northside, 849 F.2d at 1518-19.
\textsuperscript{203} See supra note 188 and accompanying text.
analyzed by the owner of a listed site may provide evidence of errors in the EPA's HRS calculations and technical decisions. Likewise, any evidence that the EPA deviated from procedures may constitute a basis to challenge the listing.

While considering whether a party has grounds to challenge a listing, it is important to remember the deference granted to the Agency's determinations. An Agency decision will stand provided that the record demonstrates it was not arbitrary or capricious. Nevertheless, the potential consequences of listing may warrant the effort.

IV. Consequences of Listing

Congress created the Superfund to be tapped by the EPA and state and local governments in order to clean up hazardous waste sites which present risks of a sufficient magnitude to warrant listing on the NPL. The Superfund, however, must be considered in the larger context of the amended CERCLA. CERCLA makes generators and transporters of hazardous substances, as well as past and present owners and operators of hazardous waste disposal sites strictly, jointly and severally liable for costs of cleanup. Where liable parties can be identified, they may be ordered by the federal government to perform a cleanup, or they may voluntarily enter into settlements to pay for a cleanup, thereby resolving their liability to the federal or state government.

The creation of the Superfund enables cleanups to be carried out by the government when the responsible parties cannot be identified, are recalcitrant, or are insolvent. The mandate for cost recovery actions by the government when Superfund monies are expended reveals Congress' intent that the Superfund be replenished by the responsible parties whenever possible.

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204 See, e.g., Northside, 849 F.2d at 1518-20 (such evidence will help but petitioner has burden of clarifying its position).
206 See supra notes 20-23, 36-40, and accompanying text.
208 See id. §§ 9606-9607, 9612-9613.
209 OFFICE OF INSPECTOR GEN., EPA, CONSOLIDATED REPORT ON EPA'S COST RECOVERY ACTIONS AGAINST POTENTIALLY RESPONSIBLE PARTIES (1986).
quently, listing a site on the NPL triggers the process by which governments can expend funds to clean up sites and recover monies from PRP's.

Although they are not well-documented in the literature or case law, a host of other consequences are associated with the listing of a Superfund site on the NPL. Perhaps the most immediate consequence is the stigma that attaches to the property. The listing process, and the attendant public attention focused on the site can generate nightmarish public relations problems, such as: public perceptions (real or imagined) of health problems; depressed property values; a cloud on marketable title; adverse business effects; and perhaps—if a public water supply is impacted—dramatic changes in living conditions.

Such repercussions, though hard to quantify, are profoundly felt by business and industry and are recognized motivators in the settlement process. From the standpoint of site owners, the heightened public awareness of the health risks posed by a site invites costly toxic tort litigation. From a public interest standpoint, awareness of environmental threats allows informed decisions to be made by the potentially impacted population.

Apart from the stigma, a site's designation for listing on the NPL makes the site eligible for numerous actions. First, as noted above, the EPA will consider the site eligible for Superfund expenditures for response actions in the event that private parties do not voluntarily agree to perform them. Expenditure of funds at sites listed on the NPL is contingent upon a ten percent state contribution for private sites, and a commitment by the state to assume operation and maintenance expenses at sites which are state-owned. Similarly, if a state cleans up an NPL site, it is eligible for cost-sharing with the federal Superfund.

Sites listed on the NPL are subject to mandated state and public participation in site-related decision making. Public participa-

forts to seek recovery of such mixed funding payments from non-settlers. Moreover, the EPA has stated that its policy objective is to collect 100% of cleanup monies expended in settling cases. EPA, MEMORANDUM: INTERIM CERCLA SETTLEMENT POLICY (Dec. 5, 1984). The EPA's mixed funding policy is not used to finance “orphan shares” because there is no one from whom recovery is available. 53 Fed. Reg. 8279 (1988). The EPA's interpretation and implementation of the “mixed funding” policy does not comport with legislative history. See Conference Report to H.R. 2005 (EPA may use Superfund on behalf of parties who are unknown, insolvent, unavailable, or refuse to settle).

pation in the Superfund process is now required.\textsuperscript{211} The public has an opportunity to comment, at a minimum, on two key stages of an NPL site cleanup: the proposed remedial action\textsuperscript{212} and the consent order settling the case.\textsuperscript{213} This formal participation is augmented by four additional provisions for heightening public involvement in environmental cleanups.\textsuperscript{214}

The states' role in management of NPL sites was significantly enhanced in 1986. Formerly, if states opted to clean up sites on their own, they could not share in the Superfund; if states wished to utilize Superfund monies, cost-sharing and other requirements subjected the site cleanup to close scrutiny and control by the EPA.\textsuperscript{215}

The acknowledgement of states' considerations in cleanups has been expanded. Any applicable state cleanup standards which are more stringent than federal standards must be applied on-site cleanups,\textsuperscript{216} and these more stringent state standards cannot be waived by the EPA without state involvement.\textsuperscript{217}

\textsuperscript{211} See 40 C.F.R. § 300.67. The requirement of public participation was codified in SARA. 42 U.S.C. §§ 9604(c), 9617, 9659 (Supp. V 1987).


\textsuperscript{213} See id. § 9622(i)(2).

\textsuperscript{214} Means of public involvement include:

(1) The availability of technical assistance grants to enable community groups to develop scientific data to assist them to evaluate or challenge a proposed remedy (42 U.S.C. § 9617(e)(1983));

(2) The ability of private persons to petition EPA to perform a risk assessment at a site (42 U.S.C. § 9605(d)(1983)), or petition the Agency for Toxic Substances and Diseases Registry ("ATSDR") to perform an assessment of the health risks posed at a site, even if it is not on the NPL (42 U.S.C. § 9604(i)(6)(B)(1983));

(3) Community right-to-know and emergency planning provisions were adopted in response to the mass chemical exposure in Bhopal, India, to enable communities to learn about the substances being handled in their communities and how to respond knowledgeably to emergencies (SARA Title III); and

(4) The expansion by SARA of the citizen suit provision originally applicable to substances classified as solid or hazardous wastes under RCRA (42 U.S.C. § 6972 (1983)), to violations of CERCLA conditions, requirements, standards or regulations, to orders issued under CERCLA (42 U.S.C. § 9659(a)(3)(1983)), and against EPA or other federal agencies (such as ATSDR) which fail to perform any nondiscretionary acts or duties (42 U.S.C. § 9659(a)(2)(1983)). This "private attorney general" provision was given teeth since, in appropriate circumstances, the prevailing party may recover costs (42 U.S.C. § 9659(f)(1983)).

\textsuperscript{215} See ENVT. L. REP., SUPERFUND DESKBOOK 12 (1985).


\textsuperscript{217} See id. § 9621(f).
One of the few burdens imposed upon states in exchange for heightened participation in the cleanup process is found in the EPA's power to suspend fund-financed remediations at sites on the NPL. The EPA's suspension powers extend to any state that could not certify, by December 1989, that the state had adequate hazardous waste treatment and disposal capacity to handle wastes generated within the state for the next twenty years. This prerequisite to disbursement of federal cleanup funds may profoundly impact the remedial progress in highly urban and industrialized states.

V. DELISTING

Sites may be delisted (removed) from or recategorized on the NPL when no further actions are necessary or appropriate at the site. An EPA region may decide to delist a site based on any of the following criteria:

(i) The EPA... has determined that responsible or other parties have implemented all appropriate response actions required;
(ii) All appropriate Fund-financed response under CERCLA has been implemented, and EPA... has determined that no further clean up by responsible parties is appropriate; or
(iii) Based on a remedial investigation, EPA... determined that the release poses no significant threat to public health or the environment and, therefore, taking of remedial measures is not appropriate.

Prior to delisting a site, the EPA will determine that the remedy, or the decision that no remedy is necessary, protects the public health, welfare, and the environment. CERCLA requires state concurrence for delisting a site from the NPL. Delisting of a site does not preclude eligibility for future, fund-financed response actions.

While the regulations do not mandate a notice and comment period prior to delisting a site, the EPA utilizes such procedures. The Agency publishes a Notice of Intent to Delete in the Federal

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218 See id. § 9604(c)(9)(A).
220 Id.
Register, containing the basis for the intended site deletion. A thirty-day comment period may begin either concurrently with the notice of delisting or at a later date.

The delisting procedures recently utilized by the EPA reflect the Agency's belief that such procedures should focus on notice and comment at the local level. The following procedures have been utilized in the past, and the EPA is considering using similar procedures for future delistings:

a) The EPA regional office recommends deletion and prepares all relevant documents which are made available in the regional office;

b) The EPA regional office provides a thirty-day public comment period. Notice is provided through local and community papers and the Federal Register; and

c) Comments are evaluated before the tentative decision to delete is made and before a final decision is made. The region prepares a responsive summary addressing the comments.

The site will be delisted only after the Assistant Administrator for Solid Waste and Emergency Response places a notice in the Federal Register. To date the EPA has delisted twenty-eight sites from the final NPL. While most of these sites have been delisted following appropriate and successful removal or response actions, at least five have been delisted following a determina-

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225 See, e.g., id. at 17,229 (notice affords local community opportunity to respond to proposed delisting).
226 See id. at 36,869.
228 Id. But see id. at 28,414, 27,371 (1988) (Agency did not follow these procedures).
229 Id. at 17,229.
230 See id. at 17,228-29.
tion that the release poses no significant threat.233

CONCLUSION

The National Priorities List serves primarily as an informational tool for the EPA. The list is comprised of sites which appear to pose a significant danger to the public health or environment and which might warrant remedial action. Inclusion on the list does not in itself reflect a judgment on the activities of its owner or operator, nor does it require those persons to take any action. Placement on the list does not assign liability. Listing on the NPL assures that a response action is forthcoming and that the site will be eligible for Superfund monies should remedial activities be necessary. The NPL sets the priorities for investigations that determine the necessity of remedial actions. The EPA decides which listings receive priority attention based on certain criteria: a site-by-site evaluation using the Hazardous Rating System score, state priorities, further site data, other response alternatives, and other appropriate factors. While listing is largely informational, it nonetheless has immense consequences. Because the process is one of administrative rulemaking, the record is developed in the most part by the EPA. The primary opportunity for input from others comes during the comment process. To date, judicial relief from listings has been sparse. Listing must be considered a precursor to additional investigation which will likely lead to eventual remedial action involving great expense. Where PRP cooperation is not offered, initiation of enforcement action should be expected.